

NEW INVENTIONS · MECHANICS · MONEY MAKING IDEAS HOME WORKSHOP PLANS AND HINTS · 350 PICTURES



Save Oil and Pay for Repairs

BY MARTIN BUNN

US WILSON was spending his holiday battling the weeds that threatened his garden. Mathews, next door neighbor, paused on the way to his garage and waved a greeting.

"I've got to get the oil changed in my car," he announced. "I think I'll try a place out on the Pike where they sell it for half the regular price."
"What oil is it?" Gus inquired, jerk-

ing at a particularly stubborn weed.

Search me. Some new brand, I think, and it looks good. I know a fellow who's been using it for several months and he swears by it."

"That's possible," the grizzled auto mechanic agreed with a smile. "It takes a while for the effects of bad oil to show. Say, if you can wait till I change my clothes, I'll run out with you and take a look at this bargain stuff."

An hour later the two men pulled up at a small roadside gas station. A grease-smeared individual shuffled toward the car in which they sat.

"I want the oil changed and I thought I'd try some of that special low-priced stuff," Mathews told him.

"Sorry, boss, but we don't change oil," said the man. "Can't afford to at the price. You can buy it here and change it yourself."
"What kind of oil is it?" asked Gus.

"Special brand, mister. Got an agreement with the producers so's I can sell it cheap. Good oil too," he said, lifting a bottle from a low stand beside a gas pump. "Look at that color."

"Looks fine," grinned Gus, taking the bottle and holding it to the light, looks don't mean much with oil."

"Who says so?" demanded the man.

"Any time you see oil flow like this, you can bet it's good. It's got good body, see? Stick your finger in and feel of it, he invited, unscrewing the cap, "I've got it in all the regular grades, too, from the lightest to the heaviest.'

"You can feel an oil till you wear out your fingers," insisted Gus, "and not find out a thing about its quality. The expert isn't born yet who can tell the quality of an oil by looks or feel."

"Say, are you telling me?" the man growled. "I've been selling oil for years and I guess I know what I'm talking about."

"I can see that," Gus replied good-naturedly. "Well, we've got to make another stop. We'll pick up the oil on our way back."

Somewhat bewildered, Mathews stepped on the starter. "What's the idea? demanded as the car gained speed. "We haven't any other stops to make."
"Yes, we have," corrected Gus. "I've

got to stop off at the Model Garage and

GUS says:

Next time you have an urge to jam your accelerator to the floor, remember that jumping a car's speed from forty to a car's speed from forty to sixty just about doubles your driving costs. Besides, a car doing sixty miles an hour has about the same destructive force as a two-ton weight dropped from the top of a building 125 feet high. you're coming, too, and learn something."

"But what about my oil?" "Listen, Paul," said Gus seriously, "that oil's no good. If it was, don't you suppose all the other gas stations would be selling it?"

"How do you know it isn't any good?" asked Mathews sharply. "You said yourself you can't tell anything about an oil by looking at it."

"No, but you can tell a lot by looking at the guy who sells it. You can't get good oil at that price. It takes a highgrade oil to stand the gaff in a motor.

No cheap mixture will do the trick."
"But he's got it in all the different grades of thickness just like any other oil," Mathews argued.

"Sure, but that doesn't mean anything, either. The thickness or viscosity of an oil is only an indication of its body at a certain temperature. The thickness of motor oils is graded by numbers-from ten for the lightest to seventy for the heaviest. But those ratings have nothing to do with quality. The numbers are just like shirt sizes. All they tell you is whether you have a fit. Quality is something else again.

"Well, I don't see why they can't produce an oil that will last longer," said Mathews. "Changing it so often-

"Is a darned nuisance, I admit," Gus finished for him. "But that's a job I'm afraid you can't dodge. No matter how perfect the oil, it's bound to be thinned after a while by the unburned gasoline, water vapor, and road dust in a motor. And you can't lubricate a high-grade piece of machinery with that sort of muck. Some of the oil just disappears too. Right now, for example, you're (Continued on page 93)

SAVE OIL AND PAY FOR REPAIRS

(Continued from page 56)

car at thirty miles an hour. If you should step it up to sixty, you'd use just about seven times more oil than you're using now. That's one of the things that makes speeding expensive.'

By this time they had reached the driveway to the Model Garage. Waving a greeting to the odd-job boy who was taking care of the gas and oil trade over the holiday, Gus opened the door of the car.

Come on in with me, Paul. It'll only take second and I think I can show you something interesting," he said.

WHEN they were inside, the gray-haired mechanic pointed casually to a small roadster partially dismantled in the center of the floor.

What's that, a wreck?" Mathews asked. "It's a wreck all right, but not the kind you're thinking of," Gus said. "That's a sample of what bad oil will do to a motor," he added, poking the cylinder head. "Carbon's crusted a quarter inch thick on the head and pistons. The rings are black and the valves are chewed and pitted. Besides that, the bearings are worn and the cylinder walls are scorched. And take a look at the crankcase;

it's chuck full of gum and goo, The baby that owns that car saved plenty using cheap oil but it's going to cost him about eight times what he saved to get the buggy back in shape. Pretty expensive oil in the long run, I'd say."

"Gosh, this oil business has got me," Mathews exclaimed. "You've got to have oil and it's got to be good. Yet, you can't tell whether an oil is good or not until you've tried it-and then it's too late. What the dickens

can a dumb-bell like me do?"

Gus grinned. "That's easy," he replied. "Just buy a recognized brand of oil of the right rating for your car from a dealer you know won't cheat you. You can't save yourself any money by buying cheap oil, but you can do it by being careful. For instance, don't use the choke more than necessary. Don't idle the engine or run it at top speed for long stretches. Don't flush out your crankcase with kerosene and never run your car unless it's in the pink of condition. Of course, you want to use the oil that has the right viscosity for your motor in summer and winter."

"Gus, one thing has been bothering me ever since I bought my first car." Mathews confessed. "What earthly good is that oil pressure gage on the dashboard?"

"I GUESS most car owners think it's just part of the decorations," Gus joked. "But if you know how to use it, you can tell a lot about your oil system. If the gage reads high, your oil may be too heavy or the oil line may your oil may be too heavy or the oil line may be clogged. If the pressure shows low, the oil is probably too thin, unless there's a leak or the line's clogged. A fluttering gage needle is a warning that the oil is low."

Glancing slyly at Mathews who stood studying the gage, Gus said, "I guess I've beefed enough. It's about time we were going back along the Pike to pick up your oil."

"Not my oil," Mathews declared solemnly, "I use only good oil in my car."

"I use only good oil in my car."

WESTERN HORSE THIEF USES MOTOR TRUCK

CATTLE thieves that ride in motor trucks are the latest type of outlaw reported from the West. Horses, cows, and hogs have been stolen in this way, the trucks pulling up beside a field, hastily taking on a load of animals, and then disappearing down the highway at top speed. One truck-using horse thief was recently captured at Grand Island, Nebr., after having driven his load of animals 250 miles.

PATENT YOUR

Small Ideas May Have Large **Commercial Possibilities**

If you hope to realize profits from your invention, you must protect it with a U. S. Government Patent. Otherwise you may find that all your time and labor have been lost, because it often happens that other inventors are working on the same idea. IF YOU HAVE AN IDEA, TAKE STEPS TO GET A PATENT AT ONCE! Your first step is to get my FREE BOOK. It tells you in simple, plain language just what you must do, how you must proceed in order to secure Patent protection.



"Record of Invention" FREE If you act promptly I will send you this valuable Record of Invention blank absolutely FREE. It may help you to prove your right to your invention later on.

I Serve You in Secrecy

You can communicate with me in perfect You can communicate with me in perfect confidence. Any drawings, sketches or letters you send me will be kept in strong, steel, fire-proof files, that are accessible only to authorized members of my staff. I have served inventors located in every state in the Union. My service is prompt, tors located in every state in the Union. My service is prompt, careful, efficient. Your first step—the move you should make to-day—is to SEND THE COUPON FOR

Clarence A. O'Brien Registered Patent Attorney

WASHINGTON, D. C.

This FREE Book shows how



Mail to Washington

Clarence A. O'Brien, Registered Patent Attorney, 88-Y Adams Building, Washington, D. C.

Please send me your free book, "How to Obtain a Palent," and your "Record of Invention" form with-out any cost or obligation on my part.

Address

(Important-Write or print plainly)

PATENTS—TRADE MARKS

All cases submitted given personal attention by members of the firm.

Information and Booklet Free

LANCASTER, ALLWINE & ROMMEL PATENT LAW OFFICES 815-15th St. N. W. Suite 413, Washington, D. C.

The American Toy Exchange

offers opportunities for an independent and profitable business manufacturing American-Made-Toys. If you have a small space to use as a workshop and are interested in Toys and Novelties you can with a small outlay start in this new line which, in spite of hard times, offers an exceptional chance to the right man. For free advice and information apply by writing the state of the s

American Toy Exchange, 41 East 42nd Street, New York

This Book Has Helped Thousands to Success.

The Real Estate Educator

The New Revised Edition, contains Questions and Answers; Brokers' Livense Law: Dictionary of Words and Phrases in Real Estate and Construction; How to Appraise Property; Law of Real Estate; How to Advertise Real Estate; Legal Forms; Commissions to Agents; "Don'ts" in Contracts, etc. 288 pages. Cloth. Postpaid 82.00.

The Popular Science Monthly New York

Inventions Promoted

Patented or Unpatented. In business over 30 years. Send drawing and description or model, or write for information. Complete facilities. References.

ADAM FISHER MFG. CO. 183-D Enright, St. Louis, Mo.

PATENTS SECURED

Trade-Marks Registered I offer you the advantages of my 35 years experience as a patent lawyer and assure you of personal attention to your business.

TERMS REASONABLE.

Book and Information Free.

L. F. RANDOLPH

340 Victor Building Washington, D. C. EM EARN MONEY AT HOME!

> ROY HANCOCK 323 S. Beuglas Ave., Portuneuth, Va.

Always mention POPULAR SCIENCE Monthly when answering advertisements in this magazine.

S. GOVERNMENT JOBS



Many other Future Government Jobs coming, MEN-WOMEN 18 to 50

\$158 to \$225 a Month
MAIL COUPON BEFORE YOU LOSE IT FRANKLIN INSTITUTE, Dept. K274

Rochester, N. Y.

Sirs: Rush to me without charge—copy of 22-page
book, "How to Get U. S. Government Jobs," with
list of ruture Jobs and full particulars telling how
to get them.

Name Address