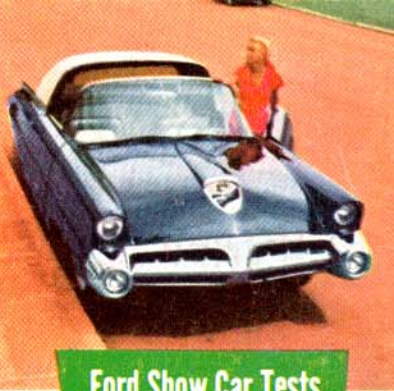


POPULAR SCIENCE

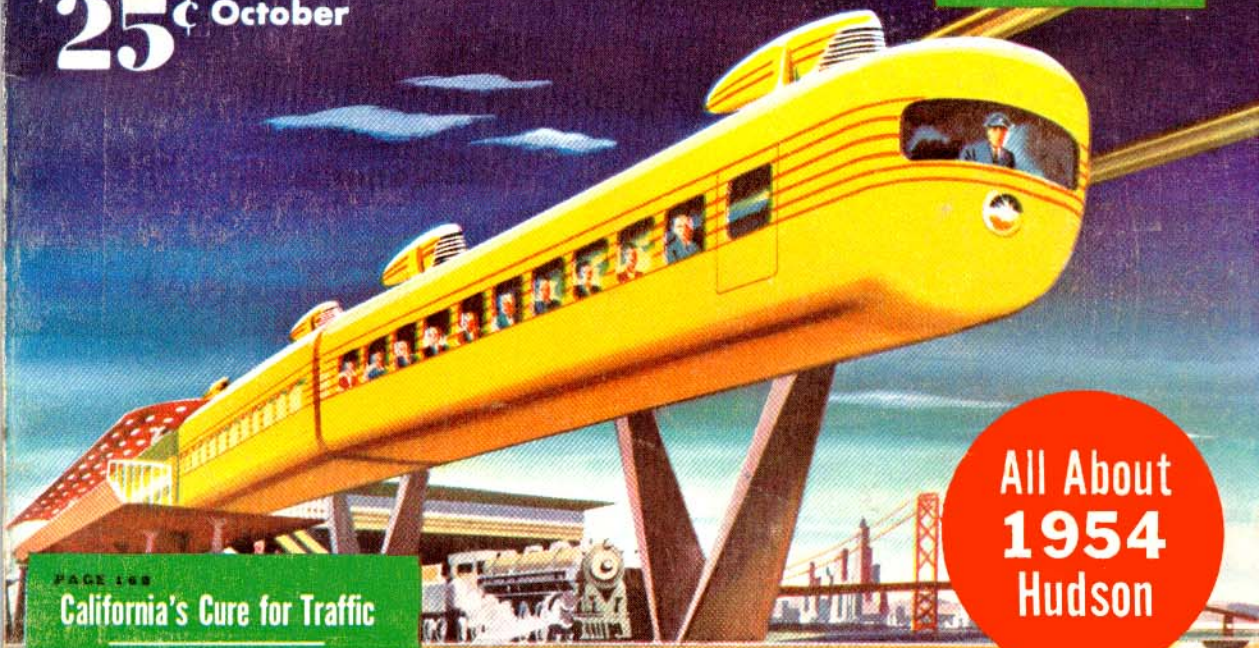
MONTHLY

MECHANICS - AUTOS - HOMEBUILDING



Ford Show Car Tests
50 Ideas - PAGE 122

25¢ October



PAGE 108

California's Cure for Traffic

Fireplaces Anyone Can Install

PAGE 105

All About
1954
Hudson





Gus and the Job That Backfired

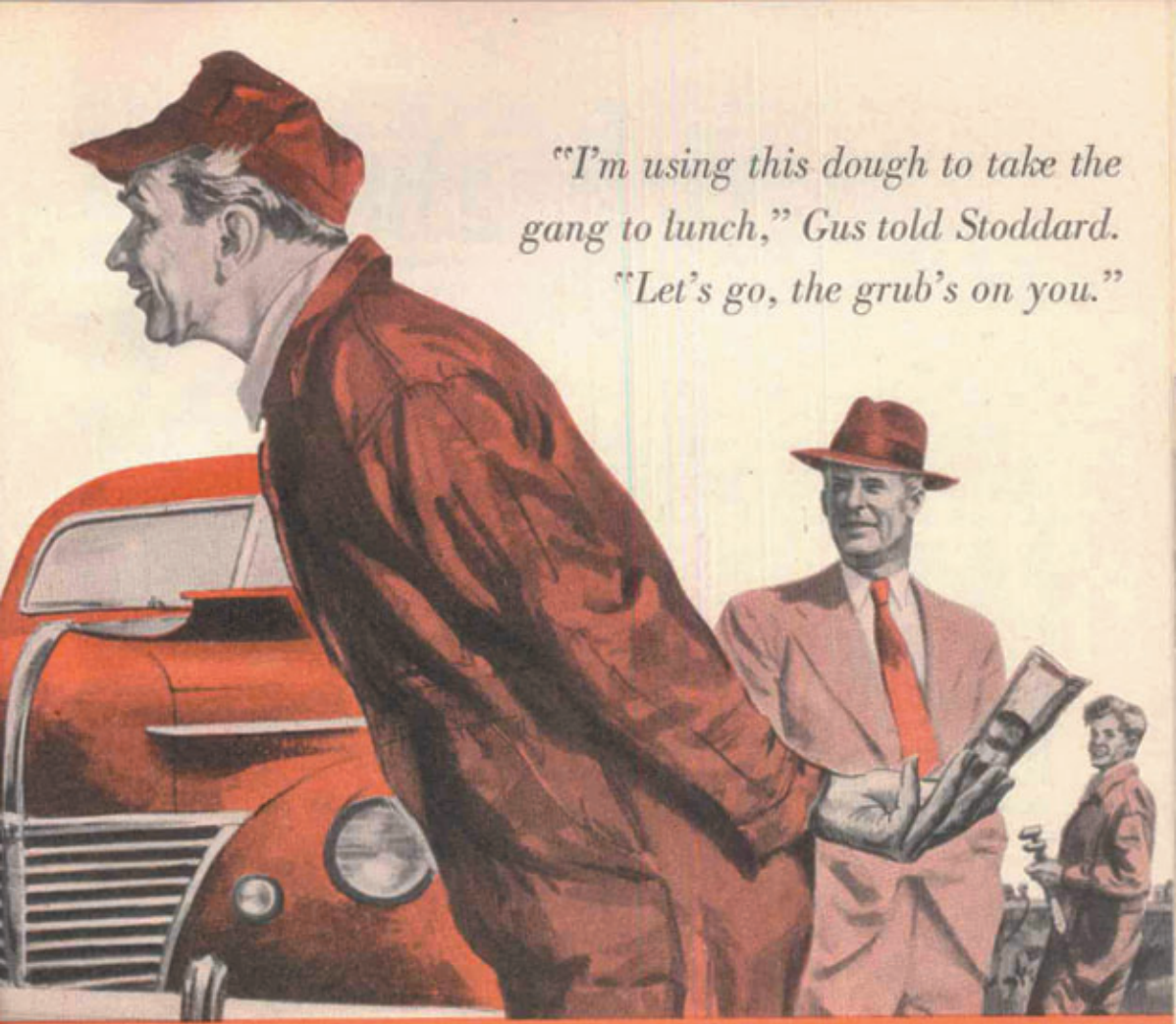
By Martin Bunn

ELMER STODDARD'S sedan progressed with jerky lunges, backfiring thunderously and trailing a dribble of oil across the cement apron of the Model Garage. The car shuddered to a stop in front of

Gus and quit stone cold with one final shake.

"Of all the quivering, backfiring wrecks I've ever encountered this is the worst," Stoddard exclaimed as he slid out from behind the wheel. "Fix her up in a hurry, Gus. We're going fishing at the lake."

Gus looked from Stoddard to his passen-

An illustration in a classic pulp magazine style. In the foreground, a man named Gus is shown in profile, wearing a dark red cap and a matching heavy jacket. He is leaning forward, looking towards the right. In the background, a man named Stoddard stands wearing a light-colored suit, a red tie, and a red fedora. He is holding a newspaper and looking towards Gus. To the right, a young boy in a red jacket is also visible. The scene is set outdoors, with the front of a red car partially visible on the left.

"I'm using this dough to take the gang to lunch," Gus told Stoddard.

"Let's go, the grub's on you."

ger, Pete Vancourt, and grinned broadly.

"Why should I fix you up," he asked, "so you can go out and fish my favorite lake? What's the matter with this boiler, anyway?"

"That," declared Pete Vancourt, his eyes twinkling, "is what we brought it in here for, Gus. If we'd known what was wrong we'd have fixed it ourselves."

Gus Finds a Loose Battery Cable

Gus glanced at the stranger who had walked in just before Stoddard drove up—a gray-haired, well-dressed, middle-aged individual. The man smiled and said, "Don't mind me. I'm just killing time. Fix the boys up—I'm a fisherman myself."

Gus slid under the wheel and stepped on the starter of the Stoddard sedan, getting no response. The car was as dead as a doornail, and Gus immediately blamed the back-

firing on a loose battery ground cable. He slid under the car on a creeper and found that the bolt which held the negative battery cable to the frame was loose. It was so loose that the nut was about to fall off, and allowed the bare end of the cable connection to bounce up and down on the edge of the frame, making and breaking contact. Convinced that he had found the trouble, Gus tightened the bolt, got out from under and again stepped on the starter. Still no response.

He got out, lifted the hood, cleaned and tightened the battery terminals, checked the battery for charge and tightened both terminals on the starter button. Again the starter refused to work, and Gus's mind turned to the starter button itself. He placed the ends of the handles of his pliers on the two starter-button terminals, thus

cutting it out of the circuit. The starter failed to turn over. Thoroughly puzzled now, he picked up a test battery with two long cables attached, and applied one cable directly to the starter post, the other to the frame for a ground. Instantly the starter spun the motor.

"Got you whipped, Gus?" Pete Vancourt inquired.

Stan Hicks, standing beside Gus, snorted at the suggestion and went back to the grease rack. Gus went under the car again, took out the bolt that held the ground wire to the frame, intending to scrape bolt and terminal bright, in case corrosion was interfering with proper battery ground. The bolt, he saw, had a flat washer between the battery terminal and the frame, and another between the frame and the nut. This wasn't usual. Curious, Gus flashed his pencil light on the deal, and Stan Hicks heard him give a low whistle, and heard the scrape of his knife as he worked. With the bolt and terminal scraped, Gus tightened things up, and turned his attention to the oil dribble on the floor. Oil was issuing from the back main bearing of the motor. He slid out and faced the two would-be fishermen with a slow grin. "So," he said, "you boys were going fishin', eh? Just a nice, little, innocent fishing trip."

"We are," Pete Vancourt said, "when you get through playing around and get us rolling. You've been on this job 15 minutes now."

"Timing me, eh?" Gus remarked, tamping a charge of tobacco in his pipe and lighting it. "My pals."

Gus Revs Up the Motor

This time when Gus stepped on the starter with the ignition on, the motor started. When he revved it up it backfired so explosively that dust rose from the garage floor.

"Hey!" Stoddard yelled. "Take it easy, Gus. First thing you know you'll blow out my muffler."

"Always happy to sell a friend a muffler

job," Gus remarked as he switched off the motor. He removed the distributor cap and inspected the arrangement of its six wires. The firing order, he knew, was 1-5-3-6-2-4. Rocking the car in gear, to put the rotor in position to fire No. 1, told Gus that the wires were in their proper order. He flashed his pencil light into the interior of the distributor cap, polished the inside industriously with a clean rag and replaced the cap.

The motor ran smoothly now. Gus revved it up for half a minute, then hopped out to peer beneath. A new gout of oil was dripping from the rear main. Gus picked a rubber mallet from the bench, firmly grasped the oil filler and breather pipe and pulled, tapping the side with the mallet as he did so. The breather pipe came free in his hands. He jammed a long screwdriver blade through it with a punch of the palm,

and out dropped a wadded-up piece of dirty rag. Gus grunted, twisted the pipe back into the motor, tapped it solidly in place with the rubber mallet to firmly seat it, turned to face Vancourt and Stoddard.

"Now," he said flatly, "just what are you two screwballs up to? In the first place, you know as well as I do that the

fish won't bite on the lake until late afternoon. You just don't go fishing at this time of day, on this kind of a day. You brought this car in here with the battery ground cable so loose that it flopped up and down on the edge of the frame just enough so that the car would stagger into the garage. I fix that and what do I find—carbon pencil marks in the distributor, so that the juice runs from contact point to contact point like a squirrel around a tree. And as if that wasn't enough, there's a rag rammed in the breather pipe. I don't get it."

"It took him," Stoddard said, extending his hand to Pete Vancourt, "just 24 minutes. Not an hour. You owe me 10 bucks—give."

Pete Vancourt looked at Gus with sheepish eyes as he drew out his wallet, extracted 10 dollars and handed the bill to Stoddard.

"Heck," he grumbled, "you must have

[Continued on page 256]

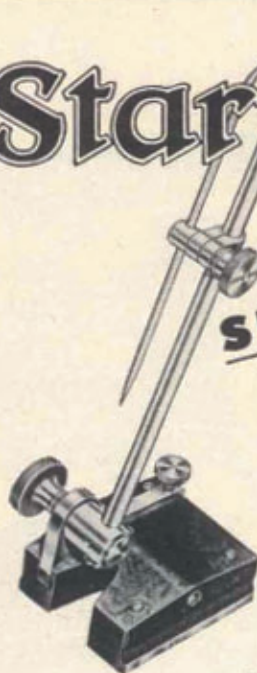


"Hey, Mac . . . Did'ja know there's a leak in your gas tank?"

SKILLED CRAFTSMEN PREFER...

Starrett®

SURFACE GAGES



Typical of the many Starrett precision measuring tools used by machinists, inspectors and layout men are Starrett Surface Gages. No. 257 (illustrated) is a universal surface gage for use on round work or flat surfaces. It has a rotating spindle head, adjustable scriber snug, fine adjusting rocking bracket to permit sensitive positioning of the scriber point, and retractable pins in case hardened base to serve as stops or guides. Available with 3" base and 9" or 12" spindles; also 3 3/4" base with 12" or 18" spindles. Ask your industrial distributor.

SEND FOR IT — ONLY 10¢

Starrett "Tools and Rules" Book

shows the right tools for any measuring job. 50 pages, 100 pictures, helpful reference tables. Address Dept. PS



THE L. S. STARRETT COMPANY • ATHOL, MASS., U.S.A.



MECHANICS' HAND MEASURING TOOLS AND PRECISION INSTRUMENTS
DIAL INDICATORS • STEEL TAPES • PRECISION GROUND FLAT STOCK
HACKSAWS, BAND SAWS and BAND KNIVES

Gus and the Job That Backfired

(Continued from page 198)

tipped Gus off, Stoddard. No man could find all those booby traps in 24 minutes."

A broad grin lit up Gus's features as he took a stride forward and neatly flipped the 10-dollar bill from Stoddard's hands.

Gus Charges \$10 for Job

"For exceptional service," he chortled, "the Model Garage charges 10 bucks for 24 minutes. The next time you boys want to play tricks on me, remember it'll cost you money."

"If you had the mechanical sense of a goose you'd know that I'd immediately check the battery ground cable to the frame on a backfiring motor, when the starter wouldn't work even though the battery stood at full charge and starter and starter button checked out all right. When I found you'd put flat washers on either side of the ground-terminal bolt, and painted both washers and bolt with shellac, so there could be no ground no matter how tight the thing was, I smelled a rat. When the motor still backfired, I figured you'd changed the order of the wires in the distributor. When this checked out it was only natural to look for the oldest trick in the business—carbon pencil marks from contact to contact in the distributor. Oil trailing from the back bearing on a car—a car that hasn't trailed oil on my cement as long as you've been buying gas from me, Stoddard—meant only one thing, happening sudden like this: something blocking the breather pipe. It was just plain, common sense."

Stoddard Lunges for Money

Stoddard suddenly lunged for the 10 dollars, but Gus flipped it behind his back, highly amused.

"No you don't," he declared. "It's noon, and you aren't going fishing yet. I'm using this dough to take the gang to lunch. Let's go, the grub's on you. You too, stranger, if you'd like."

"Glad to," the gray-haired man chuckled.

It was a jovial meal. The stranger's name was Art Robler, he told them. He seemed a good sort, and eager to talk about the fishing to be found around the town. In fact, he said that he'd like to go along with Stoddard and Pete, if they'd give him time to get his gear from the hotel. Gus couldn't go fishing. He had to go back and relieve Stan

[Continued on page 258]

11 Powerful Tools in One!



Ingersoll-Rand
ROTARY ELECTRIC
IMPACTOOL

...handles all these jobs!

Preferred by
professional
mechanics
everywhere

- Runs and removes nuts • Drives and removes studs • Drills • Runs wire brushes • Reams • Does hole saw work • Taps • Drills brick and masonry • Drives and removes screws • Drives wood augers • Extracts broken cap screws and studs

Powerful, lightweight, compact, you'll do more jobs faster—up to 90% on nut running—with a professional I-R Impactool. Motor can't stall—can't burn out. 1900 rotary impacts per minute do all the work without kick or twist to user!

USES STANDARD ATTACHMENTS—110V-220V AC-DC

3 SIZES fit every need . . . 4U, 8U and 34U (extra heavy duty). Size 4U Impactool only \$120.00, also available in metal kit with multi-purpose attachments. Sold by all leading automotive jobbers and industrial distributors. Ask for a demonstration or write for catalog.



936-18

IR Ingersoll-Rand
Dept. S-10 11 Broadway, New York 4, N.Y.

ORIGINATORS OF IMPACTOOLS—AIR AND ELECTRIC

Gus and the Job That Backfired

[Continued from page 256]

Hicks, so that worthy character could go to lunch himself.

During the afternoon Gus found himself chuckling over the deal the boys had rigged up on him, and the way it had backfired on the jokers themselves. What a gag!

The phone rang. It was Hal Stewart of the Chamber of Commerce.

"Hello, Gus," Hal said. "Got good news for you. Looks like the town's getting a new business."

Gus Gets the Low-down

"You don't say," Gus told him. "How come?"

"Well, it's this way," Stewart said. "There was an outfit that was thinking of making headquarters in the valley for a small trucking business. They couldn't make up their minds whether to settle here or in Stanfield. We've been working on them for months. You know how we'd feel about losing a new business to Stanfield."

"About the same," Gus chuckled, "as a rat terrier losing a bone to a pack rat."

"Exactly," Stewart said. "So we've been showing the boss man of this outfit around, and without much luck. We thought he'd about made up his mind on Stanfield, but this afternoon he came in and said he'd definitely decided on our town, and had rented the old Murphy storage building for headquarters."

"Good!" said Gus. "What made him change his mind?"

"We don't know, exactly. He did mention that, as they didn't expect to keep a mechanic on, they wanted to settle in a town that had a garage where they could get fast and reliable service when they needed it. Maybe you can get some of the business, Gus. I'll bring the man around and introduce him. His name's Art Robler." END

Modern Music

THE youngster came home from school one day and announced excitedly, "They got a magic record player at our school."

"A magic record player?" asked his mother, puzzled.

"Yes," he explained. "You don't have to plug it into electricity—you don't even use electricity to make it play. All you have to do is wind up a crank!"—*The Right Hand.*