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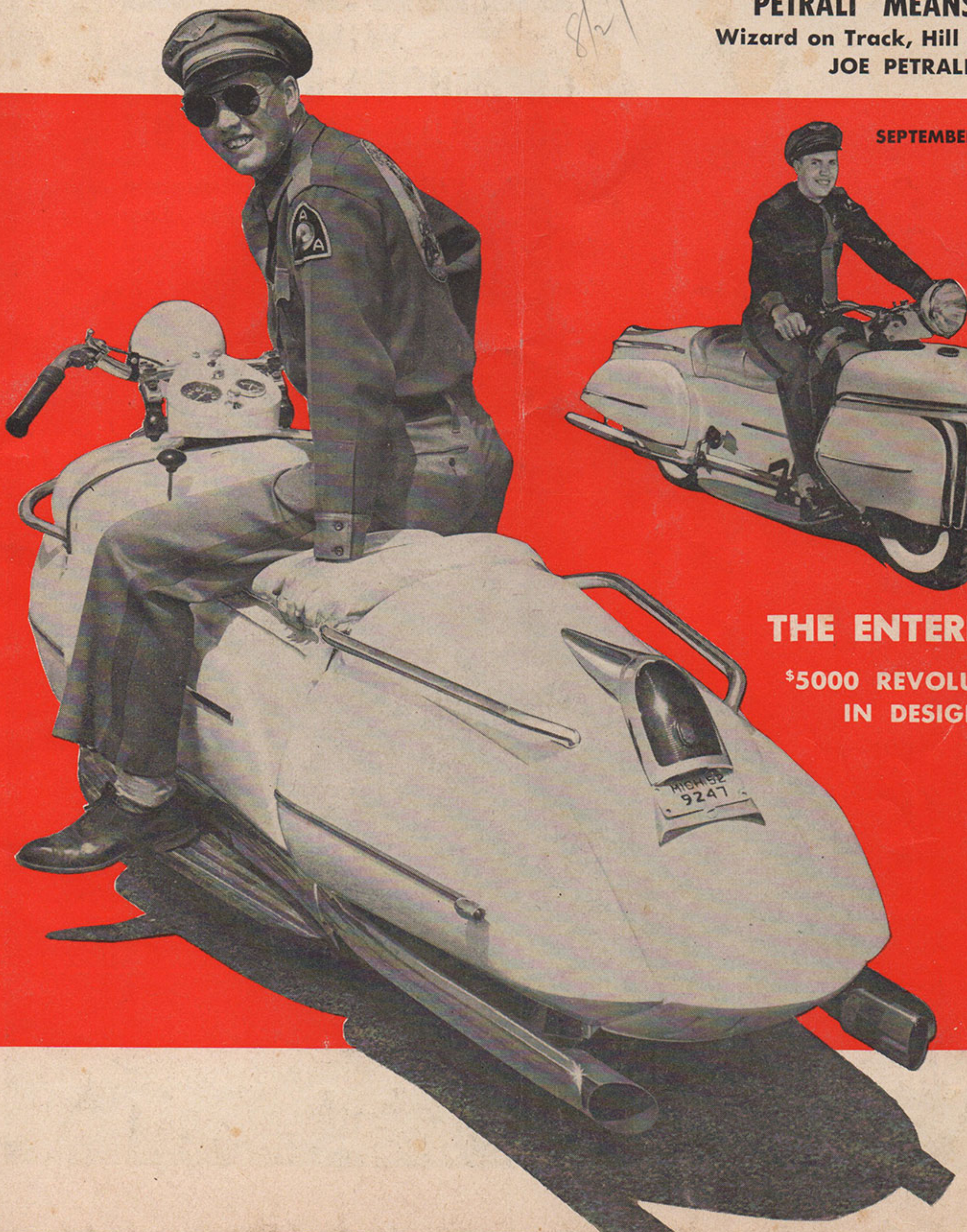
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SEPTEMBER 1952 35c



THE ENTERPRISE

**\$5000 REVOLUTION
IN DESIGN**

ARIEL

WINS

GREENHORN MOUNTAIN 600-MILE ENDURO RUN



WINNER—John McLaughlin
Ariel V.H.A. 64 Pts. Lost

2nd	Del Kuhn	A.J.S.	Points
3rd	Ralph Adams	Matchless	Lost
4th	Aub LeBard	B.S.A.	73
5th	Merton Michael	H-D "K"	81
			81
			92



WOMEN'S DIVISION
WINNER—Dottie Ellison
Riding a Triumph Trophy

245 STARTERS

48 FINISHERS

Background shows typical terrain of course.



Johnson Motors, Inc. 267 W. COLORADO ST., PASADENA 1, CALIF.

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COVER Have motorcycle designers failed to hold pace with the auto industry in the field of streamlining? Some advocate the strict functional trend that most manufacturers have maintained, while others, such as O. Ray Courtney, believe that a smooth enclosure will eventually cover unsightly working parts. After reading about the "Enterprise," page 8, let us hear your verdict.

... Photo by A. E. Aperauch

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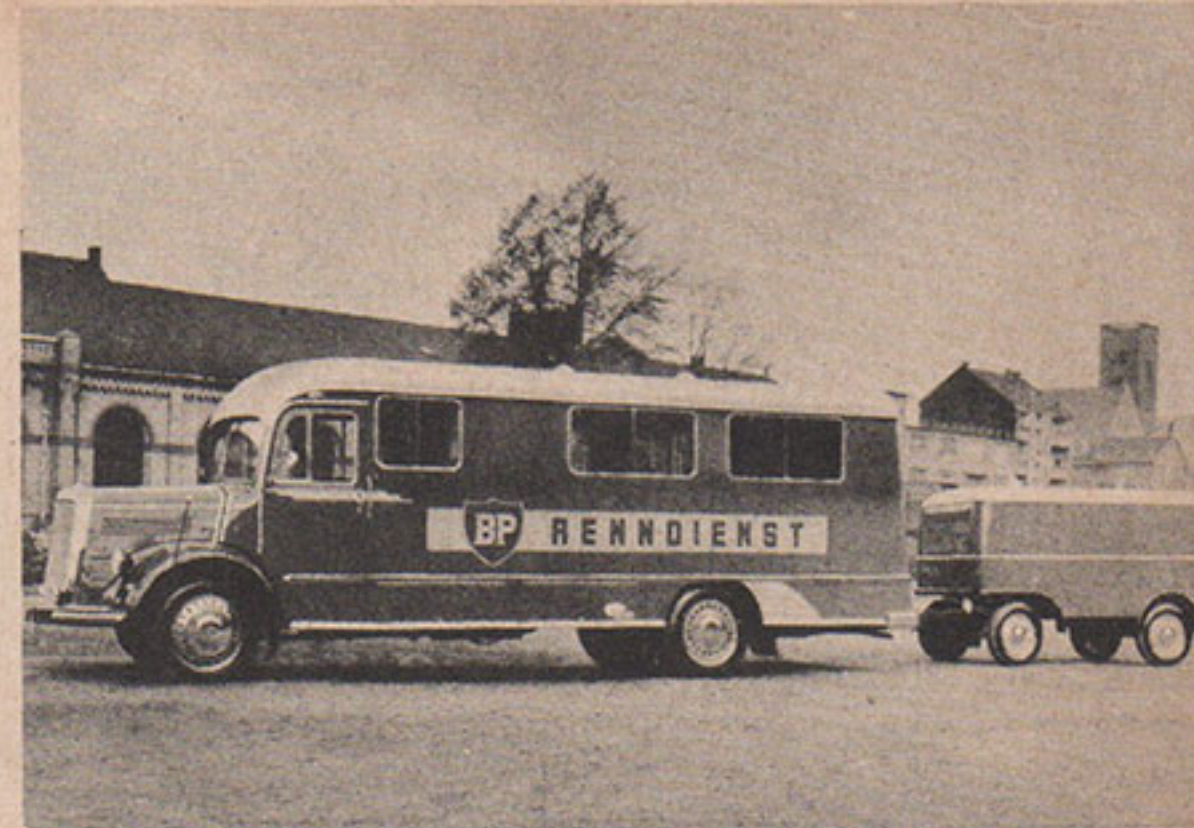


THE RE-ENTRY of the German motorcycle movement into the FIM (Federation Internationale Motocyclist*), has given new and increased enthusiasm to a nation already well known for its interest in internal combustion engines. Not only have attendances increased, but even organization has surpassed the high standard so often admired in pre-war days. Most noticeable, however, are the increased facilities offered to riders for preparation or modification of their machines. The varied accessory shops and particularly the petroleum establishments, by hard work and understanding of the sport have set a standard of cooperation that may well be copied world-wide.

Each company has, at great cost, organized traveling workshops to accommodate the most discriminating engineer. Among them, the efforts of the German subsidiary of the Anglo Iranian Oil Co. Ltd. (B.P. Benzine and Petroleum Gesellschaft) are outstanding. Its design is based upon the knowledge of Herr Knaffl, a director of the company, who has been associated with motorcycles for a great number of years and who for many seasons has enjoyed his position as official adviser and mechanic to continental riders. His "brain child" has, already this season, made it possible for practically unknown riders to reach the higher rungs. This, by the skill and efficiency of a small staff highly versed in motorcycle "know-how."

A specially constructed, light alloy body, built by the famous German coach builders, Messrs. Eylert, is mounted on the chassis of a 90 hp Mercedes-Benz omnibus in the 3½ ton class. A forward compartment, designed as a guest room, accommodates riders who avail themselves of the service offered. It seems a standing custom that a late arriving contestant be served with a hot meal within a few minutes of

* International governing body for cyclists the world over, excluding the United States.



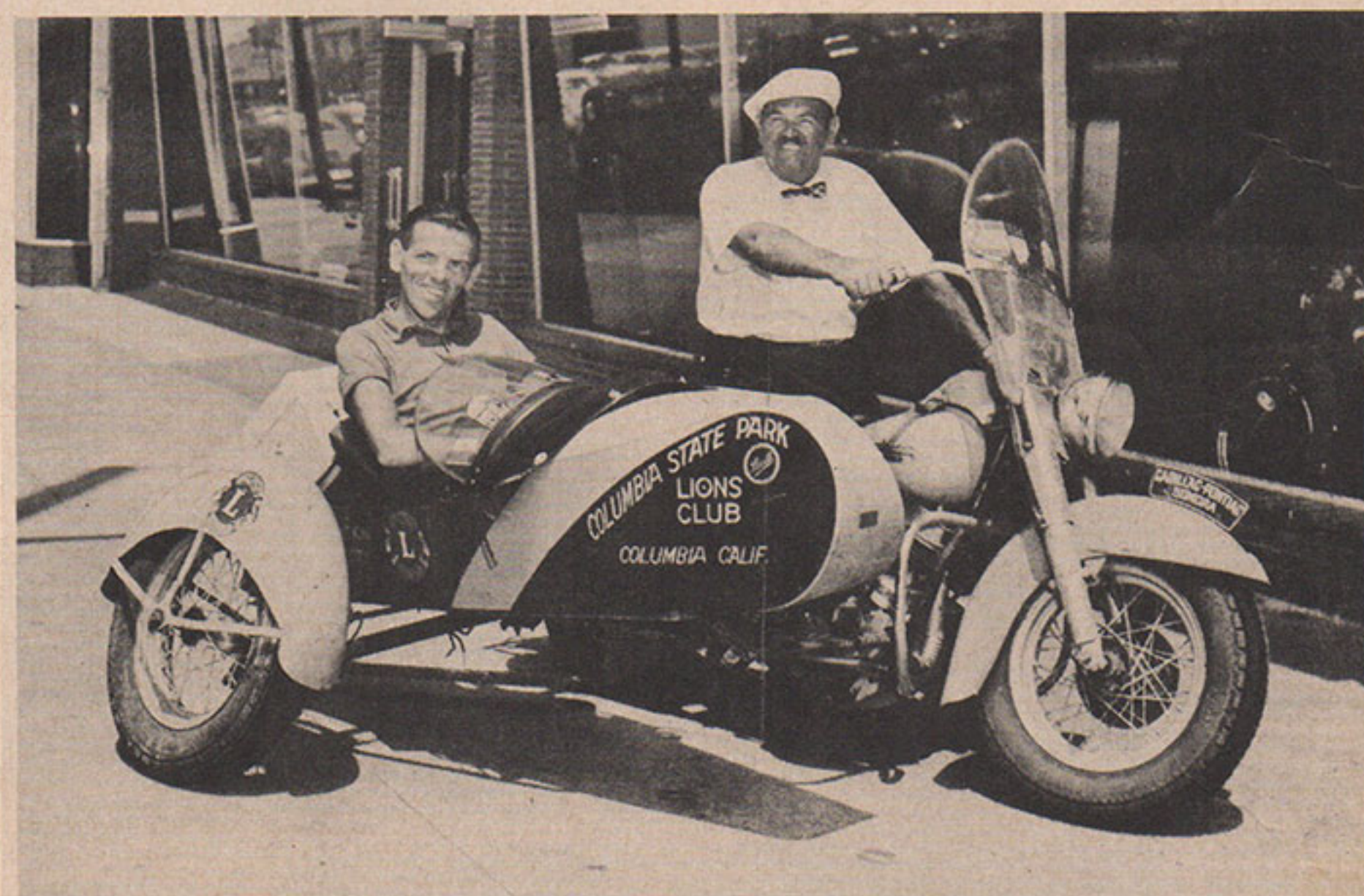
What's your trouble, Bud? This German factory on wheels is "Johnny on the spot" at major race meets, turning out everything from a plate of hot vittles to a new piston or bearing

his arrival. This is possible because of the propane gas oven cunningly built into the forward compartment. The mechanics in charge seem equally at home at a cooking stove, bench, lathe or welding plant.

The forward compartment is comparable to a traveling hotel; radio, books, writing table and even two folding beds being at the disposal of the many varied callers. To complete the picture, a well stocked refrigerator carries the notice that visitors may help themselves to refreshments, either liquid or solid.

Should a caller open the sliding, sound-proof door leading aft, he is confronted by a factory in miniature. Its equipment consists of, among other items, a precision lathe, boring machine, valve grinder, an automatic press, a couple of grindstones and a complete gas welding and cutting plant. Two automatic vises and numerous drawers filled with tools in orderly array, sufficient to fit the needs of two mechanics, complete the set-up. Cleanliness is emphasized. A washbasin, hidden behind a veneered panel is fed with water from a

(Continued on page 26)



"Hey, amigo, everything she's fine below the border." Herman and Johnny Riedel defied the elements and doubting home town friends when they heeded the call of the Lion, headed for big national convention in Mexico City with their Flexi-Steib sidecar. "This is the only way to travel," says Herman, and he should know, being the Cadillac agent for Sonora, California

RIDER WRITINGS

Dear Sirs: Everyone complains that motorcycles are dangerous because they can't stop as fast as cars, yet the law book for Michigan claims it takes 21 ft. for a car to stop at 20 mph on dry pavement with good brakes, while the BSA B-33 cuts this distance to 13 ft. 9 in.!

The large Harley 74 can stop in 13 ft. 11 in. (your test).

Dave Hoffman

Grandville, Michigan

(You're so right. We'll brake with them anywhere but in the rain—ED.)

Dear Mr. Greene: In the July issue of CYCLE Magazine, which I enjoy reading regularly, there was an article by Bob Behme, that was very good. It was called "Drag it OUT." I was very much surprised to hear that a "stock" Harley-Davidson 74 would only do about 80 mph in a quarter mile. This to me seems slow. I have an old beat-up 41 74 Harley with nothing but .060 scraped off the barrels, and while home on leave in June, I turned better than 93 mph in a quarter mile with it, at Half Day, Ill. This is my road machine, and it has a B & H footshift that may have helped. The day I rode it at Half Day I had full fenders, one saddle bag, and was burning plain ordinary gasoline.

Cpl. Edgar Salisbury

Fort Richardson, Alaska

(Perhaps writer Behme's reference was to the stock Harley 74 ridden by the City of Pomona police officer who turned 80 in the quarter mile with a windshield, radio and full regulation police equipment. A fully rigged department Indian Chief duplicated his performance—ED.)

Dear Bob: I have a question concerning adopting the McCandless swinging arm rear suspension to a BSA Flash. I am thinking of buying a complete rear springing unit from an AJS springer (from the joint under the seat, including the loop frame that the shocks attach to, and the swinging arm to the bearing on the gear box). Would this be possible and how much for the complete unit new?

PFC Allan Wittek

c/o P.M., San Francisco, California
(Lammie Lamoreaux, 125 West Colorado, Glendale, California, has made several swinging arm installations with a kit made specifically for the purpose. The cost is around \$150—ED.)

Gentlemen: Just thought I'd tell you more about the "Cyclone." The machine you showed in the July issue of CYCLE is a 1912 Cyclone with a Thiem tank. The Cyclone motorcycle had a Strand motor as your article stated, and it was manu-

factured by the Joerns Motor Manufacturing Company in St. Paul, Minnesota from 1912 to 1916. The Thiem motorcycle was manufactured by the same company. The oil ring which was above the port slots to reinforce the cylinders was used only on the early racing models. The oil pump was a worm driven revolving cylinder with trip plunger.

The Cyclone that Don Johns did 125 miles per hour with was an eight-valve 61 cu. in.

In the four years the Cyclone was manufactured there were over 3,000 machines produced.

The 1913-14-15 machines looked quite similar to the Indian of those years. The rear portion of the frame was hinged at the clutch sprocket eccentric and a flat five-leaf spring bolted to the frame and hinged at the top of the rear from fork gave smooth riding on rough roads.

The rocker arm assembly was the downfall of the Cyclone; there was no way to oil it at the hinge where it was riveted together.

The camshaft you show and the timing given are also of the first cams made. I ran several Cyclones in many 50-mile mid-west dirt tracks and never used more than half a gallon of oil. The 1916 machine was a three speed with heavier engine and improved rocker arms that did not fall apart at 100 miles per hour.

When the Joerns Motor Manufacturers went out of business in St. Paul the assets were purchased by a couple of Chicago fellows who stored all the parts and dies on the fourth floor of a building on the west side of Wells St. at Randolph, in Chicago, from 1917 to 1920.

I shipped the parts and dies from Chicago to Sheboygan, Wisconsin September 1920 and was with the company attempting to again manufacture the Cyclone. However, nothing seemed to work out and I came back to Chicago in March of 1921.

In February of 1922 I had the parts and dies shipped from Sheboygan to Benton Harbor, Michigan where former employees of the original Lincoln Motor Car Co. (Leland) were in charge of getting a company under way. They sold a lot of stock but let the company die. The remains were auctioned off as old iron.

I still have my Cyclone, but left a one-cylinder racer in Benton Harbor.

Robert L. Lyon

Chicago 49, Illinois

Dear Mr. Editor: Page 30 of CYCLE for June 1952 contains an article "Pirates on the Loose" by one Viola Carruth, which hardly qualifies as being an adequate report on the two-day, 500-mile Pirates Treasure Enduro held at Shreveport, Louisiana. It completely fails to mention the machine ridden by the winner Bob "Hot" Brady of Selma, Alabama or show a picture of him or his machine.

Fortunately the article does mention Harley-Davidson machines half a dozen times and carries three excellent photos of Harley-Davidson riders, none of whom apparently could catch Bob Brady on his

unnamed but evidently very efficient and very fast machine.

Alfred R. Child, President

Rich Child Cycle Co., Inc.

("Hot's" mystery mount is still unnamed, but we've since learned that its initials are AJS. No picture of Brady's bike on hand—ED.)

Editor: The story in the August issue of CYCLE about Don Johns was the sort of thing we could do better without. Dirty riding and living in flop houses is certainly nothing to be admired. If you persist in publishing this kind of trash you will bring back the myth of mudercycle riders being a roughnecked irresponsible lot—which far too many laymen still believe anyway.

Charles Blake

(On the other hand, this was a story picture of one of America's greatest riders. To attempt to paint it without the colorful facts, would be like using a brush full of water—ED.)

Dear Mr. Smith: It takes a long time, generally, to live down a bad reputation, but the motorcycle riders who attended the 1952 races in Dodge City killed a bad reputation in two days.

We had been told they would tear up the town, would roar around with straight pipes, would disrupt traffic. We were prepared to take stern action to quell any disturbance. But all they did was to evoke universal praise for their fine deportment.

They were fine folks, and we will welcome them back for the races in 1952.

Harrison Burke, President

Dodge City Chamber of Commerce

(The above is a letter sent Mr. E. C. Smith, secretary of the American Motorcycle Association, immediately following the Dodge City national races—ED.)

Dear Sir: I read with much interest your road test of the Indian Brave and being the owner of a Brave I can agree 100 per cent with your analysis of this machine's excellent performance. I would, however, like to mention that a mere tightening up after 500 miles was not enough to stop the oil leaking from the transmission.

I'm writing you mainly to find out where I can obtain an upswept exhaust as you pictured, and what is its price.

John Wormley

Davenport, Iowa

(Thanks for the confirmation. The special upswept pipe was home-made—ED.)

Dear Mr. Greene: Why, oh why, do you people insist on putting the dope on foreign bikes down in cc instead of inches (Triumph Road Test, page 8, June issue and several places in the Zundapp ad for instances). I will bet there isn't one rider in 50 that can figure cc into inches easily.

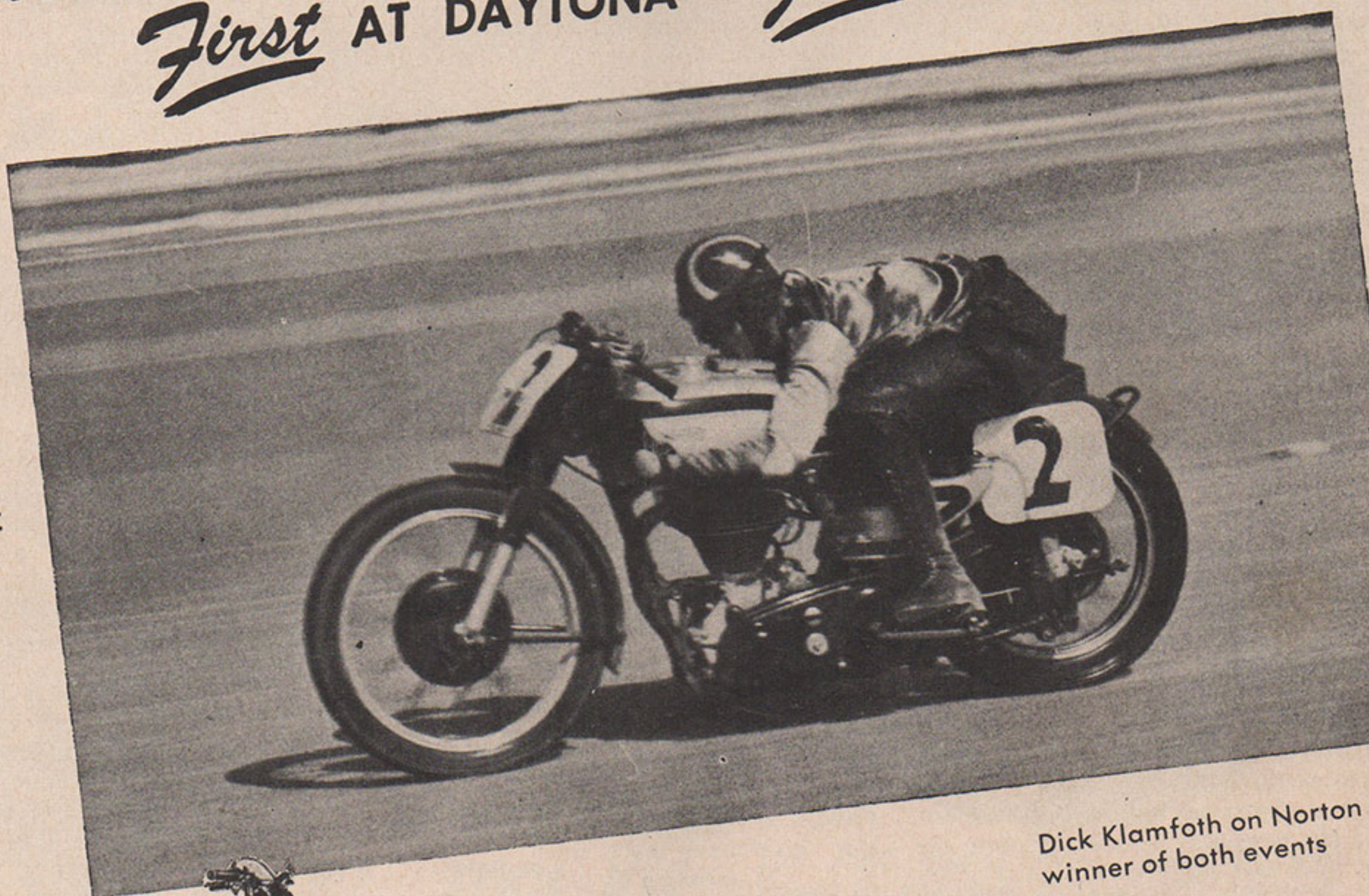
Gordon C. Salter

Mullan, Idaho

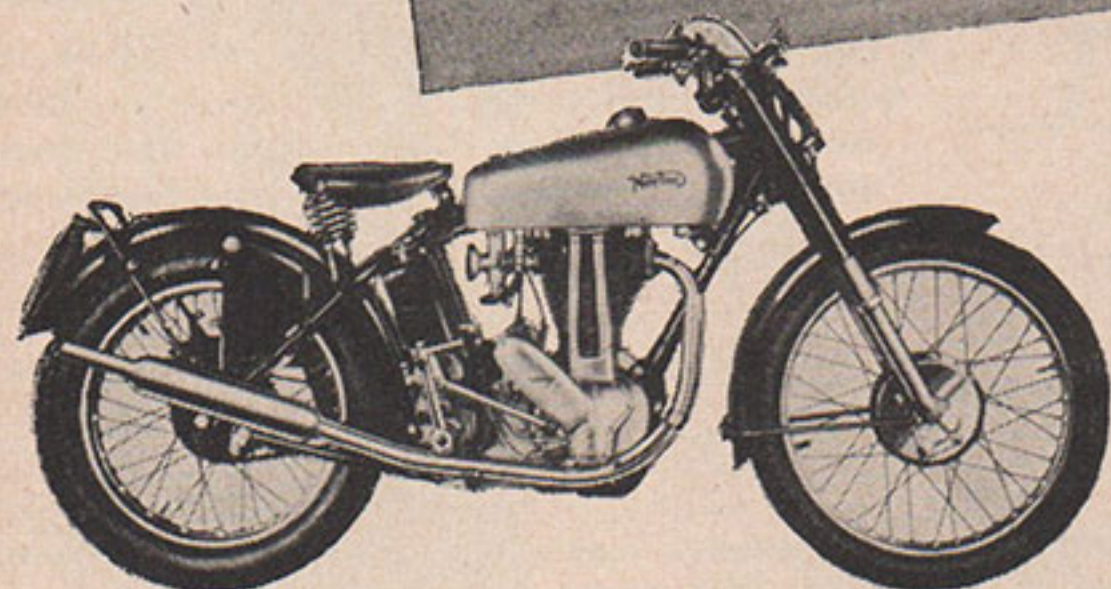
(On road tests we often list both cubic inches (cu. in.) and cubic centimeters (c.c.) but for future reference, where inches may be omitted, cubic centimeters may be translated into cubic inches by dividing by 16.383—ED.)

Norton FOR SPEED AND STAMINA

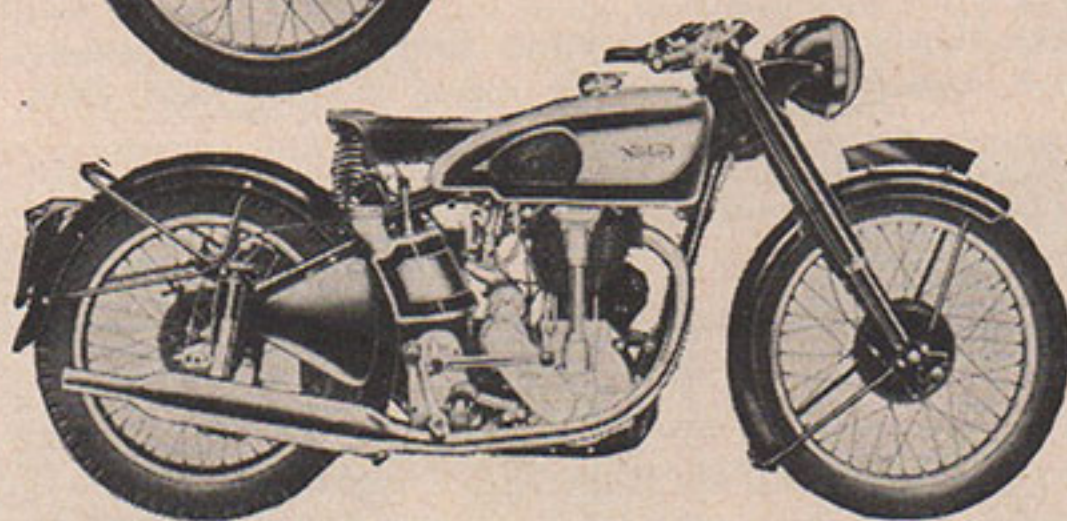
1952 WINNER OF BOTH 200 & 100 MI. NATIONALS
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winner of both events



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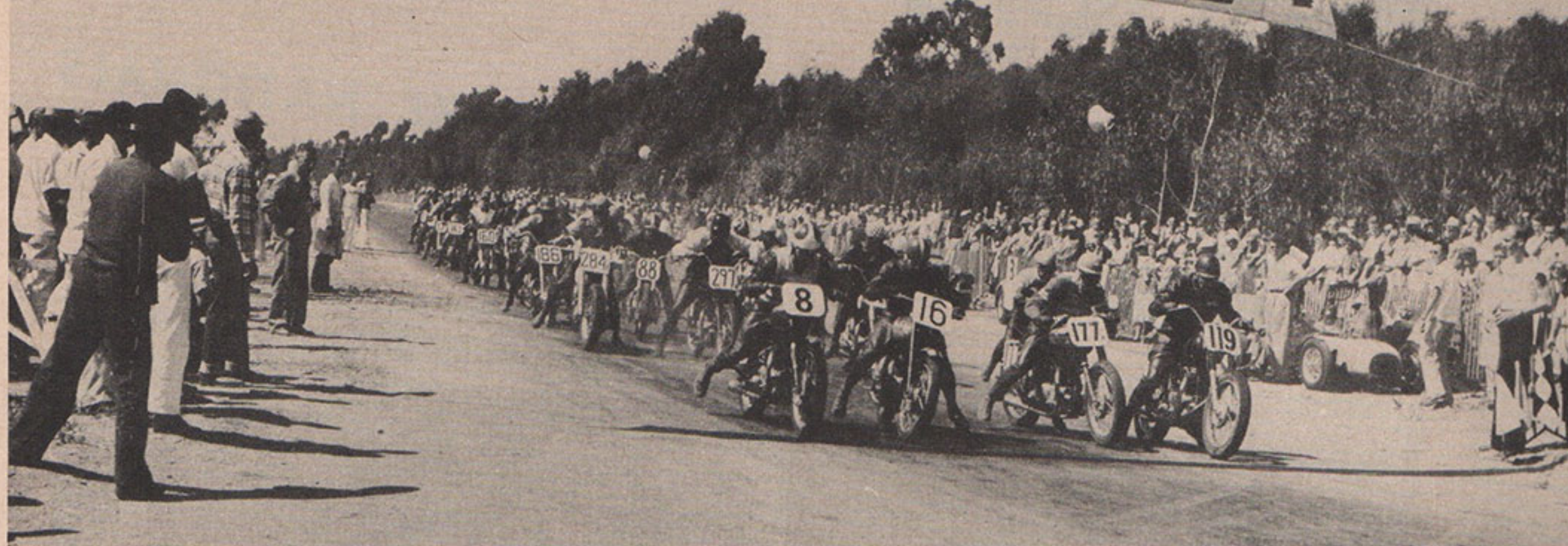
Indian
Springfield, Mass.

BIKES BATTLE SPORTS CARS

to the



FINISH



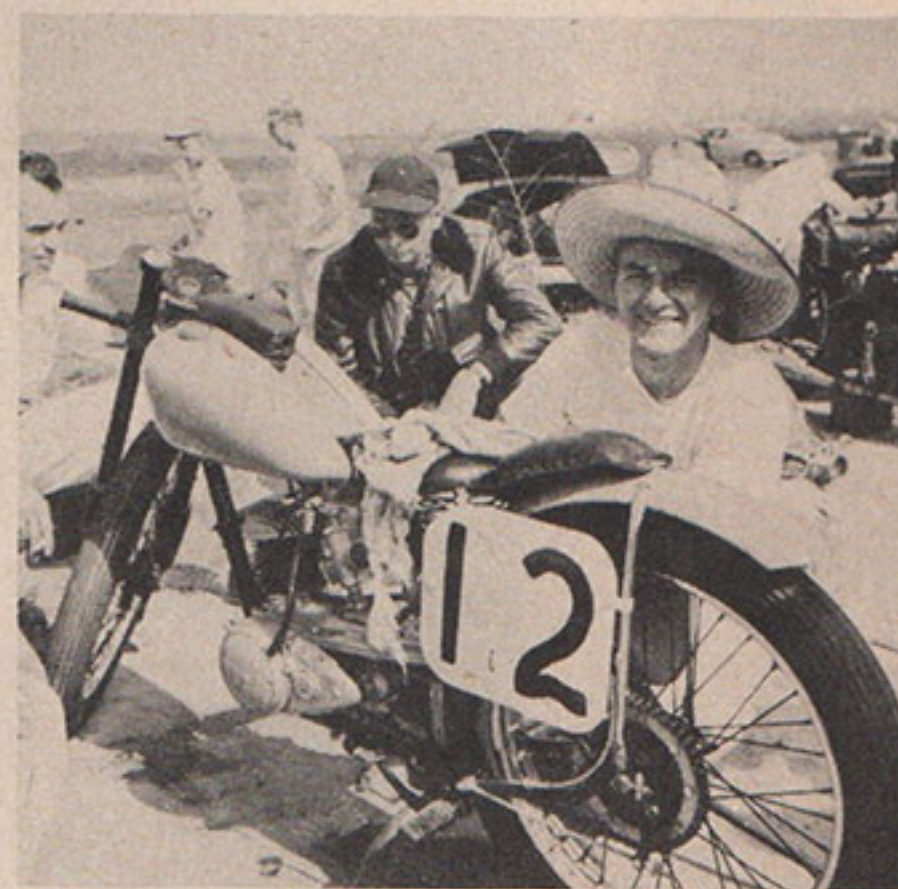
28,000 Thrill to Torrey Pines Road Race

THE STORIES of the two motorcycle events at the second Torrey Pines races will probably be told and retold around campfires as cherished legends of the first days of American pavement road racing. Jim Phillips may someday remind "young squirts" how he flashed through the traps at 109.85 mph when all the brute horsepower of a twelve cylinder, 4.1 liter (250 cubic inch) Ferrari driven by Bill Pollack, champion sports car driver, could only push through at 114 mph.

It was a great day for the two-wheelers. Since the meet was actually a sports car race with two cycle events sandwiched

in, we took a certain fiendish pleasure in comparing lap times. Phil Hill (who lapped the entire field in his 2.6 liter (159 cubic inch) Ferrari for first place in the sports car main event) was timed officially at 2:23. While we were still blinking respectfully at that show of speed, we caught Jim Phillips (Triumph) at 2:19.8. Then we timed Nick Nicholson on a BSA as he blasted around the winding course in the incredible time of 2:17.4. The fastest official lap was recorded on Phillips at 2:22—just one second better than the winning sports car.

(Continued on page 37)

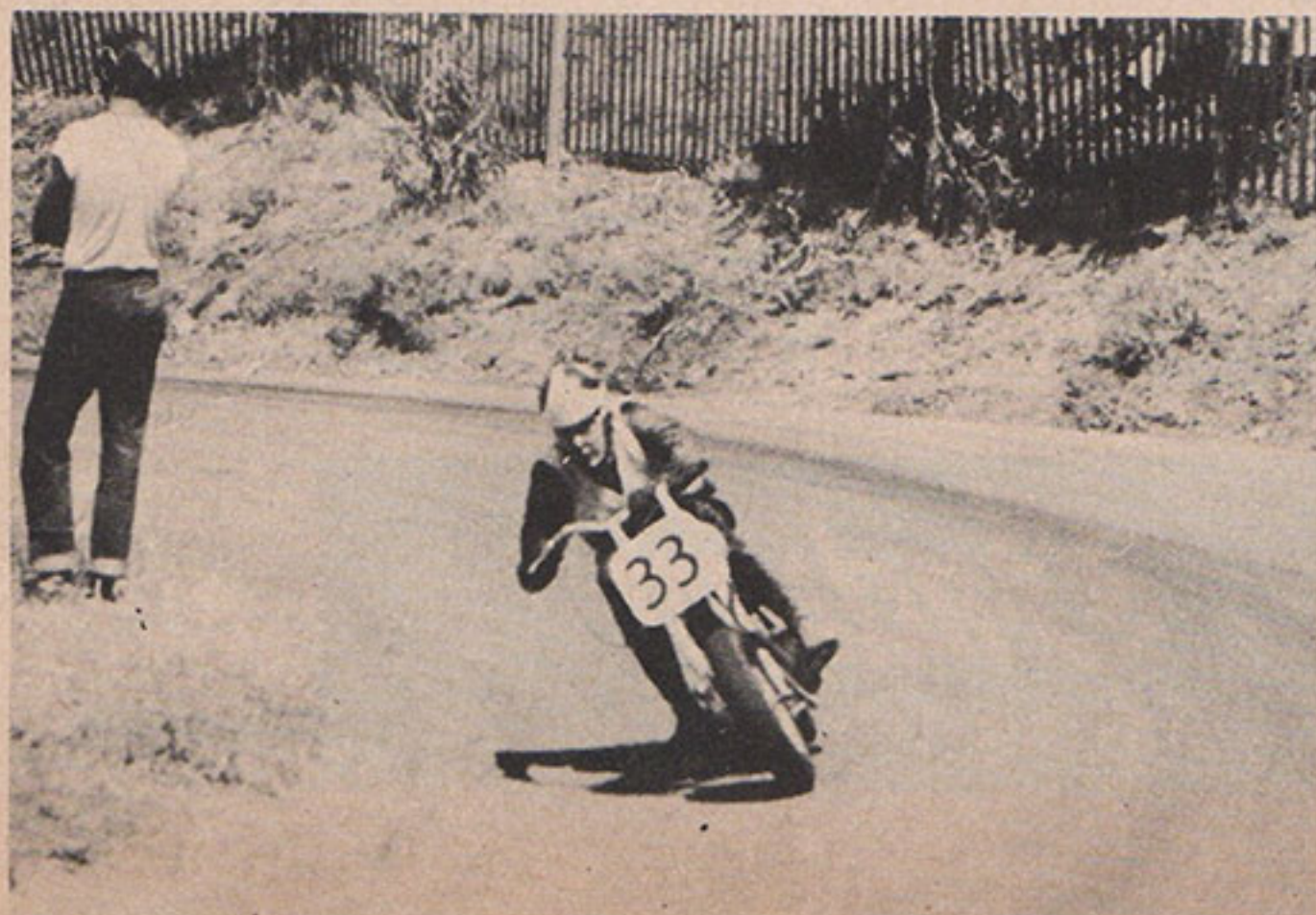


Don Evans' 7 1/2 cu. in. BSA won its class with absolutely no strain. Besides being spotless, the bike had unique brake set-up. Both front and rear brakes worked off the one foot pedal

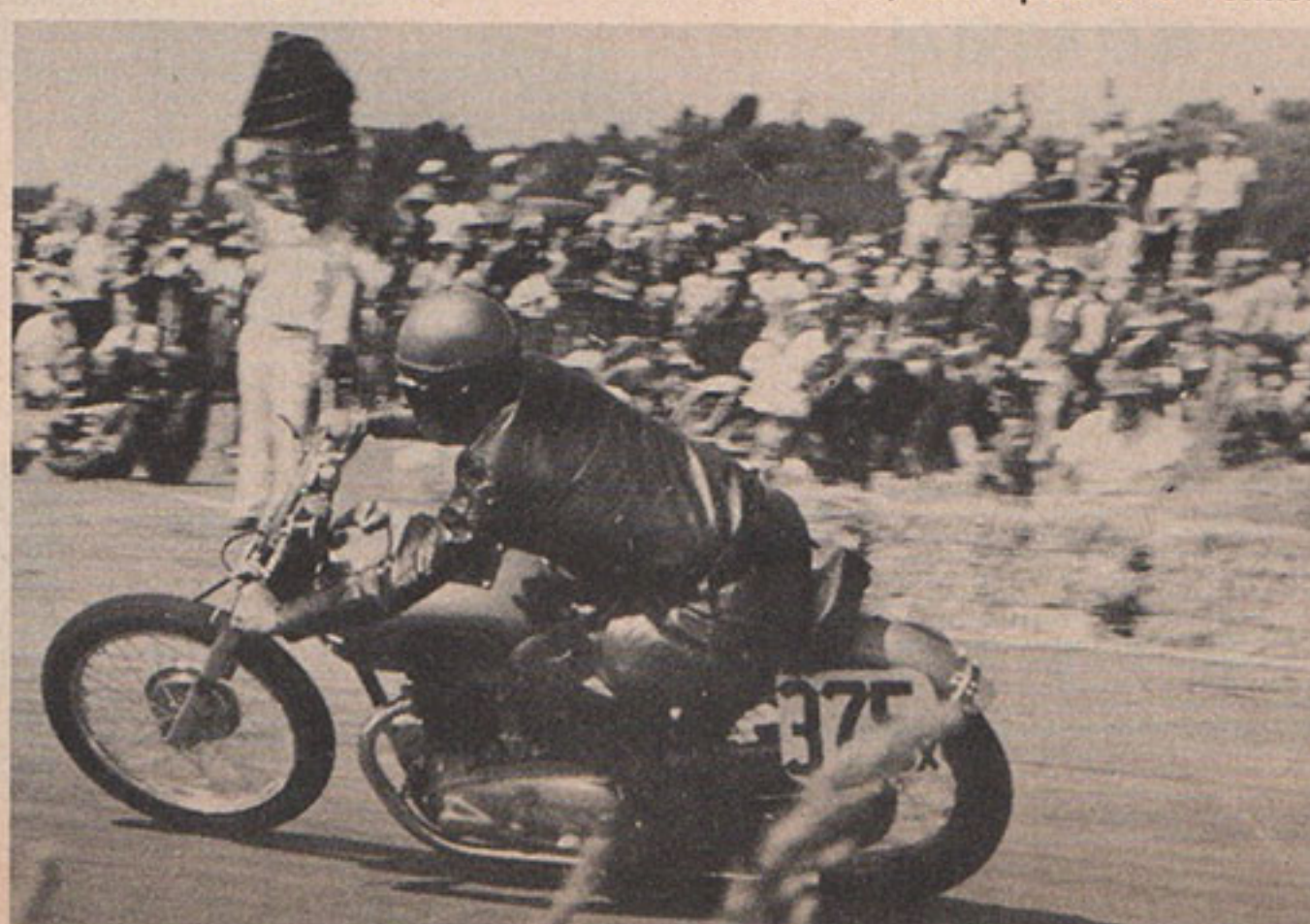
PLACE	NAME	RESULTS	MAKE	TIME				
40-INCH CLASS (12 laps—31.8 miles)					3	Paul Doster	BSA	
1	Don Bishop	Tri.	29:14	1	15-INCH CLASS (3 laps—7.9 miles)			
2	Walt Fulton	Tri.		2	Nick Nicholson	BSA	8:28.2	
3	Nick Nicholson	BSA		3	Jim Phillips	Mustang		
30.50-INCH CLASS (12 laps—31.8 miles)						Eddie Kretz Jr.	Mustang	
1	Ken Brown	Norton	29:10	1	7.5-INCH CLASS (3 laps—7.9 miles)			
2	Moe Griffin	BSA		2	Bob Michael	BSA	9:50.2	
				3	Ken Gall	BSA		
					Tom Smith	Harley		

PHOTOS BY JACK CAMPBELL—AL PALOCZY

Eddie Kretz Jr. crashed heavily, broke the left handlebar completely off his Mustang, insisted on finishing with one bar, minus clutch, won third



Dick White had the most impressive looking big bike, a Triumph with Caspary racing saddle, short bars, tachometer, chin pad and funnels



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Bill McInerney



Bill McInerney and his MAC

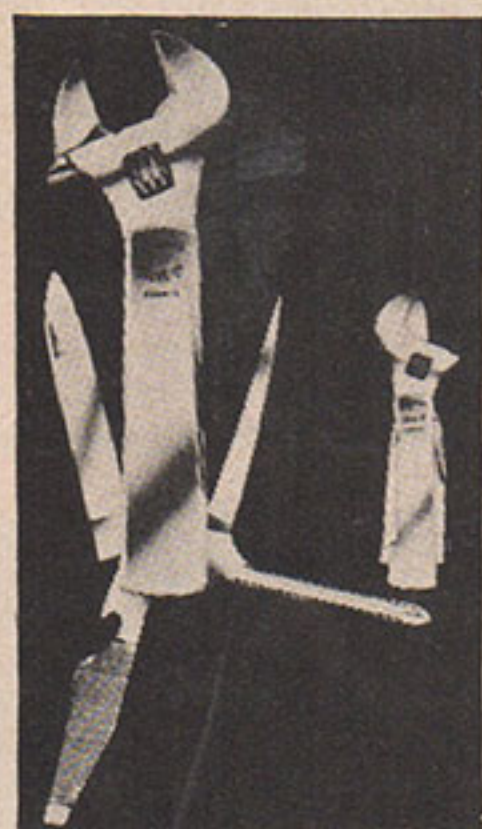
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NAME

(Please Print)

AGE

ADDRESS

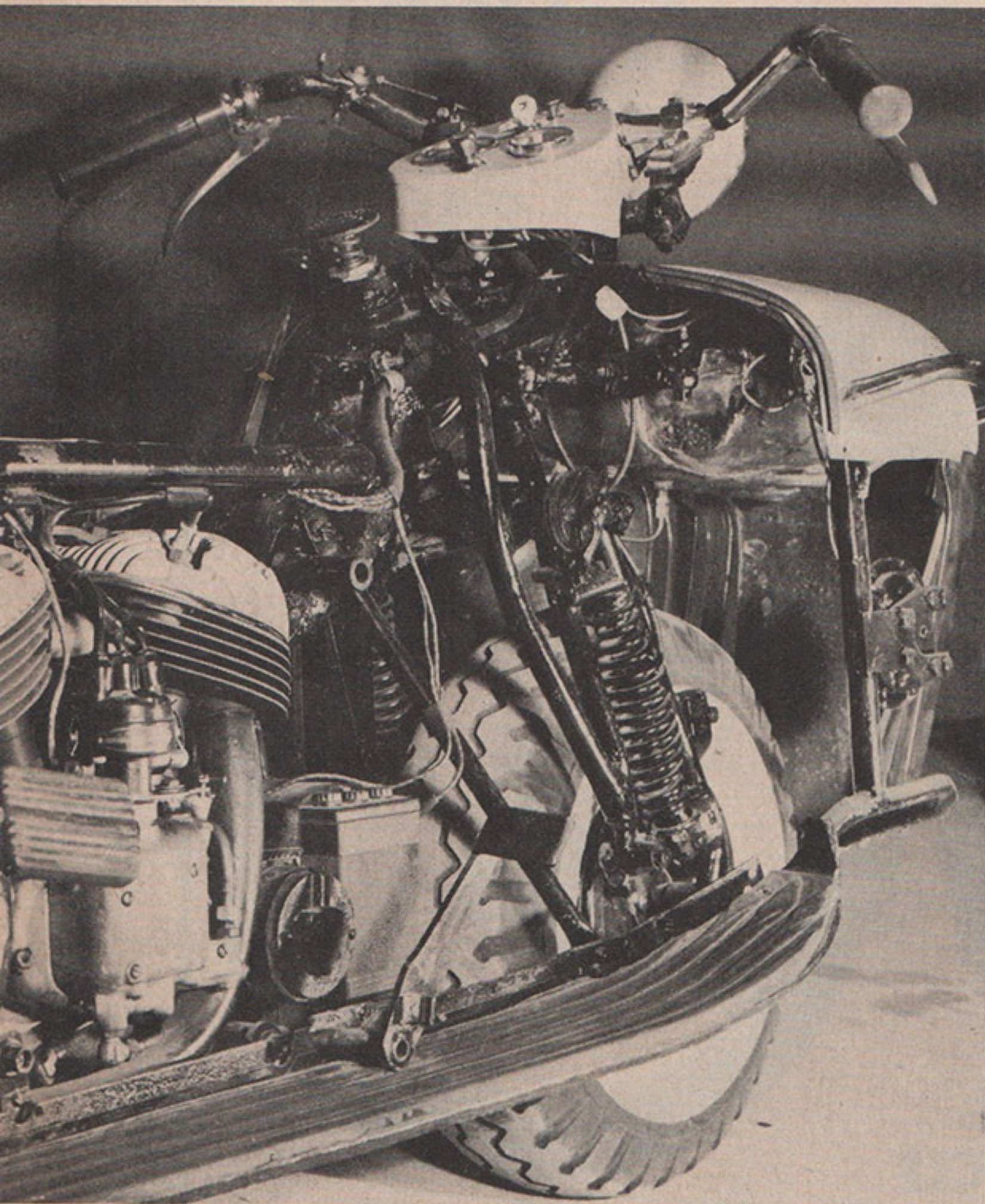
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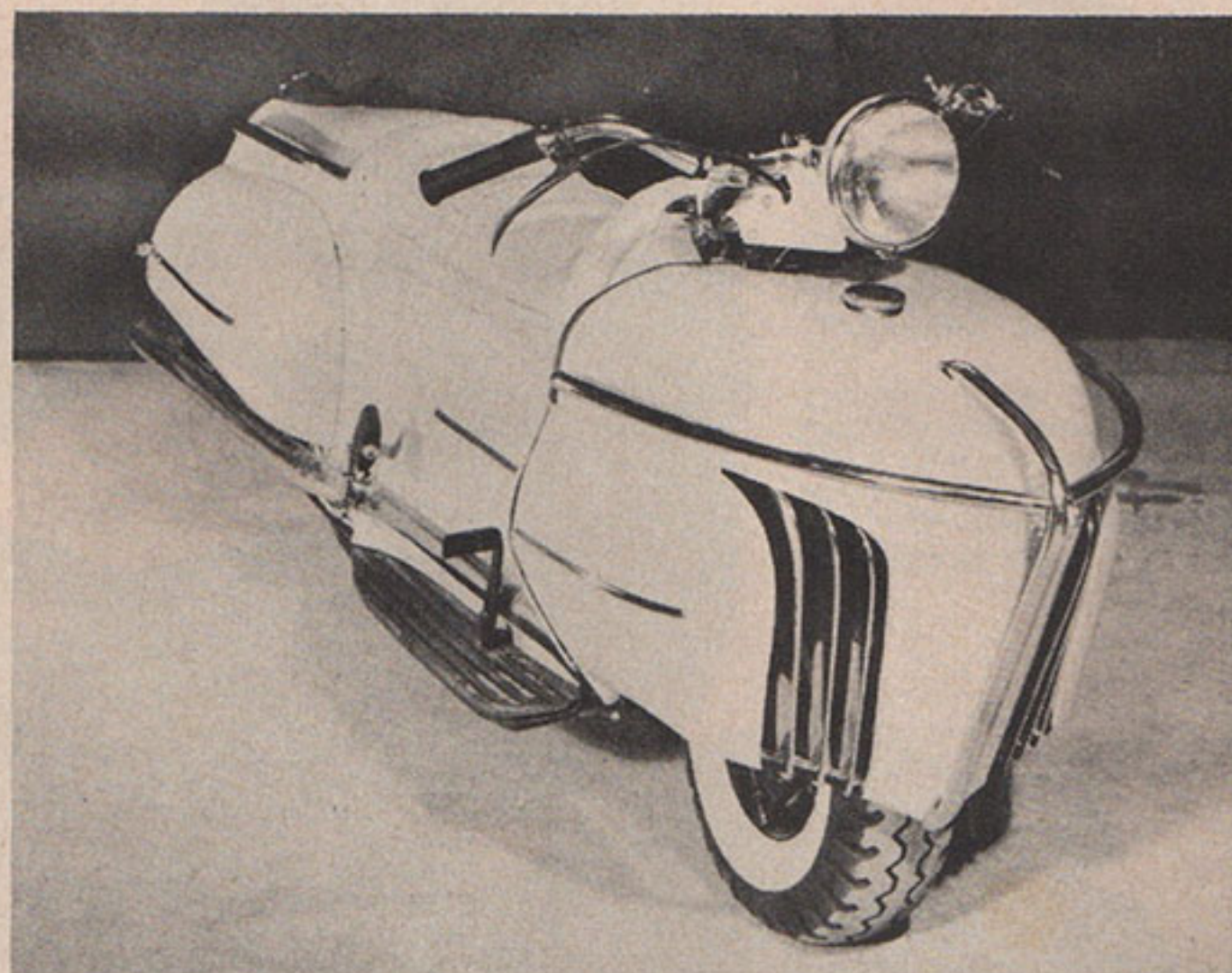
REVOLUTION IN DESIGN

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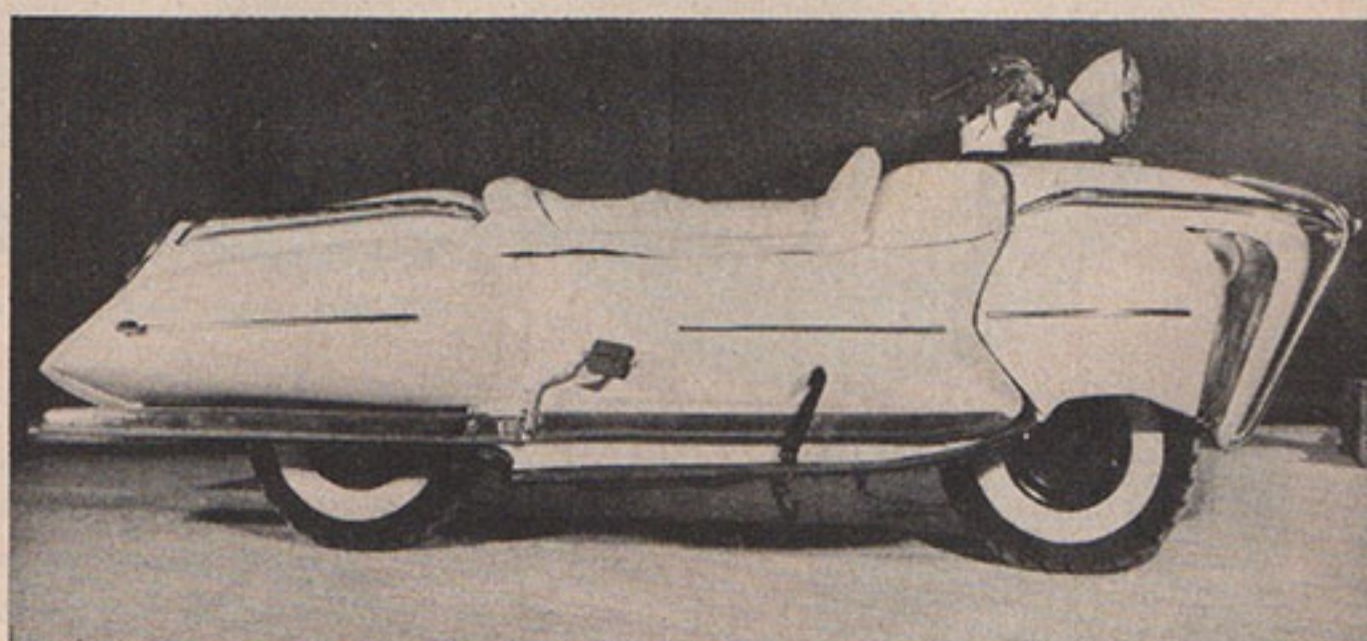
Photos By A. E. Aperauch



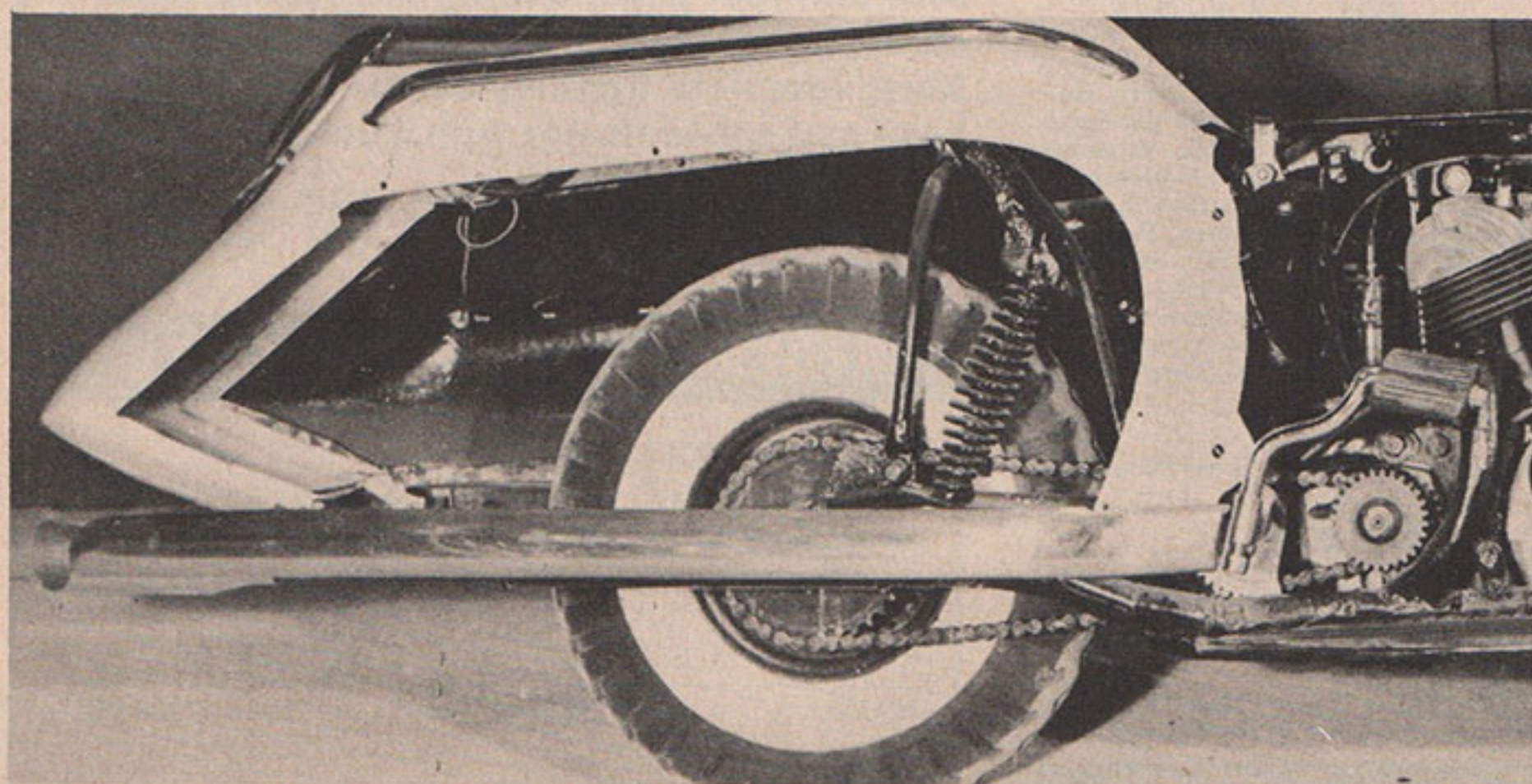
Framework and springing are novel since both wheels are straddled by long coil springs. Handlebars have been positioned far forward on a stationary extension and actuate front forks through a connecting linkage. A ride dampener compensates for speed or rough roads



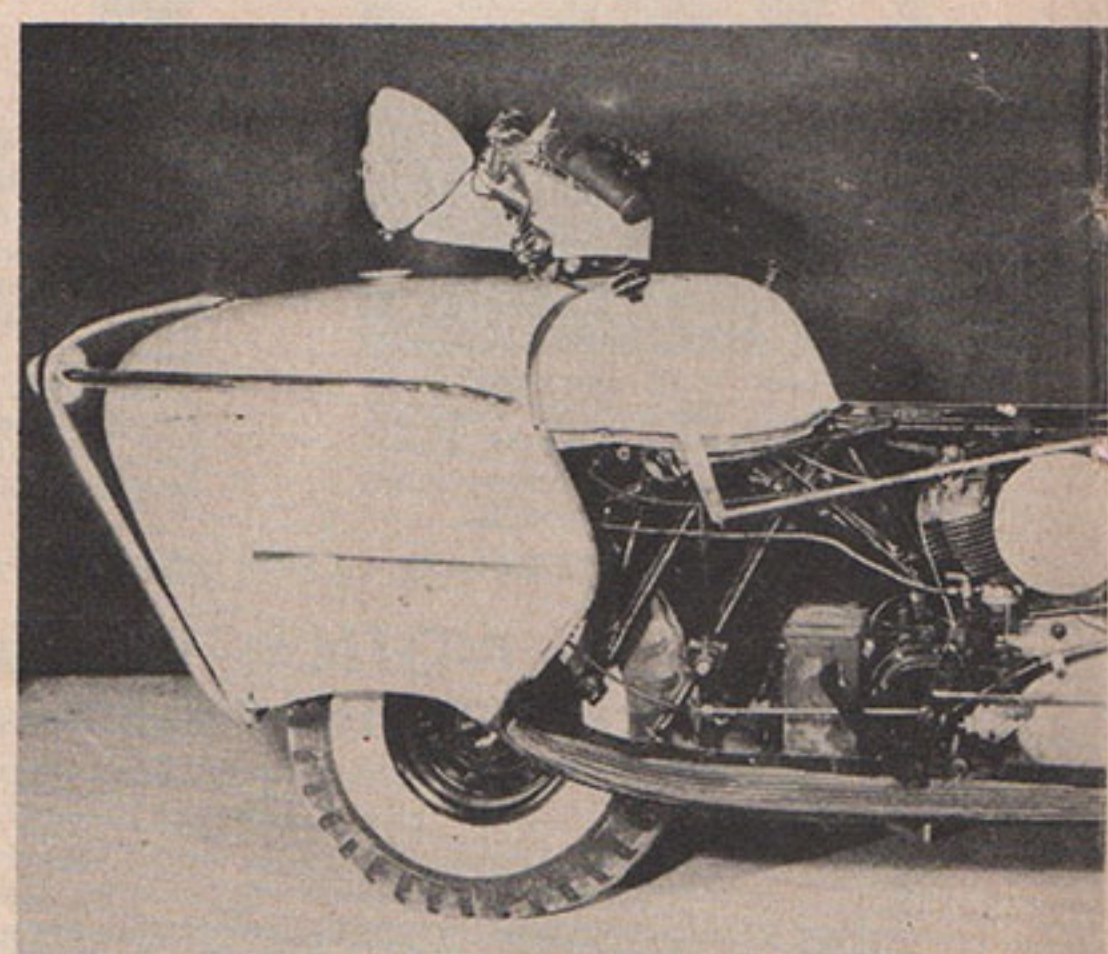
Definitely out of the scooter class, with its big 45 cubic inch powerplant, the Enterprise may be what many have been waiting for. Speed and cleanliness vie with beauty in O. Ray Courtney's streamliner. Wheelbase is standard 58 inches. Overall length is 112 inches, while saddle height is 28 inches. Widest point at front is 26 inches, tapering to 25



Broadside shows 6.00 x 9 wheels and tires that are fitted with full size motorcycle brakes. Choke is controlled by a lever on the instrument panel, which is built into the headlight nacelle. White leather covers deep two-place sponge saddle. Enclosure at rear is built-in saddle bags



Side panels are quickly detachable by Zuz fasteners revealing frame and rear springing. 3 1/2 gallon gas tank is located in upper nose panel allowing saddle to be situated low and forward of normal—Courtney claims better balance from this arrangement. Short inside fenders not shown

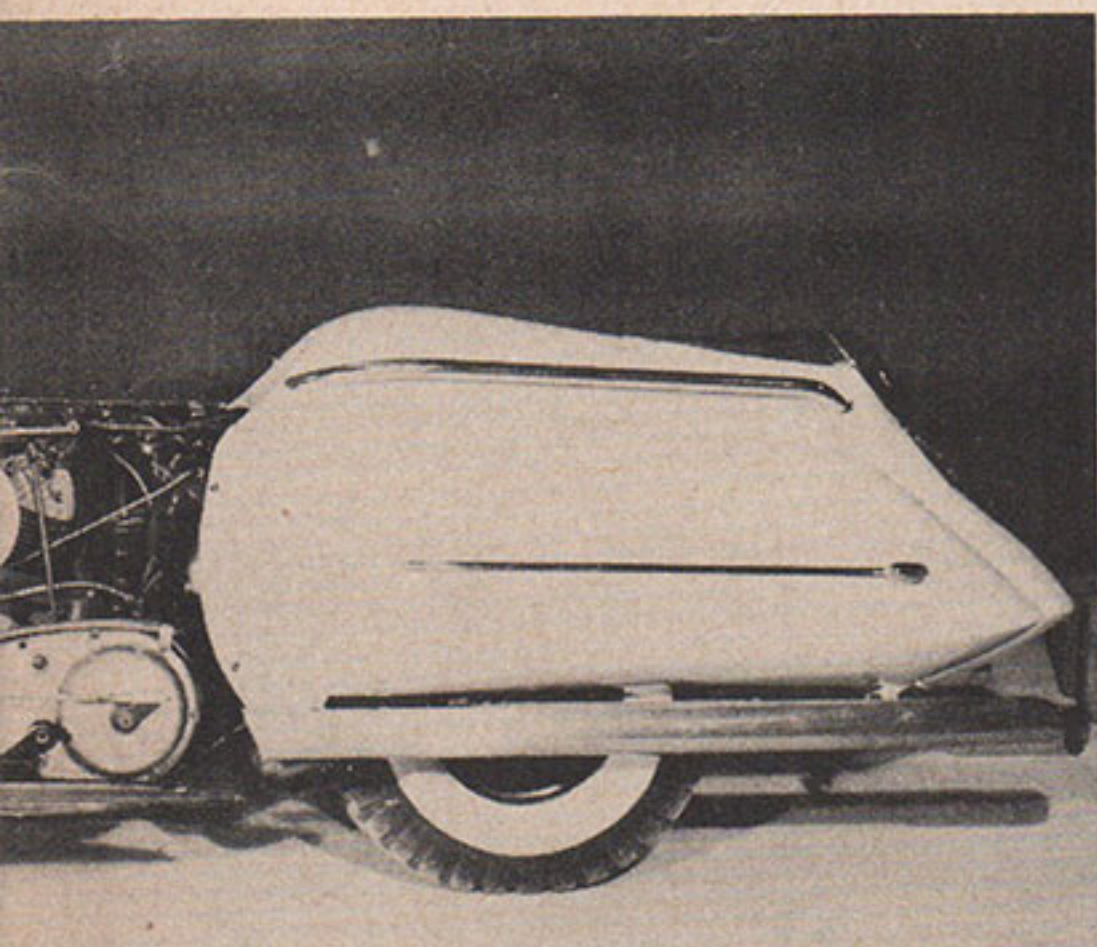


Both foot and hand type clutch are featured on the Enterprise for safety. Exhaust system is dual with double mufflers. Note elaborate foot boards

THIS WASN'T Ray Courtney's first poke at convention. Being one of the gifted few who can not only pierce the veil of the future, but reach behind it and withdraw actual proof, Ray has purposely concentrated on one phase of cycling: that done by the pleasure rider. Asked why he had spent so much time and money on his latest "Enterprise," Ray, who has been saddlebound since 1913, replied that he felt the plea of the most important guy of all, "Average Joe Rider," had long been drowned in the roar of racing machines and that it was about time that someone listened. "Anyone can ride for pleasure, but only a few have the talent to race."

Christened the "Enterprise" after his custom sheet metal and race car body work shop in Pontiac, Michigan, Ray's latest fully enclosed streamliner is an improved version of an earlier model. It is to be expected that the cost of such beautiful pioneer work runs high. Although this original ran out at \$5,000, Ray's plan to build such a custom machine for those who want it has not been deterred. You furnish the motor and transmission of your own preference and a copy of the "Enterprise" will be yours for \$2,500. Courtney recommends at least a 30 cubic inch twin or larger powerplant, considering that the weight of the machine, complete with gas and oil (using a 45 cu. in. Indian Scout mill), is 580 pounds.

It's been two years since O. Ray Courtney first formulated his plans on the drawing board until the time that his son Ray W. Courtney, a member of the Cherokee Riders, could ride it off. But the project has been well worth the effort. According to its builder, the machine handles beautifully, has ample speed, gets 50 miles to the gallon and rides more like an automobile than a motorcycle. Working in his spare time, Courtney shaped the metals out on power hammers, using skeleton forms. This striking, all metallic white dreamboat has already been on exhibit, appearing as the star attraction in a recent Memorial Day parade. It showed no signs of overheating, which is more than can be said of some of the envious spectators.



Although wheel size is small, overall lowness of weight indicates that the center of gravity may be somewhat the same as a conventional bike

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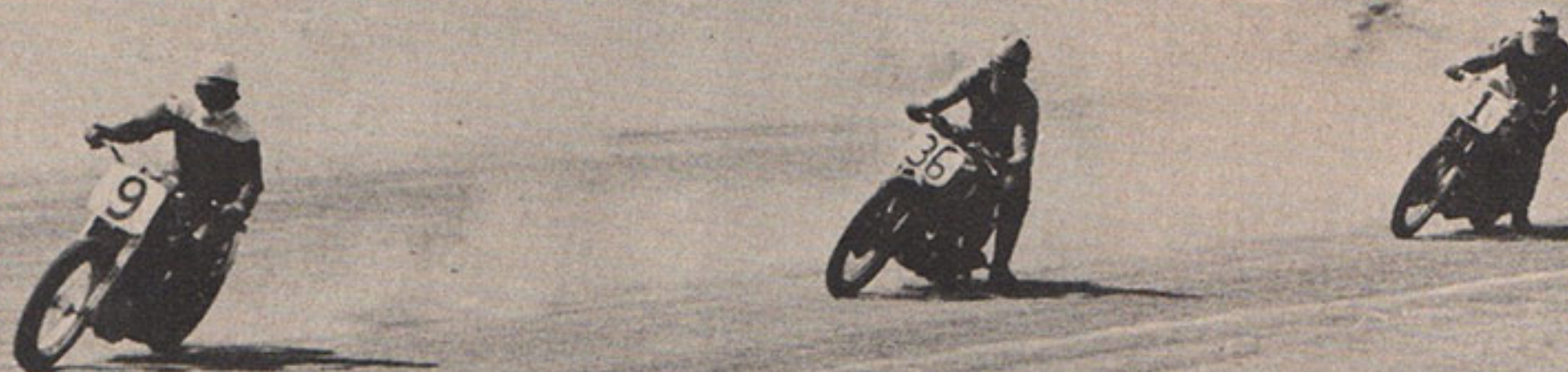
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DODGE CITY MOTORCYCLE FAIR



Norton; Hill Up, Breaks Tape in 200 Ball Takes 50-Miler for BSA

By Ray Bowles

Stone (No. 36) passes Hill in early laps and Woody Simmons hasn't long to wait, although Woody went home with \$225 for 6th and where was Stone?

OH, THE THINGS you missed by not attending the 200-mile National in the "Cowboy Capital of the World."

Most important were the Nortons brought by the Indian Tribe for this massacre on wheels. But, even before this running duel took place, there were lots of things to be seen and fun to be had. Imagine yourself in a town that has craved adventure and excitement since the time of Francisco Coronado who in 1541 was looking for the seven cities of gold in and around what is now known as Dodge City. Poor old Coronado didn't make his strike, so it passed to modern man who did just that in 1952. With a quarter of a billion dollars in profits from the greatest wheat harvest in years, the Kansas farmers had found the city of gold and had now set the stage for the nation's newest motorcycle show. These fine people left no stone unturned to bring more pleasure to the horde of visitors from the four corners of America.

Wednesday found U.S. Highways 154, 45, 50 and 283 dumping the advance scouts from distant states into the Queen of the Cowtowns. Many had come 1500 miles or better and were ready to relax in the beautiful shaded parks which comprise more than 50 acres in lawns and lakes.

Dodge's old timers had a field day telling visitors about the young upstart from Columbus, Ohio who had won the 300-mile World's Speedway Championship back in 1927 and they were quick to tell that anything held in their town was the best, attracting the best in competition, were it a horserace, fair or rodeo; consequently it was a World's Championship motorcycle race that Jim Davis won in '21.

Jim was back not to uphold his record, but to play the most important part of official referee and to see that the man who won got the checkered flag, for he was also the flag waving starter.

Since the time the first motorcycle rider thumped into Mac Stauffer's Dodge City Indian shop, in 1916, he never had it so good. Just stop for a few minutes and listen to Mac tell those old corny jokes the way only he can tell them and you won't find a dry eye in the crowd. He then winds up by telling you where to go.

Lots of hot water greeted those travel-weary men and women who pushed across countless miles, both solo and sidecar, to finally arrive at motorcycle heaven. Hereafter it shall be known as "Shy-Inn" with its free showers, plenty of shade and room, for your sleeping bag or camp trailer.

Hungry? You couldn't help but be by this time. Food was no problem in Dodge City. Kansas City steaks were the order of the day and it is my guess that those K.C. planks shrank considerably on the long train trip home. Dodge places first with the most in beef. Again imagine yourself at the Shangri-la of eating houses with a steak before you, thick as your arm and so far across that the eating time is double what you are used to. They don't build dinner plates large enough to protect the table cloths at Dodge.

That's just the way it went from beginning to end—everything bigger and better than you've known before. If it wasn't bigger, it was older, and if not better, it was more to your liking.

Following their first night of fun, dancing and merry-making at the night spots, the reluctant cyclists finally turned in,

anticipating that steak breakfast and two eggs, all for 70 cents.

Motorcycle dealers' dreams did come true; literally hundreds of customers strained and shoved—their goal the parts counter to spend money. Seal's Harley-Davidson agency on the road to the big track enjoyed this business, from the sound of the ringing cash register. No one lingered longer than was necessary after his purchase, for this was the day of the amateur race for fame and fortune on the new 2.1-mile dirt speedway.

W. A. "Wag" Waggoner, president, and his band of merry men who make up the Dodge City M/C, did a wonderful job on this future Indianapolis of motorcycles. Just wait and see if the D.C.M/C isn't one of the most recognized in the land because of its national classic that drew its first breath this year.

A Cowboy and Indian atmosphere colored the meet right down to the very teepees pitched in the largest enclosed pit area in the world. Indian Sales Corp. had their line on display with Vic Cox and G. T. Bunger placing bales of hay under the weary. All others found their own hay bales . . . plenty of ice water too—98.8 per cent pure. The peace pipe was out and was smoked in the roped-off tuning area, thrown open to all breeds. They were all there tuning and priming with the exception of the inventor of the motorcycle—Comrade Slipclutchski, who has so far neglected to bring his first bike out from behind the Iron Curtain, although invented in 1191 B.C. This united motorcycle showing was a mighty swell preview of the bikes and jockeys who were about to toss away the peace pipe and

Photos by
Ezra Erhardt and L. Gordon

start throwing clods at each other with their rear wheels.

TV and radio have long since found that the best shows are amateur. This 50-miler proved the point. Sitting in the grandstand, waiting for time trials to start and looking over the open grounds on which, in 1878, 40,000 buffalo died, it was easy to see why the only buffalo left are fed to juke boxes in the form of nickels.

One man at a time on a two-mile track is about like waiting for Christmas to come around. But what's the difference when there are lots of good people to talk to. The talk was fast and furious just after C. L. Wilkinson turned in a time of 1:20.96 on his Harley-Davidson No. 82. Man, that's moving! The rest of the top ranking amateurs weren't far behind in their time trials when lined up for the grand finale of 50 miles.

Ball showed America on a BSA Star Twin by going around Wilkinson on the 23rd lap of the 25-lap event. Harold Ball, the Sacramento lad, just couldn't be denied the 50-miler as he worked his way up from third spot to win this great amateur struggle. May his crowning glory be just a stepping stone for the Expert Championship that is in store for him.

Next came the mad dash back to town for a shower and more of the same as last night . . . what fun!

Man bites dog is news, but if that happened on Thursday, July 3rd, it didn't appear in the Dodge City *Daily Globe*, a good newspaper that kept a full account of the motorcycle activities throughout the meet. The *Globe's* editorial made one feel really good to be so near the geographical center of the United States. The editor captioned his column . . .

"DODGE CITY GLAD TO HAVE GUESTS"

then went on to comment . . .

"Older residents of Dodge City remember the famous national motorcycle races here in 1914, 1915, 1916, 1920 and 1921. To more recent inhabitants, the races are something new. Many of

them never have been near such a sporting event. However, in the last two days, the arrival of many visitors and the enthusiasm which they show for the sport have been contagious. The local public generally realizes the nation-wide interest in the races.

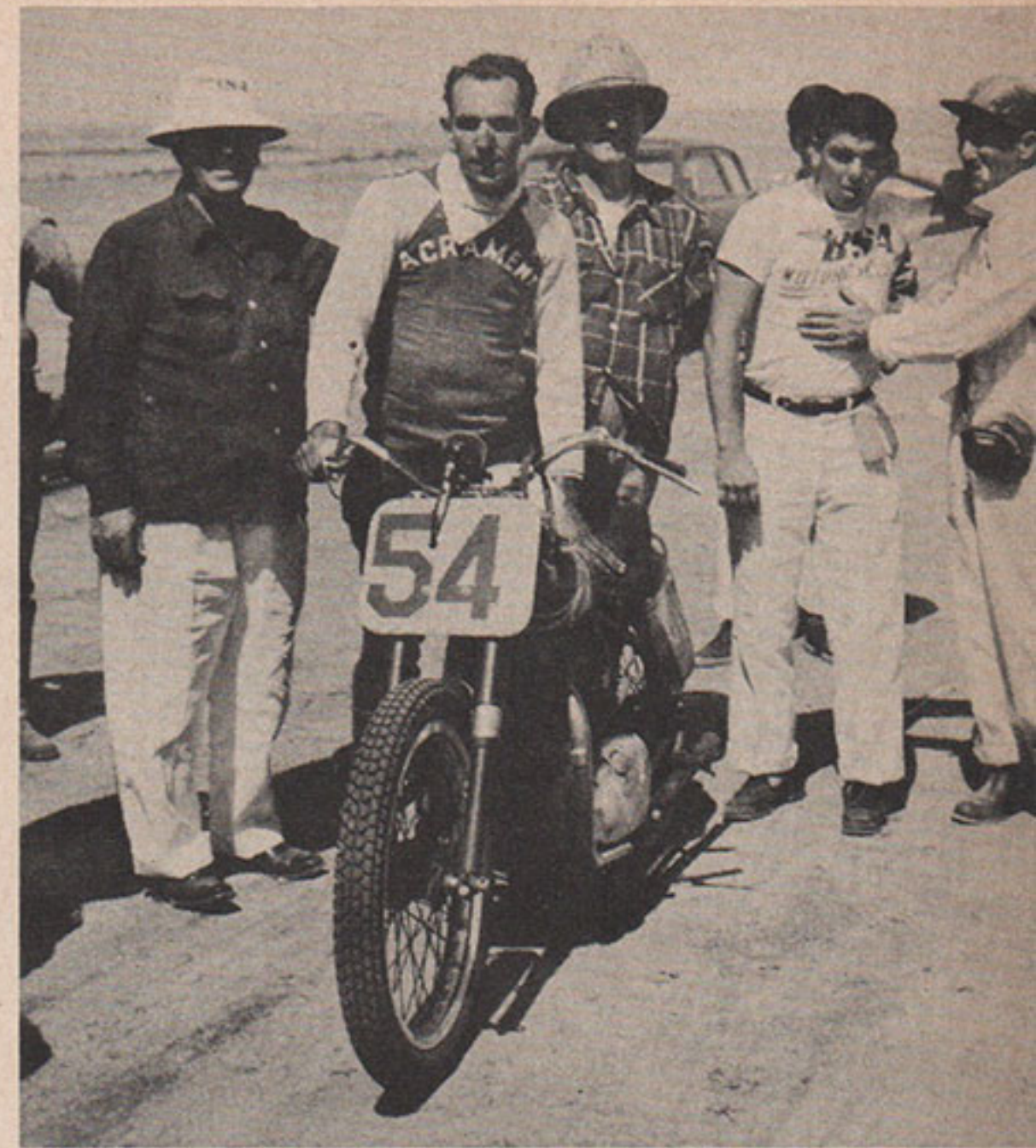
"Dodge citizens trust that the guests from elsewhere—fans as well as race participants—will find things to their liking. Everything possible has been done to handle the crowds properly. We want everyone to enjoy himself and to understand that he is a welcome guest. Dodge City likes company and is glad to have the motorcycle people here."

"Dodge City not in Kansas—the fight goes on." That was the text of a wire sent to the governor of Kansas by Mayor Webster July 4, 1884, when the only bull fights ever to be held in the United States were staged in this wheat growing community. Years later, to the day, the lad from Greeley, Colorado, Floyd Clymer, had quite a fight and it was no bull when he set a record for the 100 miles on his Harley-Davidson at 83.62 mph. The year was 1916. Would the hot shoes of '52 beat his time? Floyd wondered too.

A couple dozen refreshment stands strung out behind the main bleachers selling everything from boxed chicken, soft drinks, meat sandwiches, to souvenirs and the loud variety of fireworks, which are banned in most states. These bits of fair life were handled by the different civic organizations such as the Legion, Order of the Moose and many other groups. Revenue from two concession booths operated by the very pretty members of the Boot Hill chapter of the National Secretaries Association will be used to charter a bus to attend the 1952 Nat. Sec. Convention in Seattle, Washington. We sure hope the same 21 girls come through Los Angeles on the way.

The time trials for the mighty experts went about the same as those of the previous day. However, someone forgot to tell Mr. Wilkinson (No. 82) that amateurs aren't to go so fast. Consequently he still holds the one-lap record for both

(Continued on page 38)



ABOVE, East is East and West is West and Harold Ball is Rich Child's (right), and Hap Alzina's (left), object of affection after winning the exciting 50 mile Amateur struggle. Mr. Lauer in the BSA T-shirt can't quite believe it yet



ABOVE, Trickle, trickle, the oil in the cc glass runs down into the cylinders and where it stops will prove the winner. Dick Gross is taking a horizontal look into the crystal tube, checking cubic inch capacity, nodding that it's right on

BELOW, Hurry Thiessen, time's a-wasting and it's hard to make up precious seconds lost in pits. The track, baked hard by Kansas sun, looked good after 200 miles had been run. Pit man carries special gun for filling transmissions



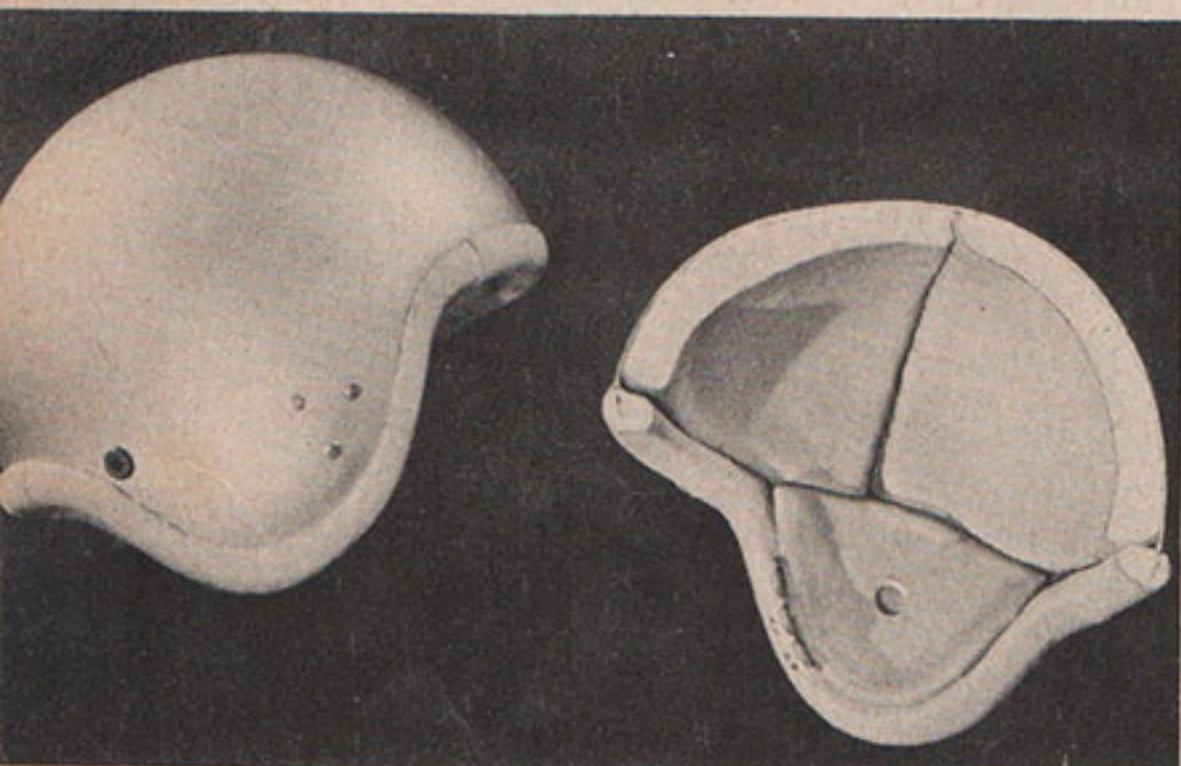
BELOW—RIGHT, Bobby Hill returns winner's cup to Columbus, Ohio where it has rested since 1921 when Jim Davis won the last Dodge classic. Cannon Ball Baker is still plenty fast, first to congratulate Bobby on his \$2500 ride



The Price on Your Head . . .



ABOVE, here, professor C. F. Lombard, designer of the "Toptex" helmet, tests helmet with a controlled pendulum which struck the helmet with forces up to 450 psi, a pressure equal to hitting a brick wall head on at 40 mph. This is taken directly from a 16mm high speed research film made during the helmet tests



ABOVE, a side view of the "Toptex" helmet together with a cross section view. The outer shell is solidly constructed of glass fiber laminated with styrene polyester resin. Fitting inside of the helmet is a layer of crushable cellulose acetate which absorbs the impact, eliminating the double force of the impact pushing down on the head, then pushing away

IN SECTIONS of America where sartorial elegance is the watchword, the old adage "clothes make the man" still sticks. For the cyclists those words hold true on a red hot date, but when it comes to competition, the riders are finding out that clothes don't make the man, they keep him alive.

For the cyclist the amount of protective clothing is limited. Many other sports such as football or hockey require that the players wear much more protective clothing. Football players, for example, wear a myriad of padding. They are surrounded by layer after layer of shoulder pads, knee pads, hip pads, and thigh pads. Recent studies made by several professors and doctors have heralded the arrival of even more protective equipment designed for the protection of test pilots and football players.

With these new announcements several questions became of interest to this reporter. How much protective clothing should a rider wear? Is he wearing too much now? Is he skimping, not yet wearing items which could be beneficial to him when the chips are down and he's gliding through space looking desperately for a place to land?

My first question was to a professor at a California University. "If football players, who travel at relatively slow speeds, wear so much clothing, couldn't it be of benefit to cycle riders as well?"

"In football," he replied, "the player is up against opposing forces every minute. A game lasts one hour. During that time the player is kicked, pulled, and hit every second. Hard leather shoes coming at a speed of over 30 mph clip his legs, back, chin, and even his head. He must have full and constant protection.

"A cycle rider, on the other hand, does not subject himself to such a possibility of injury. The injury ratio is much lower because he is injured only when he falls off and *he does not expect to fall off*, although, of course, it may well occur.

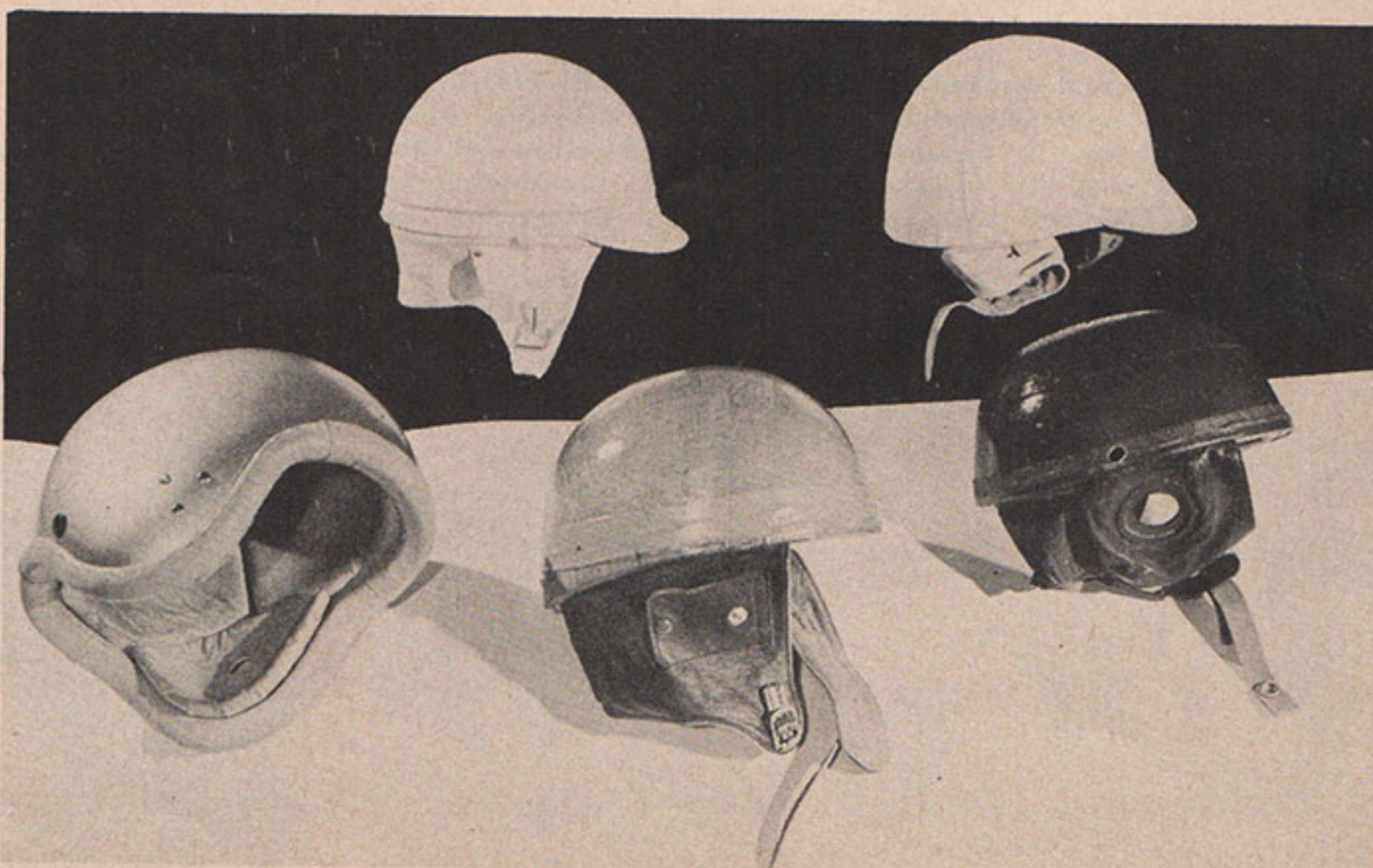
"Protection for the cycle rider," the professor concluded, "begins on those areas which would sustain the force of the impact should the rider fall. Those areas are the external areas of the body and the head, and not the internal organs as they are in football."

When a rider comes off his bike he is susceptible to four distinct types of injury. He could incur abrasions, head concussions, broken bones, and internal injuries. The degree of possibility for any injury is in the order given. Internal injuries are at the bottom of the list. These are caused not by a lack of proper clothing, but from the tenseness with which most riders fall.

Number one injury category is abrasions. Skidding along the track at speeds of over 80 mph is a tough proposition; ask any rider who has experienced it. Ordinary clothing is quickly ripped from the body, exposing the skin to painful burns and abrasions from rock and asphalt. That's where the value of leather clothing comes in.

Riders wearing leather breeches, shirts, and gloves can withstand a lot of punishment before incurring an abrasion. A spill will have to wear through a lot of horsehide before it reaches skin. Riders such as Nick Nicholson and "Pee Wee" Cullum are enthusiastic about leather clothing.

"Every rider should wear leather," says Pee Wee. "With them you wear off the horsehide, but not your own. I've yet to suffer an abrasion while wearing leathers."



RIGHT, five existing types of helmets which meet the rigid requirements for safety. Top two, left to right: Floyd Clymer's Clymer sport helmet, Lohrenz's "Shoc-Shell" helmet. Bottom row, left to right: the "Toptex" pilot's helmet, the Cromwell helmet and Flanders helmet. Of these helmets only the "Toptex" helmet offers temple protection as well as complete impact distribution

is higher than you think!

TEXT AND PHOTOS BY
BOB BEHME



ABOVE, a shot in the head! The author tests the "Toptex" helmet with a sharp blow to the side of the head. The impact, measuring close to 100 pounds per square inch, was described by the author: "There was a snap, then pressure. I couldn't localize the source of the blow at any given point. It seemed to come from all over the helmet. There was no pain and only slight loss of equilibrium."

Leather clothing provides a plus safety factor. This is proven by the fact that stunt riders such as Carey Loftin and Put Mossman have deliberately spilled their bikes for the cameras at high speeds in complete confidence that their leathers will keep them from abrasions.

Competent riders from all over the world recommend a complete set of leathers for all competition events. To complete the ensemble, the safely dressed rider would add gloves to the list of breeches and shirt. An interesting fact here is that it has proved beyond a doubt that a rider wearing skin-tight leathers can gain added speed over a rider wearing an ordinary shirt. The wind resistance is much less with leather.

The selection of boots is equally important and top riders agree that lace boots are the best. Experience has proven the support of the tight fitting boots surpasses that of the looser fitting field boots. Until a rider is used to the lace boots, it's true that the field boots will be much more comfortable, but nothing

can guard against sprains with the effectiveness of the lace boots.

Perhaps the biggest news of new protective equipment deals with helmets. An Inglewood, California firm, Protection, Inc., announces that the helmet which it has been manufacturing for test pilots may soon be modified for use by cyclists.

At this writing the helmets have been restricted to pilots with the exception of two which were worn experimentally at Indianapolis last year. The helmets are good, but they cost pilots slightly over \$200 now. While they will never be cheap, the manufacturers have announced that plans are now under way to produce them in quantities for under \$40.

The value of this helmet over existing products lies in its radical design. The design came into being after three years of intensive research at the University of Southern California by Dr. C. F. Lombard and Herman Roth, now heads of Protection, Inc. Rather than limiting the force of an impact to specific areas of the helmet, the new design distributes the

force throughout the entire area of the helmet and instead of storing up and then returning the force of a blow—as do some existing helmets—the new one absorbs the force.

The secrets are in the construction of the helmet. Glass fabric laminated with styrene polyester resin forms the strong outer shell. The resin has the ability to distribute the force of an impact through the entire surface. A primary shock absorbent layer of non-resilient crushable cellulose acetate—known as CCA—lines the inner area of the helmet. In turn, a one-half inch layer of sponge rubber is used to line the CCA liner. The rubber cushions the helmet. The CCA absorbs the blow.

This design was based on a nationwide research program designed to find contributing factors to injury from impacts to the head. Results indicated that it was not only the impact which did damage, but the resiliency or "bounce back" which contributed as well.

Tests have been made which indicate their helmet will sustain blows of amazing pressure to the helmet without injury to the head. It is not alone the pounds of pressure which it takes to crack the helmet shell which makes a helmet good; the factor which counts is the amount of pressure which the helmet can sustain without relaying undue impact to the skull. The helmet was designed to distribute the force and to absorb the impact.

Those advantages can be illustrated easily. John Doe is a top notch racer. He is riding along out in front when suddenly he clips a rock and soars over the handlebars head first onto a jutting post. The force of the impact of head to post would measure about 300 pounds pressure per square inch, over the small one inch radius where John's unlucky head clipped the post. While the skull can stand that force without cracking, a concussion would result.

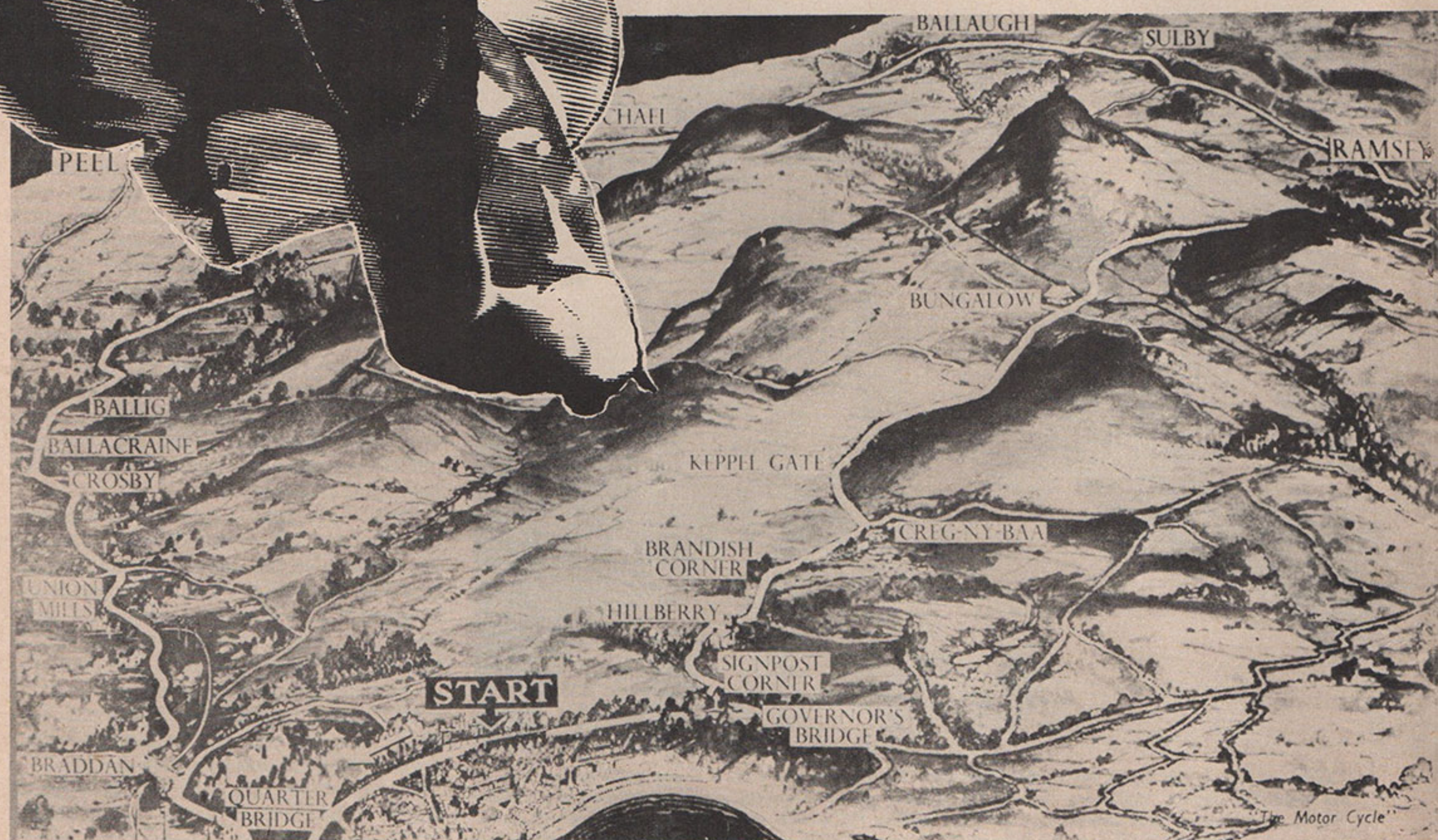
If, however, John's head was encased in a helmet of the above design, the 300 pound pressure per square inch would be distributed throughout the entire area of the helmet reducing the pounds per square inch to between 25 and 30. He would still feel the jolt of coming to a rapid stop, but he'd probably get away with nothing more than dizziness.

This illustrates the biggest difference between the new helmet and the conventional products. In the standard helmets, the head is supported inside the helmet by four or five webs. The force is distributed between these four or five webs. While this is better than bearing the impact on one spot, it cannot equal the effectiveness of full helmet distribution.

(Continued on page 39)

The TT as Geoff Duke sees it

ILLUSTRATIONS COURTESY WAKEFIELD CASTROL MOTOR OIL



STORY OF THIS YEAR'S RACE

By George London

THE ACE OF ALL MOTORCYCLE RACES, Geoff Duke, came very near to being the first man in the history of 34 international Senior TT races to win in three consecutive years.

He was leading for more than half the race, despite the fact that his machine was carbureted so rich it was continually misfiring when he eased off the throttle, and was a good 400 rpm down on full twist. But then his clutch went out and, to the dismay of thousands watching the race, he abandoned the contest at the end of lap four.

From then on, there was a duel between two riders—Reg Armstrong, Geoff's Dublin-born Norton team mate, the eventual winner, and old hand Les Graham, mounted on a four cylinder Italian M. V. Agusta.

The "Senior" (30 cu. in. event) was the final in a full week of racing on the

famous Isle of Man Tourist Trophy circuit—37¾ miles of winding roads, going up hill and down dale from Douglas, capital of the island, to Ballacraigne, near the old fishing port of Peel, then turning northward to Ramsey, second largest town on the island, then crossing Snaefell mountain to return to Douglas. From Ramsey the road climbs continuously, rising from 30 feet to 1384 feet above sea-level in six miles, after which there is a steady downhill run for four miles, and throughout this mountain section low clouds frequently reduce visibility to a few yards. But this year the weather was perfect.

THE INTERNATIONAL JUNIOR TT

Following a 10-day practice period, the first Junior TT (21 cu. in. machines) took place. As in all the other international TT races, the competitors were started individually at 10 second intervals, with Duke,

as last year's winner, first away. Seven laps had to be covered, a total distance of 264.11 miles.

Among the 83 competitors were riders from Australia, Canada, Ceylon, Denmark, Ireland, New Zealand, Southern Rhodesia and Sweden. Thirty-seven rode AJS, 27 were on Nortons, 16 on Velocettes and three on BSAs.

The race started at 9:45 a.m., and, with a 90.27 mph opening lap, Duke established himself at the head of the running, with a 37 second advantage over Rod Coleman.

Nearly everyone came in to refuel at the end of the third lap—and 20 to 30 seconds was all the time taken by the experts like Duke and Brett—but one absentee was Roy Godwin (Norton) who had been well placed among the private owners until he spilled the model in the hairpin turn at Governor's Bridge, ½ mile before the pits.

Soon afterwards Ray Amm was out of

the race, coming off on the 50 mph S-bend over Braddan Bridge; then Brett's engine blew, on the Mountain climb.

The end of lap 4 saw Duke, sitting really pretty by now, out in front. Armstrong was second, Coleman third, Kavanagh fourth, Lomas fifth, then Lawton.

Geoff Duke's winning speed set a new record and just as last year he had been the first man ever to lap the course at over 90 mph on a 350 cc (21 cu. in.) machine, so he now became the first man to cover the whole seven laps at over 90 mph on a "350." But because he was never seriously challenged, his fastest lap (the second) was fractionally lower than his last year's best.

		Time	Speed m.p.h.
G. E. Duke	Norton	2:55:30.6	90.29
H. R. Armstrong	Norton	2:56:57.8	89.55
R. Coleman	AJS	2:58:12.6	88.93
W. A. Lomas	AJS	3: 3:41	86.26
S. Lawton	AJS	3: 7: 5	84.71
G. Brown	AJS	3: 7:33.4	84.50
W. A. C. McCandless	Norton	3: 8:30.4	84.07
E. Ring	AJS	3: 8:42.8	83.99
C. C. Sandford	Velocette	3:10:20.2	83.27
P. H. Carter	Norton	3:12:16.6	82.42

THE 350 CC CLUBMAN'S TT

Since the war, national "Clubman's" races, for riders of catalogue sports machines, have become a regular feature of the TT week. This year there were two such events, the Junior (350 cc) race being held on Monday afternoon, and the Senior (500 cc) on Wednesday afternoon.

In each the use of the kickstarter was compulsory, and riders were sent off in threes, at 30-second intervals. Both races covered four laps (150.92 miles).

The Junior Clubman's TT had attracted the biggest entry of the week—105—but failure to qualify or practice spills reduced this to 96 actual starters. Of these no fewer than 69 were riding "Gold Star" BSAs

—a choice which is not altogether surprising in view of the fact that a BSA has been placed first in this race for the past three years. The next most popular machines were "International" Nortons (17), while other riders were using AJS, Douglas, Matchless and Royal Enfield.

Eric Houseley (BSA), riding for the Chesterfield club, soon established himself as the leader, and stayed out in front right to the finish, but there was a close struggle for second place between Kenneth James (Norton) of Ringwood, and Bob McIntyre (BSA) of Glasgow, with the Scottie coming out on top after putting in a record final circuit at the astonishing average speed of 80.09 mph. Houseley's average speed for the race—78.92 mph—had also set a new Junior Clubman's TT record.

		Time	Speed m.p.h.
E. Houseley	BSA	1:54:45.2	78.92
R. McIntyre	BSA	1:55:17.4	78.57
K. V. R. James	Norton	1:55:24.4	78.47
C. E. Staley	BSA	1:56:53.6	77.52
D. T. Powell	BSA	1:57:17.4	77.26
H. Plews	Norton	1:57:45.2	76.92
H. Brown	BSA	1:58:15.4	76.58
R. Jones	BSA	1:58:19	76.54
R. Ritchie	Norton	1:58:50.4	76.21
E. B. Jones	BSA	1:59:06	76.04

INTERNATIONAL LIGHTWEIGHT 250 CC TT

Wednesday offered enthusiasts a double spectacle, with a four-lap international lightweight (250 cc) TT and a three-lap international 125 cc TT run together.

At 10 second intervals, the 30 competitors in the Lightweight TT were sent off first. And as had been expected, the Guzzi factory team, the Italians Bruno Ruffo and Encirco Lorenzetti and 43-year-old Englishman Fergus Anderson were soon setting the pace. A record one, too, with Ruffo knocking a full 22 seconds off Fergus Anderson's 1951 "fastest ever"

lap time of 27 minutes and 9 seconds.

Yes, indeed! Ruffo was out to win. As he went into the final lap, he had 20 seconds in hand over Anderson, and was 52 seconds in front of Lorenzetti, and was going like a bomb.

But half way around the course he slowed—an observer at Ramsey reported him to be "touring," looking down at his engine and seemingly in trouble. In the last few miles, however, he was going quickly once again and absolutely flashed over the finishing line. Seems his team was "riding to orders," as teams sometimes do in the Isle of Man, and that Ruffo—who is reigning World 250 cc Champion—meant to show that he could have won if they'd let him.

Anderson's victory was a popular one, for he has been racing for a great many years and this was the first time he has scored a success in a TT race. Popular, too, was Les Graham's fourth placing, on the one British factory entry, a Velocette.

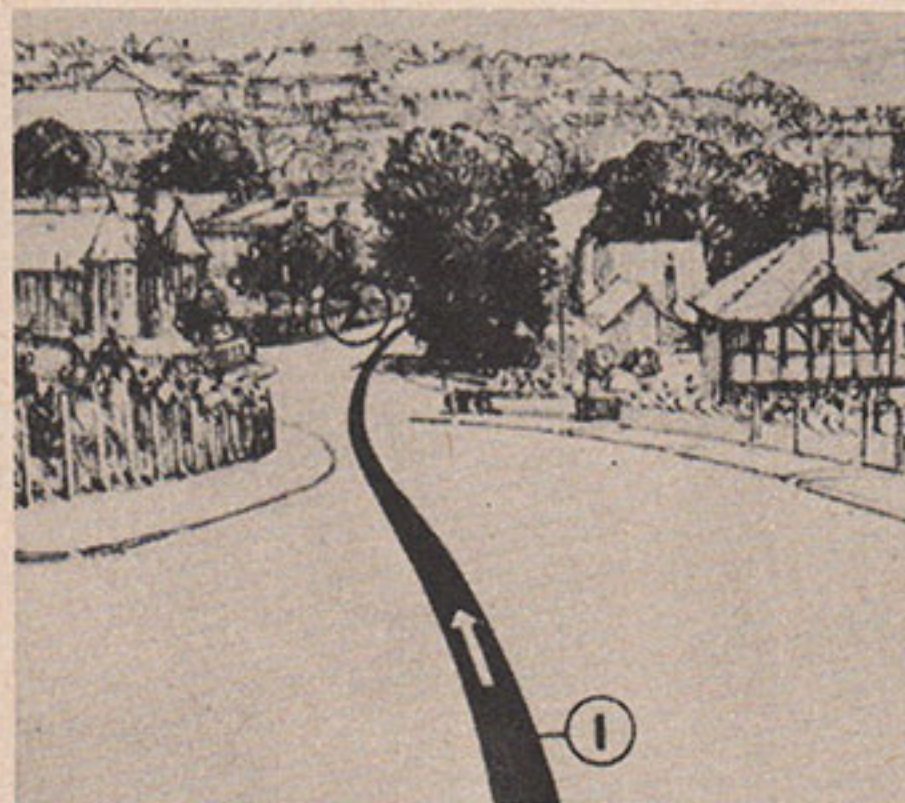
		Time	Speed m.p.h.
F. Anderson	Guzzi	1:48: 8.6	83.82
E. Lorenzetti	Guzzi	1:48:40.8	83.36
S. Lawton	Guzzi	1:49:43.2	82.54
R. L. Graham	Velocette	1:50:22	82.06
M. Cann	Guzzi	1:50:51.6	81.69
B. Ruffo	Guzzi	1:51:26	81.27
R. Mead	Velocette	1:57:48.4	
R. J. A. Petty	Norton	1:59: 1	
A. Wheeler	Guzzi	2: 0: 0.4	
C. F. Salt	Pike-Rudge	2: 0:38.6	

THE INTERNATIONAL 125 CC TT

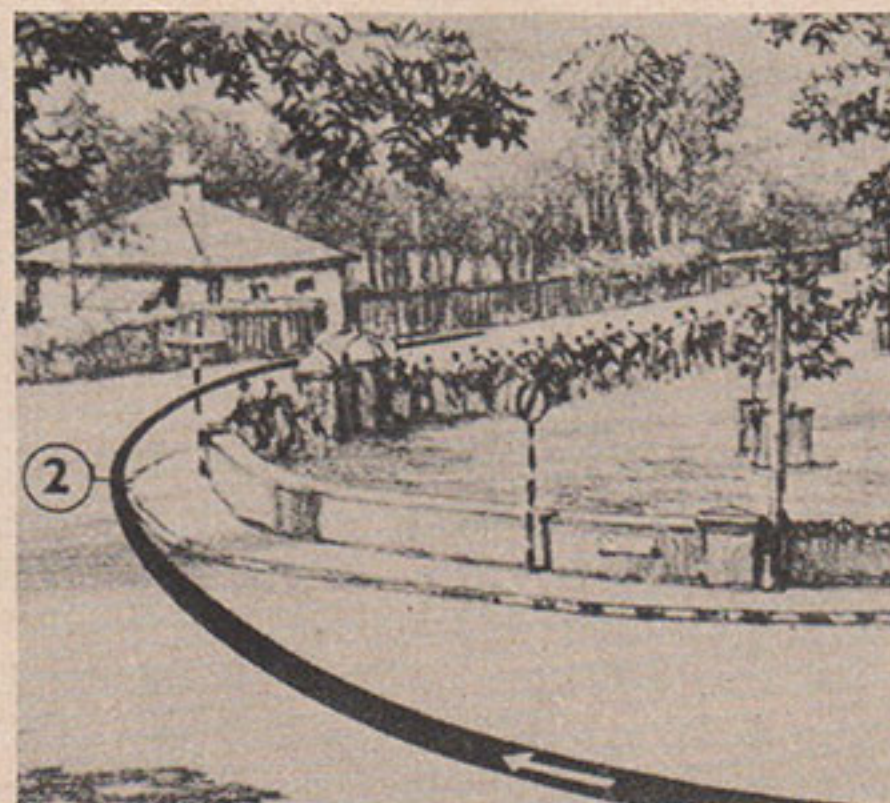
Non-arrival of the Spanish Lube and Montesa teams and failure to qualify on the part of some British riders reduced the 29 entries in the three-lap (113.19 miles) 125 cc race to 17, the first of whom, Harvey Williams (BSA "Bantam"), was started 2 minutes after the last of the 250 cc competitors.

(Continued on page 28)

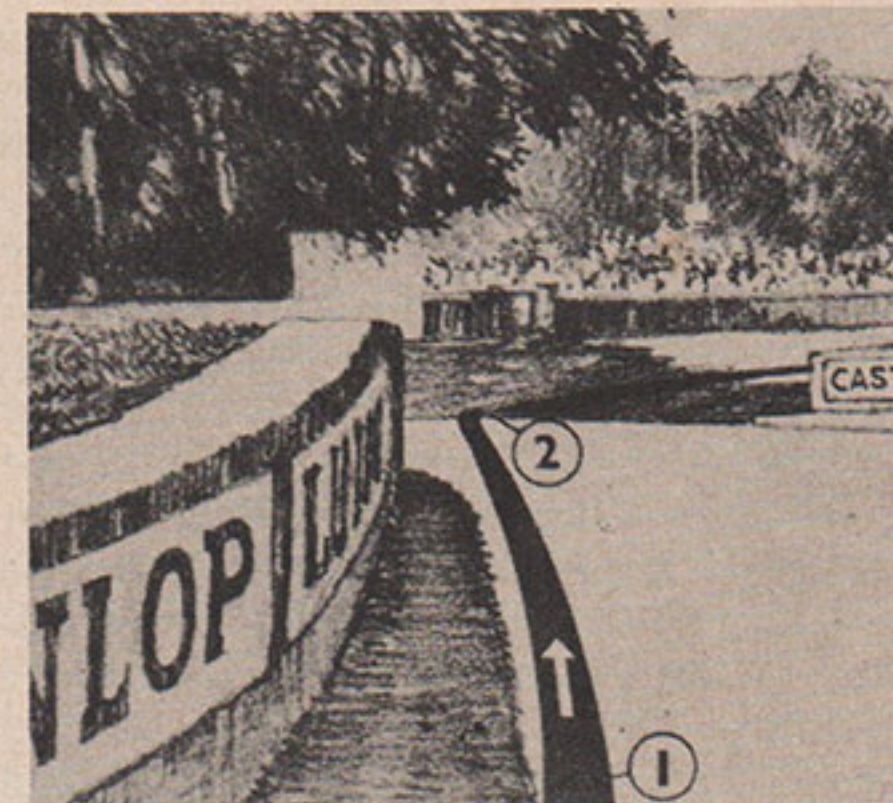
A TURN BY TURN PICTORIAL ACCOUNT ILLUSTRATED FOR THE DUKE HIMSELF



BRAY HILL 1. Descend in road center and make a straight line running parallel with, and alongside, the left hand curb where it projects to meet you. 2. Aim for a point at foot of hill mid-way between a manhole cover and the right hand curb, the distance between the two being about 18 inches. Flat out all the way down—reaching 7,000 rpm—at near 129 mph



QUARTER BRIDGE 1. From an approach on the extreme left hand side of the road commence to bank the machine over to the right from this point (just past the cafe), using bottom gear and clutch. 2. Clip the curb just before the signpost—actually on the very apex of the turn. Cautious acceleration from this point is advised, especially if wet—adverse camber



BRADDAN BRIDGE 1. Approach from Quarter Bridge on extreme right, swinging left, a little on slow side, to help hold the machine in against the nearside bridge wall. 2. On crown of bridge a very rapid change of direction right, following the camber downwards across to the pavement edge on opposite side. Bottom gear all the way, entering at about 40 mph

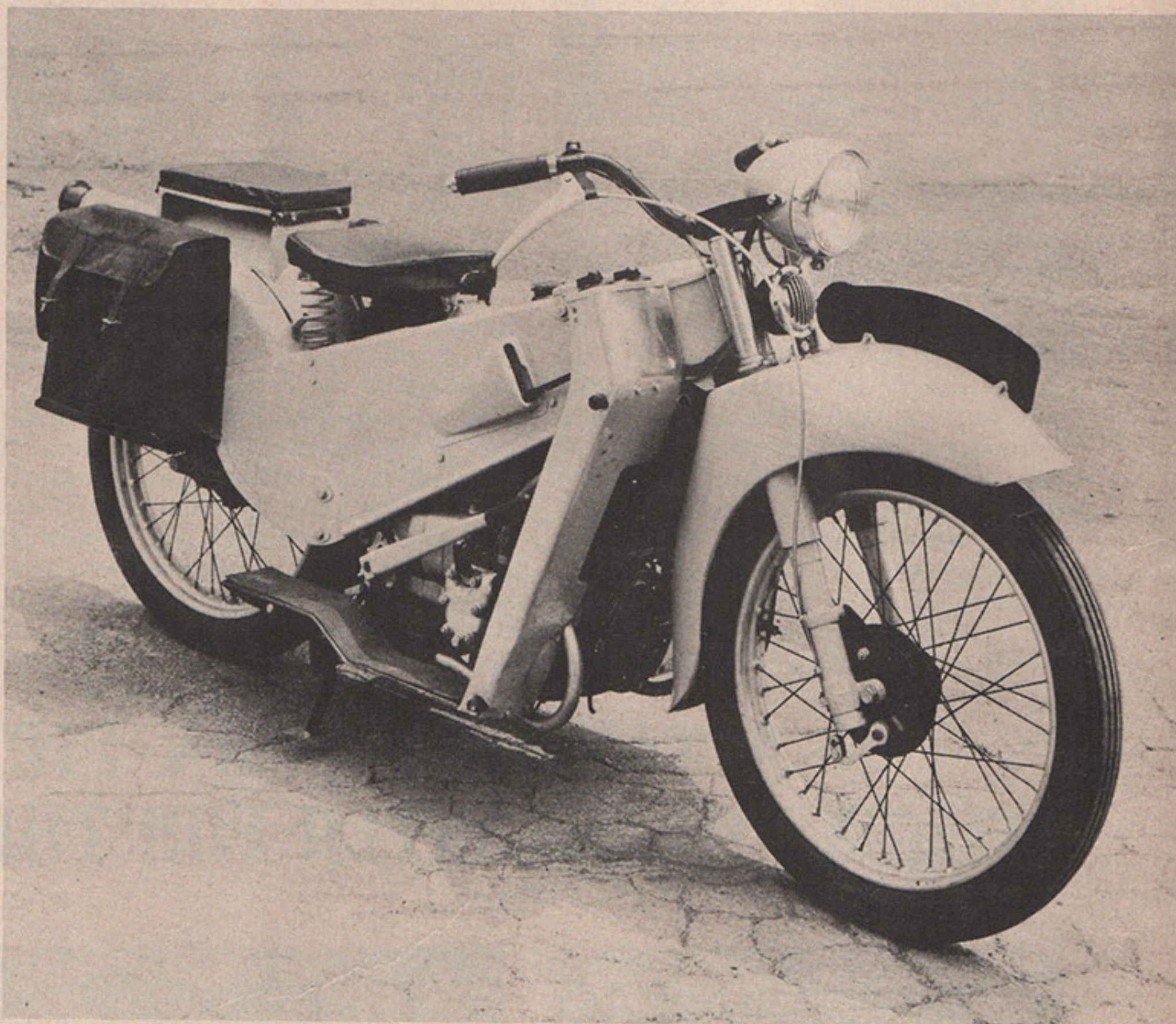
for **LUXURY** The Water-Cooled L-E VELOCETTE Knocks Popular Conception for a Loop . . . for **ECONOMY**

By Bob Greene, Editor

Photos by Jack Campbell

DON'T HAVE TOO MUCH FUN at the L E Velocette owner's expense, for if you call his hand you're apt to find he's holding more high cards than you'll care to see. Even though this super silent little four-stroke 200 cc opposed twin has been distributed in the States for several years, I've found few people who were awake to what goes on under the battleship grey kimono that enshrouds the L E's driving force. It may be that the junior Velo's own diminutive manner is responsible for the common lack of public knowledge concerning it, today's popular conception of a motorcycle being what it is. To compare it with others in respect to noise and vibration is much the same as to contrast the calm and silence following a shuddering field artillery barrage. To stress a point it can be said (for all practical purposes) that there is no vibration at the handlebars at any speed, and engine and exhaust noise is so hushed that the driver of a car being overtaken seldom realizes your presence until you are past.

Before cracking the throttle on another month's test, let's appraise a few of the L E's hidden charms. The most evident difference is its unorthodox framework. As a matter of fact the backbone of this machine is not a framework at all but instead a sturdy, single pressing, 22 gauge steel shell that links the front down-tubes and fork assembly to the rear suspension pivots and tops of the spring shafts. You can wear your Sunday best seven days a week with this semi-enclosure. Especially deep valanced fenders and aluminum leg shields keep road dirt down. Since the accent is on utility and practicability all shoe scuffing foot controls have been eliminated. A

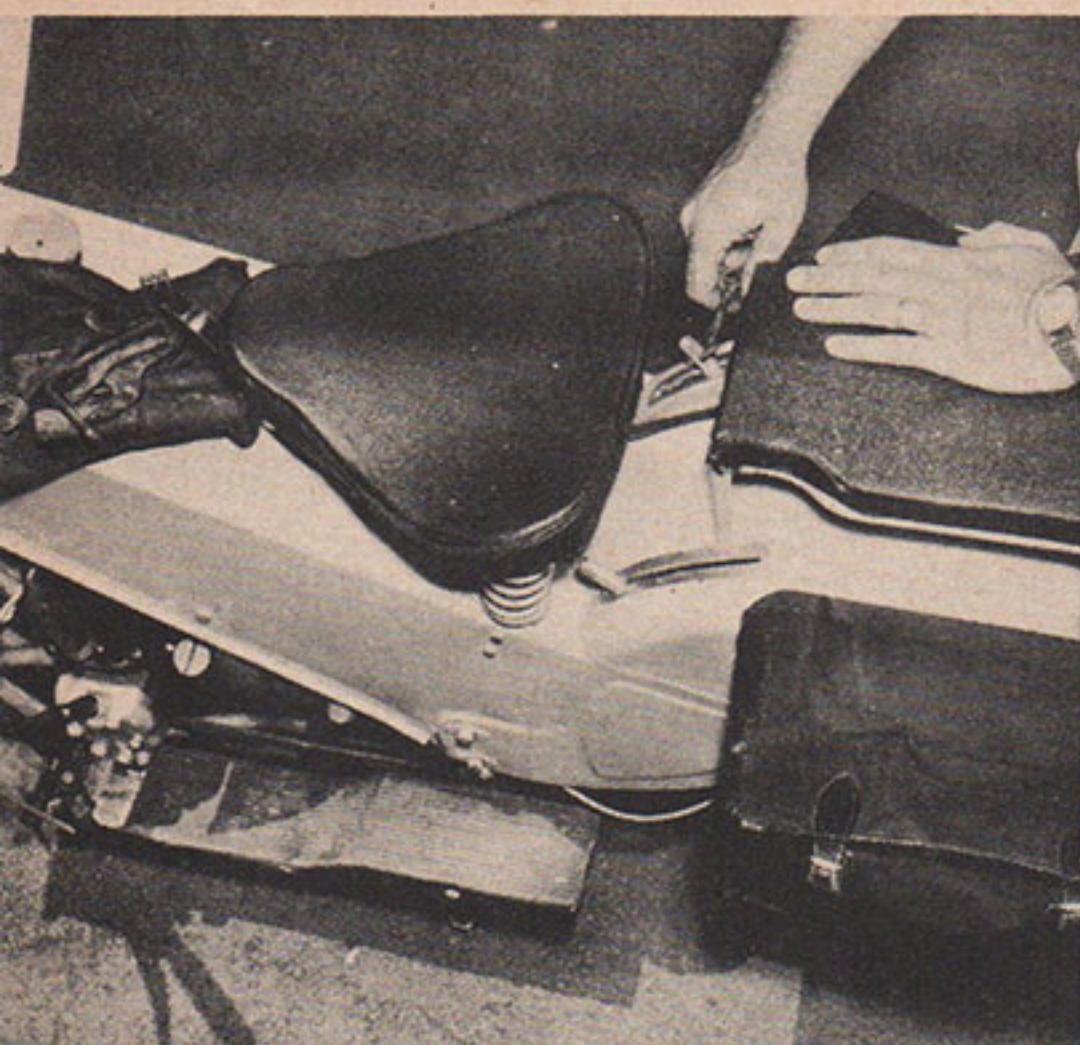


If you're happy cruising comfortably between 40 and 50, like to save big dollar bills on gas and oil, and prefer to stay clean as you ride, then the L E Velocette could easily be for you. None is cleaner, quieter, or more practical transportation than this. It ran beautifully throughout test.

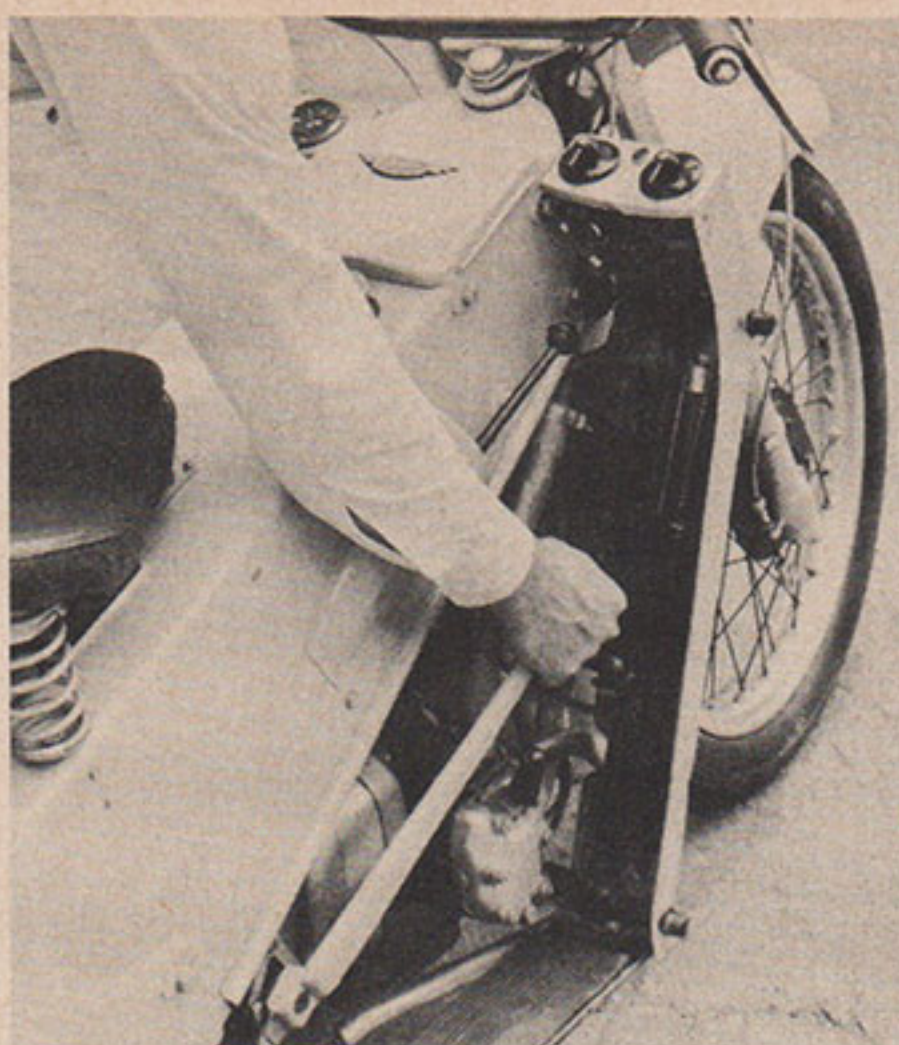
hand lever starter has been substituted for a kickstarter. It is located on the right side and automatically raises the center stand when the engine is pulled over. A right side hand shift replaces the conventional British footshift in deference to your pedal extremities, the only foot operated control being the rear brake. In regards to cleanliness it is noteworthy that this was the first machine to go through a complete test without leaving a single drop of oil on the garage floor. Part of the rear wheel enclosure forms an extra passenger seat, and two luggage cases prevented from sagging by a metal framework. Additional room for gloves, glasses, or

maps is provided in a glove compartment built into the flat decked frame, which is about eight inches wide across the top.

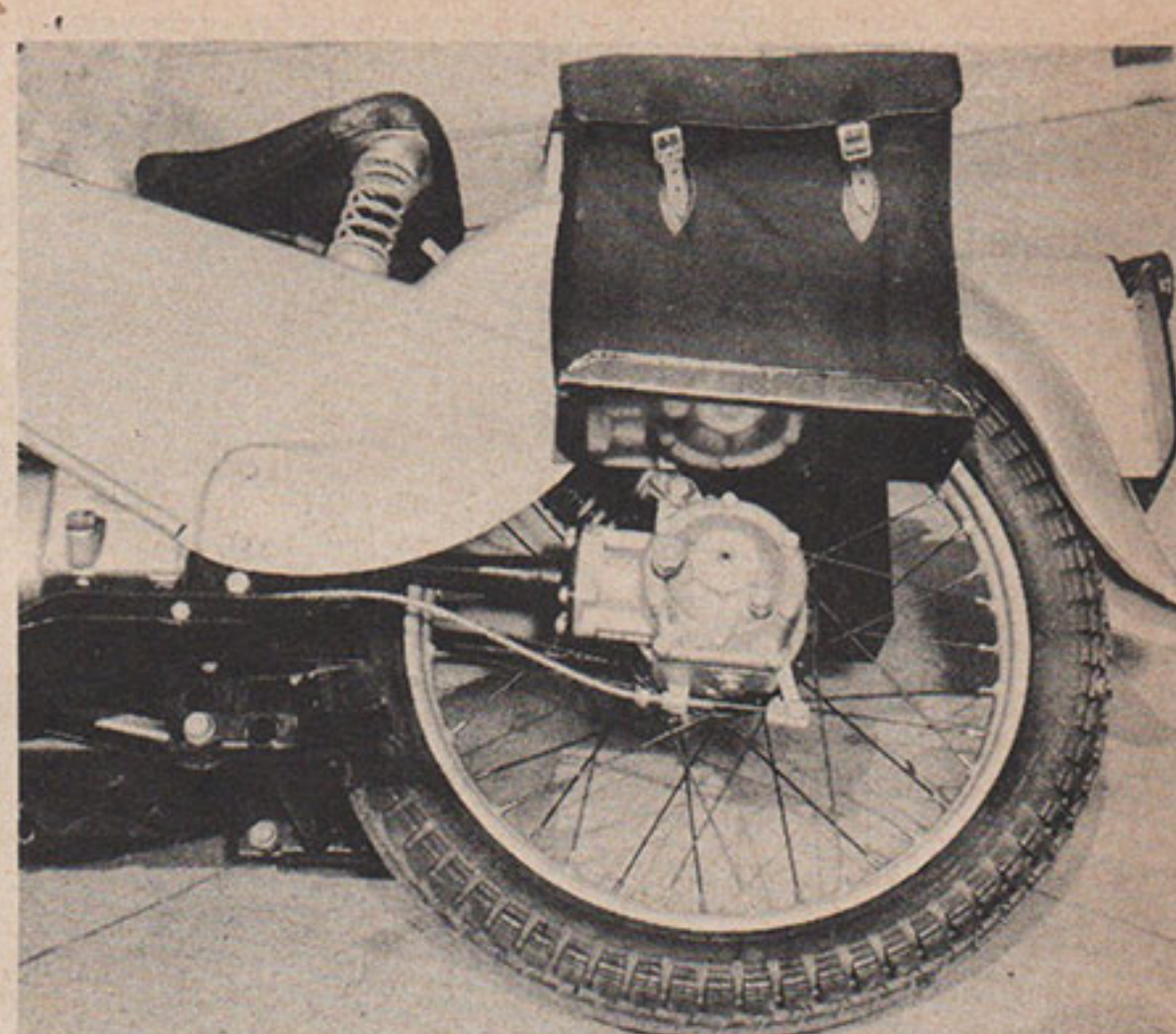
Beneath this squarish-like bonnet is a little power plant, amazing not so much for its brute torque but for the velvet smooth delivery of power. The flat twin with cranks set at 180° has already proven its merit in other machines, most notably of German design, but the smoothness of this unit seems to be accented even more by the lack of engine noises, muffled by the water jacketing. Yes, in case you hadn't noticed, this is a water cooled job and its 2½ pint radiator kept a cool head throughout the 300 mile test



Stiffening the ride for added passenger weight is done by changing the angle of the rear spring shafts. The job takes but a few seconds



A slow easy pull on the hand starter also raises the stand, which is two-sided, allowing the bike to be leaned either way on a slope



Saddle bags cannot sag because of metal reinforcements. Driveshaft, encased in torque tube, is trouble-free, requiring minimum attention

grind. Adding to its over-all silence is the shaft drive replacing a conventional rear chain. If this comes as a surprise to you then get set for more, for this little package is full of them. It has been said that the model L E has been used by Velocette to prove many advanced ideas that are to appear on their larger machines. True or not, it is easy to understand such reasoning since this model has employed the most advanced swinging arm suspension since its introduction to the public in 1948 at the Earls Court Show in England. What's more, the rear spring action can be easily adjusted in less than a minute to suit the rider's weight or road conditions. This is done merely by changing the angle of the rear springs, the adjusting nuts of which are visible along the forward edges of the rear fender.

Passenger comfort has been considered by the permanent fixing of a pillion seat and double length two-step floorboards in place of foot pegs. The pillion and rear half of the footboards are both elevated the same distance above the driver's seat and boards and provide an ideal position whereby the passenger has almost equal comfort and visibility.

We just enumerated the high points in design that were to play their part in the L E road test. Let's see how they worked out in actual practice. Keep in mind the fact that tests done on all lightweights so far have proven much more severe than those made on heavier machines, since your reporter, because of past experience, lacks the gentle touch of a lightweight rider. The L E was no exception—traffic permitting, it was seldom run at less than three-quarters to full throttle. The first hundred miles were the toughest, as nearly all were done with the wick turned full up and at times riding double. Under these most hectic conditions, fuel mileage figured at 71 miles per gallon and this can be pretty much taken as an absolute bottom. Later a more normal pace, holding down around 40 mph, produced a higher figure of 87 miles per gallon, but still fell short of our expectations of near 100. Ap-

parently the factory is well aware of the condition, for new, leaner jets are on the way to replace those now fitted.

Several other riders backed my conclusion that the bike handled exceptionally well in and out of the corners and felt quite safe at all times. Cornering was only affected by the occasional scraping of the floorboards, which were felt to be a little low. Action of the telescopic front forks was fine over normal road irregularities, but good sharp dips produced a loud "clang." The bottoming was too pronounced to be merely a matter of rider's weight, but would rather indicate that either a stiffer set of fork springs or possibly a heavier weight oil be used. The rear swinging arm could of course be adjusted to suit the occasion and was so lush, as a matter of fact, that a passing motorist hailed me at a signal stop to inquire about it after seeing the L E flatten out a couple of good storm drains. Canceling out this comfort to some extent are the thinly padded saddles for both driver and passenger. Neither has adequate cushioning and the main saddle could use a few more coils beneath it. What a difference a deep sponge rubber, leather covered Anderson accessory saddle or the latest Harley 125 solo seat would make if substituted here! Softer and longer seat springs, such as those used on the Mustang, would complete the setup. One sore spot with the present seating arrangement is the tail bone of the rider up front, for unless he hugs the nose of the saddle, the hard leading edge of the pillion seat serves as a painful backstop on the not-so-meaty part of his stern. The natural recommendation would be to bevel the pillion's leading edge, or pad it considerably.

The operation of controls requires a bit of explanation and a little practice for proficiency. While the left hand clutch is conventional, the right hand gear shift is more like that of an automobile. Low gear is engaged by shoving the shift stick all the way down, pressing in against the machine at the same moment. Second is straight back up (through neutral in the

center of the quadrant), using slight outward pressure. High is all the way down again, this time to the outside corner of the shifting gate. Since both the throttle and shift are operated on the right side, the hand must move quickly from throttle to shift and back again. Making a smooth shift requires that the throttle be left about one-third open when diving for the gear shift lever. After a bit, this small phenomenon becomes second nature and reasonably fast gear changes can be made with almost genuine nonchalance. Care must be taken not to leave the throttle full-on between shifts, for the time that it takes to reach the gear lever could cause any engine to wind itself into a knot. Do not interpret this to mean that the L E leads a sheltered life, for upon each acceleration run these very same "whizz-bang" tactics were used with no bad results.

Last month we boasted of the first machine tested to date that incorporated "in-gear starting"—here is another. The L E Velo can be restarted in any gear by merely depressing the clutch and pulling the starter lever; no fumbling for neutral in case of a stall. This very convenient and highly important feature will no doubt some day be extended to all motorcycles, but at present is only featured in two machines that have been tested. Indicative of the thoroughness and consideration for owner's comfort is another feature connected with starting procedure—a night light or roadside inspection light. Turning the ignition switch on also switches on the inspection lamp that illuminates the right side of the machine. When the engine is started, the light (also a generator warning signal) automatically switches off.

Night riding was no special problem with the standard lighting equipment which proved to be on a par with other British lamps. The rather small diameter tires still permitted street car track crossings at a very narrow angle; trouble only became evident when the machine was forced to ride the rail. Because of the tire diameter and tread and specialized con-

(Continued on next page)



Even in a full slide the L E felt light, not near as heavy as it appears. Springing bottomed hard on ruts, floorboard clearance was nil. Steering is very steady and center of gravity feels low

(Continued from preceding page)

struction of the L E, the bike was subjected to few off-the-pavement tours. The little gent was shown a few hay fields and dirt roads, however, and continued to ride and steer with the same assurance that it had shown on the pavement.

It is regrettable that we cannot detail the myriad innovations in this particular motorcycle, for although all of the phases of construction and manufacturing incorporated in the L E are highly accepted in motorcycle and automotive practice, it is seldom that one finds such a concentration of advancement in any single product. To our continued amazement we learned, for

example, that there are no grease nipples on this machine whatsoever. All bearings are lubricated, then sealed for life! The only actual maintenance is in topping up with oil the engine, gearbox and rear drive housing. All bearings are either roller, ball, Timken, or oilite-bronze (pre-packed). Head cone bearings are Timken tapered top and bottom. Even the battery has been scrutinized and changed for your protection. Rather than have a negative ground as in practically all other machines, the L E's entire electrical system has been reversed to accommodate a positive ground battery. The purpose of this system (a more expensive one, inciden-

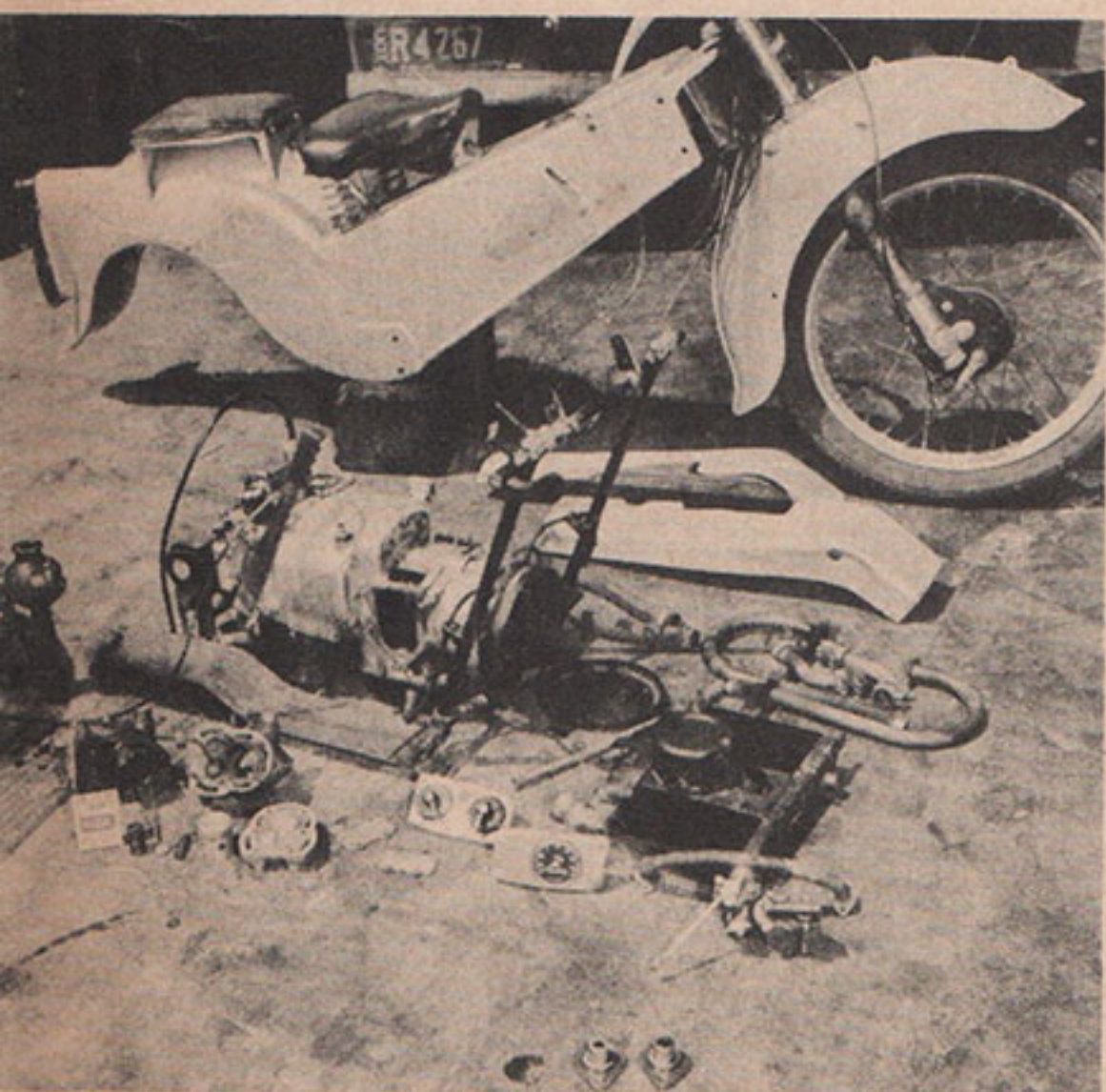
tally), which reverses the polarity running the current from positive to negative, is to eliminate all harmful battery corrosion.

Incidentally, in case this battery should lose its charge, the machine is so equipped that you can always come in by switching the ignition knob to "Emergency Start." Place the bike in second gear, disengage the clutch and run a few steps, pop the clutch out and you're away. If the engine is cold, it will require an extra push with the choke out. With the switch in this position a special wiring arrangement cuts everything out of the generator circuit except the ignition coil, putting full generator output to the coil, which will carry the ignition for starting. After starting and warming up, the switch may then be turned back to its regular ignition position and the generator charge will again go to the battery and start recharging.

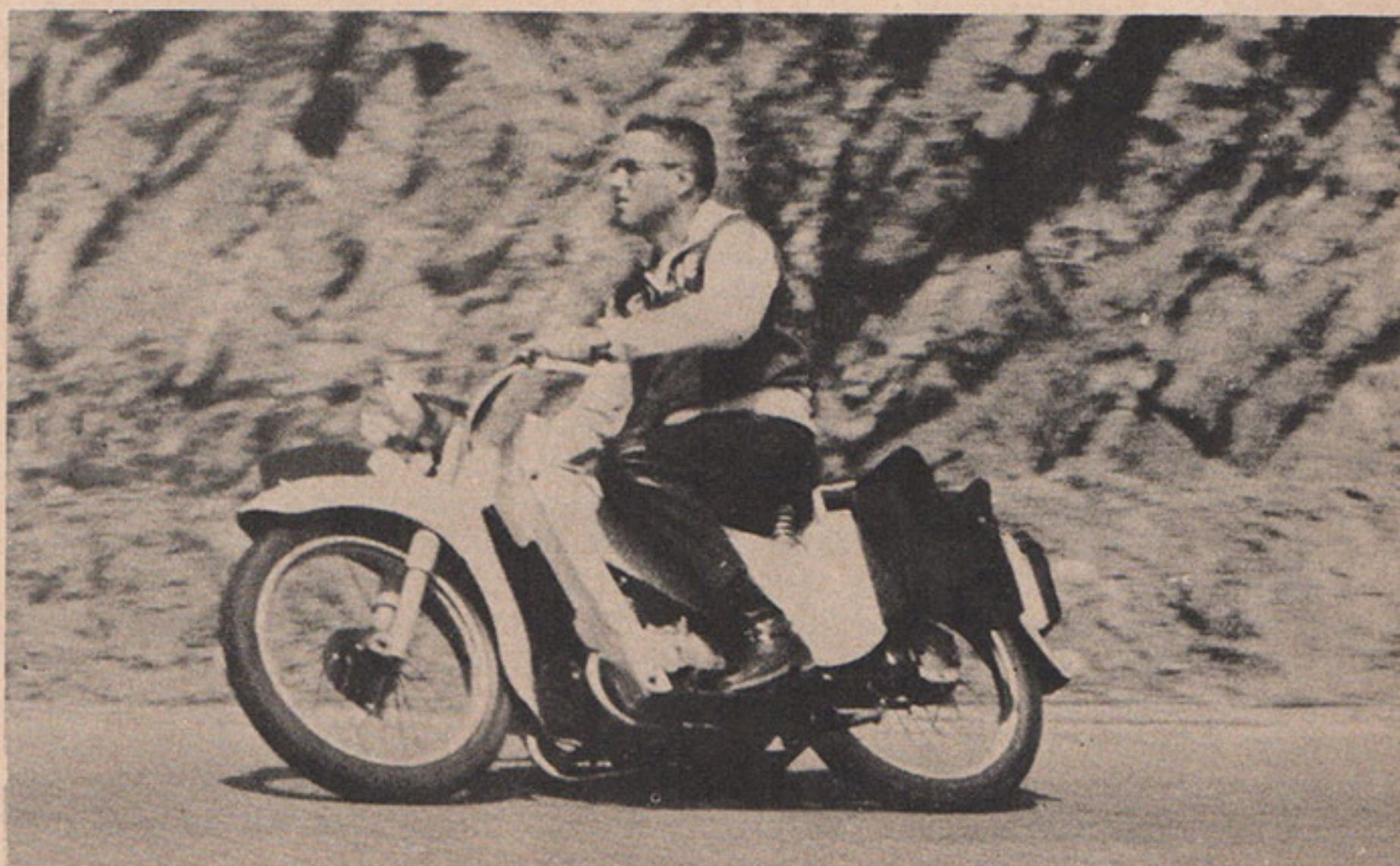
Since the entire motorcycle is unit constructed, each component part of the engine can be detached as a separate unit for easy repair. With the removal of 12 bolts, the entire body and front forks can be wheeled away from the vital parts, exposing them for easy overhaul.

As the end of the week of testing drew near, it occurred to me that too few people realized how close the L E Velocette would come to fulfilling their needs. With these many refinements in springing, engine smoothness, silence, economy, and over-all convenience, it would serve as an excellent about-towner for work or play and in very short order would have put its original \$615.00* investment right back in your pocket through its low operational cost. As a practical, clean and trouble-free transportation piece, I can see few equals. It was given no adjustments or mechanical attention throughout the trial and is still as easy on the ears as ever. Riding the L E brings an entirely new thrill to cycling, that of gliding silently over a ribbon of pavement, with the chattering birds and rustling trees drowning out all else.

* Plus sales tax and license at Los Angeles.

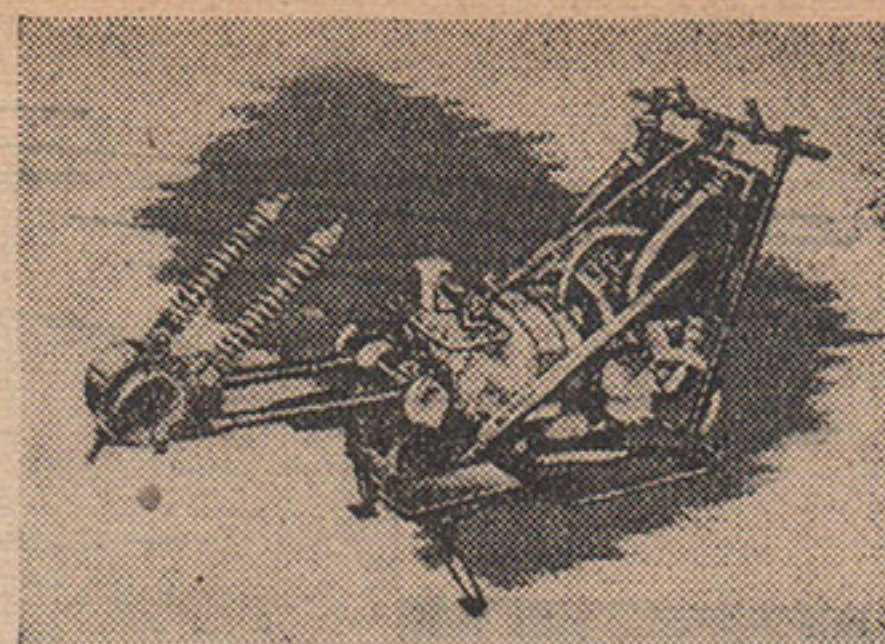


The entire engine unit and rear suspension can be dropped to the floor for quick overhaul. Workmanship was determined as excellent

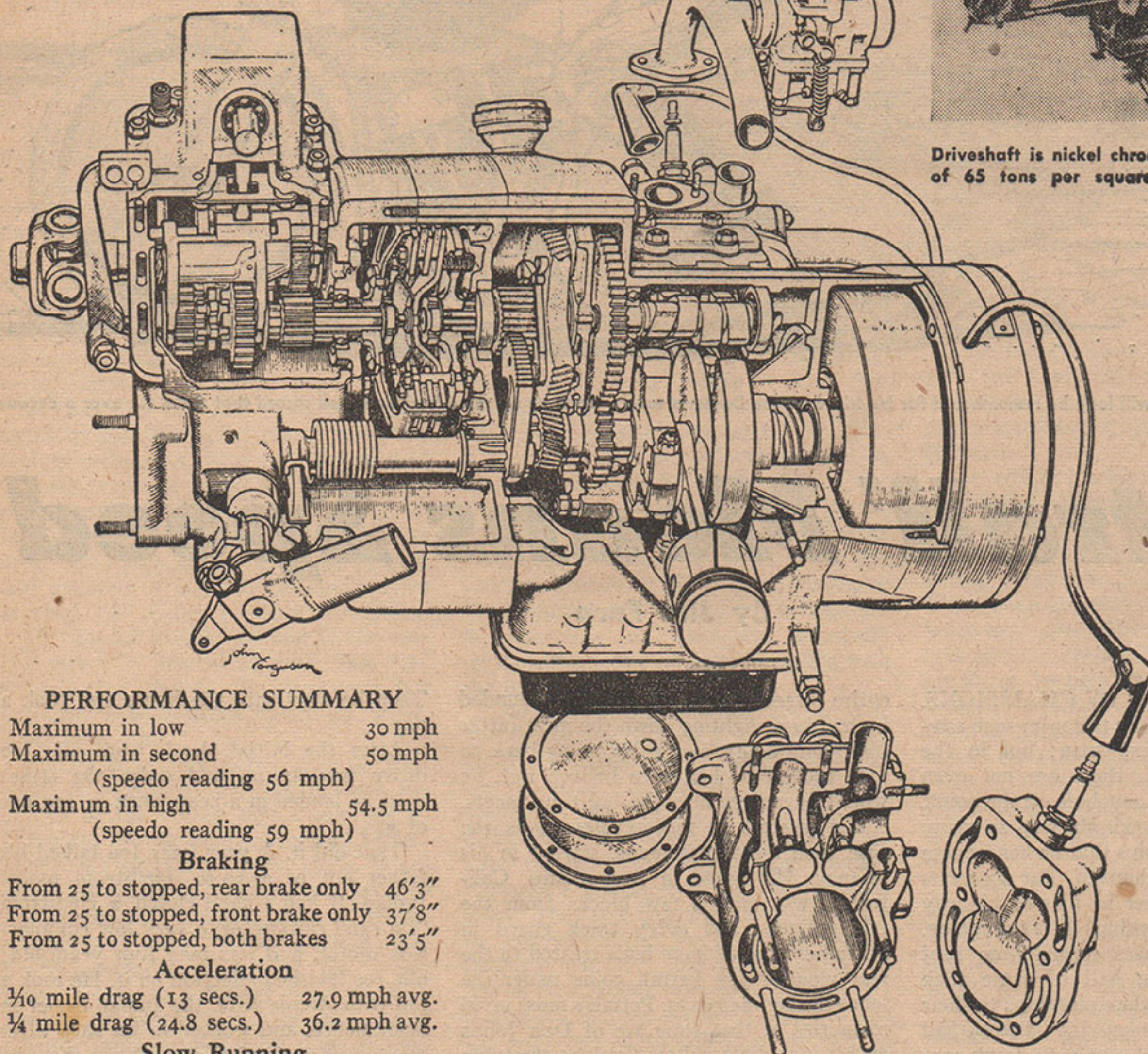


Running full tilt through the mountains gave an eerie feeling of riding in a world without sound. Brakes were extremely smooth and effective. The rear brake pedal is a bit difficult to find at first, being positioned almost under the left cylinder. Throttle grip works internally, American style

The flat twin was chosen for its smoothness. With a two-throw crankshaft, cranks set at 180°, the pistons move at same speed in opposite directions, cancelling out each other's inertia forces. The use of roller bearings in the lower end permits narrower bearings, less off-set of cylinders. Side valves, on a single cam, were used in place of overhead valves since overheads would cause excessive width. With flywheel at front of engine, a primary reduction gear couples crankshaft and clutch letting clutch run at $\frac{1}{8}$ engine speed, so a slow running gearbox



Driveshaft is nickel chromed, oil hardened steel of 65 tons per square inch tensile strength



PERFORMANCE SUMMARY

Maximum in low	30 mph
Maximum in second (speedo reading 56 mph)	50 mph
Maximum in high (speedo reading 59 mph)	54.5 mph

Braking

From 25 to stopped, rear brake only	46'3"
From 25 to stopped, front brake only	37'8"
From 25 to stopped, both brakes	23'5"

Acceleration

$\frac{1}{10}$ mile drag (13 secs.)	27.9 mph avg.
$\frac{1}{4}$ mile drag (24.8 secs.)	36.2 mph avg.

Slow Running

High gear without snatch	8 mph
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Turning Circle

Minimum diameter	11'9"
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Mileage

Town	87 mpg
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COURTESY OF MOTOR CYCLE MAGAZINE—ENGLAND

S P E C I F I C A T I O N S

ENGINE. 192 cc (11.72 cu. in.) Bore 50 mm, stroke 49 mm, horizontally opposed twin cylinder, four stroke, side valve. Water cooled by thermo syphon system, with radiator mounted forward to the engine.

LUBRICATION. Constant circulation of oil by gear pump from pressed steel sump beneath engine. Dip stick for checking oil level. Capacity of sump 1 $\frac{1}{4}$ pints. Gearbox and final drive casings filled to levels.

TRANSMISSION. Transmission by enclosed universal joint and shaft to bevel gears driving rear wheel.

GEAR BOX. Three speed, controlled by gate change hand lever. Overall ratios: 7.25:1, 10.85:1, 20.4:1.

IGNITION AND LIGHTING. By coil with automatic advance. Coil contact breaker and distributor housed inside generator casing at front of engine. Special six volt 30 watt generator mounted on front of engine feeding 13 ampere

hour battery. Headlamp of six in. diameter with 24 watt bulb and three watt parking light. Dimmer switch on left handlebar.

CARBURETOR. Twist grip controlled and fitted with easy starting control. An air cleaner is mounted between the two elements of the radiator. A gas filter also is fitted and is quickly detachable for cleaning.

FRAME. Light rigid steel pressing, incorporating rear mudguard, battery box, tool box (with complete kit of tools). Gas tank of 1 $\frac{1}{2}$ gallons capacity, mounted beneath body shell.

SUSPENSION. By coil springs front and rear. Front enclosed telescopic forks; swinging arm rear adjustable for varying loads.

WHEELS AND BRAKES. Quickly detachable 19 x 3 in. tires. Five in. diameter front and rear brakes. Front operated by lever on handlebar; rear by pedal.

SADDLE. Pan seat with soft rubber pad, waterproof cover and coil springs.

MUDGUARDS, LEGSHIELDS AND FOOTBOARDS. Mudguards of entirely new design, giving complete protection. Legshields are aluminum alloy with top panels, containing lighting and ignition switches, speedometer and carrying tire pump. Footboards are rubber covered, shaped to provide alternative foot positions.

HORN. Six volt high frequency, with button on handlebar.

FINISH. Silver-grey, black and chromium trim.

STAND. Double sided prop stand.

SPEEDOMETER. Mounted on panel on legshields; driven from gearbox.

TIRES. Dunlop.

GROUND CLEARANCE. 5 $\frac{1}{4}$ in.

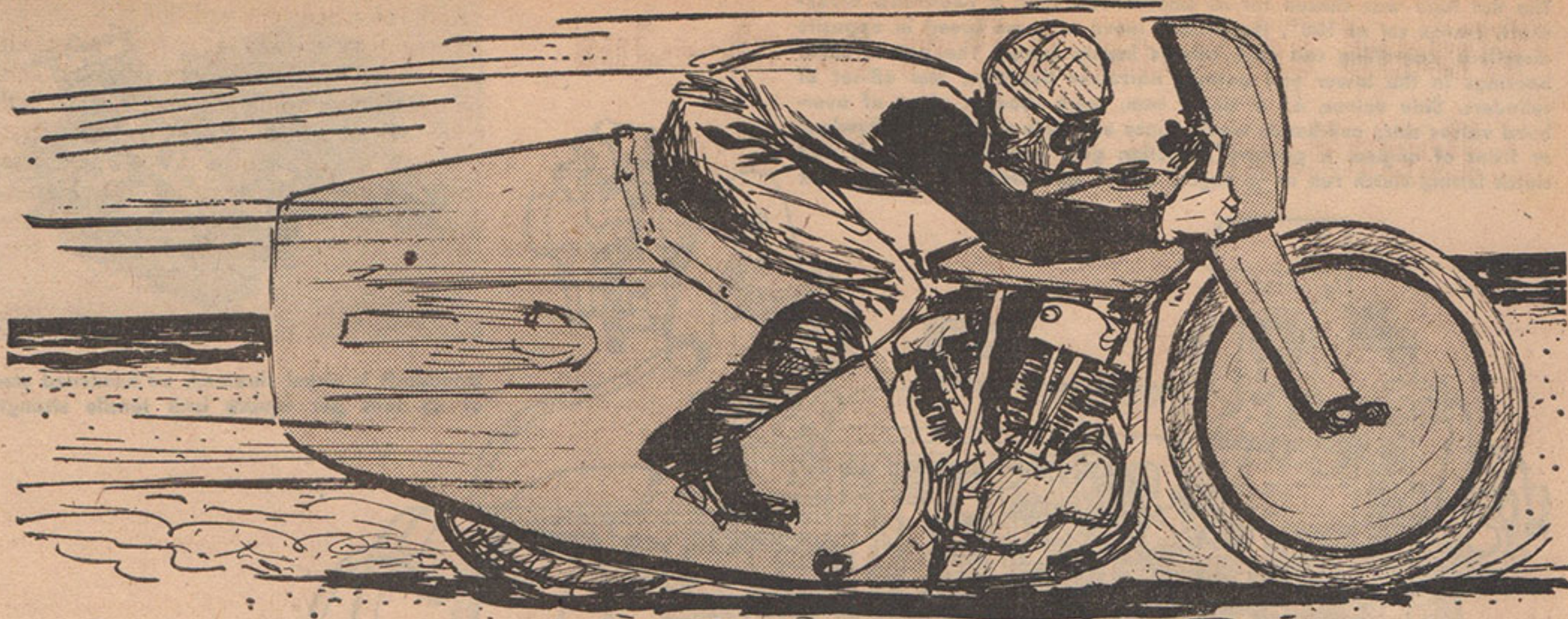
WHEELBASE. 52 in.

OVERALL LENGTH. 81 in.

SADDLE HEIGHT. 28 in.

OVERALL WIDTH. 26 in.

WEIGHT. 260 lbs. dry.



"Smokey Joe" Petralli will long be remembered for his trip over the Daytona sands, when he set the American speed record that stood for over a decade

'Petralli' Means Speed

By Jim Earp

THE CHAMPION OF CHAMPIONS.

It is generally risky to confer such a resounding title on any man; but in the case of Joe Petralli, there are not even grounds for a minor squabble on the point. Just look at his record. He won so many national championships that he has trouble remembering them himself. For six years during his long career he blasted his way to national championships in track racing. Several all-time greats earned their spot in the motorcycling hall of fame with about half as many championships to their credit. Even if "Smokey Joe" Petralli had devoted himself exclusively to track racing, his record in that field alone would have won him his title.

But, actually, that is just a small part of it. His record as a hill climber has become legend. It is not the fact that he won nine national hill climb championships that most people remember, but the way he won his events on "Big Bertha" and his other fabulous Excelsiors during 1928 and 1929. Old-timers still gather in little groups and shake their heads reflectively as they remember how "Smokey Joe" clawed out 31 consecutive wins without ever taking his second ride.

He would pull "Big Bertha" out of the crate, gas up, make adjustments, and take his run. As simple as that. Then he would drain the fuel, crate the machine for shipment, and begin uncrating his 45 for the next class. One more run and the meet was over as far as Joe was concerned. That happened 31 times.

And there, in itself, is justification for Petralli's title.

But the surprising thing is that Petralli raced for many years—as long as the

entire career of some champions—hounded by bad luck, fighting down the most bitter disappointments, and still coming back to race though he began to believe that he would never get into the big time meets.

His interest in motorcycles, as is the case with most champions, started in his infancy. His home in Sacramento, California, was only a few blocks from the fair grounds, and every track guard in Sacramento must have been treated to the rear view of Joe Petralli going under the fence during race days. Petralli's most vivid memories of that time are of Don Johns on his incredible yellow Cyclone sweeping into the turns wide open and throwing dust and rocks up into the grandstand.

Petralli's entire life took a new turn when, at the age of seven, he met Dewey Houghton. Joe remembers him as an old man of 18, but a special sort of man; he owned a four hp, 30.50, belt drive Flanders IV. Joe hung around, washed the machine until the very paint was in danger, and, over a period of years, became an accessory of the cycle. Houghton took him everywhere. While he still had to be helped up, he could straddle the tank and drive.

Even at the age of 12, he was still too small to put his feet down, though he could operate the brake pedal and hand clutch, so when Houghton suggested a solo, Joe timidly vetoed the idea. Houghton then appeared to shrug the point aside and mounted the cycle with Joe straddling the tank to drive. When Joe confidently "took off," Houghton simply put his feet back down and watched him drive away.

Then he went into the house and took a nap.

After the initial shock wore off, Joe drove proudly up and down the street until he landed in a heap when he ran out of gas.

That did it. A year later Joe talked his father out of a 30.50, Hedstrom model Indian. It had a hand clutch, a Hedstrom "tin can" carburetor, a very low compression motor, and was over four years old; but Joe lavished affection on it. He took a job with Archie Rife, the Indian dealer in Sacramento, and worked in his shop after school and during holidays. While there he rebuilt his old Indian and, on it, won his first event of any kind.

At that time, each district had its economy run, so Joe entered the one in Sacramento. Although Joe's old lungy could not race with the eight valve track jobs, an economy run was just its meat. Joe got his gallon of gas, watched the officials seal his tank, and then started chugging around the track. He rode lying down on the machine at a low idle. Petralli remembers that he was "probably doing a hot 25 miles per hour." Hour after hour he coaxed the little lungy along, and when it finally snorted to a stop, Joe found himself holding top national honors at 176 miles to his gallon of gas. That was in 1918 and Petralli was then 14 years old.

One year later he was still too young to ride in sanctioned events, but there were several outlaw tracks in California, and Joe entered on Archie Rife's cycles. Those meets, unsanctioned by the Motorcycle and Allied Trades Association, still carried some of the rough and tumble spirit of the Don Johns era. They were wild

Illustrations by Chuck Doe

Wizard on track, hill or beach—Joe Petrali was a champ of champs

and hairy events where anything could happen—and generally *did* happen with considerable violence.

At that time the old, "feet up" style of riding still prevailed, and anyone who put a foot to the ground on a turn was a two-headed pantywaist. Gene Walker is credited with the first "foot down" riding, but it was not "sled footing" as we know it. The foot was down as a "sort of gauge." The riders stayed low over the handlebars to conserve horsepower, and the foot was used only as a "feeler" by the better riders.

By that time big time racing was dominated by the superlative machines of the factory teams, and every rider dreamed of the day when he could score a win important enough to earn himself a trial on factory equipment. The private individual of modest means simply could not prepare and maintain a machine for competition in class "A" (factory equipped) racing.

Joe learned his way around in the outlaw meets by competing with class "A" riders on vacation like Bob Sirkegian, but whenever a good break turned up, something went sour.

For instance, Tom Butler, then the west coast representative for Indian, saw Joe at one of the outlaw meets and was so impressed by the young rider that he recommended him for a factory cycle. In addition, Archie Rife continuously plugged Petrali to Jud Carriker, then in charge of the west coast factory Indians, and finally succeeded in getting Joe a few practice laps on a factory racer at Redwood City, California. Joe had many friends trying to help him. Chet Billings remembers that Petrali's courteous, pleasant personality won him no end of valuable advice and assistance from veteran racers and promoters.

So when Shrimp Burns was killed at Toledo, Joe was allowed to ride Burns' cycle at the big Fresno, California, meets in 1920.

That was the break Joe had been waiting for. He felt that his big chance had finally come. The entire five-man Harley team showed up at the meet boasting such famous riders as Ralph (Shrimp) Hepburn, who was then winning everything, Otto Walker, Ray Weishaar, Jim Davis, and Fred Ludlow, who cleaned up every race at Syracuse the following year. In addition, there were two Excelsiors and a fleet of Indians. The race was to be a contest of the finest riders in the business, and, since the Fresno meets were *the big event* on the Pacific Coast at that time, the winner would receive national publicity and perhaps be offered a ride back east where the biggest meets were held.

But Jud Carriker chose that meet to

continue his tests with alcohol as a fuel.

The honor of being among the first to run a motorcycle race using alcohol was lost on Petrali, since his motor would "run like a bomb" for a few laps and then sputter and drop back. Joe was out in front in every event, but never finished one of them until the last race.

By that time, Jud Carriker had installed another carburetor on Joe's Indian and, though it would run steadily, it was considerably slower. As the big race got off to its start, the Harley team, concerned over this unknown youngster who continuously threatened to run away with each race, took control and boxed Petrali tightly right at the starting line. In the previous race, Paul Anderson of the Excelsior team had been boxed in by the smooth veteran Harley team, and Petrali remembered feeling sorry for him. Petrali tried nearly every trick up his sleeve in an attempt to break out of the trap, but he was only 16 years old, relatively inexperienced, and he was competing with the best men in the business.

Then, as the race went into its last laps, Joe demonstrated a flash of the smooth, polished, brilliant generalship that later was to make him the most feared contender on the national tracks for year after year. "The green young Italian kid from the back country," as Jud Carriker remembers him at that time, retarded his spark. The cycle began to choke and sputter and drop back. Joe looked down, apparently horrified, and fiddled with his motor. The Harley team looked down too, interested, but not surprised. Joe had had the same sort of trouble in every race of that meet. Just as the Harley boys were breathing a sigh of moderate relief, there was the roar of a perfectly functioning Indian motor as Joe ran the pace of the last Harley and shot out ahead of the box. He hit the turn at over 100 miles per hour, flashed high up the bank, and then dropped down, still wide open, to cut the turn clear out in front of the trap.

Before the startled Harley team could reorganize, Joe was in second place and fighting for first; but the slow carburetor just did not have the "steam," and the race still ended with "the green young kid" snapping up second place money.

After that event, Joe was treated with a little more respect, but thanks to the poorly functioning motor, he had only managed one second place and was still considered an amateur. He kept at it, though, riding outlaw meets on his own old machines and on Archie Rife's agency Indians. But his bad luck still held in the big meets. Ray (Pop) Weishaar used to tell him, "Joe, if you walked up to a tree loaded with ripe apples, you would break

your neck climbing up after them."

And Joe's bad luck still held.

There was a time at Ascot when all races ended up with Gene Walker and John Seymour, riding the very fast Indian 30.50 T.T. models, habitually finishing first and second. The third place man was always Shrimp Hepburn of the Harley team. Fourth and fifth place was generally a battle between Pop Weishaar, Jim Davis, and Petrali on his "old dog."

Joe was able to stay with this fast company by one effective trick. While the rest of the field rode down on the pole where the track was rough and made their turns by cutting off and easing their way around, Joe rode wide at the fence. The track was smooth on the outside rim, so he took his turns wide open, gambling that he wouldn't get crossed up and demolish the fence.

Then Gene Walker quarreled with Hepburn and finally offered Petrali his spare factory Indian in the vague hope that Joe might take third place money away from Hepburn.

Joe rubbed his hands and gloated. This looked like another good chance, with a hot factory T.T. Indian under him; so they all took a trial run to see how Petrali could ride. But Joe did not think fast enough and rode his old slot near the fence *wide open*. After each turn he would look back to see the other Indians bumping along the pole, cutting off, and falling behind. He thought they were playing with him, so he streaked along, enjoying the feel of the powerful new machine.

Then, when he coasted into the pits, Pop Weishaar came up with a stop watch in his hand. "You sure queered that one, boy."

"What do you mean?" Joe asked innocently.

"Well, you made those laps faster than any of the qualifying times. You don't think they'll let you ride now, do you?"

Joe looked over and, sure enough, Walker and Seymour were muttering with their heads together. A little later Walker informed him that he could not loan a factory Indian without a release from the home office, and Joe sadly went back to his "old dog."

When Joe's big chance did come, it was a dream-like story that even the movies would never dare use. He had been racing for six years. He and Archie Rife had entered a marathon contest and had ridden on and on, stopping only every six hours for half an hour. Finally everybody had dropped out except Rife and Joe. After 70 hours of grueling riding over the 24-mile route they had broken the existing world's record, and, after 76 hours, the exhausted officials had stopped the event and declared it a tie.

II

The years of experience in Archie Rife's agency, and more years in the pits around the races, paid Joe a handsome return at this time. He had developed his mechanical gifts to such a degree that he stepped

(Continued on next page)

'Petralli' Means Speed

right into a job with Al Crocker, a motorcycle dealer of Kansas City at that time, and now the head of the Crocker Manufacturing Company in Los Angeles.

Then in the latter part of June, he was offered an Indian for the races at Altoona. Johnny Krieger and his wife picked him up on their way back east. After so many bitter set-backs, Joe hardly dared hope that he would actually get a chance at the 100-mile national event. So he was only slightly surprised to find, when he arrived at Altoona, that the factory had borrowed his motor for a hill climb, promising to ship it to the meet later.

Almost everybody of any note turned up: Shrimp Hepburn, Curley Fredricks, Eddie Brinck, Johnny Bodnar, Bill Minnick, Jim Davis, John Seymour, Bob Sirkegian, and, of course, Krieger and Petralli. The biggest names in racing.

Joe met every train coming into Altoona, but his motor never did show up. On the day of the races, after meeting the last train, he returned to the track at six in the morning, tired and dusty, firmly convinced that his luck was still running true and that he would ride nothing more than the fence that day.

But Ralph Hepburn's motor, which had been running hot, froze up suddenly in practice, dumping him hard enough to break his hand. Hepburn was never a man to miss any chance, so he offered Joe his ailing Harley with an agreement thrown in that Joe would split any prize money he won.

Seeing some slight chance to get into the race, Joe went to work on the sulky motor. No matter what he did, though, it still ran hot. It was not even up to a fast five-mile race and certainly could never go one hundred.

However, Eddie Brinck had been offering everybody some tetra-ethyl lead which he had picked up at the experimental section of Wright Field, Dayton, Ohio. None of the riders had ever heard of tetra-ethyl lead at that time, so they shied away from the strange stuff suspiciously. Joe, on the other hand, had little to lose, and, as a last resort, he mixed the T.E.L. with his gasoline. *The motor then ran perfectly.*

The hundred miler got off to a wild start as Jim Davis broke from the line with a desperate spurt aimed at lapping the field. The other fifteen riders, of course, had to match that motor-killing speed to defeat the maneuver. By the time 20 frenzied miles had blurred by in a little less than 20 minutes, the riders were so scattered around the board track that some of the veterans did not know where they stood in laps.

Then Davis lost a valve, and the riders dropped into pace for a while to cool off their engines and collect their scattered faculties. As the race settled down to a long serpent line of pacing cycles with only the lead man struggling to break free, Joe got somewhat confused. He was absolutely certain that Eddie Brinck was out in front of him someplace.

But actually, Brinck had been forced to the pits for several laps by some minor mechanical ailment, and he roared out of the pits full bore, trying to make up his lost time, and running with no care or concern for the well-being of his motor. He had nothing to lose.

Not knowing this, Joe saw Brinck's yellow sweater coming up behind him, and his heart sank down to his axles. He felt sure that Brinck had lapped him, so, as Brinck went by, Joe gunned into his pace hoping to be pulled around for second.

For lap after lap they roared around, with Joe sticking like a burr until he had been sucked a full lap ahead of the other riders. But Joe still did not realize that, and during the last few miles of the race he began to feel that his pit crew had totally lost command of its senses. Shrimp Hepburn, knowing Joe had the race in the bag already, was mentally spending his share of the prize money, and jumping up and down screaming for Joe to slow down before he burned out his motor.

Joe wiped at his goggles and pretended that he couldn't read the signals. He still thought that Brinck was a lap ahead, and knew from the feel of his motor that there was no danger of blowing up. He had no intention whatever of being cheated out of second place money by what seemed to him a demented pit crew.

As each lap went by and it became increasingly apparent that Joe could coast to a win, the pit crew became more and more frantic in its efforts to slow him down. Its state of mind was not helped at all when Bob Sirkegian, who was also matching Joe's pace, fell and was badly injured when his motor froze solid at over 100 miles per hour.

Then Joe swept by the pits (where his crew was energetically tearing its hair out by the roots), and pawed at his goggles to show that he still could not see a thing. He and Brinck roared past the line and Joe watched the flag go down. "That's for Brinck," he thought to himself.

Actually it was the signal that Joe had won the race.

But Joe kept right on going. On his next lap around he noticed that his crew had finally stopped waving, but the men were now apparently beating each other and jumping up and down. Again the flag went down. Joe thought it was *his* signal and that he had won second place, so he continued for the customary extra "insurance" lap to make sure there would be no loss through a timer's error.

When he came around for the third time his crew was out waving again—this time with the help of the officials—and one man held up a large sign marked STOP! As one of the reporters of that time tells the story . . .

. . . this stopped him, and when he rolled in the pit there were tears of anger in his eyes.

"What did you stop me for?" he asked. "I had a chance for some of the money."

"Why boy, you won this race," exclaimed a pit man, and then Petralli

collapsed, his cycle on top of him.

When we asked Petralli about this article he said, "Well, that writer was just making a story out of it. When I pulled into the pits, I knew I had finished in the money—but I still thought Brinck was ahead of me. I didn't know I had won."

"Then when I put my foot down after the long ride, it was asleep. Just like I didn't have any foot at all. I couldn't hold the machine up, and down I went with the cycle on top of me. I guess I collapsed all right."

When the dumfounded timers finally had checked their figures thoroughly enough to believe them, they announced that Joe had turned out 100 miles at 59:47½ for a new record. And that record still stands today. As far as we know, Petralli is probably the only man in this country who has actually covered 100 miles for record in less than one hour on a motorcycle.

After all the fanfare died down, Joe collected his 1,000 dollars prize money, split with Hepburn although his friends told him he was silly to do it, and immediately left for Kansas City. He was back on his job with Al Crocker just a few days after the meet.

As soon as the Harley-Davidson company had digested the information covering the race, it naturally set out to hire the unknown rider who had defeated the best that the motorcycle game could put up against him, but they were dismayed to discover that no one knew where he could be found.

The entire force of the Harley-Davidson company was thrown into the search and, at a suggestion on someone's part that Petralli had gone to Chicago, that city was combed from border to border. Finally, however, they located him, working as a mechanic, and Petralli was on the Harley payroll almost before he could get his hands washed.

From that day on, Petralli could pick any team job he wanted. His already incredible skill seemed to increase with every race. With the ink still wet on his contract, he cleaned up the slate at Speedway Park, Laurel, Maryland, even though he had to establish new world records in the ten- and 25 mile events to do it. He rode the ten miles at a speed of 109 miles per hour.

While the sports writers of 1925 were still arguing to determine exactly who he was, where he came from, and how to spell his name, Petralli was declared the national track champion.

III

Bear in mind that both the Altoona and Laurel tracks were board tracks. As Bob Sirkegian will point out, the art of riding the boards is now lost. That was the fastest, most thrilling, and most dangerous game ever to appear in this country.

It demanded incredible skill, courage, and, above all, *brains* of its participants. Skill and courage alone were necessary for a simple untimed pleasure tour around the banked walls over the splintered boards

even in the days of Don Johns.

When Johns rode the great Indian No. 21 for his records in 1911 he was running at 83 mph. During the last days of board track racing—around 1927—speeds up to 110 and 120 miles per hour were necessary in the short races if a rider had any hope of winning.

But another factor was still necessary. *Brains!* The problem in board racing was *not to get out in front*, but to stay behind at least one man until the last lap of a race. The best racing motors of the period between 1911 and 1927 could not lubricate themselves for long at speeds around 100 miles per hour. If you could stay right behind another rider ("ride in pace," as it is still called) then *he* was fighting the wind resistance and, at the same time, pulling you along with him.

So, many of the longer races settled into a fight for second place. Chilling tales are

than they were in the bicycle. Then the manufacturers of pace machines began turning out motorcycles.

A motorcycle rider, running in the pace of someone in front, could drop back a bit, shoot down the tunnel of low wind resistance left by the rider ahead of him, and then swerve aside to pass at the last moment. That was the basically simple stunt called "running the pace."

The defense against it was timing. The front rider could cut out in front of the pacing rider just as he swerved out and crowd him up the bank. Since it is much easier to take a blow on the rear wheel than on the front wheel, the forward rider had the advantage. Then on the high bank of the turn, the forward rider could cut down across the turn and he would again be in the lead.

The bicycle boys and the early motorcycle racers refined the problem of a pace

porarily to withdraw its support from racing, Joe's reputation was so well established that he could pick his spot on any team in the country. But he was interested in the Excelsior.

F. Ignaz Schwinn, the head of the company, had stopped all racing shortly after Bob Perry, whom he had regarded almost as a son, was killed at Ascot in about 1919. However, when Petrali called, he must have been impressed by the pleasant, hard-working young man, because he agreed to let Joe race for the factory. He explained that Joe was to be Excelsior's one-man show.

Between 1926 and 1931 Petrali stayed with Excelsior and concentrated most heavily on hill climbs. But for a while he also raced his own Harley—which he had purchased when Harley sold all its factory racing machines—and cleaned up at several track meets. Schwinn did not mind what Joe did as long as he continued to win at board track meets and hill climbs on the Excelsior 45 cubic inch cycles.

Joe finally got nervous about racing a Harley while on the Excelsior payroll, but did not want to stop track racing completely, so he returned to the plant and designed a 21.35 cubic inch Excelsior.

By that time the sanctioning body had reduced the displacement of dirt track machines to the 21-inch class in an attempt to cut down the murderous speeds that new racing motors were developing. Still, by 1931 the 21-inch class was nearly as fast as the old 61 cubic inch, eight valves ever had been.

When Joe had completed the blueprints of the new cycle, he presented them to Schwinn with the suggestion that he be allowed to build the machine and race it.

Schwinn's confidence in Petrali's judgment is revealed in his answer to the proposal. He merely looked the prints over and said, "Go see the treasurer, Groschmidt. He's got the money."

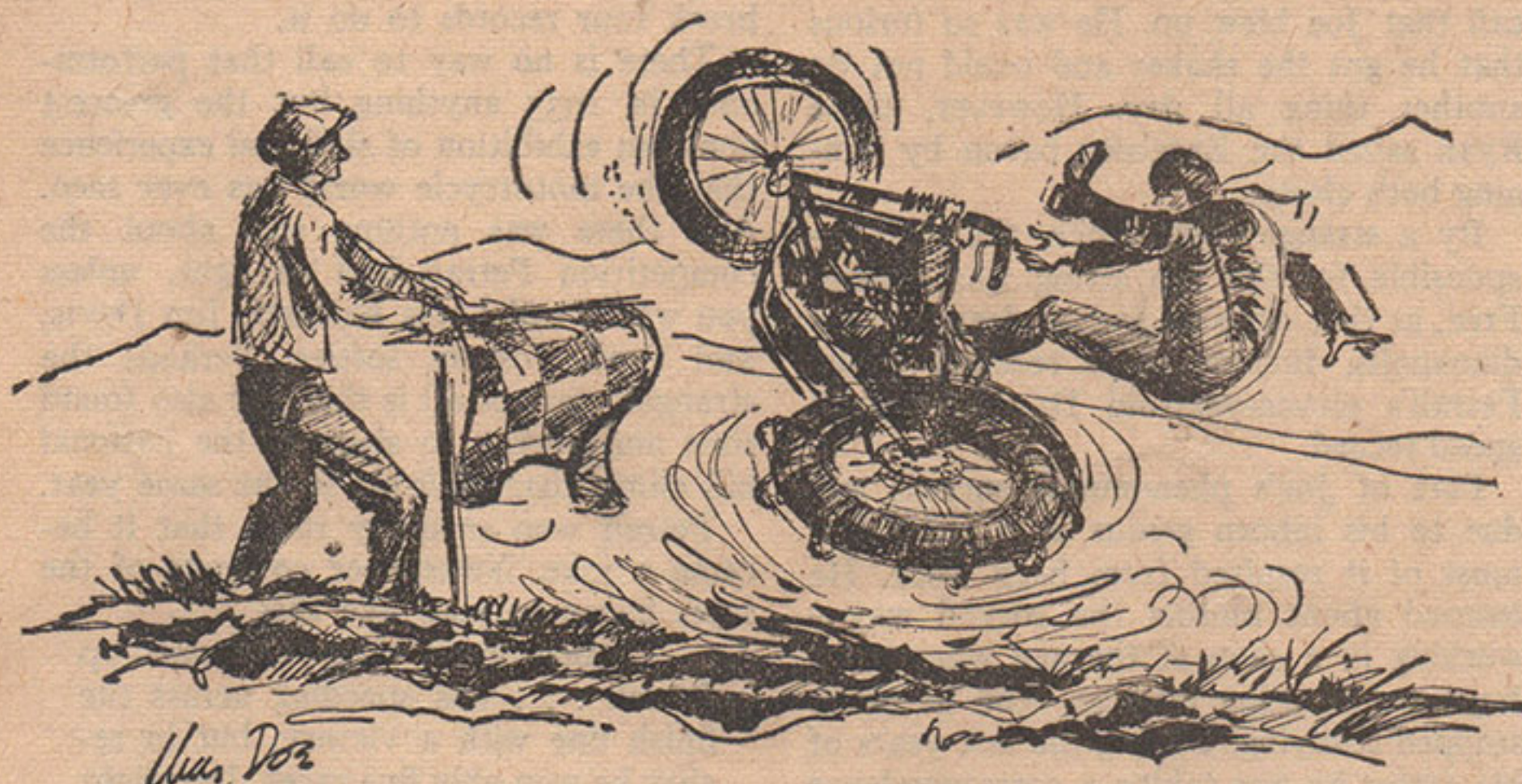
In 1927 Joe took the new 21-inch Excelsior to Springfield, Illinois for a trial. During the practice laps Joe discovered that while it was fair, much more work was needed before it could compete against the other factory equipment.

He crated up the Excelsior for shipment and moved around to see how the meet shaped up. It looked interesting. Since Springfield is right in Indian's backyard, the Indian factory "shot the works" to win. Jim Davis, Art Pechar, and Bill Minnick represented the factory determination to carry home the honors. They were all equipped with the newest four overhead valve, 21-inch Indians.

And Eddie Brinck, just back from Australia where he had cleaned up, was decidedly the man to beat, since he was racing the last word in Harley-Davidson equipment.

At the last minute Charles Gustafson (known as "Charlie Gus" for short) offered Petrali the Indian Jim Davis was to have used (Jim Davis never did like $\frac{5}{8}$ mile tracks) and Joe happily accepted without hesitation.

(Continued on next page)



The "Champion of Champions" was noted for his versatility, being one of the few riders who was equally at home on a flat dirt track or the side of a hill. Joe left a string of records behind

still told of races between Morty Graves, Jake DeRosier, and Perry where they would drag their feet over the splintered boards in an attempt to slow down suddenly and shake another rider out of pace. Once Morty Graves was barred from a track for unexpectedly broadsiding on the boards at 90 miles per hour while out in front. The resulting near catastrophe was too much even for the stout spectators of those early days.

The heart of board track racing, though, was "running the pace." That trick was an old, fine art before anyone thought of bolting such a feeble thing as an internal combustion motor on a bicycle. In the days of bicycle racing, horsepower was *extremely* limited, and the problems of wind resistance were studied with fanatic care. In later days "pace racing" became an unique addition to the board tracks. Some sort of self-powered vehicle drove ahead of a bicycle rider to break the air for the cyclist. The efforts to develop a pace machine that would suck a bicycle along faster actually helped break bicycle racing, since people got more interested in the fast, self-powered pace machines

runner in a downright positive manner. They waited until he had pulled up alongside and then mashed his teeth out with an elbow. But by Petrali's time the "rough stuff" had been strictly banned. The emphasis was on fast, tricky thinking at over 100 miles per hour, and on extensive espionage between the big teams.

The fact that Joe Petrali entered his first big meets on the board tracks at Laurel and Altoona and won against the experienced tricky competition of the riders there, shows how good he was. He had picked up a great amount of experience on the "punkin center" tracks of the west coast, but only the instinct of a born rider, the unexplainable genius of the man who starts out with more knowledge than the average man can ever learn, explains Petrali's victories as he launched his career in big time racing.

If he had just won at Altoona, that might have been a fluke. But he went on to win everything at Laurel and then went out to California to win the state championship.

IV

When the Harley factory decided tem-

'Petralli' Means Speed

Just before the event started a buzzard began circling the track. Brinck, Joe, and Bob Sirkegian looked up and saw it. Brinck swore and said, "That don't look so good."

"What do you mean?" Joe asked.

"That means someone will get killed—that's what it means. You'd better be careful, Joe, that's a bad sign."

Joe denies that he was superstitious, but Brinck was worried.

When the race got under way there was an immediate sprint for the first turn. Brinck was "out to win or bust." He approached the turn wide and tried to cut in front of Joe, but he was going too fast and went down.

Petralli never did have a chance to miss him. Brinck fell too close in front of him, and he was going too fast. He just looked at his front wheel heading for the crankcase of Brinck's machine and knew it was all over.

When he hit he flew 15 feet up into the air, and his handlebars hit him in the face on the way up. His nose, jaw, and collar bone were broken and a big piece was torn out of his upper lip.

Eddie Brinck died a little later at the hospital, and Joe was not expected to live. In fact, the doctors were so certain that he suffered from internal injuries, and would die of them, that they allowed an intern to practice sewing up the lacerations on his face. Before they concluded the examination, though, they sent word back to the track and 30 or 40 people searched through the dust for almost an hour to find the piece that had been torn out of Joe's lip. After the doctors gave up hope, the intern was allowed to sew that piece back on as an exercise.

It is fortunate that the intern was a good one, because Joe refused to give up. The scars are barely noticeable today.

He was unconscious for two days and in the hospital for eight weeks. Bob Sirkegian dropped everything and stayed with Petralli until he was getting around again. And also for the record, Jim Wright, then the head of the Indian factory, paid every penny of Joe's hospital bills, while the Excelsior factory continued Joe's salary throughout his entire convalescence.

The first competition event Joe entered after his injury was accidentally a great one for the history of hill climbing. That was in Capistrano, California, in November of 1927. At that meet the Indian factory wheeled out a two-cylinder, 45 cubic inch cycle with eight overhead valves—and there were no rules to prevent it from entering.

Joe was "skunked" and it made him so mad he went back to the factory and designed two machines especially for hill climbs. One was an overhead valve, two-cylinder, four-valve 45 cubic inch cycle; and the other was "Big Bertha," the famous 61 cubic inch pocket valve machine that broke such a multitude of records.

In these machines, Joe and the Excelsior factory dominated all the hill climbs

until Schwinn finally closed up his motorcycle plant completely. On them Joe won his 31 consecutive meets without ever taking a second ride. He won the national hill climb championships in 1928 and 1929 and would undoubtedly have repeated in 1930 except for a strange sort of accident.

At the championship hill climb in Muskegon, Michigan, Petralli and his protege, Gene Ryan, found that the hill had been made more difficult by the addition of rolling bumps on the slope. After no end of study, they figured out the best course and Joe made his run. He bounced and clawed his way to the top in spite of the new bumps, but the top string had been attached to the toggle switch incorrectly, and the timer failed to score the run. Stop watches proved that the run was the fastest of the day by two seconds, but of course those times were not official.

That is the only time Sirkegian can recall that Joe blew up. He was so furious that he got the shakes and could not do another thing all day. However, Gene Ryan saved the Excelsior bacon by winning both classes.

By a strange coincidence, the man responsible for the top string was Roland Free, at that time an Indian dealer at Indianapolis, Indiana, who recently broke Petralli's eleven-year-old Daytona Beach speed record.

Part of Joe's phenomenal success was due to his inborn genius as a rider, but most of it resulted from hard work. He learned about motors the rugged way—working in a shop at the age when most boys are shooting marbles. And he never stopped studying. During the last years of his career he was taking a correspondence course in engineering.

Before a race, he knew enough to make sure that his motor was perfectly tuned, and during the race he could tell exactly how much more punishment the motor could stand and still finish without blowing up. The cycles that he designed for Excelsior were taken over by Earl Jarred, who used them to clean up on the short tracks right up to the time that they fell apart from old age.

V

In 1931 F. Ignaz Schwinn closed down his motorcycle plant permanently, so Petralli went to work for Harley. In that first year, 1931, he brought the national championship in track racing home to Milwaukee; and from then on until he retired, he always held the national championships in either track racing or hill climbing. At the Hamilton Speedway in Cincinnati he turned one mile on that ½ mile, semi-banked, dirt track at 24.65 seconds. Then he went on to establish new records in the one, three, five, ten mile events that still stand unbroken.

Strangely enough, Petralli seemed to hit his peak in 1931, after 13 years of racing, and maintained his skill and enthusiasm until he retired in 1938. He has no idea how many records he broke or how many championship races he finally

won, but at his home he has a shoe box full of the gold medals given for first place in championship events—and those only represented about half of the medals he won. The rest were given away or stolen.

The Harley factory gave the 1934 track championship to Louis Balinski by sending Joe to Syracuse, New York with an experimental motor. The Syracuse meet was the biggest in the country. The track was at the site of the New York State fair, and races commonly drew between 90,000 and 100,000 people. The 1, 5, 10, 15, and 25 mile championship races were generally run there. In 1934 Joe took the one and the five mile races; but as Joe had predicted, the new motor would not run over eight miles. The cooling was not balanced, so it froze up in the three long races.

Joe's revenge came the following year. There were thirteen national championship races that season, and he quite simply won all of them—even though he had to break four records to do it.

There is no way to call that performance in 1935 anything but the greatest one-man exhibition of skill and experience that the motorcycle world has ever seen. And there was nothing soft about the competition Petralli had to fight, unless you would call Louis Balinski, Jim Davis, and Fred Toscani softies. Perhaps the strangest part of all is that Joe also found time and energy to snap up the national hill climb championship in the same year.

Petralli won so many races that it became a joke. Newspaper coverage of the races began to read like this . . .

. . . about every time you looked up Petralli . . . was speeding across the finish line with a victory, but in reality he won only five races. Joe might have done better but he was slightly handicapped because he entered only five events.

It did get a little ridiculous. Even Louis Balinski and Freddy Toscani could not give the old master too much competition, and Joe brought Harley-Davidson the national track championships in 1931, 1932, 1933, 1935, and 1936. At the same time he chewed his way to national hill climb championships every year from 1932 to 1938.

VI

"Smokey Joe" bowed out of the racing business with a flourish that will be talked about as long as there are two-wheelers and people to ride them.

During the winter of 1936 and 1937 the Harley plant went to work with great secrecy and prepared a special streamliner for speed runs at Daytona Beach. It was essentially a stock Harley motor with two carburetors, special cams, and a high compression ratio—just a fancy "soup-up" job. A hood that had been constructed from the left side of an old gas tank was mounted to shield the rider's face.

Then Bill Harley came up with a stroke of genius. As Petralli remembers it, he just walked in one day and asked, "Why don't we do something special to this machine that will capture public interest? Why

don't we streamline it?"

So one of the men went down to a sheet metal shop and had the long, streamlined tail fabricated. Special wheel discs were even made to cover the spokes. No one knew if this would help, but they thought it might.

Late one snowy night, under a great shroud of secrecy, the beautiful cycle was loaded onto a truck and hauled off to a photographer's studio where those familiar still photographs of the streamliner—complete with tail—were taken.

The timed runs were held on March 13 in spite of the vigorous superstitions that generally prevail throughout the motorcycle world. On Petrali's first attempt everything went well until the speed reached 124 mph, and then the front wheel lifted off the ground. Years of experience in topping hills on one wheel probably saved Joe's life then, for he held the machine under control, kept his head, and very slowly eased off the throttle until the front wheel touched the ground again in perfect alignment.

Bill and Joe were quick to realize that some aerodynamic force built up around the tail, so finally took it off.

The next run was perfect except that Petrali, with his face down, drifted so far to one side that he missed the timing string. The city of Daytona then rushed to the rescue and marked a surveyed mile with red flags at regular intervals. When Joe struck the mile course after his acceleration run the flags blurred by like a red ribbon, and by keeping the same distance from them, he was able to steer a straight course without raising his head.

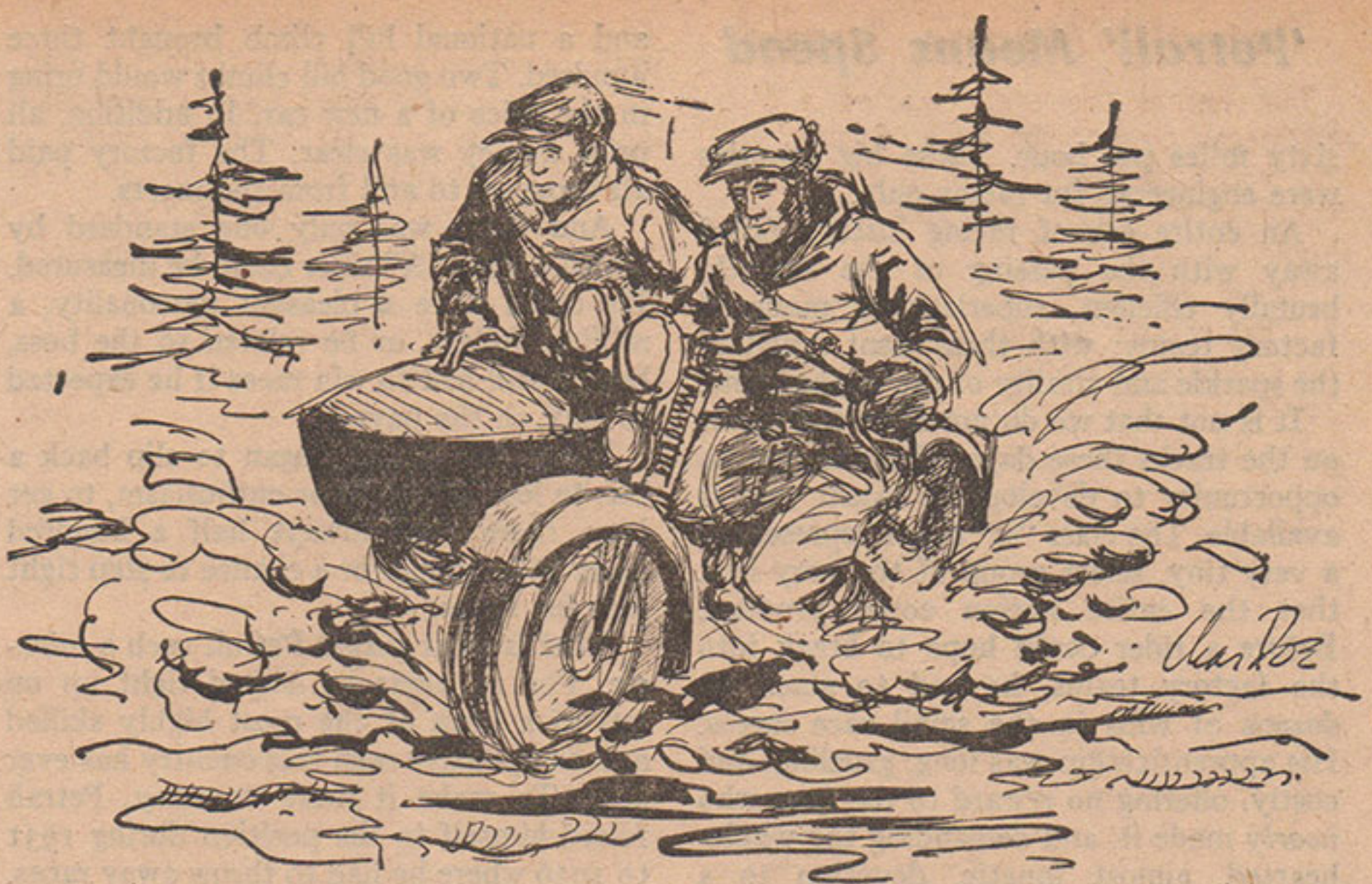
Petrali ran those time trials just as we do it today. He would make a timed run through the one mile trap going one direction. Then he would make the same run in the opposite direction. When the two times were averaged, any advantages that might have been gained from a tail wind were neutralized.

In order to hit the first timing light at full speed, Joe started his run well over one mile from the trap; and after coming out of the trap, the same distance was required for deceleration.

Naturally a few bugs had to pop up. Once after a good run in one direction, the timer failed to score on the return trip, so most of the day was wasted. Another time a chain flew off at high speed, fortunately without harming anything. And there was one bad run that did not equal the old record established in 1926 by John Seymour at 132 miles per hour.

Finally Petrali got the feel of the machine and the course and turned out an average speed of 134 miles per hour. Joe was already a record-holder, but they did not consider that good enough and elected to try once more. This time he streaked through the traps for an average of 136.183 mph. And that record stood for eleven years until Roland Free broke it with a Vincent.

But Joe was still unsatisfied. In one of the single runs he had streaked through the trap at 139 miles per hour; and he



Petrali was instrumental in the development of American motorcycles as we know them today. You were just as apt to find him at the drawing board, or bouncing cross-country on a road test

felt confident that he could boost the record to 140 mph.

He suggested one more trial to Bill Harley, who thought it over for a while, grinned, and said, "No. Let's wait for Indian to strain itself to make 138 miles per hour. Then we can come out here, try a longer acceleration run, and take them again."

Joe still regrets that he never did have an opportunity to rework the streamlined tail. Before the front wheel lifted, the machine seemed to run much "more smoothly" than an un-streamlined cycle. He feels that, "with the bugs out of its tail," the cycle would have done at least another ten miles per hour.

Only there never was a need to do any more work on that cycle. Indian *did* build a special machine, *completely* streamlined, and they ran it at Daytona. But they could not match Petrali's record.

As a point of general interest, an English concern tried for a speed record during the summer of that same year. It may have been a coincidence that their cycle sported a streamlined tail identical to the one on Joe's Harley, or they may have seen the posed publicity shots that Harley-Davidson circulated so lavishly.

The British did not have a Daytona Beach to run on, so they shipped their cycle to Ireland, where a long, straight road offered a possibility of creditable speeds. But the front wheel of that machine also lifted—probably at the same speed range that got Joe into trouble—and the rider swerved off the road into the trees. At Daytona Beach there is always a margin for error. As a last resort a rider can drive into the ocean with a fair chance for survival; but the Englishman, racing on a road, did not have a chance. He ended up among the trees and was killed.

Joe shook his head as he told this story. "If they had only written me, I would have told them and the guy would be alive now."

VII

In 1938 Joe was fairly certain that his racing career was almost over. At about that time the factories agreed that if all racing were class "C" (amateur) there would be more advantage to the average sport-minded rider and the factories would also be relieved of the strain of maintaining the expensive teams.

Since he knew it was his last year in the game, Petrali tried harder than ever before in his life to win the national track championship for 1938. It seemed that that would be a fitting climax to a 19-year career as a racing cyclist. He raced that year, demonstrating his most brilliant, daring form, and by the time the Syracuse meet came up a win or two would have clinched the championship.

Then luck turned against him. Everything seemed to go wrong at once. For one thing, the track was very rough and everybody was having trouble. But no one had trouble like Petrali. He just could not get going for minor ailments. The last straw piled up on his back when, for once, he was running out in front with the race in the bag, and the throttle wire fell off. That was too much for flesh and blood to bear. Petrali disgustingly quit right then and there.

He did coast through for the national hill climb championship of 1938, though, but that almost ended his career as a racing cyclist.

In 1938 class "A" racing was formally abolished except for class "A" short track. The great teams were disbanded. The superlatively designed racing cycles showed up from time to time over a few years, but gradually they all disappeared. They were too highly specialized, too costly to maintain and operate for any owner but a large corporation. The type of cycle, for instance, that Petrali rode at Altoona and Laurel could not be throttled down below

(Continued on next page)

'Petralli' Means Speed

sixty miles per hour. Those big beauties were engineered for racing only.

An entire era of racing history faded away with the passing of the smooth, brutally efficient, superlatively mounted factory teams; with them went much of the sparkle and vitality of the racing game.

It is not that we do not have the talent on the tracks these days. There is just no opportunity to develop the talent that is available. The class "A" riders represented a very tiny, select group of the very best that the entire nation could produce. Before a rider could hope to break into the factory teams, he had to stack up dozens of wins in the small race meets. His apprenticeship was long, grueling, and costly, offering no reward to the man who nearly made it, and demanding the wholehearted, almost fanatic, devotion to a single goal that was characteristic of Joe Petralli from the time he was seven.

The competition was savage for two reasons: first, when the motorcycle bug bites a man, it is like a drug and the best machines in the world are the purest form of that drug; and second, there was lots of money in it.

During Petralli's early days on the teams, and even during the worst of the depression, his salary was sixty dollars a week. That does not sound like anything today, but remember that the most highly skilled workers were then making only eighteen or twenty dollars a week. In addition, all prize money belonged to the rider who won it. When Petralli made his clean sweep at Syracuse, he took away one thousand dollars cash. A good hill climb would bring in two hundred dollars

and a national hill climb brought three hundred. Two good hill climbs would bring in the price of a new car. In addition, all prize money was clear. The factory paid all expenses to and from the meets.

And there was only one standard by which a class "A" rider could be measured. He could have a pleasant personality, a million dollars, or be related to the boss, but he still had to win races if he expected to stay on the payroll.

Whenever a man began to slip back a bit, to lose his nerve or enthusiasm, to get lazy, there were always half a hundred eager kids aching for a chance to step right into his shoes.

That is what makes Petralli such a miracle. For 13 years he stayed right up on top of a heap of the most highly skilled and competitive men this country has ever seen. To make it more uncanny, Petralli found himself in the position during 1931 to 1936 where he had to throw away races. He was so good, and his equipment was of such quality, that he could win almost any race he entered.

So after years of riding with the class "A" crew, Joe could see little hope for the future in the amateur meets. By the time a man fought his way up to a berth on the factory teams, or even became good enough to use class "A" equipment, he could be counted on to keep himself out of serious trouble most of the time. No one could tell what an amateur might do.

When Joe finally entered the 200 mile class "C" event on the one mile, oiled and banked track at Oakland, California, his worst suspicions were confirmed. The unpredictable antics of some of the amateurs scared him green.

The oiled surface of that track was very hard and almost any skid was im-

mediately uncontrollable. Just as Petralli was swinging out to pass Dick Ince, the young amateur lost control and started a slide. He came so close to taking Petralli with him that "Smokey Joe" closed his eyes and gave himself up for lost. But somehow, Ince missed him, slid across the track into the fence, and was killed. Another man fell in front of Joe, and a third party, an Englishman taking a corner too fast, skidded out and almost ran Petralli into the fence. He squeaked through with one foot brushing the fence and the other brushing the careening cycle.

Joe decided that this was his last race.

In the early thirties, Joe had become interested in racing cars. So he took a job with Thorne Engineering and worked there for about three years building racers with Art Sparks.

Then he started with the booming Hughes Aircraft Corporation about ten years ago. He had been placed in charge of Service and Flight when Odekirk, Howard Hughes' assistant, decided to go into business for himself modifying PBY flying boats. Petralli went along with Odekirk at that time, and today he is an executive of the Southern California Aircraft Corp.

Petralli is now a quiet man who lives so much in the present that he can hardly remember many of the landmarks of his early racing career.

He resides in a pleasant suburb of Ontario, California with his wife and young son, and, at first sight, it is a little difficult to picture him in the turbulent conflict of the factory teams.

But Petralli, like Don Johns, Balke, Graves, DeRosier, and the other great names of motorcycling history, has already become a legend as THE CHAMPION OF CHAMPIONS.

Behind the Lines

(Continued from page three)

50-gallon tank in the roof. The power plant of this factory on wheels is mounted on a 2200 pound trailer which, when on the move, serves to carry a large tent, table, chairs and refueling equipment.

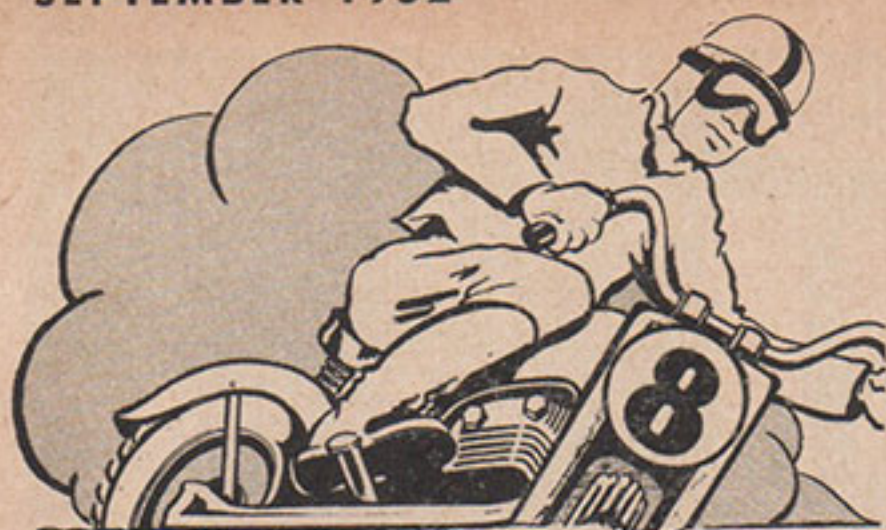
On two occasions the staff has worked non-stop for 36 hours. Among the many tasks performed during this time was the complete machining of a piston from solid. Decokes, super tuning, welding and brazing are common tasks, performed with a high degree of skill. Can we then hope that this splendid understanding and cooperation achieved by a nation still on the "recovery list" can be brought to life by the organized riders of a country as fresh and strong as our own?

Stepping across international boundaries once more, this time to the north into Canada, we find the weirdest cycle caper of all operating under the comparatively mild, innocent guise of an Endurance Run. A couple of Canadian lads, brothers George and Albert Hollinger, tipped us off to these unusual goings-on when they dropped anchor at CYCLE's office the other day just before returning to their homeland. Riding

Sunbeam and Triumph twins, the boys were about half way through their round trip tour of over 5000 miles and spilled the beans over a plate of steaming enchiladas at lunch. It seems that the Northerners' conception of physical torture as it applies to the endurance run varies from ours to such an extent as to hardly be recognizable as such. Imagine an average enduro that runs something like this. The course of approximately 600 miles is to be covered in 12 hours which means a 50 mph clip all the way. The ride, covering mostly backwoods roads, is usually devoid of service stations. What pumps there are enroute are often as not closed at that hour of the night since the runs are frequently held between dusk and dawn. For this and other reasons it is necessary for each entrant to pack his own supply of gas needed for the run. This same handicap requires another burden—a passenger on behind. By riding double the man in back can take care of all map reading (accomplished by holding a rubber flashlight in his teeth to illuminate the route map spread across the pilot's back) and refueling. When the gas in the tank runs low the passenger is notified, a reserve can is brought up, held over the driver's shoulder and the fuel piped

into the tank—a cute trick at 80 mph!

That's right, these guys can't afford to stop or even slow down with such a high speed schedule. Even a change of drivers is made on the run. Stop for food? . . . Never. Jackets are jammed with sandwiches which are consumed at full tilt, that is, when the roads are smooth enough to permit a free hand. Checkers are placed with equal cunning, usually concealed in a clump of brush alongside the trail. As a team sprints past, a light is flashed, illuminating the number on the side of the machine just long enough so that the checker's camera can verify it on film . . . still no stops. "You must have very little really tough stuff along the way to be able to hold such a high average," I asked. "Oh, we have our spots of bother often enough, otherwise speeds would be even higher," was George's comeback. "The main thing is that your machine complete the distance without pampering. Many parts of the unit are sealed including the oil tank to prevent repairs without penalty. Things don't get rough until our spare gas freezes in the can or a big grizzly gives chase. Some of the boys claim they've paced them at 50 mph; they run on their hind legs like anyone else, you know!"



CROSSED UP

by Bud Hawkins

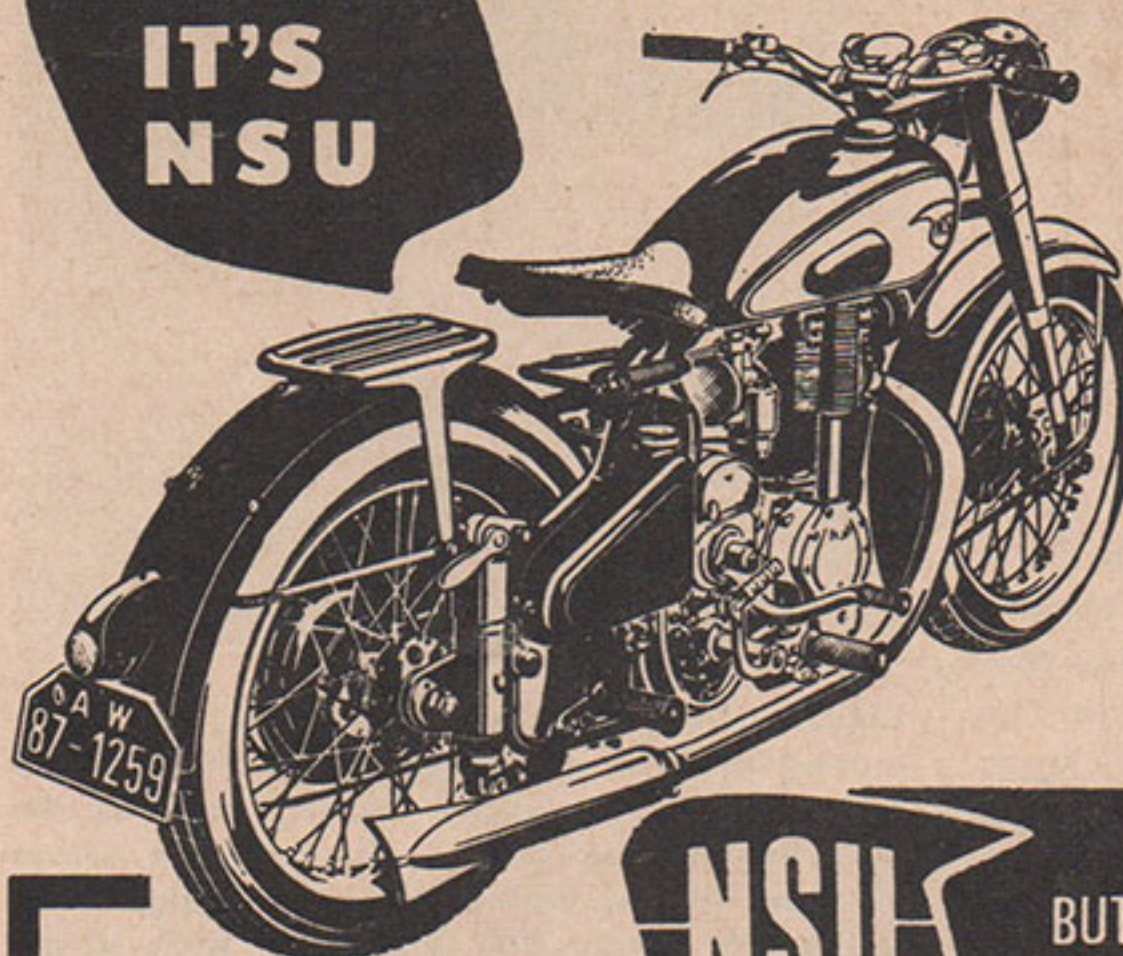
BIKES VS. SPORTS CARS. The Torrey Pines Road Races are interesting for many reasons, as the 2.7 mile all-pavement course with nine major bends has many similarities to European race courses, wherein the fastest way round is to keep your piggies on the pegs and your face on the tank. A course where brakes fade away to nothing in 10 laps is somewhat startling to American riders. As the top sports cars, including Jags, Allards, Ferraris, Porsches, Siatas, Simcas, etc., raced the same afternoon as six classes of motorcycles, it was interesting to compare lap times. At last year's races the fastest sports car lapped about three seconds faster than the fastest bike. This year, although the fastest sports car was considerably faster than last year, the bikes were better still and had about eight seconds' edge over the sports car. Nick Nicholson on his BSA twin turned his second lap in 2:17.4, while Phil Hill on his 2.7-liter Ferrari 12-cylinder roadster did 2:25.2 on his fastest lap. These times were stopwatch and unofficial, but we timed them ourselves. Jimmy Phillips on a Triumph did a 2:19.8 lap. Unfortunately, both Nicholson and Phillips stepped off, so the winner's speed (Don Bishop on Triumph), may not outdo the Ferrari average.

TIRE BITE—One advantage of a single cylinder engine's traction on a soft surface lies in the superior tire bite due to the wide spacing between power impulses, enabling the rear wheel to slow down after each power impulse and get a new tire bite on the ground. Once a multi-cylinder bike "breaks loose" the rear wheel continues slipping until the throttle is closed enough to get a new tire bite.

If widely spaced impulses are desirable for improved traction we wonder if the same idea of intermittent traction might not be good for braking? If the brakes had about seven high spots per wheel revolution we might stop faster. Maybe some basement inventor will figure it out and will try it. (Seven new tire bites per wheel revolution corresponds to a typical thumper running a 14 to 1 gear ratio in low gear.)

FRONT FENDERS—Next after long-horn bars the dirt rider usually bobs or replaces his front fender to save weight and actually increase springing efficiency by reducing the unsprung weight. This is fine but don't forget that certain front fenders and their braces provide stiffening for the fork. The piece between the forks helps keep the wheel centered and the front and back fender braces help keep forks from twisting in rough going.

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TT CONTINUED

It had been anticipated that one of the hitherto all-conquering Italian F. B. Mondials would be placed first—and that it would probably be the one ridden by Carlo Ubbiali, world title holder of the 125 cc.

But that wasn't taking into account the much improved M. V. Agusta—also an Italian double ohc machine on which Cecil Sandford, a member of the 1951 Velocette team, was making his debut as a "125" jockey. Cecil broke Mondial's monopoly.

First man ever to lap the Isle of Man circuit in less than half an hour on such a small machine, he created new class records for a lap, at 76.07 mph, and for the race, at 75.44 mph. The Mondial team filled the next three places and the Italian A. Copeta was fifth on a second M.V.

		Time	Speed m.p.h.
C. C. Sandford	MV	1:29:54.8	75.54
C. Ubbiali	Mondial	1:31:35	74.16
A. L. Parry	Mondial	1:34: 2.6	72.22
W. A. C. McCandless	Mondial	1:37:13.4	69.86
A. A. Copeta	MV	1:38:33.4	68.92
R. H. Burman	EMC-Puch	1:47:34	63.14
H. Williams	BSA	1:57: 2.4	
H. W. Grindley	DMW	1:57:42	
M. N. Mavrogordato	EMC-Puch	1:58:47	
E. V. C. Hardy	Dot	1:59: 3	

THE SENIOR (500 CC) CLUBMAN'S TT

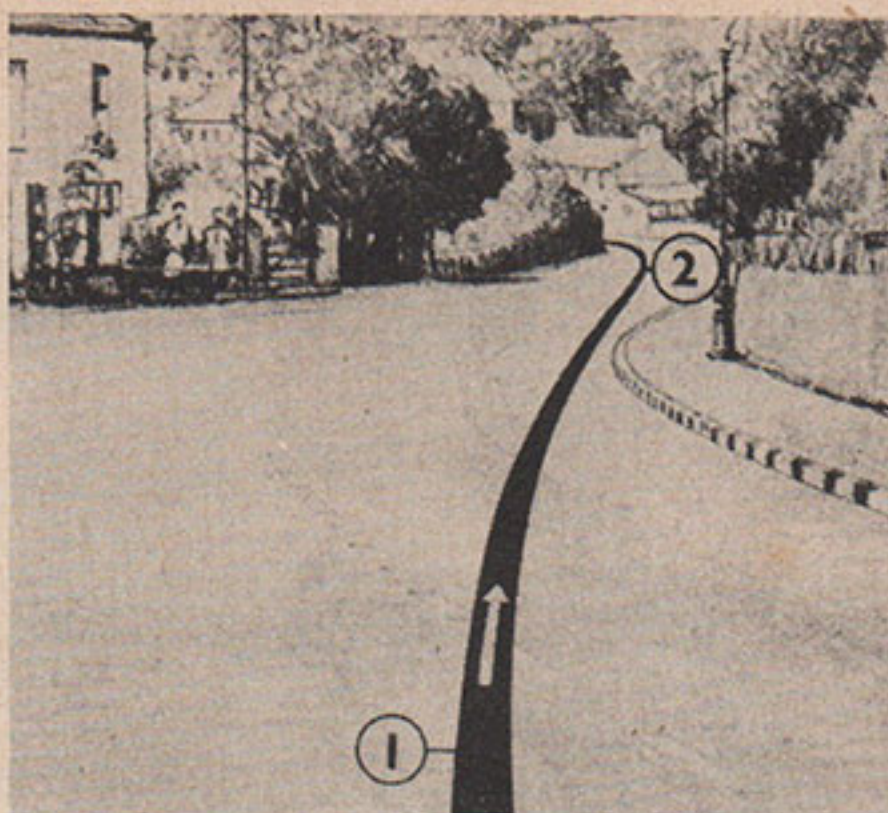
On the Wednesday afternoon there was another race for the clubmen, this time on 500 cc machines, with Triumphs and "International" Nortons predominating, but with other riders on AJS and Matchless twins, on single- and twin-cylinder BSAs and on Vincent "Comets." Seven non-starters left a field of 84, of whom two were outstanding—Bernard Hargreaves, who was entered on a Triumph "Tiger 100" by the Bradford club, and Kenneth James, again riding for Ringwood and mounted on a Norton. But for the fact that his tank held insufficient fuel for four laps, James would have been the winner, but his pit stop ensured a win by a narrow margin for Hargreaves, who went through non-stop.

		Time	Speed m.p.h.
B. J. Hargreaves	Triumph	1:49:50	82.45
K. R. V. James	Norton	1:50:28.6	81.97
J. R. Clark	Norton	1:50:32.6	81.92
D. K. Farrant	Norton	1:50:52	81.68
J. Bottomley	Triumph	1:51: 8	81.49
R. W. C. Kerr	Triumph	1:51:59	80.87
R. Ritchie	Norton	1:53:12.2	
D. Tyndale-Powell	BSA	1:53:47.8	
A. M. Cook	Triumph	1:53:54	
A. W. Dobbs	Norton	1:54: 1.6	

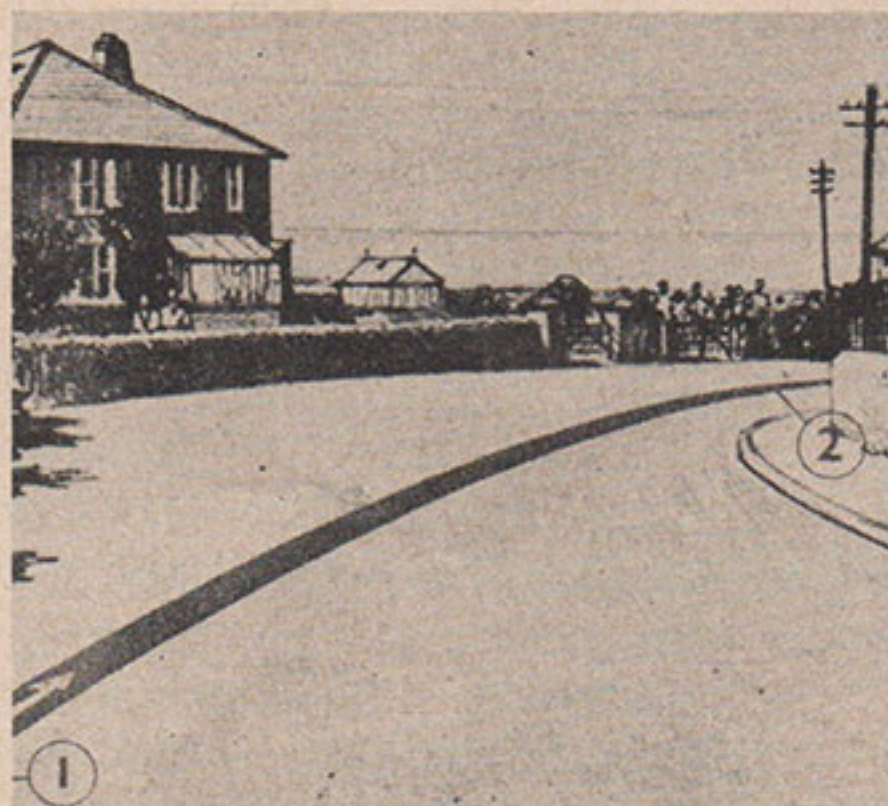
THE INTERNATIONAL SENIOR (500 CC) TT

The inter-factory contest on Friday in the seven-lap international Senior (500 cc) TT was exactly the same as on the Monday, with the exception that Les Graham was astride a four-cylinder Italian M. V. Agusta, instead of a Velocette. Of the AJS trio, Brett and Lomas had 1951 "Porcupine" models, while Rod Coleman had one of the new twins, with the engine inclined at 45 degrees. Geoff Duke, Amm, Armstrong, Kavanagh and Parry all had "works" Nortons, all of which had fat 4 by 16 inch rear tires. Cromie McCandless, on one of Beart's models, completed the Norton No. 2 team.

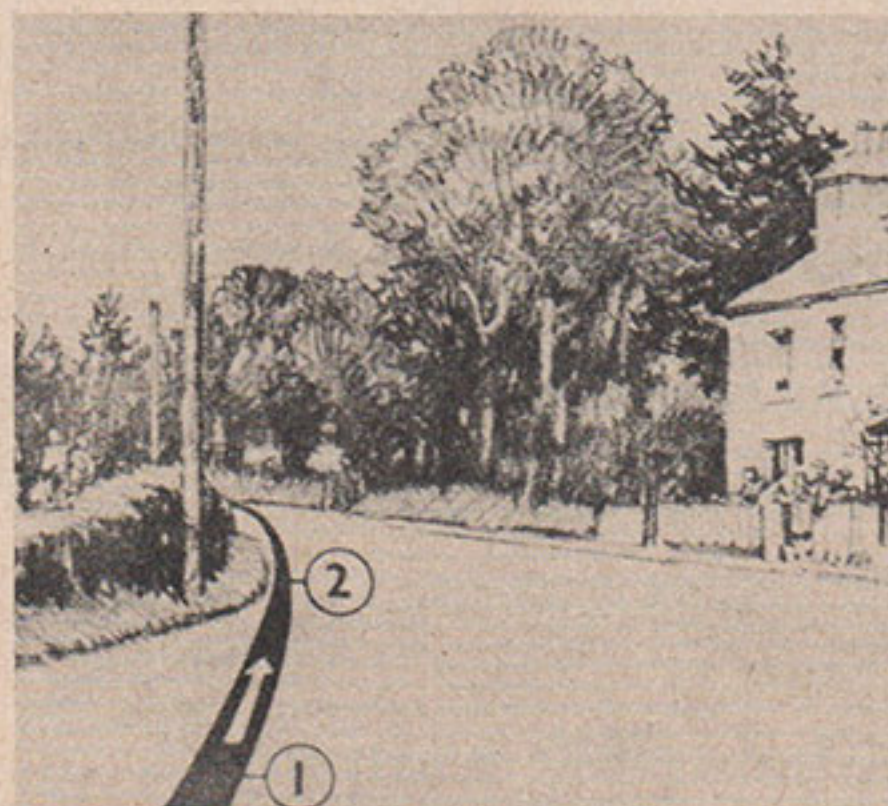
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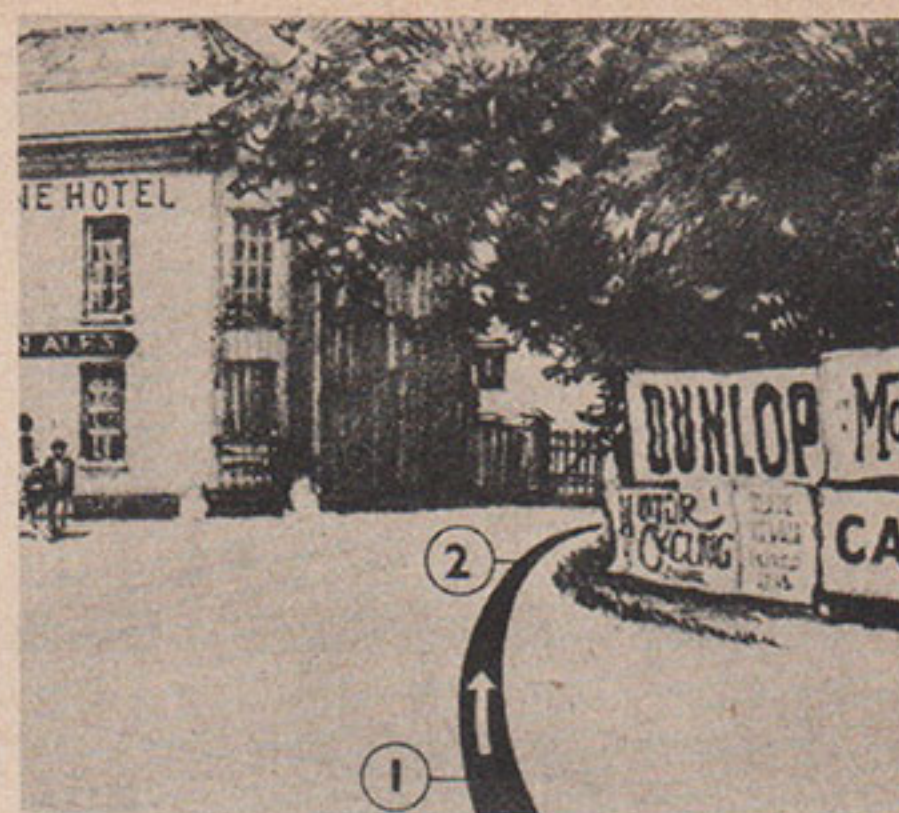
UNION MILLS 1. Come across from left, accelerating to 70 in second gear. Important not to enter too fast to avoid drifting towards the wall beyond the cottage. 2. Keep the center of road till just before crown of bridge, then swing left, taking first left sweep wide to cut in close to the mill, thus avoiding outward drift on the exit, change to third gear at 85/90 mph



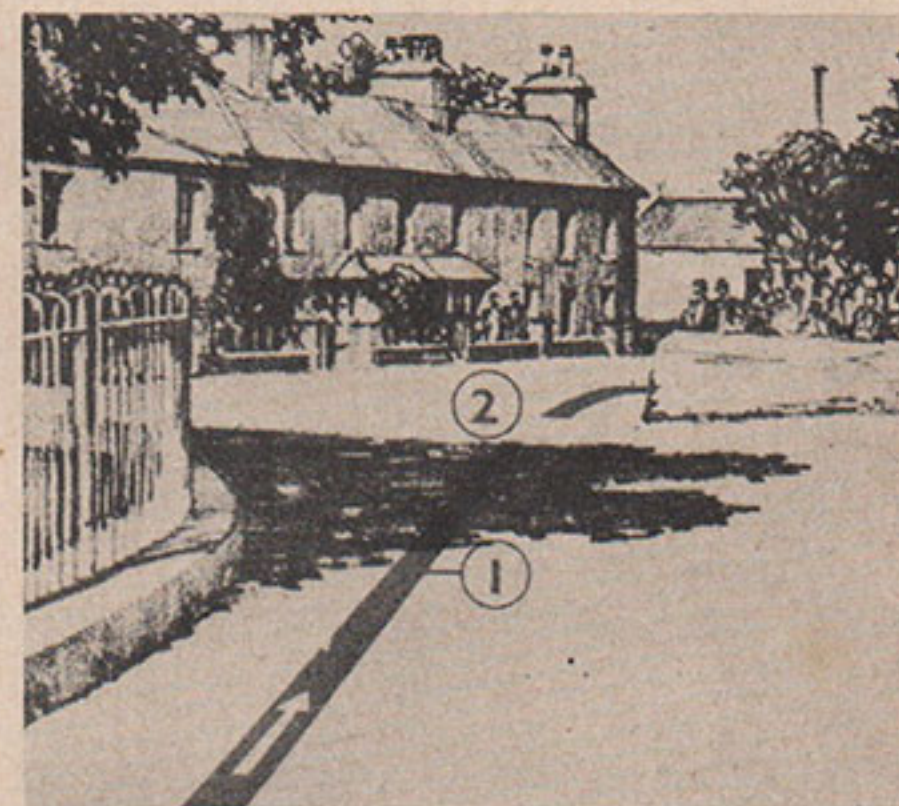
KIRKMICHAEL 1. The main thing about this bend is to be cautious on the approach, remembering that it is downhill into the corner. Keep to the left a little longer than might seem necessary. 2. The corner is taken in second gear at about 75/80 mph but just beyond the wall, when straightening the machine up, change to third gear and come out of the bend at about 90 mph



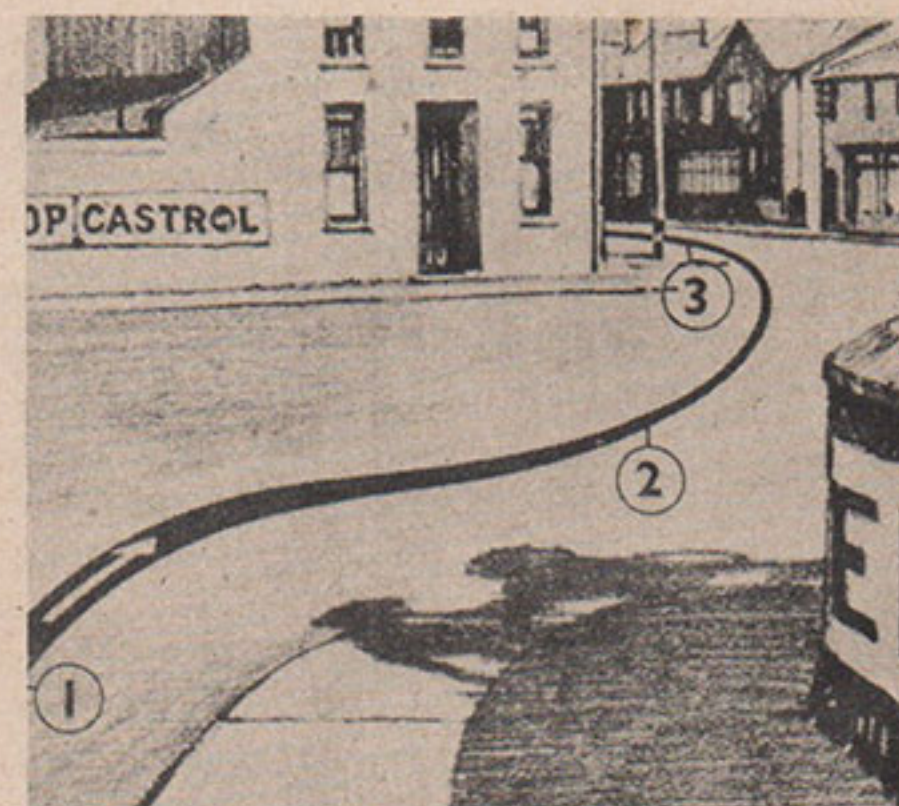
GINGER HALL 1. Enter this corner from right at about 70 in second, which has been held from Sulby Bridge with a slight ease off just before left turn depicted. 2. Accelerating, and banked over, cut corner so close that it is necessary to lift the head to avoid striking telegraph pole. Leave at approximately 75 mph taking care not to get into the right hand gutter on the exit



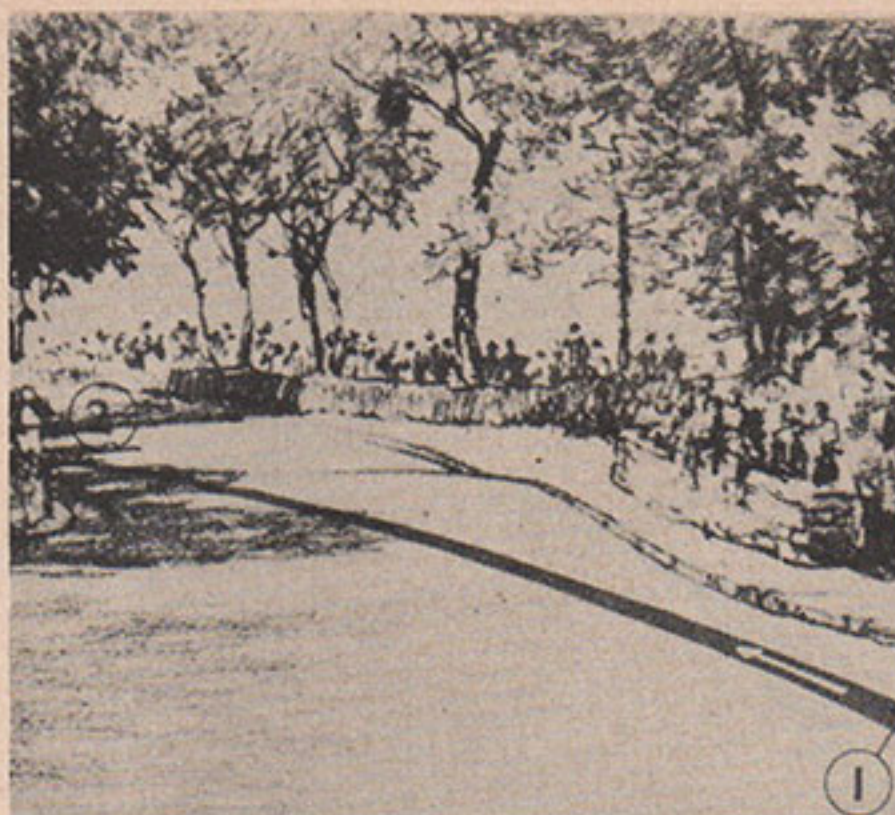
BALLACRAIGNE 1. Having approached in bottom gear from the extreme left, be careful in crossing over to the right not to accelerate too suddenly for the machine is banked over and there is no favorable camber. 2. Acceleration out of the corner can commence here as there is a certain amount of useful banking available. Keep over to the right and leave at about 60



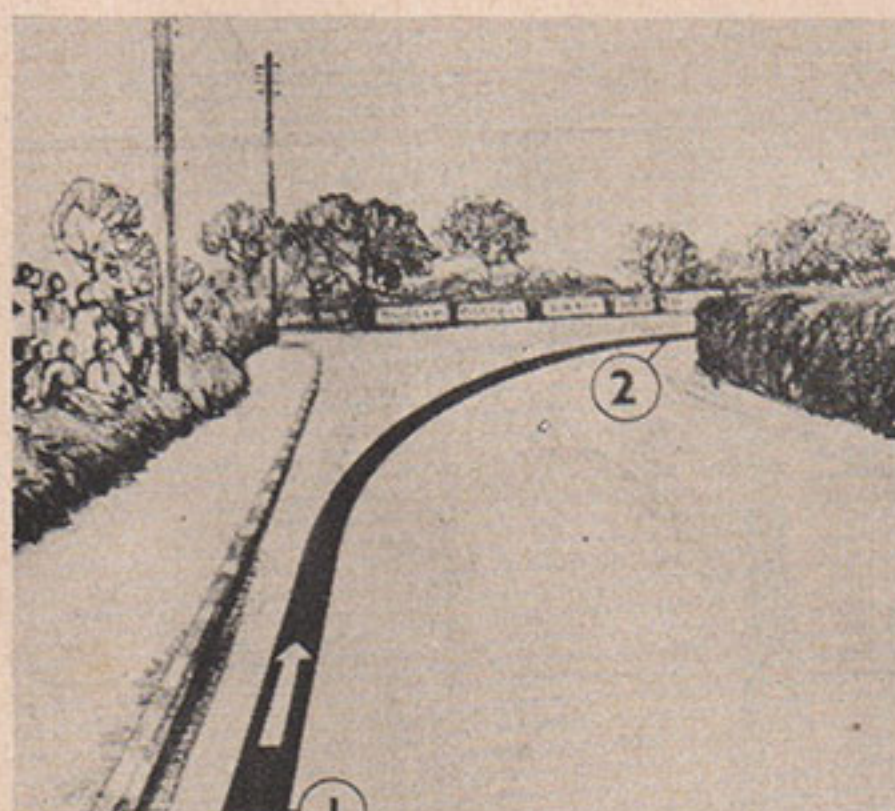
BALLAUGH BRIDGE 1. Approach in bottom gear from extreme right, crossing sharply over to left and keeping the machine vertical alongside the rails so as to cross the crown on an even keel. Ease off slightly before the jump to ensure a two-point landing. 2. Bank to the right immediately upon landing, coming close to the low wall jutting out from the right of picture



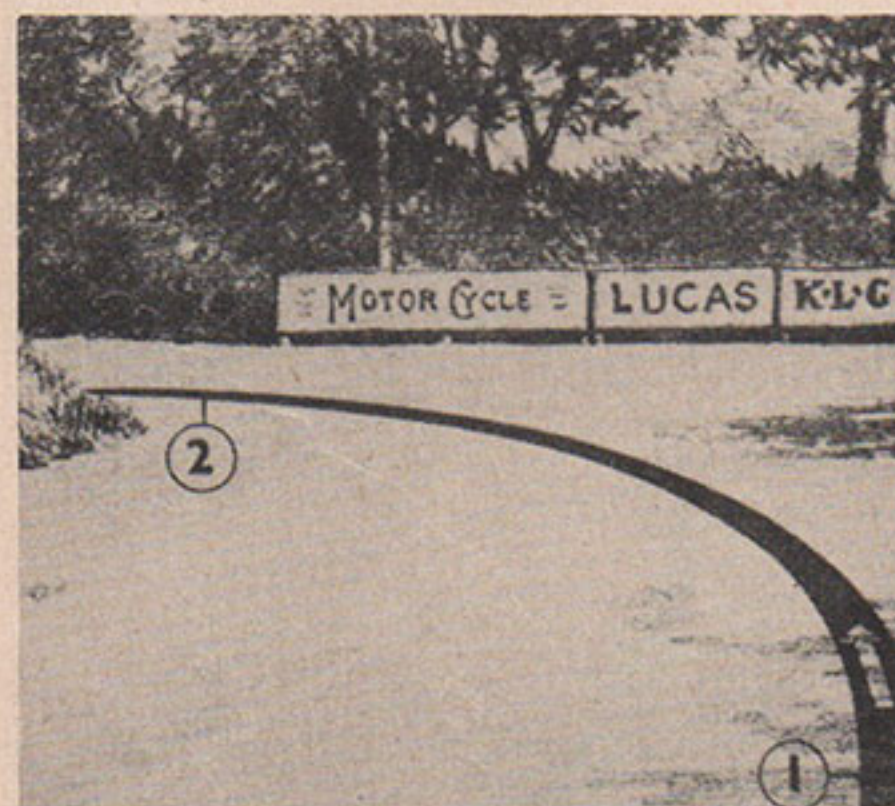
PARLIAMENT SQUARE 1. At this point the machine is rolling with the clutch out, in a right hand sweep; keep your speed low to avoid drifting over to left, which would entail an even sharper left hand turn later. 2. Clutch home and accelerating in bottom gear. 3. With the left-hander completed, change to second gear at about 50 mph and you're on your way



13th MILESTONE 1. The fastest section on the course, it is necessary to get into position, on the right, not later than half-way down the hill from Baaregarroo crossroads; stay in the gutter till the beginning of the stone wall. **2.** Aim to get as close to the inner wall as possible making utmost use of the camber. Flat out all the way down and right through at over 130 mph



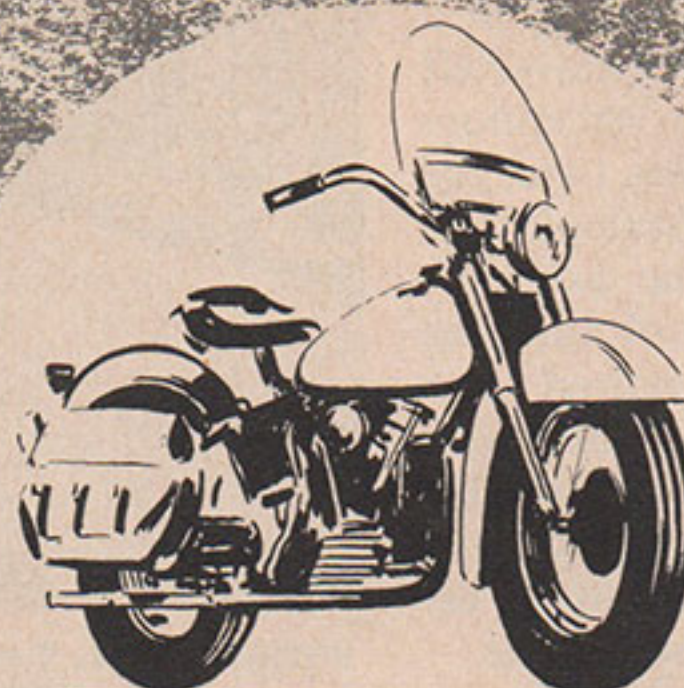
SULBY BRIDGE 1. Keep a path as close as possible to the nearside of the pavement while changing down gear and braking for the corner. **2.** Take full advantage of a favorable camber on this particular corner, using bottom gear and clutch, and avoid drifting out too much on crossing the bridge itself for there is a steep adverse camber on the left hand side of the exit



RAMSEY HAIRPIN 1. Braking can be left until quite late in the corner because of the approach being uphill. Begin to make the turn at approximately 20 mph in bottom gear. **2.** Keep the machine quite close in around the apex of the bend and by so doing make maximum use of the favorable banking which can be used to advantage to accelerate on rounding hairpin

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TT CONTINUED

Almost all the rest of the field of 72—there had been 83 entries but 11, including poor Frank Fry who was killed in a practice crash, were non-starters—rode "Featherbed" Nortons. The exceptions were Ernie Ring on a Matchless twin, the Canadian Ivan Wagar on a Triumph "Tiger 100," Roland Pike, Charlie Salt.

First of the head-men out of the race were Len Parry, who wisely retired after suffering a "blackout" in the first few miles, and Jack Brett, who dropped his AJS in the death-dealing 100 mph Quarry Bends, near Sulby, and miraculously escaped with only a few cuts and bruises.

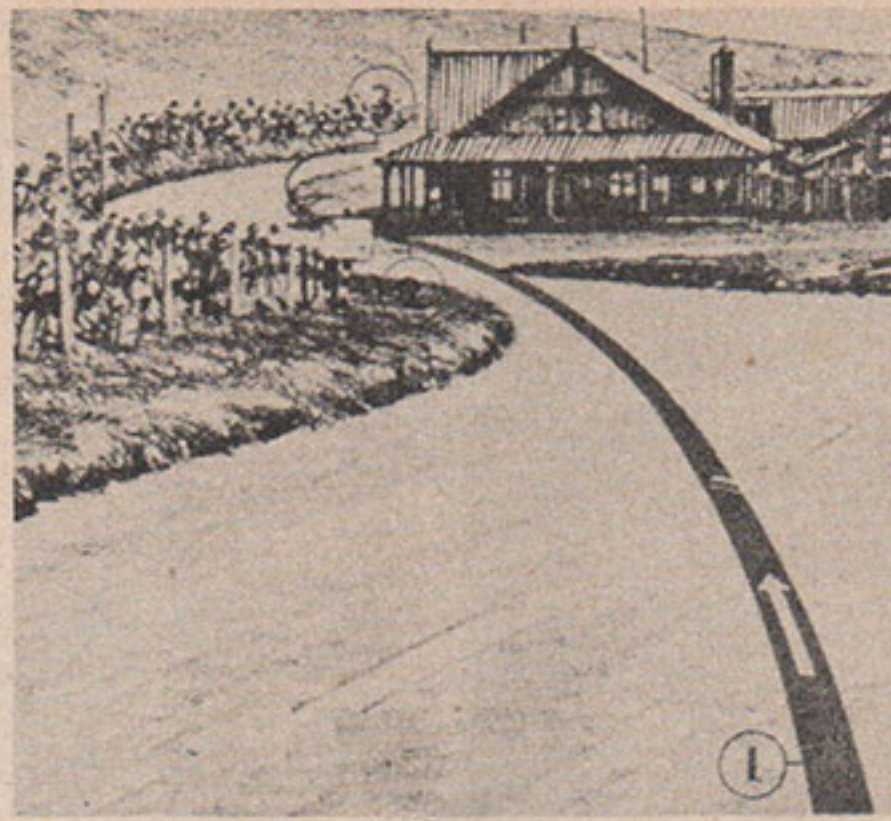
Despite the fact that he was having to juggle with the air control, to overcome misfiring, Geoff Duke led throughout laps 1, 2 and 3, came in to refuel and set off again still in the lead.

But one lap later he was out of the race, forced to retire with clutch trouble. And from then on began one of the most dramatic races ever seen on the Isle of Man. Despite the fact that he badly overshot his pit when coming in to refuel, Les Graham on the MV, No. 17, concluded the lap 4 seconds ahead of Reg Armstrong, No. 15, who had started the race 20 seconds before Leslie. So, in fact there was a back-log of at least 24 seconds to be regained if the young Irishman on the Norton was to prevent the Senior TT Trophy going to Italy. And Les—one of the shrewdest riders in the game—would undoubtedly have noticed Duke at the pits, with his helmet already removed, as he flashed past the grandstands.

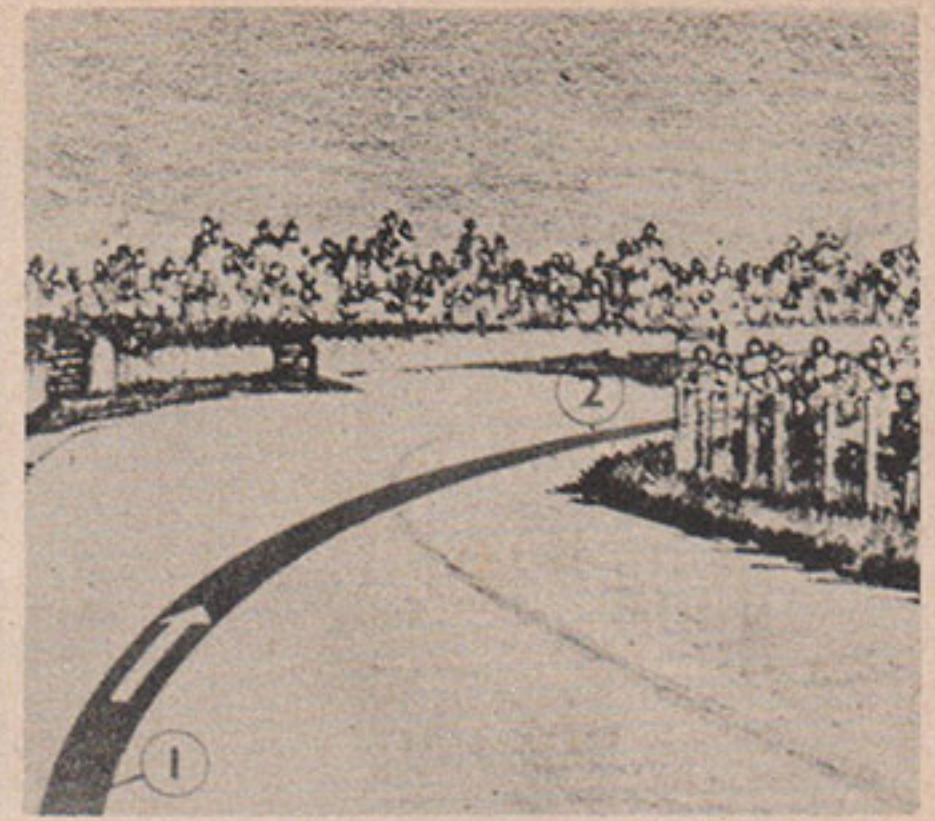
Les was trying as hard as he could, but oil filming over his boots wasn't helping him, and he was muffing his gear changes. Trying equally hard was Armstrong and at Ramsey, on the fifth lap, the rivals were racing neck and neck. On the mountain climb the Norton rider drew ahead and with two laps to go he was 8 seconds ahead on the road, and therefore only 12 seconds behind Graham on the leader board. On the sixth lap the positions changed and Armstrong came into first place, just 4 seconds faster than Graham. The excitement as the progress of the two men was followed around the circuit during the final lap was terrific and reports soon began to make it clear that the Irishman was not only holding his slight advantage, but was increasing it by almost a second a mile.

He came home to a roar of applause from the packed grandstand, and as he actually approached the finishing line his primary chain snapped. What a finish! And what a lucky break.

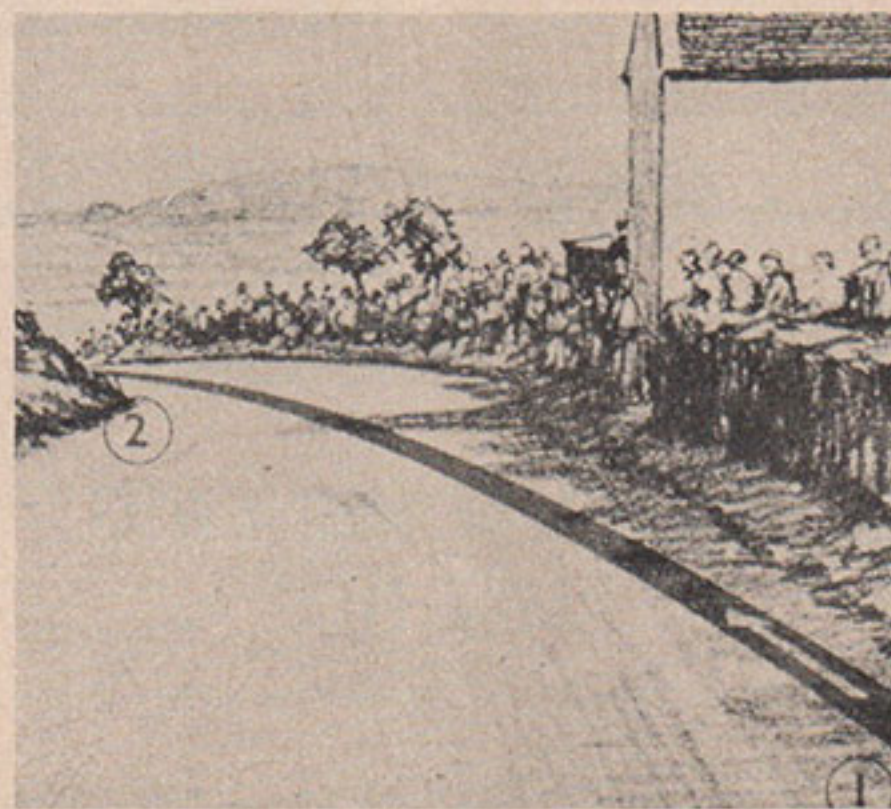
		Time	Speed m.p.h.
H. R. Armstrong	Norton	2:50:28.4	92.97
R. L. Graham	MV	2:50:55	92.72
W. R. Amm	Norton	2:51:31.2	92.4
R. W. Coleman	AJS	2:56:39	89.71
W. A. Lomas	AJS	2:58:39	88.71
W. A. C. McCandless	Norton	2:58:51.2	88.61
C. Brown	Norton	3: 0:35.4	87.75
K. H. Mudford	Norton	3: 0:39	87.73
A. E. Moule	Norton	3: 2:41.6	86.74
P. H. Carter	Norton	3: 3:31.8	86.35



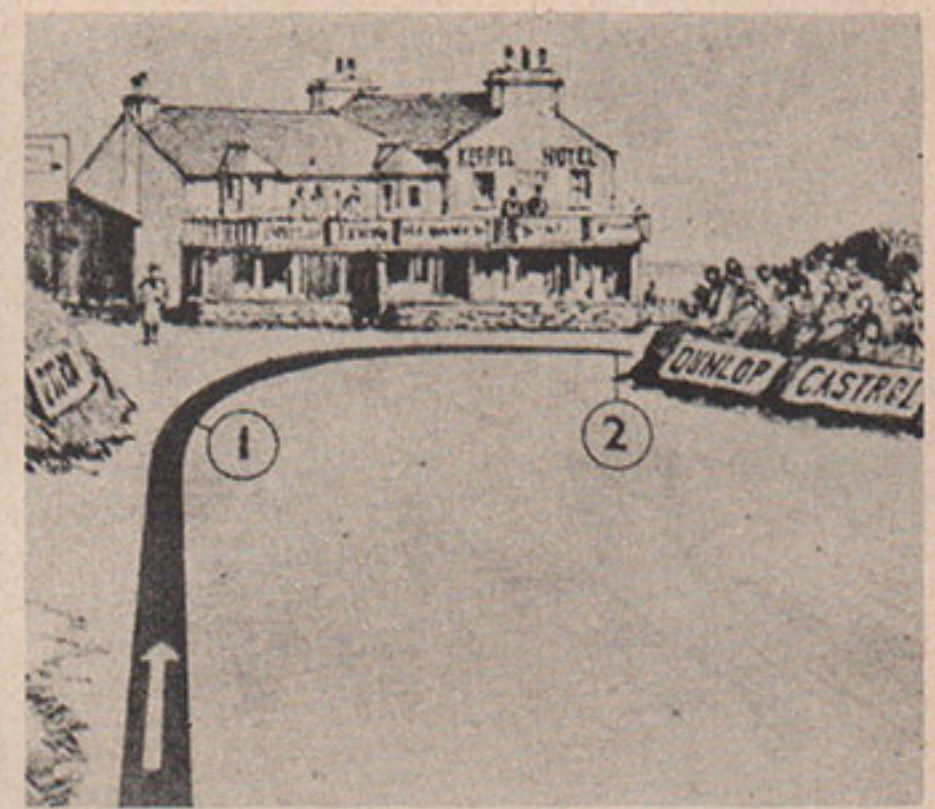
BUNGALOW 1. Coming across from the right in bottom gear (4,500 rpm) concentrate on clipping the left hand grass verge. 2. Cross the tramlines in the middle of the road. If this bend is taken too fast there is a danger of being forced out towards the corner girder supporting the cafe verandah roof. 3. Change to third gear accelerating to the highest altitude on the entire course



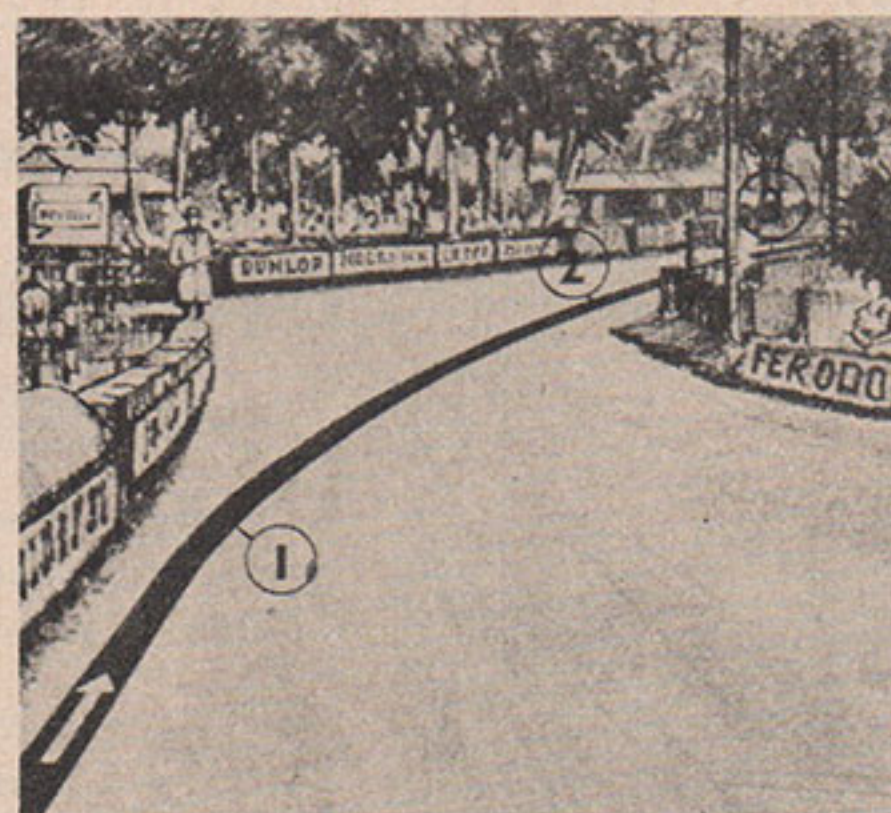
WINDY CORNER 1. Enter in second gear at about 60 miles per hour. 2. Get as close in to the very apex of the curve as possible so as to be able to take the fullest advantage of what small camber there is at this point. Caution must be taken in wet weather for the surface of the road can be very slippery here. 3. Change to third gear and accelerate away as rapidly as possible



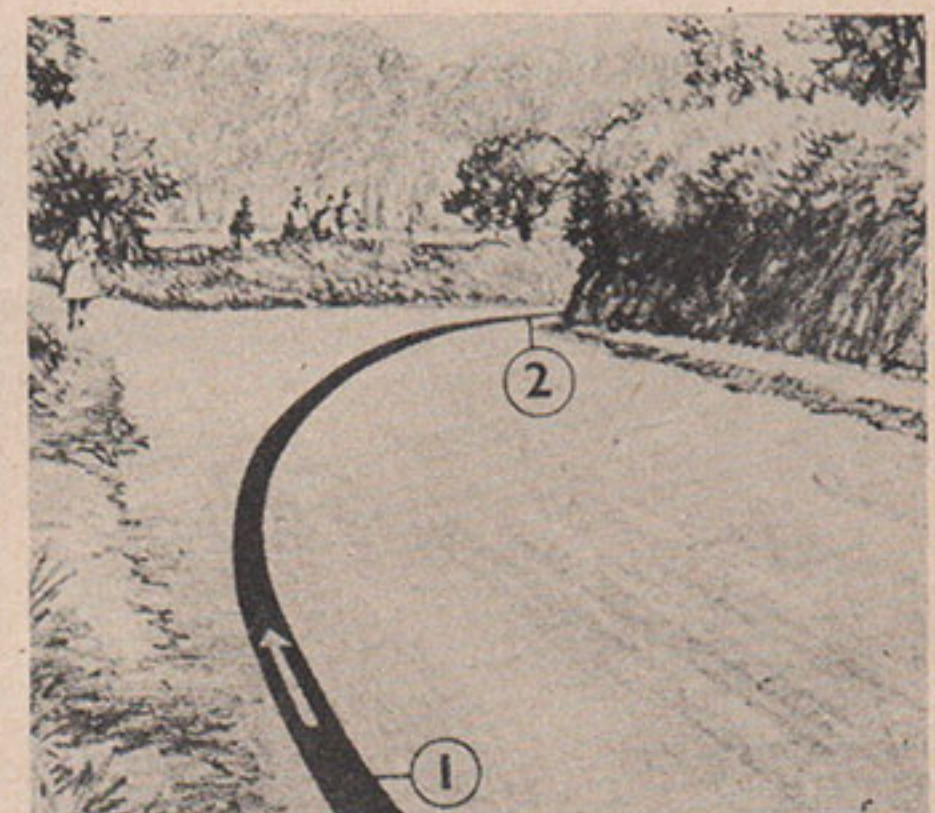
KATE'S COTTAGE 1. Only if you are happy about the handling of your bike dare you approach "over the rough" close to the wall; otherwise keep three feet clear. Third gear—115 mph. 2. Aim to come out about one foot right of center line. Only with superb road holding are speeds advisable that carry you to adverse camber of right bank. Engage top, straighten up



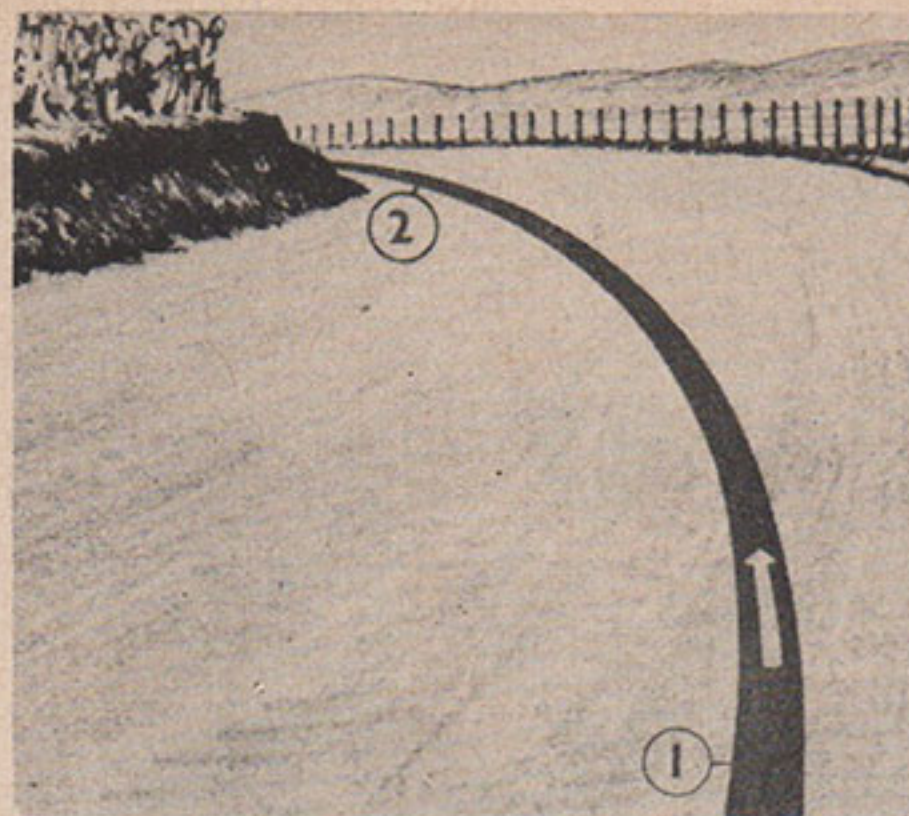
CREG-NY-BAA 1. Approached at quite high speed down hill; watch your braking when pulling into the left hand side, drop your speed to about 35 mph when the left bank begins to fall away, then swing sharply to the right side to make a 90 degree turn, using the clutch. 2. Accelerate out of the corner at about 45/50 mph almost brushing right hand wall with shoulder



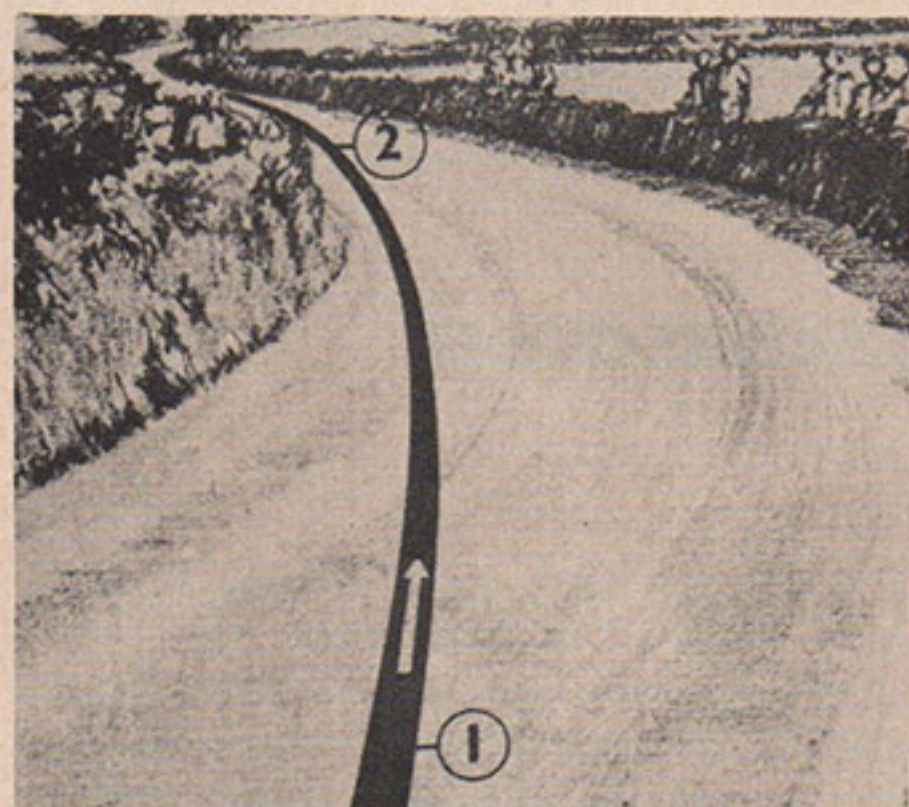
HILLBERRY 1. Approach at full chat, drop into third gear and begin banking right. Top gear can be used throughout but speed will then be lost on the climb up Cronk-ny-Mona, which, in any case, requires third. 2. Keep about three feet out from the apex of the curve to avoid bumps on inner camber. Full bore in third gear—about 115 mph. 3. Barely clip the grass here



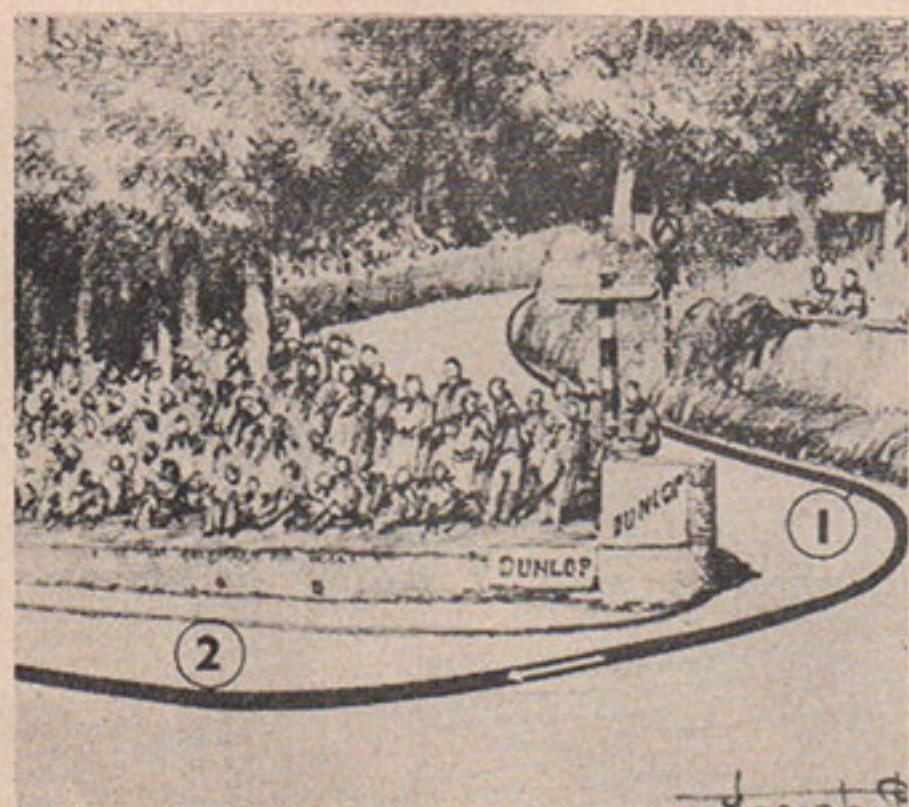
THE NOOK 1. Approach at 40-ish in bottom cog—no clutch slip. 2. Aim for shiny patch on road (provided it isn't wet), just inside the bend and endeavor to finish the turn as near the center of road as possible. This enables the first of the Governor's Bridge left-handers that follow to be taken without fear of drifting into a deep gutter on the right hand side of course



33RD MILESTONE 1. The picture shows the first of the two corners entering on a line about four feet from the fence on the right. The corner is taken with the machine cracking along full bore in third gear—at a good 112 to 115 miles per hour. 2. Do not cut this corner too closely otherwise the machine will be badly positioned when you reach the second half of the bend



BRANDISH CORNER 1. Brake down sharply on the approach to Brandish remembering that after the severe pull-up for Creg-ny-Baa just prior to this, that the brakes will still be hot and lacking their full slowing efficiency. They will probably not regain their maximum power until Quarter Bridge has come around again. 2. Through the corner in second gear at about 60

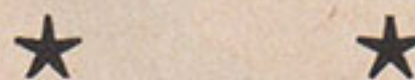


GOVERNOR'S BRIDGE 1. Keep close left being careful of a surface inclined to be slippery. Leave turn late, swinging around at 8/10 mph. 2. Do not use too much road here or you'll be off course for the camber on the left-hander into the dip, which is taken at about 20 mph. Nothing is to be gained trying to win the race here; a split second is not worth risk of falling



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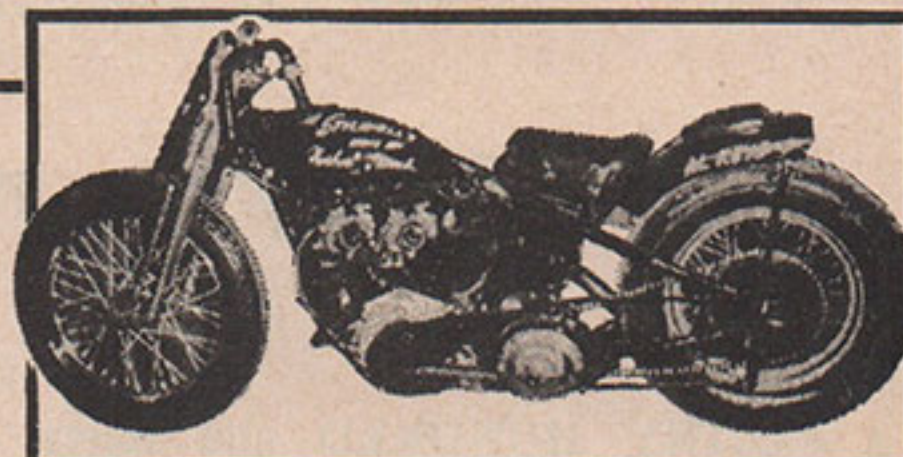
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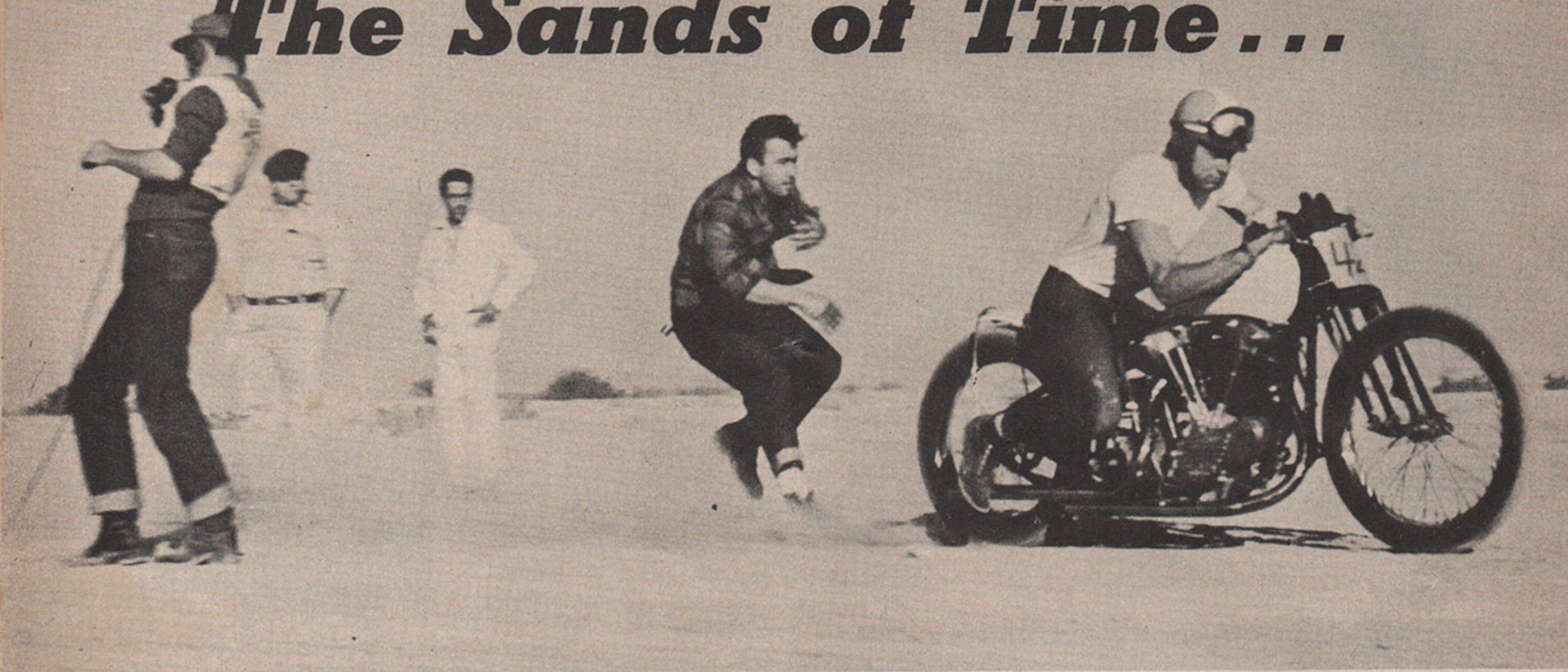
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They're running out at Rosamond

Photos by Jack Campbell

A PALTRY HUNDRED and thirty-six . . . isn't that awful!" The voice was that of C. B. Clausen straining to mount the crackling bark of the westland's hottest gas and alky burners. The occasion was one of the rarest in motorcycle sport, a Speed Trial. Unfortunately there are only three such events in the United States each year: the two Rosamond Dry Lake meets sponsored by the Pasadena M/C and the Glendale M/C, and the recent invitational meet at Bonneville Salt Flats promoted by the Southern California Timing Association, a hot rod organization. Of the three events, the Bonneville location is ideal, by far the

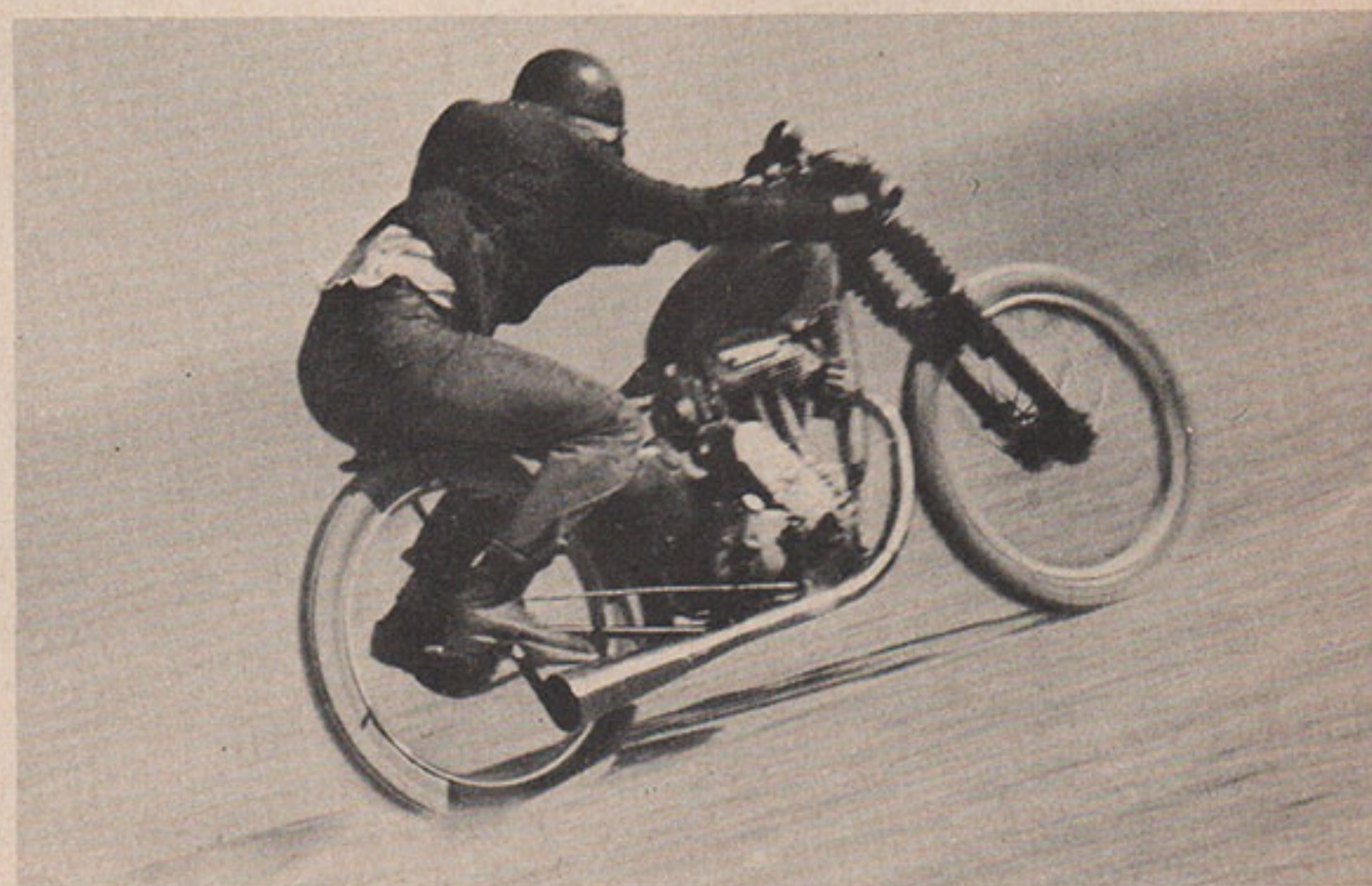
best because of its consistently hard salt surface. The Southern California dry lakes often break down to the extent that they are almost unusable for speed runs. Such was the condition at this year's annual Pasadena club event and therein lies the basis for C. B. Clausen's seemingly affected remark. We were close to C. B. and his game partner, Bud Hood, and knew that the boys had high hopes of reaching well over 160 mph. The fact that they had ultimately succeeded in jacking jockey Louie Castro up to 146 mph for the fastest time of the day was little consolation other than meaning another pewter pot over their already sag-

ging mantel. They used the same 84 cubic inch Harley-Davidson twin, the Brute, that holds the quarter mile drag record, slightly revamped for top speed running. It's a safe bet that the Brute will top off the 20 fastest two-wheelers invited to Utah this August 25th by the SCTA through CYCLE Magazine, but the pathetic part of it is that these capable builders, tuners and riders must rely on such inconsistent proving grounds as the dry lakes to perfect their theories on speed between the annual Bonneville meets.

What's the solution? There is one in the offing, little known except to a few. It is the "Motorama Foundation" initi-



"A hot one is on the way." Stan Constans alerts the men at the traps, over a mile away, through the sound powered (no batteries) telephone system. Louie Castro, No. 13, stepped along at 146.34, fastest time



It must have seemed like uphill to Kenny Roper when he turned 114.28 with his very special Matchless 30.50 single, a racing model with top speed cams, 12 to 1 compression and longer scrambles frame

RESULTS (FIRST FIVE)

OPEN CLASS

Clausen—Hood	Har-Dav.	146.34
Bill Reynolds	Har-Dav.	138.99
Joe LeBlanc	Har-Dav.	135.84
Jim Hunter	Har-Dav.	125.87
W. R. Anderson	Har-Dav.	118.42

74" CLASS

Bob Kucera	Har-Dav.	120.00
Harlond Simpson	Har-Dav.	112.50
Vic Trent	Indian	110.09
John Caffey	Har-Dav.	109.75
Warren Adler	Har-Dav.	108.10

61" CLASS

Sandy McGregor	Har-Dav.	128.57
Robert Limond	Vincent	122.44
Marion Graham	Vincent	122.03
Alan Hall	Vincent	120.40
Rocky Ricker	Indian	119.20

45" SIDE VALVE CLASS

J. D. Walthall	Har-Dav.	111.80
Wayne Morissette	Indian	110.42
Charles Cox	Har-Dav.	105.88
H. Elyott Tucker	Indian	104.95
John Gregurich	Har-Dav.	95.49

40" CLASS

Blackie Bernal	Triumph	134.83
Pete Lockhart	Triumph	123.71
Maurice Lafferty	Triumph	122.03
Paul Lockhart	Triumph	121.62
Gene Rayn	Triumph	116.88

30.50 CLASS

Rich Richards	Triumph	127.65
Ralph Gaebel	Triumph	120.00
Kenny Roper	Matchless	114.28
Chuck Phillips	Triumph	111.80
Danny Webster	Triumph	111.80

21" CLASS

Walt Harper	Velocette	84.30
Lloyd Bulmer	Velocette	56.25

15" CLASS

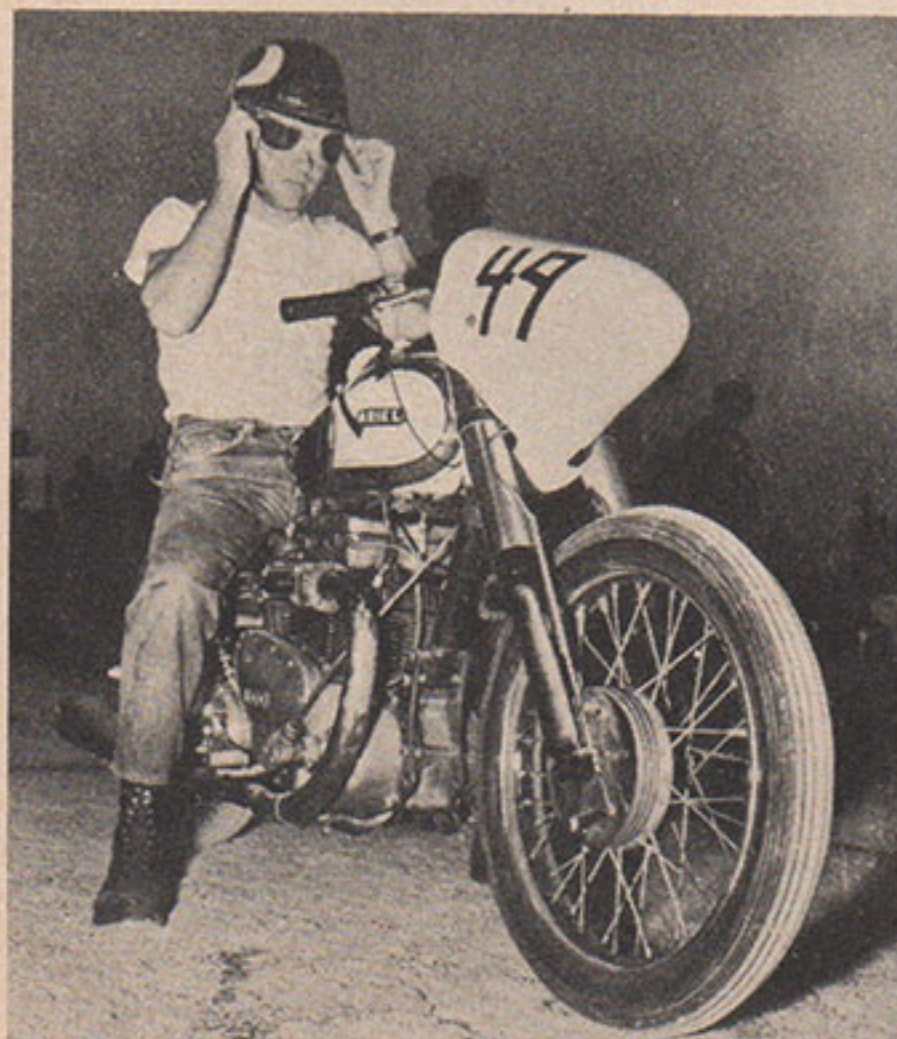
Del Branson	Indian	68.05
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7 1/2" CLASS

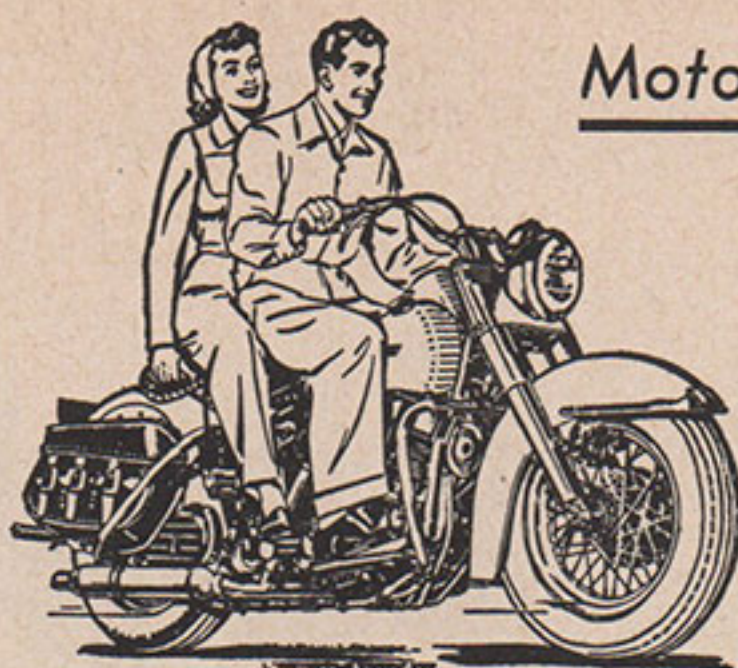
Donald Zarembo	Villzar (experiment)	23.81
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ated by the parent organization of this magazine, Trend Inc., following the success of their first huge motorcycle and automotive show two years ago. At that time 16 directors were asked to give their services to the cause; they have done so generously, meeting once a month since that first day, affirming their own faith in the objective even to the extent of digging into their own pockets for a substantial sum when the foundation funds

(Continued on next page)



Willie Nelson dug trenches in Rosamond's sand at 100 mph with his needle-nosed 61 cu. in. Ariel square four. Willie took 7th in his class



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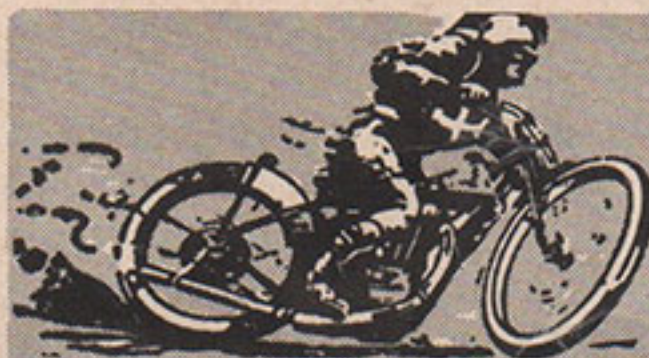
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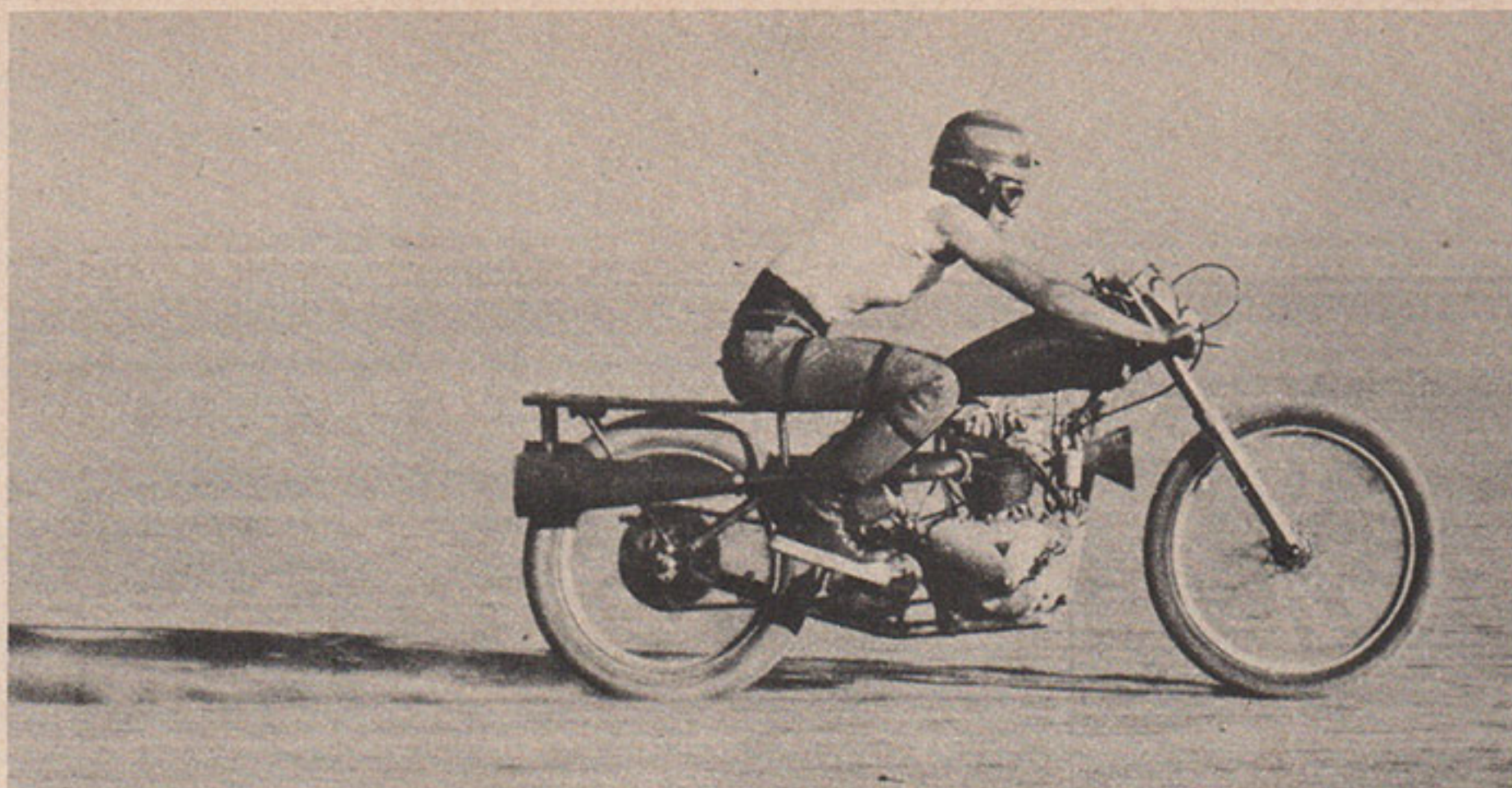
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Wee Tommy Smith took Blackie Bernal's backward Bird through at 134.83. The barrels are mounted facing rearward, allowing straight exhaust and forced induction. Tommy normally rides a K model Harley but, because of improper gearing for the unusually soft surface, he only took fifth in 45 class

The Sands of Time

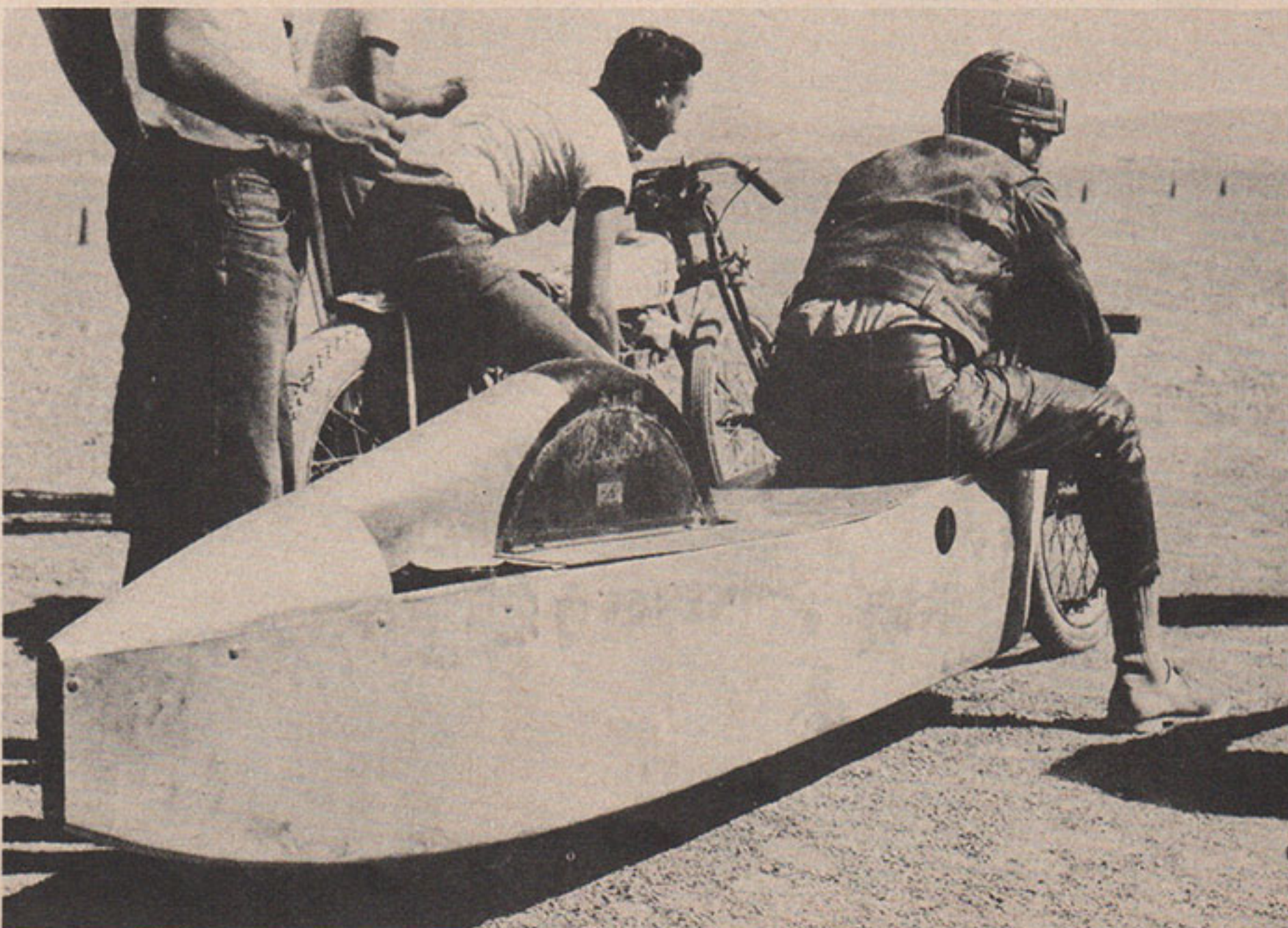
(Continued from page 33)

were depleted on one occasion. What are these motorcycle men driving for? A completely equipped speed mecca incorporating a paved five-mile straightaway and a 3.8-mile track complete with landscaped grounds, adequate grandstands, dressing rooms, and full facilities. The grounds have now been selected and an agreeable price established with the landowners. A complete estimate of costs has been made by the foundation committee and here, as you might have guessed, stands a hurdle, a \$1,200,000 one.

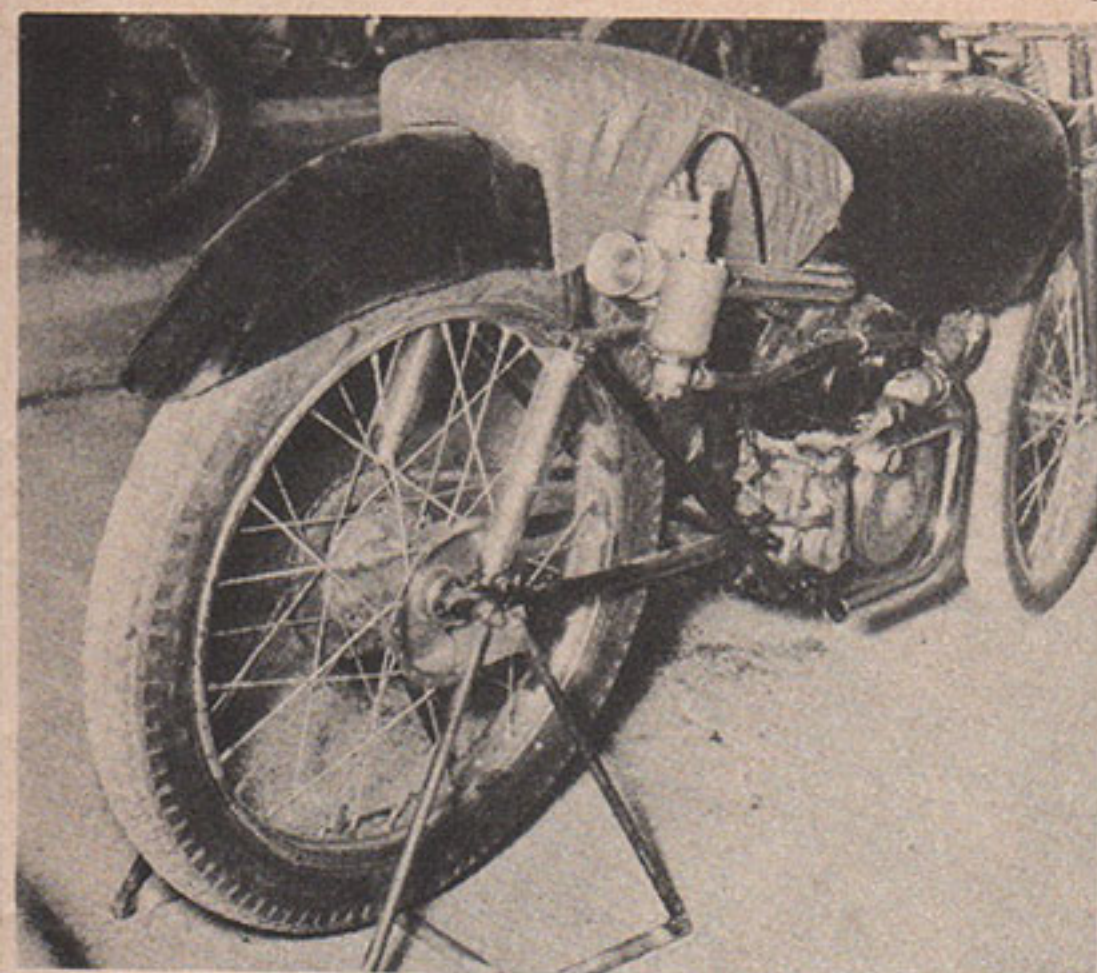
From the start it has been hoped that the effort might be established on a non-profit basis, which could well be the case if we are able to interest such an organization as General Petroleum or the Ford Foundation. But as yet the money is not on the line, and the financing may, by necessity, become a matter of less benevolence. But regardless of the source of the

money, the fine reputation of the men who have labored over this project for the last two years will eventually guarantee success to talented lakesters like Sandy McGregor, who boosted his 61 cubic inch Harley from 121 to 128 mph in the closing seconds of the Rosamond meet. McGregor's triumph of speed was typical, for it is usually in the last round of these short, annual meets that the top speeds of the year are turned. Just when the boys begin to *really* go, it comes time to fold up the tents and head for home. Who knows how fast Blackie Bernal might have pushed his Triumph Thunderbird had he been given an unlimited time on a paved five-mile strip. He plowed through Rosamond's deep sand at 134 mph.

Colossal farce of the day began when a gigantic diesel refrigerator truck loomed up over the flat lake bed and shuddered to a stop at the pit area. Out bounced no



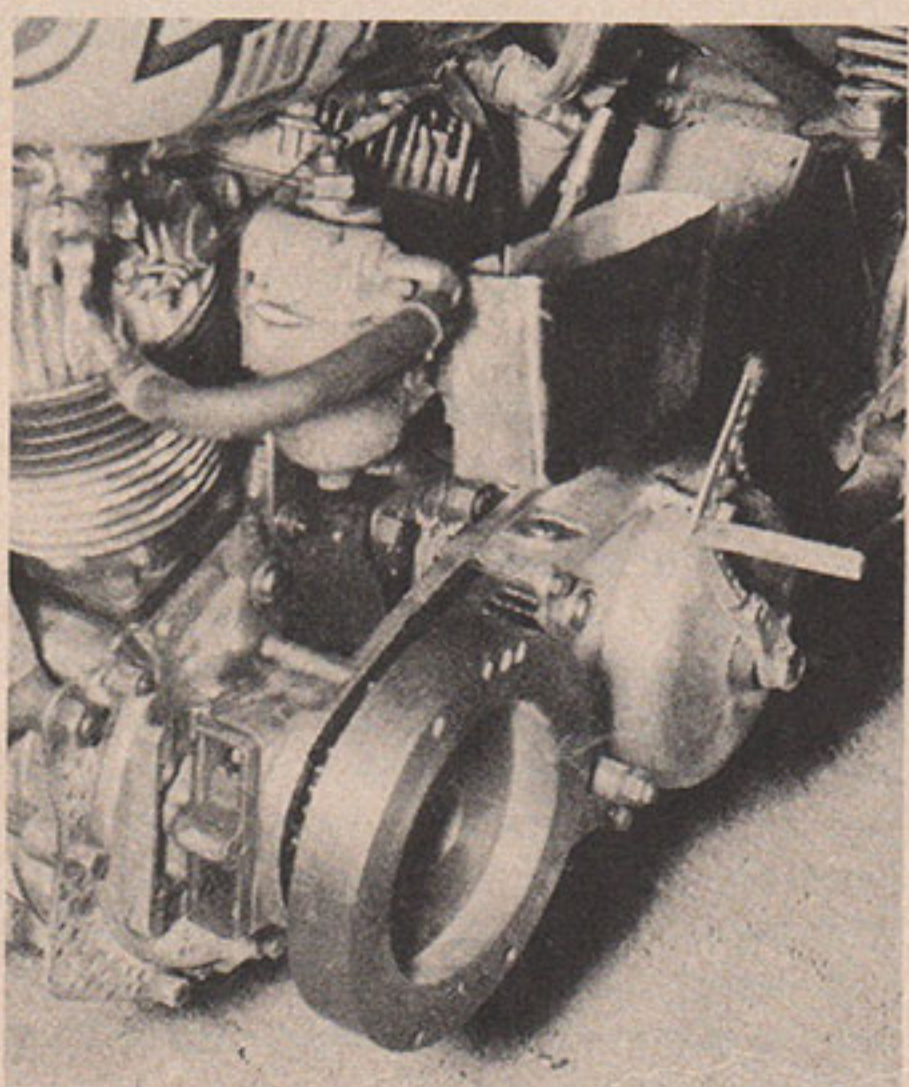
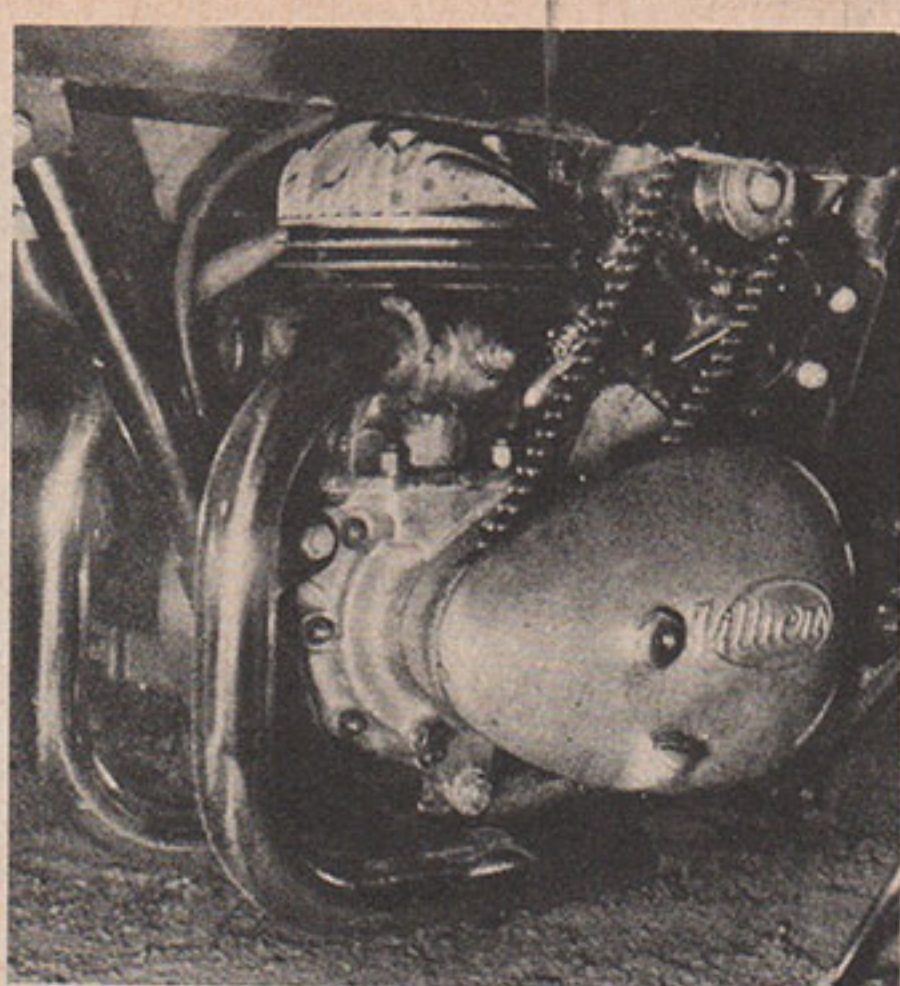
The hare and the tortoise. Bud Hare and enclosed Triumph twin were both mighty low. Whole rig is specially made, engine lies horizontally. Bud is slated for a go at Bonneville (Aug. 25 through Sept. 1)



Bruce Zaremba's experimental "Villzar Special" was a feeble threat in the 7 1/2 cu. in. class despite its chain driven supercharger. Bruce's son Don did the best he could at 23.81 mph but, judging from the beautiful workmanship, we'd say that Zaremba will soon prove that his theory will work

other than speedster Bud Hood. Immediately, Fergie "Flash" Fuhrman, the zaniest cyclist in captivity (known for his one man impersonations of the Isle of Man, complete with sound effects and animation), tore at the diesel's rear door. In no time Fergie had unloaded the truck's sole, precious cargo, a lonely Whizzer bike. Asked why the ceremony for such an insignificant entry, Fergie snapped indignantly, "It is imperative that this precision machine be kept at room temperature until the crucial moment." Later, the Whizzer did hit a good 70 mph, that is until his pusher pulled his foot away, then "Flash" Ferguson dropped to the low thirties. His fun loving pals had secretly forced too much nitro down the poor little Whizzer's gullet.

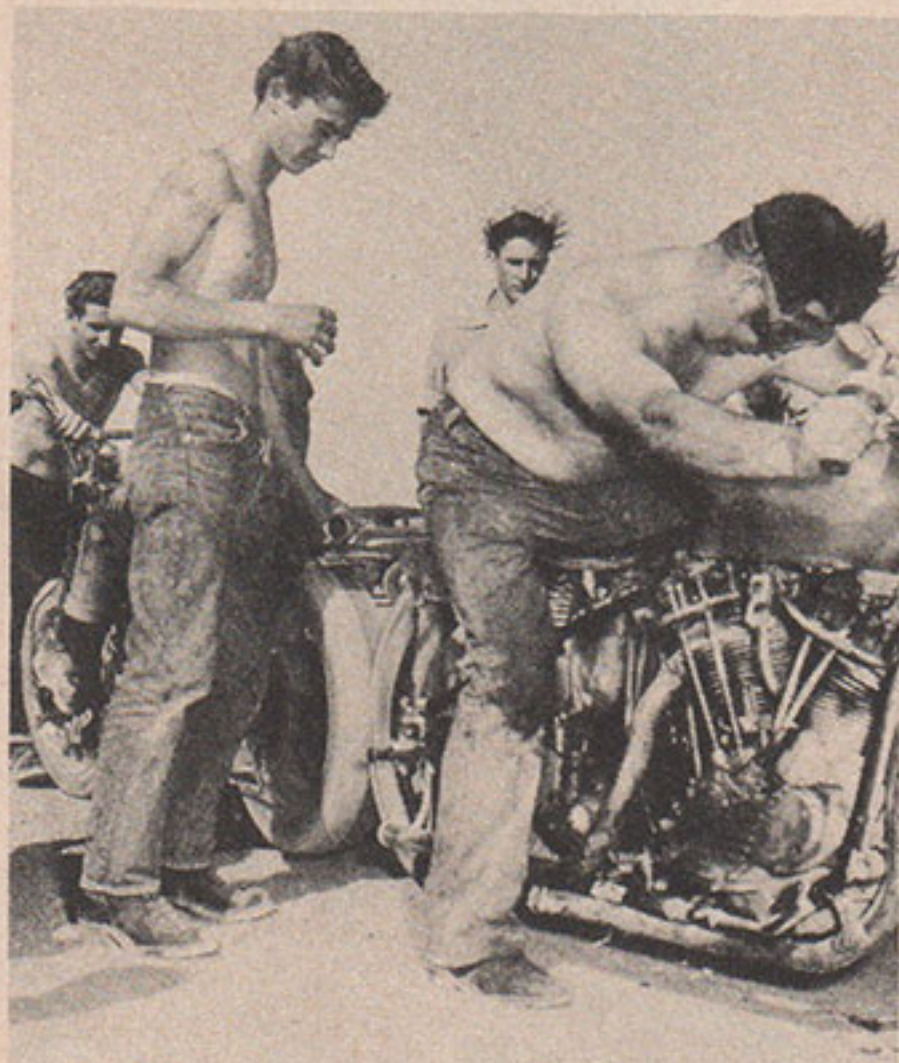
Although some of the lakes' speeds seem relatively high this year, the mushy surface had a general slowing influence. Heavier riders went faster than lighter ones, as in the case of Sandy McGregor. In fact, traction became so critical
(Continued on next page)



Camouflaged with a Von Dutch paint job and riddled with weight-saving holes, Mike Tucker's Indian Scout was fourth fastest in 45 side valve class with 104.95 mph. Forward half of primary chain case was cut off to accommodate special outside flywheel which has no oil drag



Winner of the 61 class was a real novelty. No. 14, built up by Sandy McGregor, standing between two bikes, was sleeved down to a three-inch bore then fitted with Harley "80" flywheels—still a 61 and reported to be exceptionally smooth. Burning fuel, it turned 128.57 when heavier John McLaughlin, replaced Loyd Taylor



"Frenchie" LeBlanc must have a passel o' power in his Harley twin. He fires it up by bumping tires with another bike, both on rear stands. Frenchie is a steady contender at the drag strips and was the last to leave at Rosamond after hitting 135.84 mph in the Open Class. The average for this class was 113.88 mph

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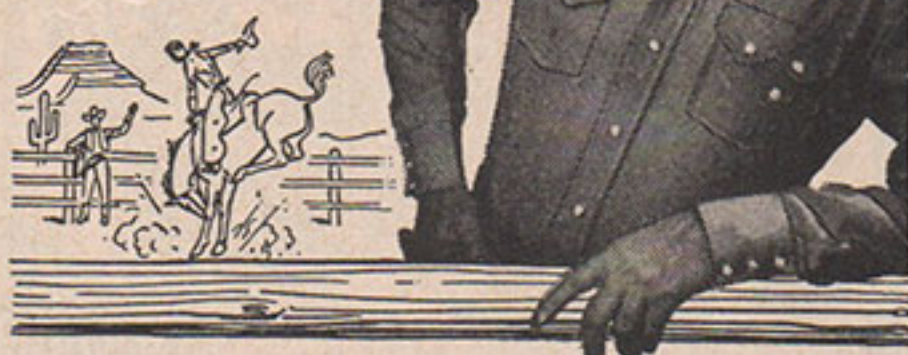
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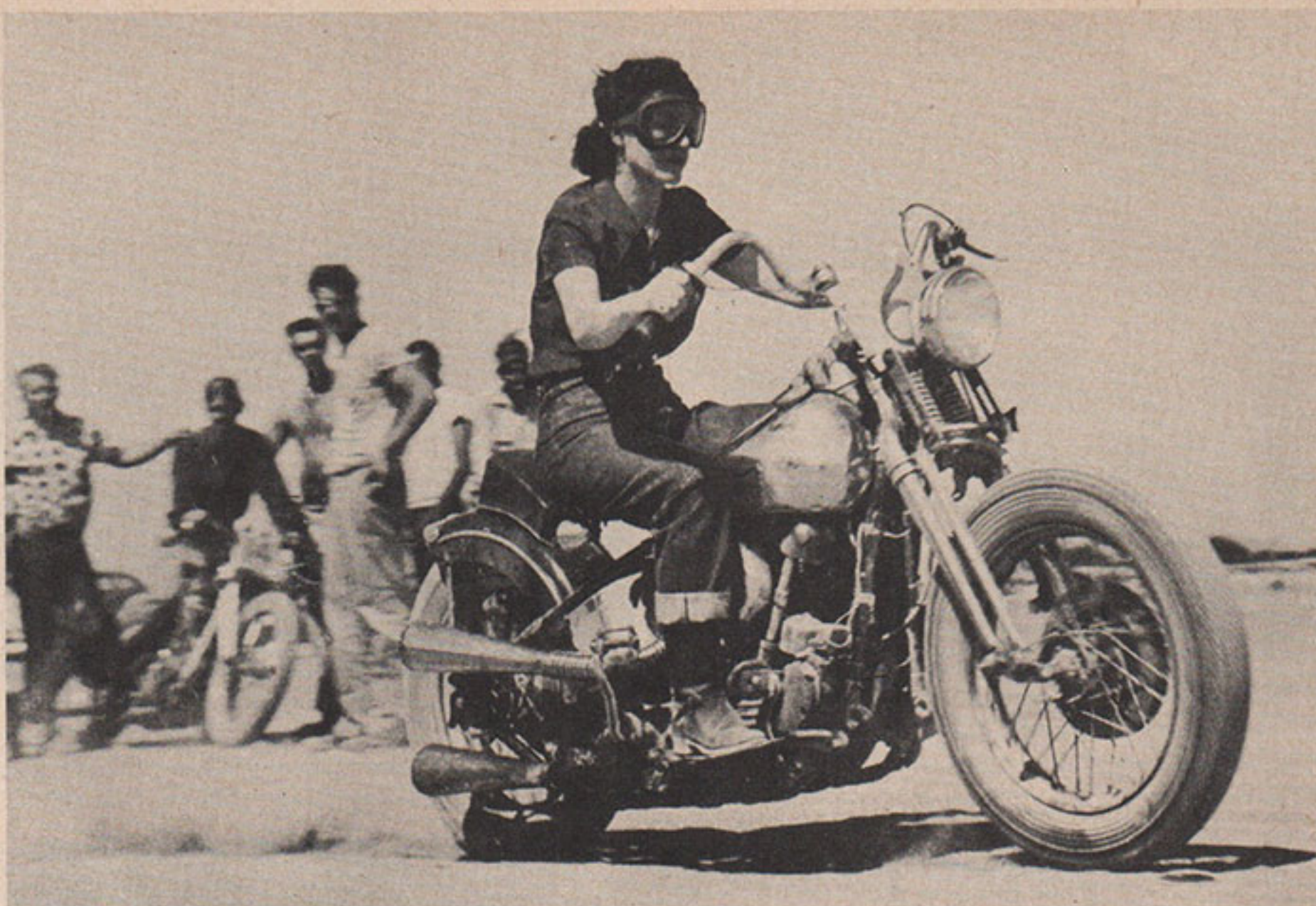
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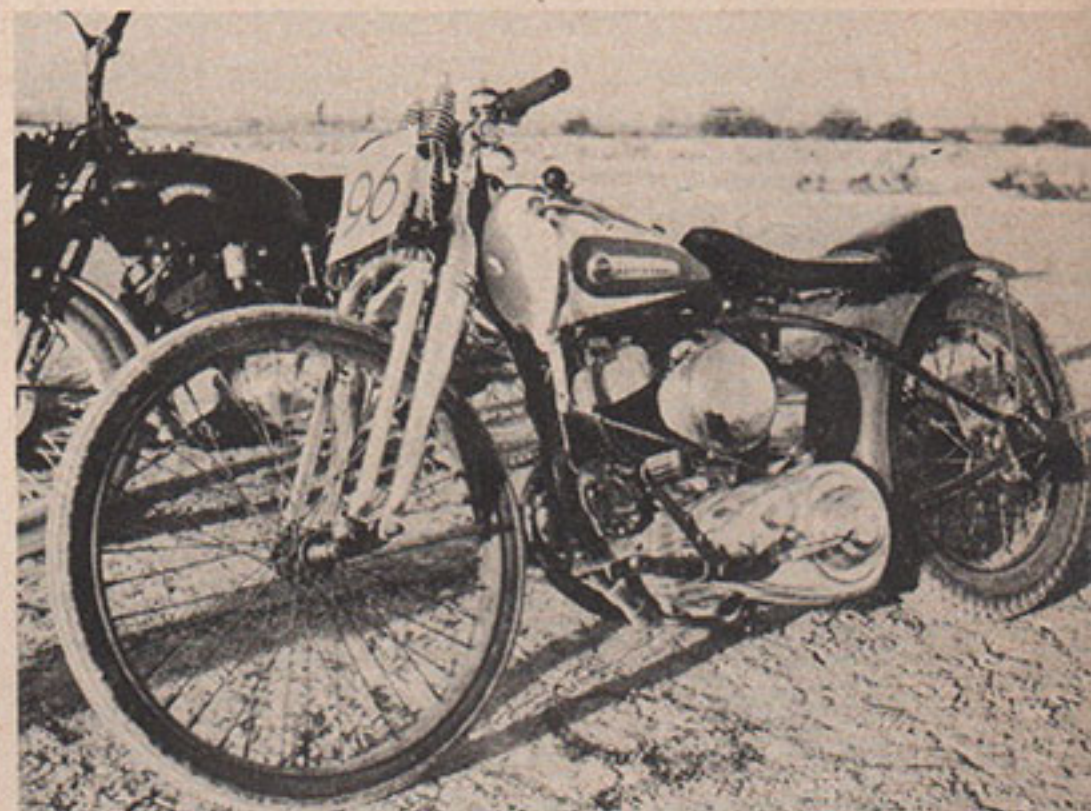


There's little telling what drag strip expert, Margret Hood, sole woman entry, might have done had not a loose wire in the instrument panel shorted out her chances at speed. About two-thirds of all the speedsters present were either Harley-Davidson or Triumph mounted

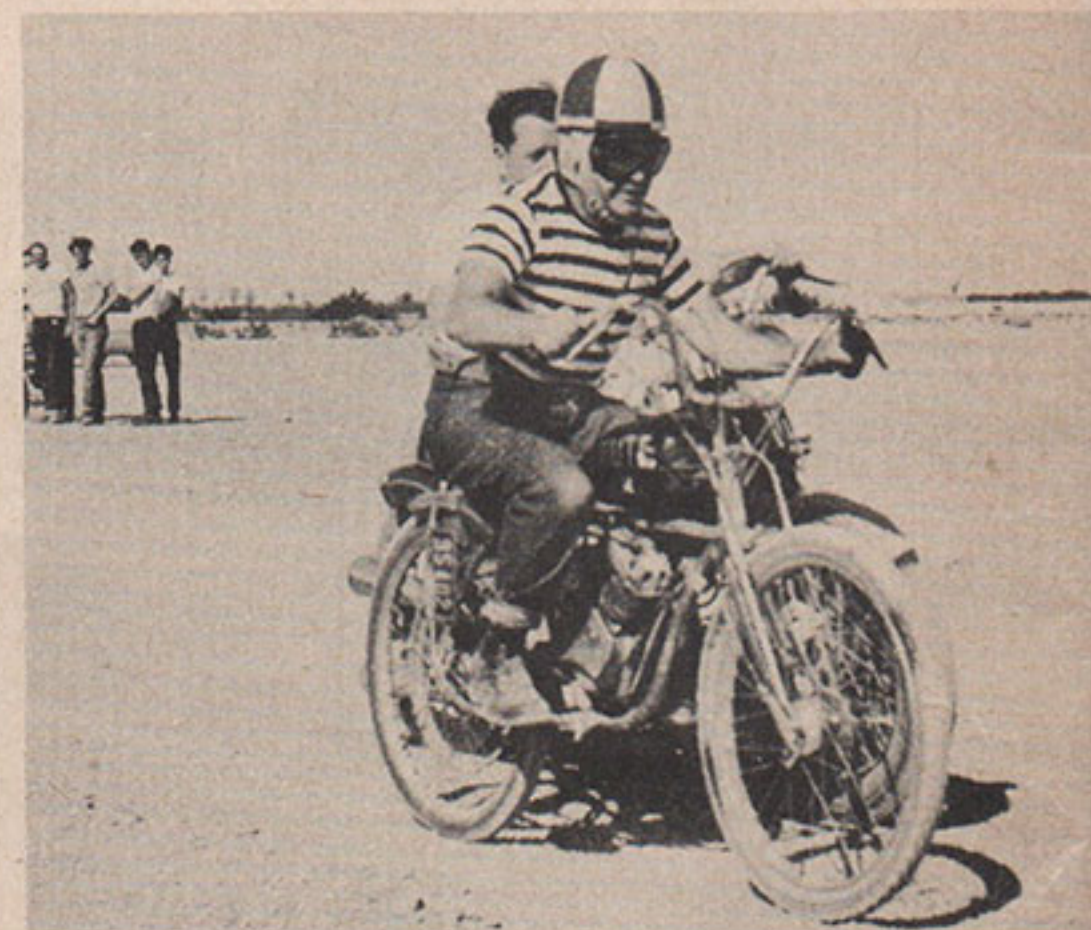
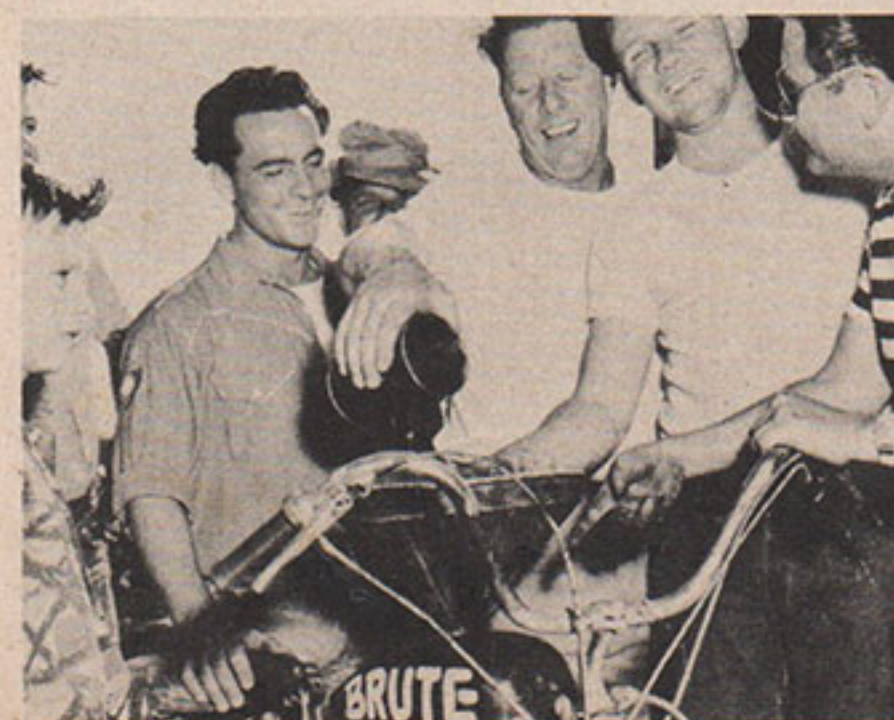
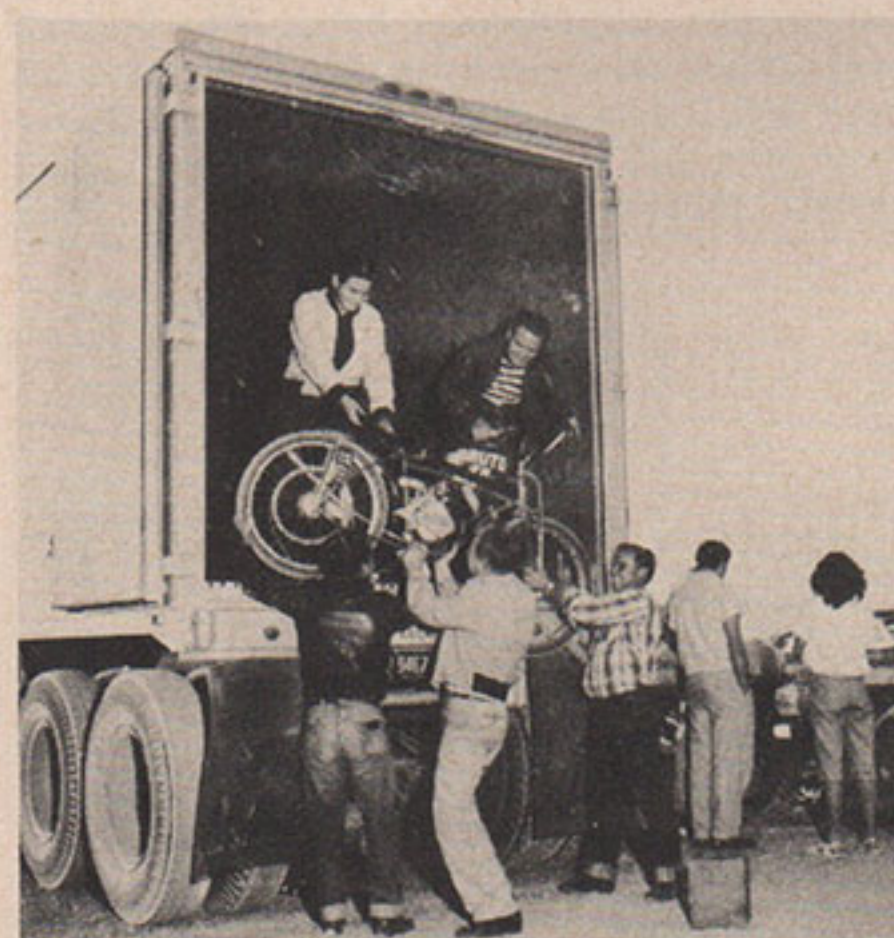
The Sands of Time

(Continued from page 35)

that some of the boys were using knobby tires to great advantage. The meet itself fell considerably short of its mark when promoters were unable to condition the track for the national speed trial sanction that had been granted them. They did, however, run off a successful contest, shooting several hundred rides through the trap before closing down, but leaving the coming Bonneville contenders still asking "How fast can I go?"



From Daytona to Rosamond and still tops among the 45 cubers is J. D. Walthall's V twin. J. D. out-spaced other flathead 45s at 111.80, claimed the big thin front hoop handled fine



The pathetic tale of Fergie "Flash" Fuhrman is told in three acts (above and left). Fergie gently lowers his precious Whizzer bike, sole cargo of the giant diesel truck, onto the lakebed. Against his frantic pleas, friends ply it with nitro after which the sick little mill drops to the low thirties when his pusher kisses him off at 70 per. The humiliation became almost unbearable when the timer at the end of the traps warned him, "I can't read you on the clocks. Next time better wear a blanket!"

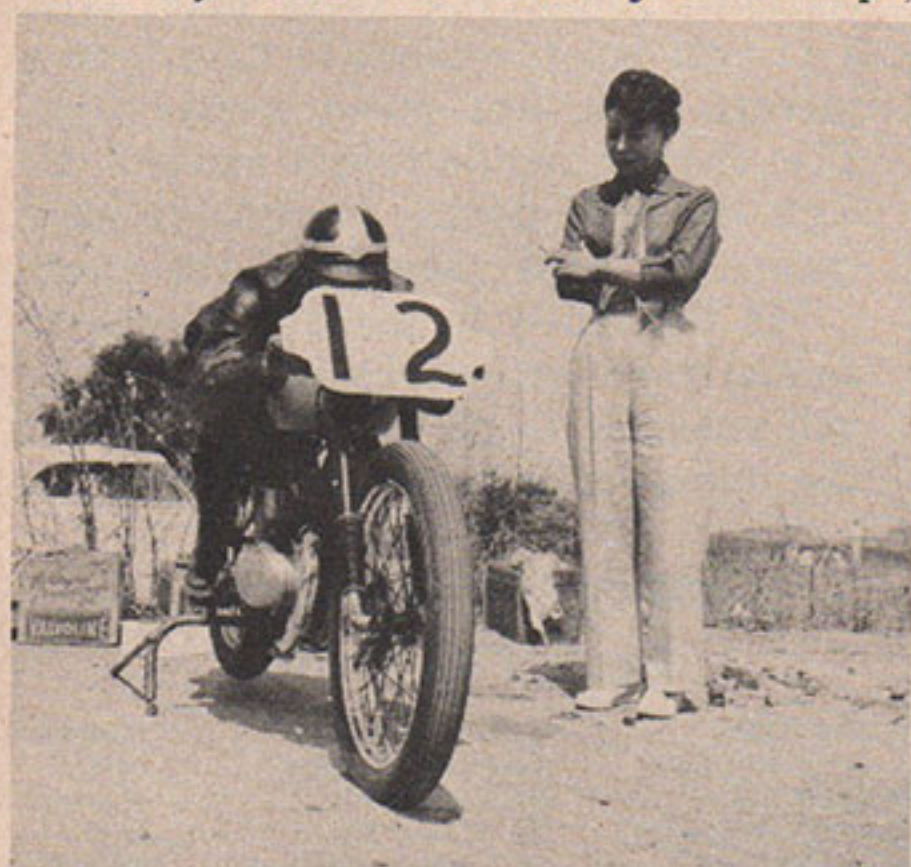
BIKES VS. SPORTS CARS

(Continued from page 6)

Speeds were held down considerably by the condition of the track. A construction workers' strike in that area had prevented the California Sports Car Club from carrying out its original plans for improving the course; so much of the 2.7 mile circuit was loaded with savage bumps. Several unhappy riders took off from these bumps to establish fair-to-middling altitude records.

Another source of difficulty was the oil and rubber deposited on the pavement by the four sports car races that preceded the 30.50 and 40 cubic inch events; and one particularly bad oil slick on the right angle turn entering the pit area played a great part in picking the winners in the 40-inch class.

The 40-inch race started thirty seconds before the 30.50 race, and Nick Nicholson, winner at Catalina this year, immediately took the lead. Jim Phillips,



"Come on—pull it in!", commands Bobbie Michael's wife, Pattie. Number shield has been extended to slipstream handlebars. Special carburetor and induction tube helped bring victory

twice national T.T. champion, stuck close to Nick's rear wheel and the two proceeded to dust off the entire pack. As they went by the pits the first time, they were out of sight of the third place man.

Then on the third lap, Nicholson hit the oil slick at the pit corner and went down hard. Phillips fell at the same spot in the fourth lap and again in the seventh lap. Both riders remounted and finished the race in good standing; but the lost time allowed Don Bishop to take the lead. From then on, it was all Bishop. The veteran rider—who retired last year from all competition except pavement races—flattened out on his tank and was never again headed. He rocketed across the finish line for first place, followed by Walt Fulton and Nick Nicholson in that order.

But the ride of the day must be credited to Ken Brown, an amateur of only two years' standing. He straddled a Manx Norton 30.50 at the starting line and watched the 40-inch race begin way ahead of him. Thirty seconds later the flag dropped to start the 30.50 class, and Ken found himself howling along wide open—in neutral. Seconds burned away while he found his gear, and by the time he was

rolling, the whole field had disappeared around the first turn.

During the race, Brown was clocked through the traps at 109.31 mph. Still, it was not only flat-out speed that paid off, although the Norton—belonging to Clarence Czyns of Pomona—was fast enough. Brown won by driving a smooth, foxy race with his head down and his feet up. Czyns, his trainer and coach, informed us that his lap times only varied by about one second throughout the race. When he flashed down the stretch and across the finish line, we learned that his official time was 29:10—four seconds faster than the 40-inch winner, Don Bishop.

Though the 30.50 class started 30 seconds behind the 40-inch class, Brown came in for an overall fourth place behind the first three 40-inch machines, and a win in his class. He was followed across the line by Moe Griffin (BSA) and Paul Doster (BSA) who snapped up second and third in the 30.50 class, fifth and sixth overall.

The show put on by the 15-inch and 7.5-inch "poppers" was a startling revelation to many spectators. As far as motorcycling goes, they might not be considered fast, but the little varmints—with about the displacement of a shot glass—turned in some amazing lap times. Nick Nicholson toured the track in 2:50.02 in a 15-inch BSA, and Bob Michael, piloting Don Evan's beautiful 7.5-inch BSA, ran a lap in 2:58. Consider that the stock MGs were averaging around 2:58 for a lap, and the *fastest* recorded official time for a stock MG was 2:49. And now let's wipe those sneers off our faces—those little fellows can GO!

A glance at the names of winners at Torrey Pines and the Catalina races shows that a new group of riders with special skills suitable to pavement racing is on its way up. The winning rider must learn to plan his "cut off" points for each of the many varied turns. He must learn to decelerate to the turns smoothly under compression and to conserve brakes. The dirt track broadside has no place on the tricky paved surface; and cornering becomes the art of the best radius and the highest speed possible *without* going into a slide.

The winning rider must painstakingly memorize every bump and turn over a long, long course. In addition to the "guts" and lightning judgments, pavement racing demands long-range, careful planning, and an intimate knowledge of the condition of a racing motor before a rider can hope to win consistently.

Now, after Torrey Pines, it seems that a new chapter in American racing is opening. We have received a taste of this blisteringly fast, exciting sport; and both riders and spectators want more. This sort of racing can develop into a great sport in this country, as well as a training ground for the European grand prix circuits. The winners of this race gained experience that was a step toward the Isle of Man; and one of these very riders might, in a few years, be the first American in decades to bring home that trophy.

So let's go!

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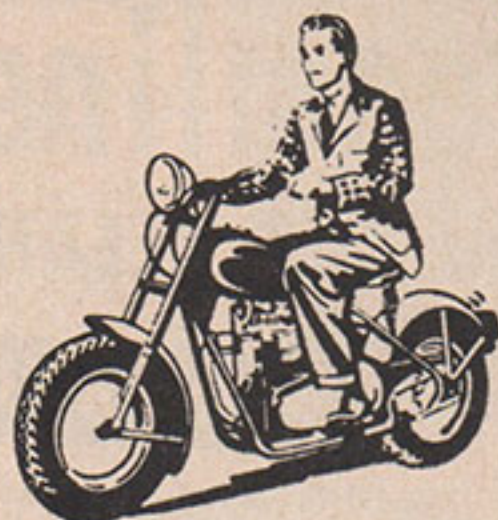
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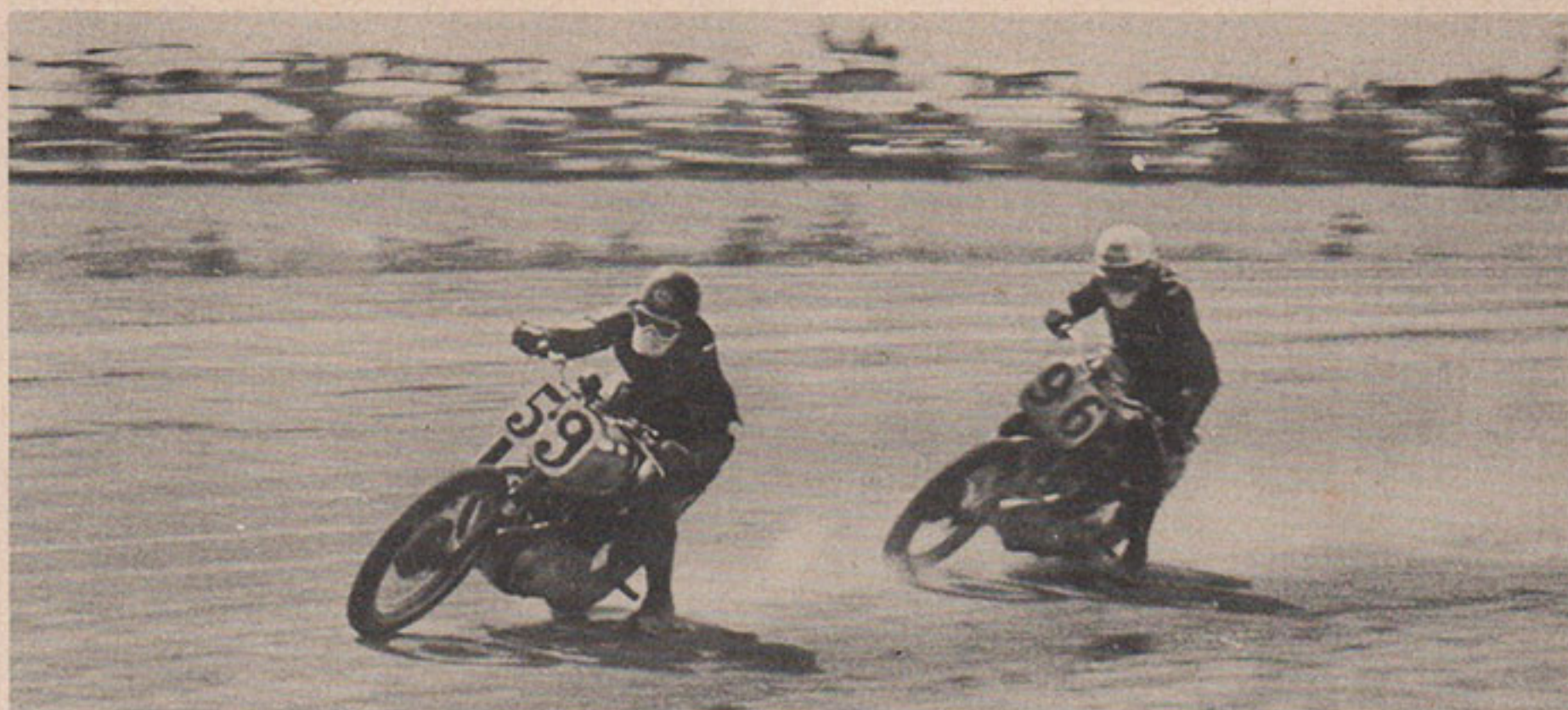
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DODGE CITY MOTORCYCLE FAIR

(Continued from page 11)



Albert Gunter, No. 59, walked home to 20th place after he blew. Speaking of walking, Billy Huber pushed for 75 yards and raced into 5th place on foot after running out of gas on the last lap. This picture was taken better than a half mile from finish line—look at the parked cars

events. Two very new Coca-Cola boxes were the official technical committee thrones for inspecting all entrants' mounts in the 200-mile go. H. M. "Hank" Syvertsen, the brains behind the W R and new K R Harley-Davidsons, was astride one of these bottle holders. The other box was held down by C. P. Pierce from Texas. If you happen down San Antonio way, be sure and look him up. He never fails to have a pot of tea on the fire and is always ready to tear up the concrete for money, marbles or chalk. Give him a go.

Bobby Hill can thank his lucky hat for victory in the expert battle. Bobby wears his Stetson charm right up 'til race time, relinquishing it only at the starter's signal and then to none but a trusted pit man. This Bobby rides smooth as silk in the corners and climbs right under the paint when going down the chute. Lap number one wasn't ridden a bit better than the lap Jim Davis gave him the checkered flag on—100 per cent for 100 rounds. Old Nortons never die, they just keep churning away until all the good yellow gold is skimmed from the pot.

It was a damp and rainy day for Oregon's pride and joy, Eugene Thiessen, who, after the first few laps, opened the door into the fresh air to throttle the lead for most of the way. His BSA Star Twin looked real bright, but dark clouds overshadowed his chance for victory. This eclipse is hard to explain, as his Star dimmed to second magnitude. Detroit, Michigan has a hot rock in its midst. Larry Stone looked as though he was going to be the stumbling block that no one could surmount after he blossomed out into the lead when Thiessen went to the pits. Stone held the number one slot until he tripped and fell on the 73rd lap, putting the Oregon flash-lighting back in the pay-off position, only to have Hill grow into a mountain and roll on past to the National 200-mile Dodge City win. In the words of the Dodge City Globe again . . .

"MOTORCYCLE RACE BECOMES HISTORY"

"Dodge City is looking back on two days of activity in which motorcyclists domi-

nated the scene. The renewal of the National Motorcycle races here, after a 31-year lapse, appears to have been a success from just about every angle. The visiting motorcyclists made a hit with the local public. Everybody liked them. We hope they liked the town.

"If the move to make the race an annual event materializes, Dodge City will continue to do all it can to make the annual enterprise successful."

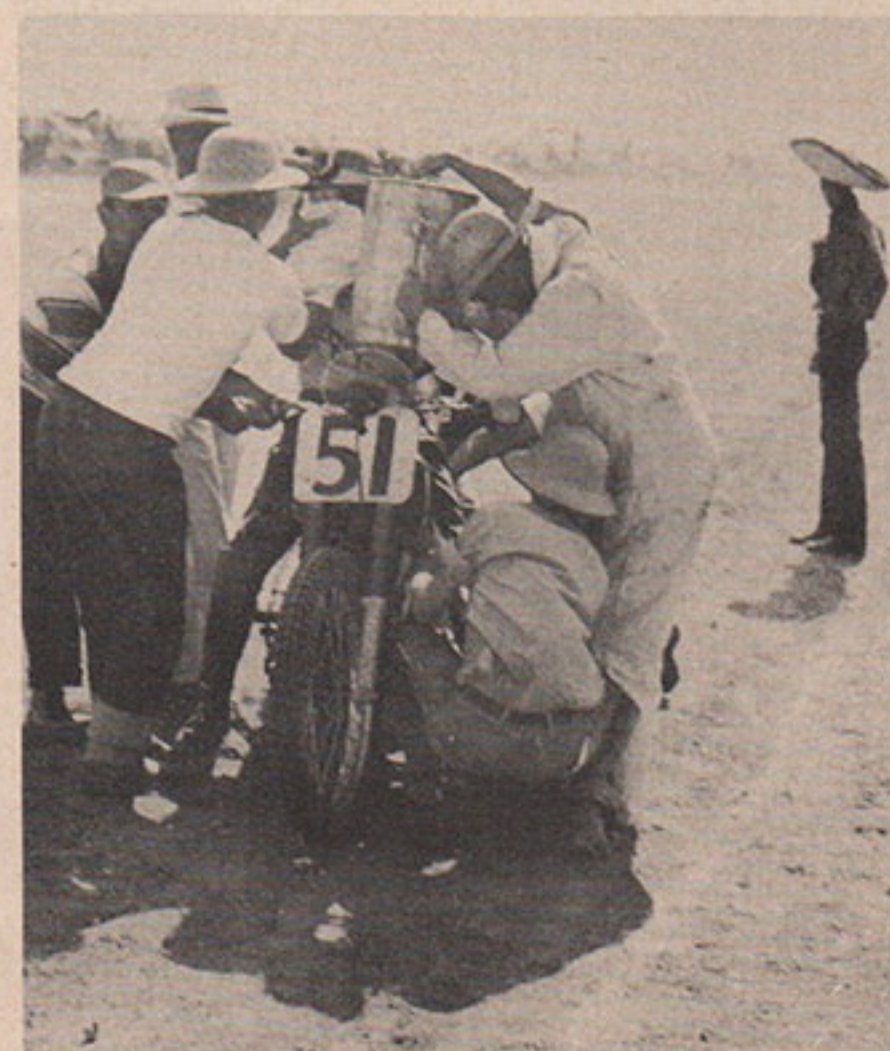
DODGE CITY RESULTS

200 MILE NATIONAL

Bobby Hill	Columbus, Ohio	Norton
Eugene Thiessen	Eugene, Oregon	BSA
Donald Fry	Dayton, Ohio	Norton
Johnny Greenlee	St. Louis, Mo.	H-D
Billy Huber	Columbus, Ohio	BSA
Woody Simmons	Williamston, S.C.	H-D
Harry Kelly, Jr.	Dayton, Ohio	Triumph
Earl Widman	St. Louis, Mo.	H-D
B. W. Rice	Portland, Oregon	Norton
Harry Grinstead	Butler, Ind.	BSA

50 MILE AMATEUR

Harold Ball	Sacramento, Calif.	BSA
C. L. Wilkinson	Beaumont, Texas	H-D
Jim Kruse	Kenosha, Wisc.	H-D
Bob Smith	Castro Valley, Calif.	H-D
Burl Wendt	Cheyenne, Wyo.	H-D
Bill McConnell, Jr.	Colo. Springs, Colo.	Indian
George Herschbach	Salem, Oregon	Indian
Harold Hainer	Fort Worth, Texas	Triumph
Ray Hendershot	Kansas City, Mo.	Triumph
Bob Larratt	Denver, Colorado	H-D



Bill Tuman, a winner of the most popular rider award, has no trouble getting a hand or two in his pits when the time comes for refueling

PRICE ON YOUR HEAD

(Continued from page 13)

The second point, the absence of recoil, is due to the CCA liner. The crushable cellulose condenses when struck by an impact. It does not spring back, and unlike rubber, it remains compressed. Obviously, with this construction, once the liner has been condensed, the owner is required to install a new liner to maintain the benefits of the helmet.

This should not be construed to mean that other helmets are without value. Some of the helmets now available have some of the features described above. Many helmet shells are made from tough laminated plastic fibers. Others are made from equally tough light-weight metal. Both types withstand more impact than the body can absorb.

When you purchase a helmet, check carefully for three factors. The protection which you receive from a helmet depends upon its shape, the construction of the inner webbing, and the construction of the visor.

Your skull is constructed so that the top section is the toughest. This area consists of thick bone and can withstand a major impact without harmful injury. The lower areas—around the temples—are not so fortunate. Some of these sections are as thin as the paper this is printed on. These paper-thin areas require all of the protection they can get. Any helmet which does not encase these areas near the ears cannot offer complete protection. Some helmets are nothing but shallow bowls which set high on the head, missing these danger points completely. These areas are covered by only a thin covering of leather which cannot guard against sharp objects. Leather cannot do the job of tough plastic.

Webbing used to cushion the helmet on the head is tied at the top with string. This string should be thin enough to break upon impact. To some degree, the breaking of the string will give you the same non-recoil effect as the CCA (crushable cellulose acetate) of the other helmet.

Recently French helmet manufacturers banded together to see if they might improve their products. They financed a study of racing fatalities caused by head and neck injuries. Their report proved that the majority of these fatalities were caused by broken necks which in turn were caused by the rider sliding feet first down the track. The visor on his helmet would dig into the dirt, snapping his neck backwards. They immediately put through a recommendation which requires all helmets to have attached visors which will rip off under such conditions.

Several helmets sold in America seem to meet the requirements for adequate protection, although none guard the side areas fully. The "Shoc-Shell" helmet manufactured by Johnny Lohrenz in Long Beach, California, is a good product. It sits low on the head and is made of laminated plastic resins. The Clymer helmet is another which sits low on the head. It is made of

hard metal. The Cromwell, popular English helmet, is good. It is made of laminated fiberboard. The less expensive Flanders helmet is another which seems adequate for normal protection. Flanders, in addition to their helmets, handle goggles. These are light weight, the edges are lined with rubber, they seem to be well ventilated and offer good visibility.

According to all available information, a new mouth protector invented by Berkeley, California dentist J. Cathcart promises to be a boon to competition riders. The invention protects the mouth and teeth as well as virtually eliminating knockouts due to blows sustained on the chin and lower jaw. As any boxing coach will tell you, the most serious danger from a blow to the lower jaw is in the transmission of the force to the brain. The reason for this lies in the construction of the jaw.

Your jaw works as a compound hinge held apart by the teeth. The hinge action is made by the lower jaw hanging from a socket near the ear. The force of a blow on the lower jaw pushes the two parts of the socket together, transmitting the blow on to the brain, causing a knockout or even more serious, a hemorrhage.

The mouth protector is designed so that it keeps the jaw hinge separated. Any force directed at the lower jaw is kept, in a large degree, in the lower jaw area. The action of the soft rubber "buffers" part of the impact. This device, a new development being manufactured by the W. J. Voit Rubber Co. of Los Angeles, will sell in sporting goods stores for under \$3.00.

Many riders have experimented with special padding devices in the past. "Put" Mossman, ace stunt rider and top scoring short track racer, had devised a low slung style of riding which placed him close to the track. When "Put" came off his bike, he came off on his hips. To save wear and tear on hip bones, he successfully used football hip pads for a long time.

Medical men agree that shoulder pads and hip pads would prove beneficial to the riders. The riders, on the other hand, feel that too much weight would be added to make the additional protection worthwhile. They feel that if a rider has an especially weak joint, he should wear any padding needed to protect it properly. All riders should have enough protection, they feel, to play the game safely.

"Protection," one of the riders told me, "boils down to two factors. Keep your body covered with leather and helmet. Be confident in your ability to master any situation which may arise. If you can't handle a situation, practice until you can."

That is a good point. If you don't know what to do when a bike spills, get out on a dirt road and spill it. Spill your bike at low speeds. Practice. Try perfecting techniques which will place you in a safe position atop your mount. Protective clothing can save your life . . . up to a point. After that, what you're wearing counts only as much as what you do.

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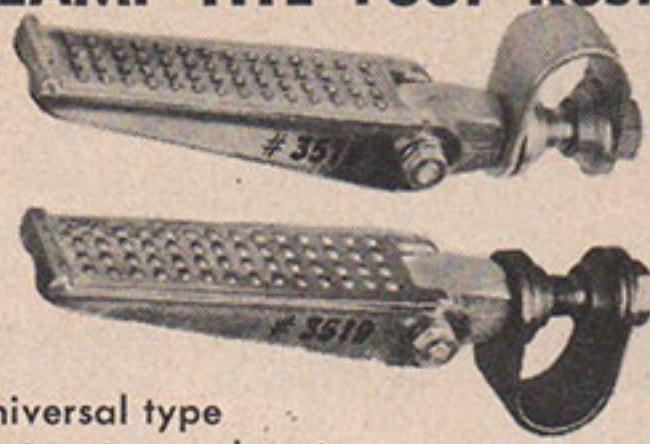
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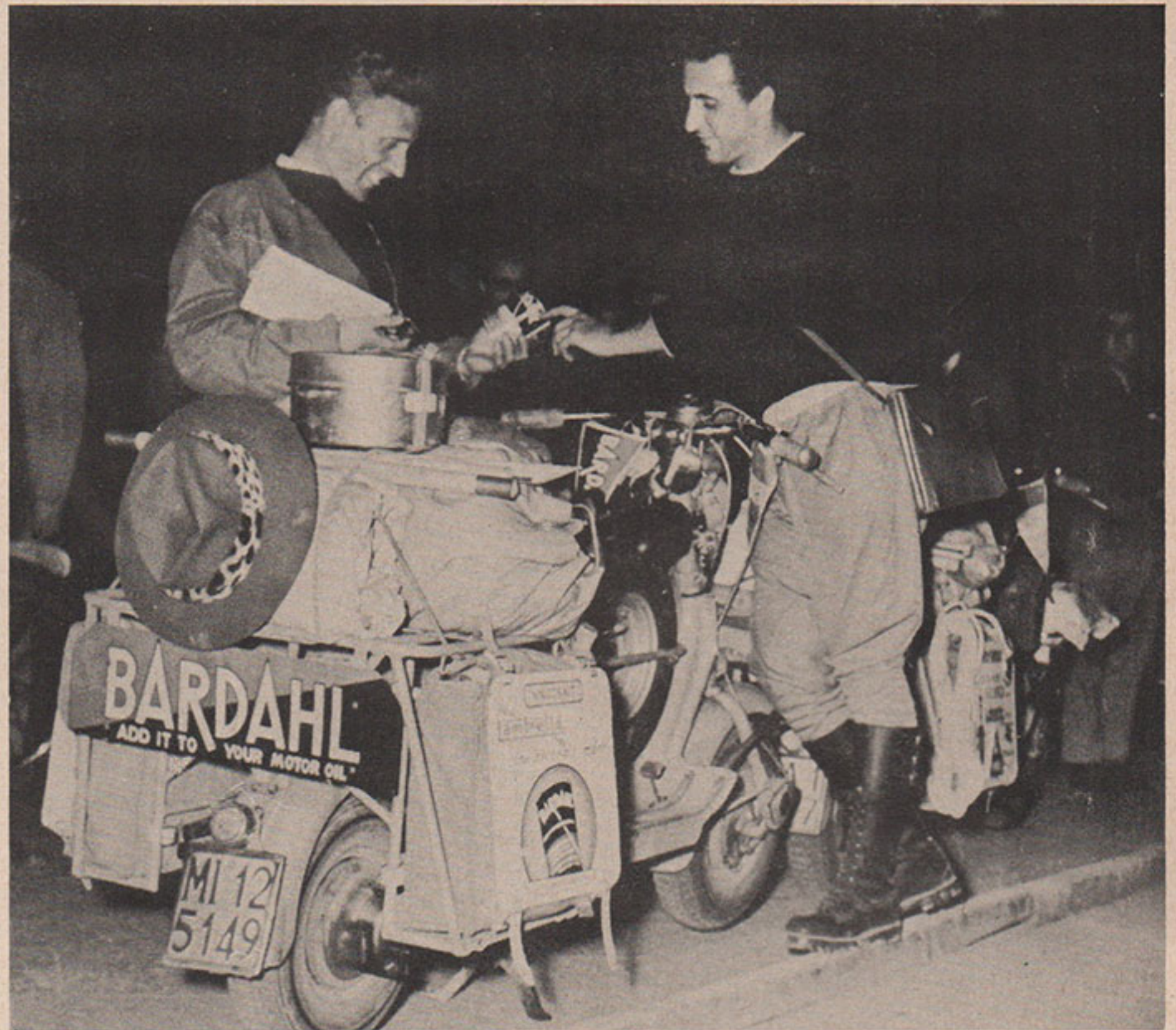
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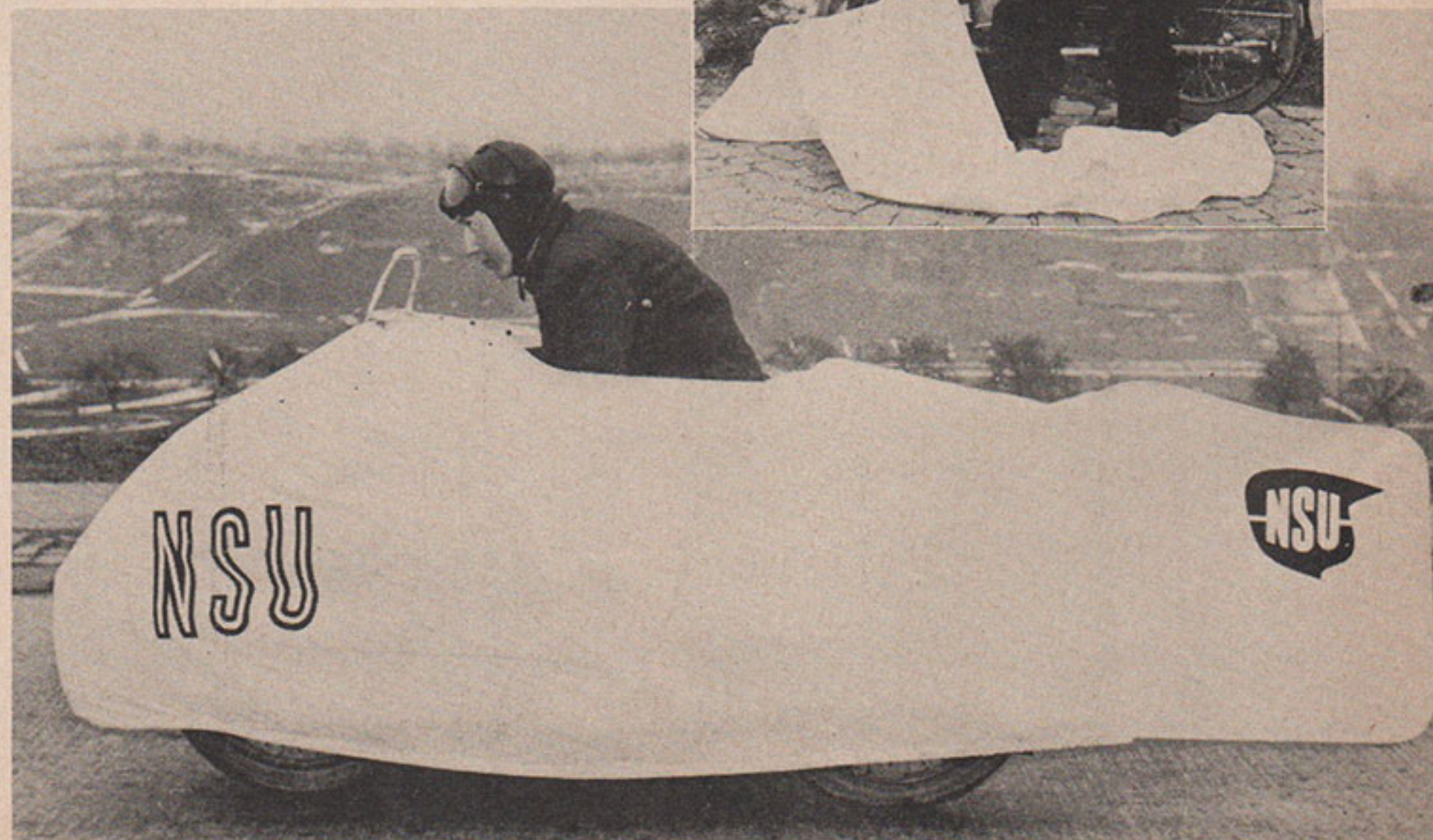
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The WORLD at a glance



Four continents and four seas lie ahead of Italian reporters Edoardo Mari and Dante Cesare Vacchi as they leave Florence, via their 7 1/2 cu. in. Lambrettas on a 54,438 mile trip which is to take them through Europe, Africa, Australia and Asia. Both men carry 200 pounds of supplies

BELOW—RIGHT, You too can be a world-beater! Not taking any chances of being challenged, upon entering the famed Autobahn super highway, this smart lad disguises his two-stroke with a blown-up rubber shell, similar in appearance to the real one which housed William Herz of Germany when he topped the world's speed record at over 180 mph on this same road





Road racing flares on the West Coast. A gripping, fast moving, new thrill has been injected into American motorcycling; crowds up to 28,000



A typical "leap" in Belgium's favorite bike race, the Moto-Cross. This event, held in Brussels suburbs, drew a 150,000 paid admission



ABOVE, Jim Alves leaves no stone unturned to make a clean ascent in Scottish Six Days Trial. His "Trophy" Triumph is really suited to job



Dick Davis wanted a picture of himself doing a seat-stand, got more than he bargained for when his Ariel popper suddenly became camera shy. Picture, by Fred Valenzuela, shows what can be done with an ordinary 120 box camera

BELOW, These jokers are tops, all members of the Jokers Competition Club of Detroit, the only all competition group in the state of Michigan. It's a big day when the boys get together on their track at Rochester after summer thaws break up their ice race routine



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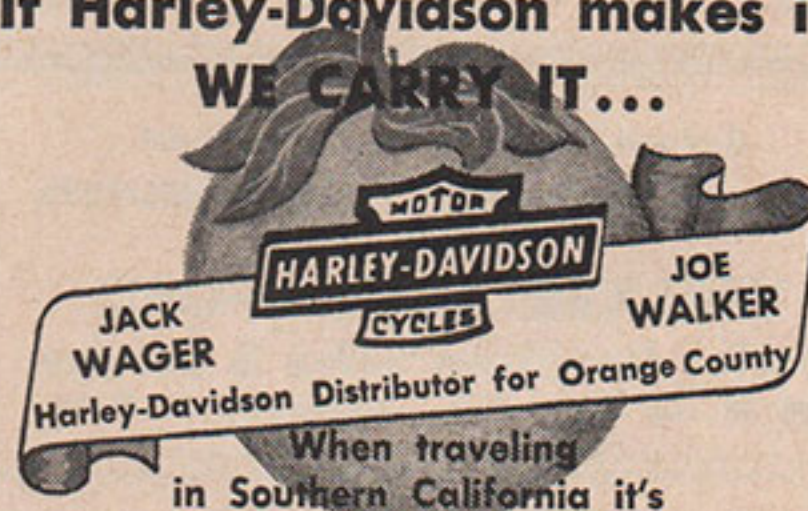
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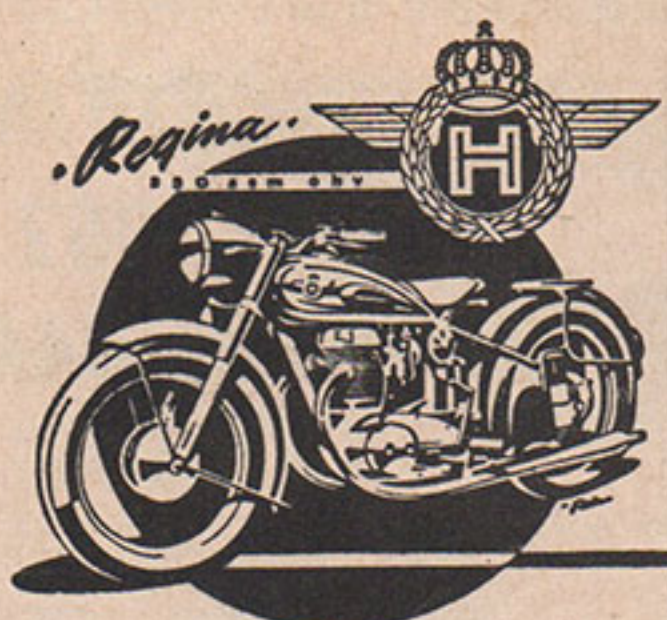
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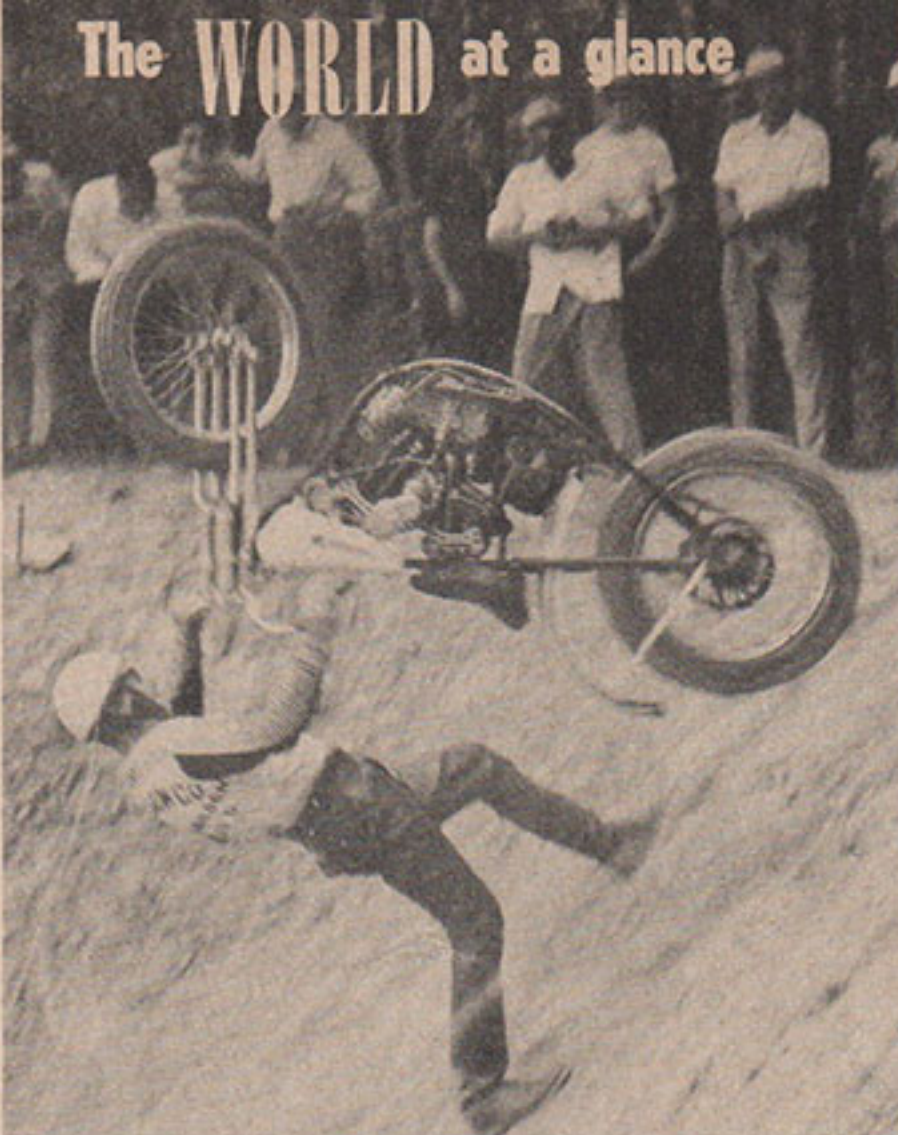
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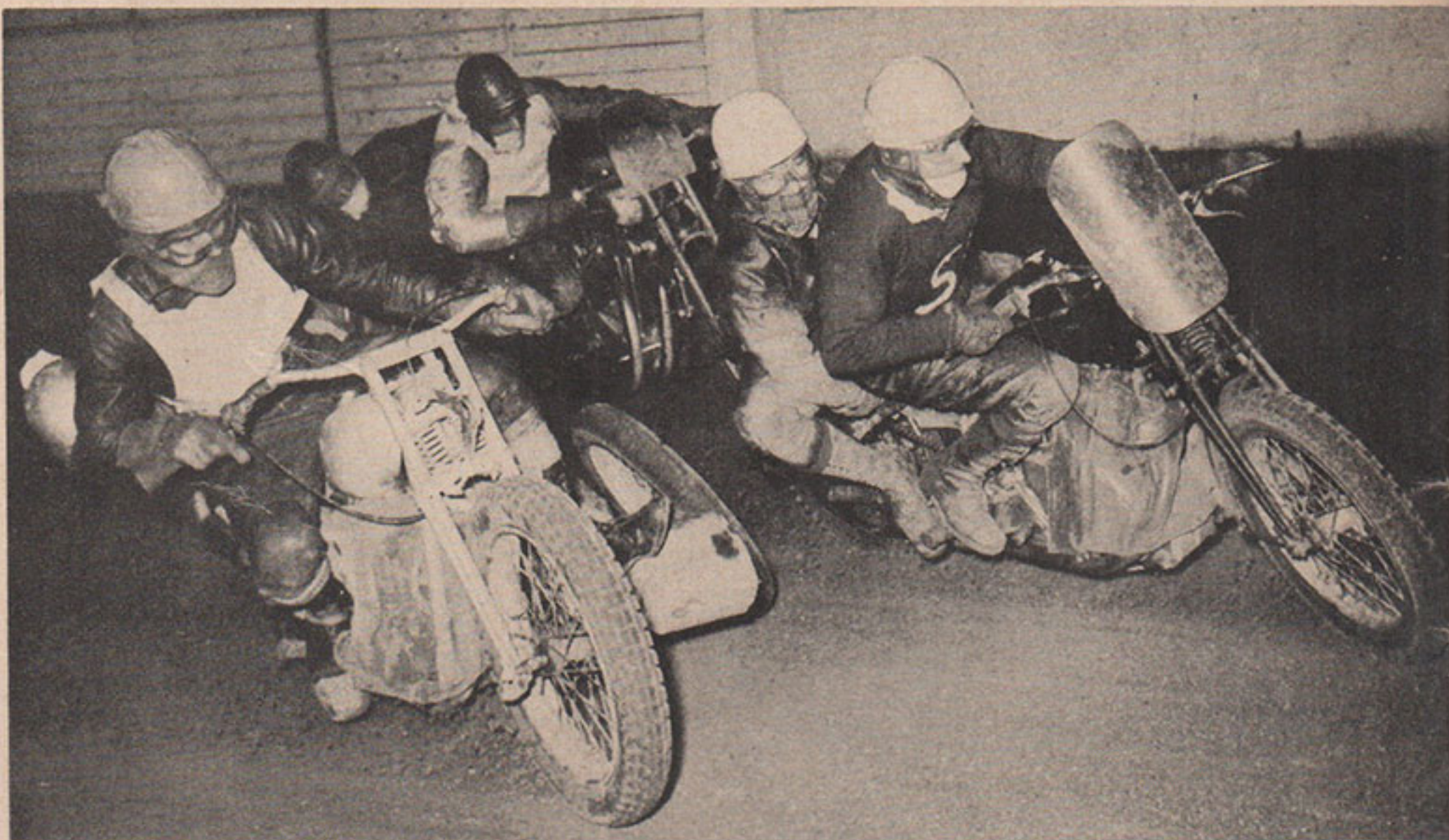
The **WORLD** at a glance



Thrashing rubber fills the air when the Two-tired M/C throws a hillclimb. Ohio slope shooter tried to break the tape with his rear wheel



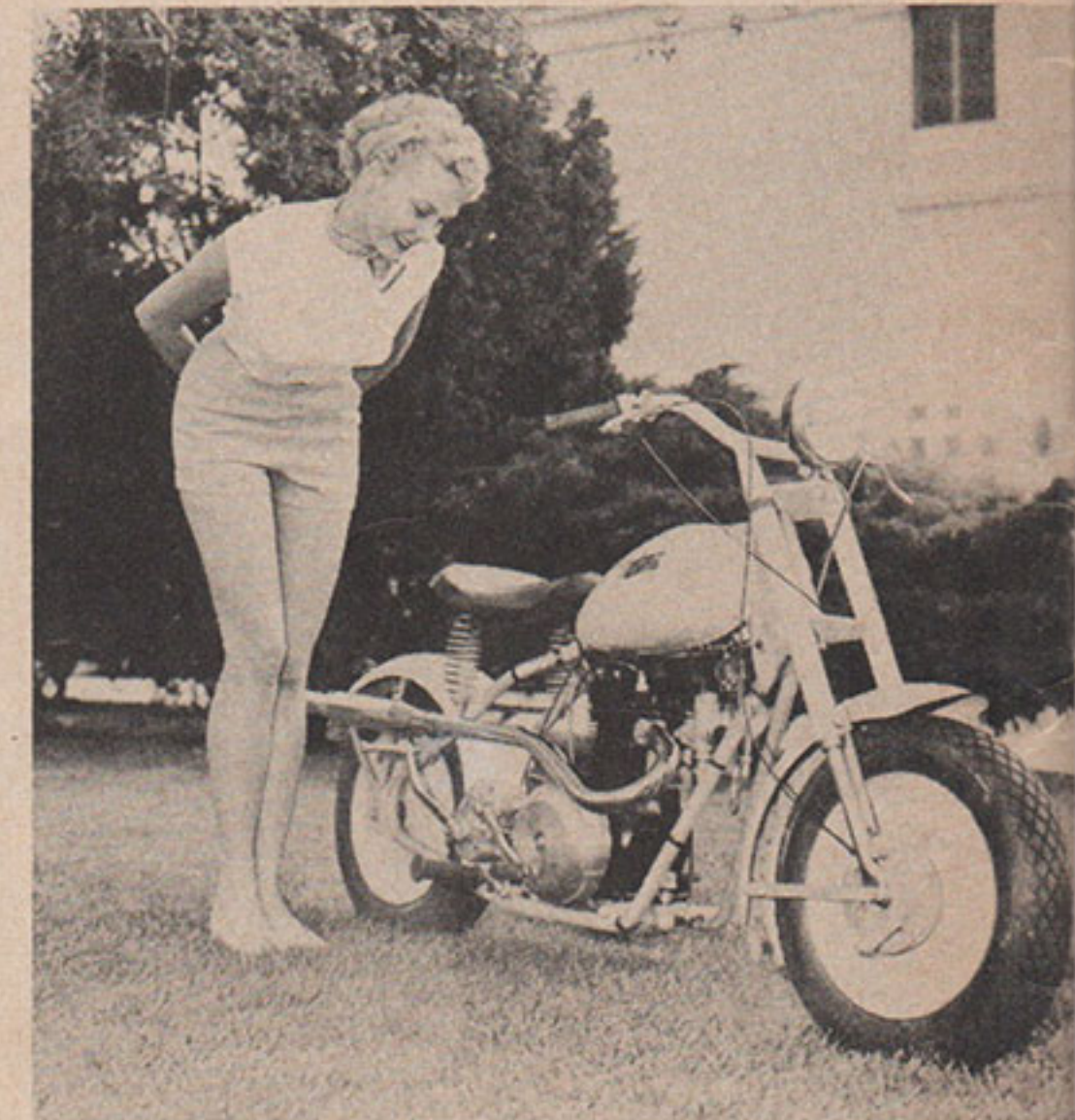
What's this—shoes with motors yet? Don't you believe it. These miniature replicas of the NSU streamliner are duds—built just for the laughs



Aussies at play. Sidecar racing is doubly thrilling to Australians since they use the banking hack. Machine in background is powered by two single cylinder J.A.P. racing engines in a modified Norton frame while in the foreground is a 61 cu. in. Harley-Davidson in an army BSA frame with Norton gearbox. Bike at right is 61 Vincent HRD that has been given the "Lightning" treatment



A Warrior on the loose. Indian's TT cleaned up in Tourist Trophy racing last year by winning highest number of events but passed big National TT to Jimmie Phillips and his Triumph



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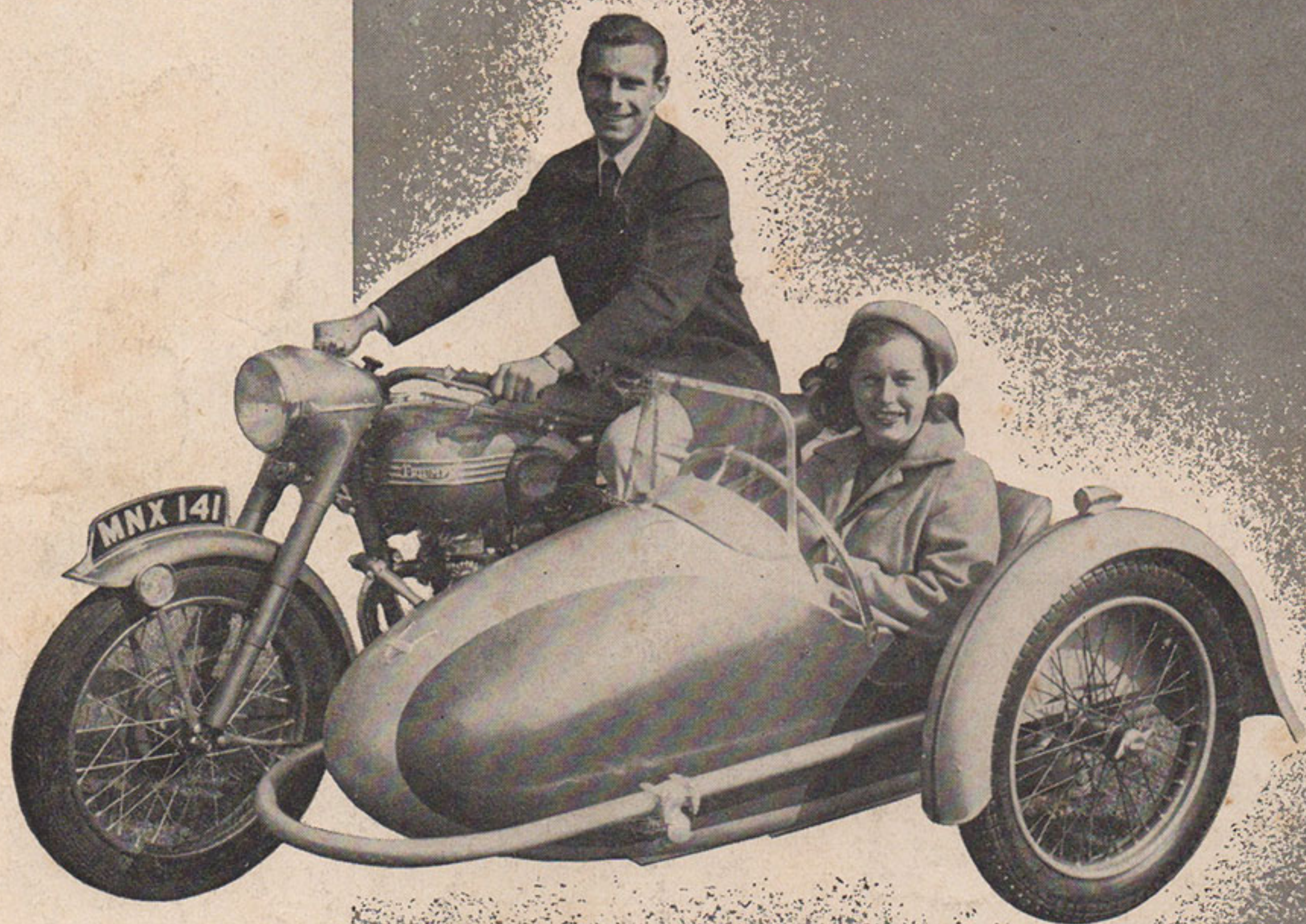
Altogether, in the 200 Mile National Championship Race three "Star Twins" finished in the first ten, and five "Star Twins" in the first twenty—a better percentage of finishers to starters than any other make of machine in the race. Yes, Sir! — at its low price and its high quality and performance the BSA "Star Twin" is the finest motorcycle value in America.

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