

# POPULAR SCIENCE

MONTHLY

MECHANICS AND HANDICRAFT 



Portable Power Package

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How to Buy  
an Antique Car **PAGE 115**



# GUS TRAILS A HOT CARGO

Trouble shooting was Gus's stock in trade, with Officer Ryan wasn't the kind

TALK of the weather . . . there had been nothing else all that day. Over soda-fountain counters, from behind desks, on the streets, it was talk of summer heat and the touch of high mercury, the kind that softened asphalt and sent heat-ghosts dancing over the sidewalks. It had even penetrated the usually cool depths of the Model Garage. Heat and the Saturday rush had made it a long day for Gus Wilson, and when he stepped out into the cooler embrace of evening, he was dead tired.

The thought of tomorrow, the one day's respite, was nice, the treasure sitting at the end of a long week's work.

## *Trouble on Saturday Night*

A voice punctured the daydream: "Hey, Gus!" Officer Billy Ryan of the local police coasted up in his patrol car. "Got a minute?"

"What do you want, copper?" Gus ribbed him.

"I've got trouble with this machine!"

Gus eyed the aging automobile with mock disapproval. "What do you expect from a 15-year-old jalopy?"

"It's got a new motor! Besides, when are you taxpayers going to get me a new one? Now listen—"

"I'm tired, and I've closed down. Where's your police mechanic—Joe Snarky?"

"He's sick in bed. Listen, Gus. Tonight I got a tip from the police down in the city that some hijackers are going to pull a fur-coat job with their truck near here a couple of hours from now. East of town. And this car's liable to poop out and ruin the whole setup!" Ryan was excited.

"Okay, calm down before you fade your hair. What's the trouble?"

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*"Wait here, Gus," Ryan said.*

**By Martin Bunn**

**but chasing hijackers  
of trouble—or shooting—he had in mind.**

"The engine dies and the lights go out every time I put on the brakes. Even if I just slow down. Have to come to a full stop to get started again."

Gus sighed. "Run her into the garage. I think you're shorting out somewhere."

Gus rolled the doors back up and turned on the lights. He pried up the small inspection plate in the floorboard of the old car and took a fast look.

#### ***Quick Checkup Yields No Clues***

The battery was brand-new, still shiny black. Gus raised the hood and checked the wiring in the primary ignition circuit from that end. Still nothing.

He pulled on grease-stained coveralls and crawled under the car with a trouble light.

"Can't you hurry it up, Gus?"

"I hate to admit it, but I am hurrying. Shouldn't hurry with auto repairs. Too many mistakes that way!"

The stoplight switch on the brake pedal, a common source of shorts, proved okay. Then Gus checked the battery cable down by the brake arm. The action of the arm could wear the insulation off and short the battery out every time the brake was used. But that was okay, too.

"How about the generator, Gus?"

#### ***A Nice Night for a Ride***

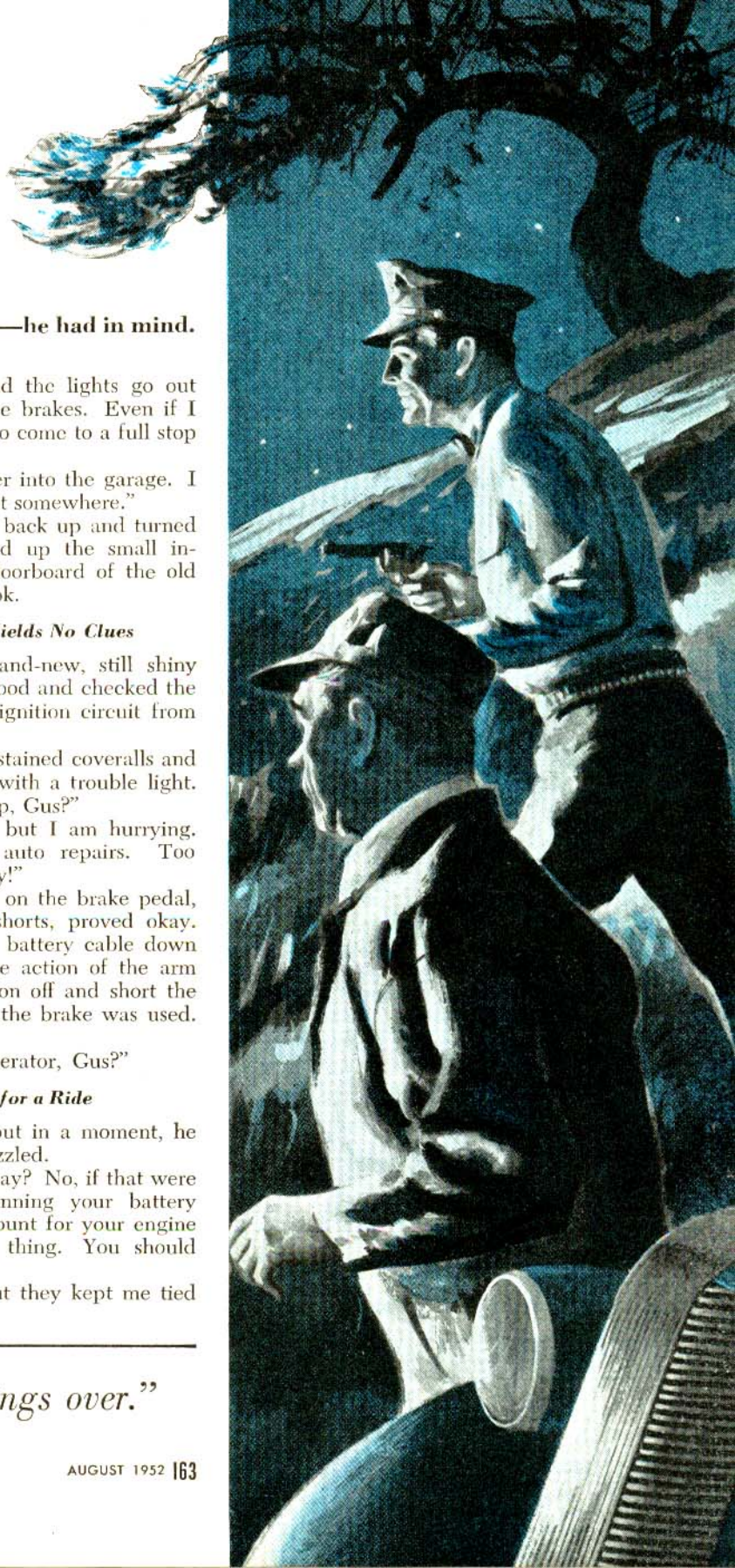
Gus didn't answer, but in a moment, he crawled out looking puzzled.

"Generator, did you say? No, if that were the case you'd be running your battery down. It wouldn't account for your engine dying. I can't find a thing. You should have come in earlier!"

"I meant to, Gus, but they kept me tied

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*"I'll go look things over."*



up all afternoon. Safety lecture at the high school. Then I got this tip from the big-town cops."

Gus checked the ignition and lighting wires, tracing them down to the firewall where they passed through to the engine side. Then he climbed out and turned the light off with a click of finality.

"I'll be darned. Well, let's take it for a ride."

Gus backed the car out and started down the street. The street lights were on now, and a haze-yellow moon painted the tops of the low hills outside of town.

"It's a pretty good night for changing pumpkins to coaches, isn't it, Billy?"

"Good for switching fur coats from one truck to another, you mean!"

Gus drove to a quiet road east of town, out among small farms and country lanes that were quietly beautiful in the moonlight. There, free of evening traffic, he punched the brake pedal hard.

The front end dropped slightly, the engine quit and the lights flickered out. He had come to a full stop.

"I see what you mean."

"What do you think it is, Gus?"

"Oh, it's still a short somewhere. The problem is the somewhere! This promises to be kind of tough with so little time to work in. How about that other police car, why can't you use it?"

Ryan's face reddened. "It was smacked by a hit-and-run. And George Weaver didn't get the number. Everything happens to the department today!"

### ***Cops Are Only Human***

"How about letting the highway patrol take over?"

"Aw Gus, you know how it is . . . your pal, Sergeant Corcoran, would kid the pants off me."

"Okay, Billy, I'll keep trying."

Gus hit the brake again, this time a little slower. The engine kept running for an instant longer than before.

"I think we have something now. Once more."

He got into high gear, worked up to 40 miles an hour, and then put the brake on

gradually. They slowed down gently, and rolled to a full stop. Neither engine nor lights failed.

"That settles it. Maybe a wire swinging against metal. If you slow down real easy, the wire doesn't swing far enough to touch."

### ***Suspicious-Looking Truck Roars By***

Gus got out and crawled under again. The breeze and roar of a truck going by at high speed caught at his pants legs, and a split second later, Ryan let out a yell.

"Hey, get back in! I think that was the hijackers' truck!"

Gus leaped back in, and Ryan started out with a squeal of rubber.

"Something's gone haywire. Those birds are early!"

The small truck moved fast over the narrow road, its tail lights bobbing in the darkness ahead.

Ryan switched off his headlights so that the truck driver wouldn't see them follow, and Gus felt something tighten in his stomach. He hadn't bargained on getting involved in a cops-and-robbers chase.

"What makes you think that's the hijackers?"

"The truck fits the description—and who else would be burning up the road like that? If I can get close enough to see the license plate, I can be sure."

"Okay, what do we do now?"

"Catch them in the act of switching the load, I hope. You see, these fur coats are taken by truck to a warehouse in Buffalo. Then they're distributed to stores. A couple of the company drivers are working from the inside for the hijackers. Recently one of them was stopped, beat up to make it look real, and the furs trundled off in another truck. And it's nothing small—mink and stuff like that. One company driver decided he didn't want to get in any deeper and tipped the police off to this second job—that's how we got a description of the trucks and the license numbers."

"I'm afraid to ask," put in Gus, "but where do we fit in?"

"Highway patrol cars are posted at several points beyond the mountains ahead," continued Ryan, "but in the meantime,

[Continued on page 214]

.....  
: **Dizzy Definitions** :  
: **Overdrive**—Driving :  
: your car too much. :  
: **Oil Bath**—What the me- :  
: chanic has before the :  
: day is over. :  
: **Sealed Beams**—Scotch :  
: tape over the headlights. :  
: **Tire Boot**—Kicking a :  
: tire to see how much air :  
: it's got. :  
: **Torque**—It goes on :  
: around the shop all day. :  
: **Shim Up**—To climb up :  
: on top of the car. :  
: **Clutch Pedal**—For :  
: emergency stops only. :  
: You usually use your :  
: foot.—N. Rosenberg. :  
: .....



# Care and Feeding of Engines

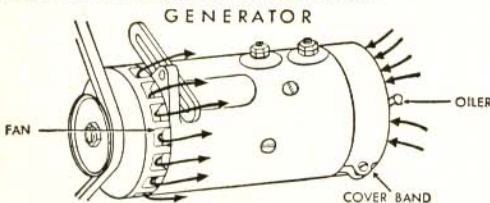
BY S. P. CORP

## GENERATOR MAINTENANCE

Your generator is a busy power plant. It must keep the battery in full charge, supply ignition, and operate lights and electrical equipment. Regular lubrication, inspection, and cleaning are necessary for dependable generator performance.

**LUBRICATION** should consist of 3 to 5 drops of medium engine oil each time the car is lubricated. Avoid over-oiling, which is worse than lack of oil.

**INSPECTION** is needed every 5000 miles. Clean generator and inspect generator fan and ventilating holes. Holes should be open and free from dirt.



Air must circulate through the generator, taken in at the rear and expelled at the front. Remove cover band and check brushes and commutator; if oil-soaked and worn, replace them. Check inside of cover band for spots of solder, which would indicate generator has been running hot. If you find such spots, have complete charging circuit checked for high charging rate. If twice-a-month specific gravity readings of battery show between 1.260 and 1.280, generator is behaving perfectly.

## REAR WHEEL SQUEAK

If you hear a single sharp squeak as you start your car in reverse, one of the rear wheel hubs is loose. On most cars, hubs are fastened to a keyed, tapered rear axle shaft. The outer axle nut holds hub tight. A loose nut will allow hub to work on taper, wear the key and keyways, causing the squeak.

Remove hub cap, cotter pin and nut. Tighten nut to next cotter pin hole and install a new cotter pin. Failure to do this will allow hub to work on taper; key, and keyways, resulting in an impact loading which causes undue stress on all parts in the drive unit, eventually resulting in breakage.

## INSTALL KROMEX RING SETS

To get maximum ring mileage under the high engine speeds, high combustion temperatures, and high compressions of late-model cars and trucks, be sure to use Sealed Power Kromex Ring Sets. They have chrome where it counts, to fight heat, friction, corrosion, abrasion. Write for your free copy of new illustrated booklet, "MORE POWER." Dept. H-8, Sealed Power Corp., Muskegon, Mich.



## Gus Trails a Hot Cargo

[Continued from page 164]

rather than scare them off with a whole flock of patrol cars, we sneak in and try to get the drop on them while they're loading the second truck."

The road began to twist and dip. They were in the foothills now, and the higher mountains lay ahead.

"We'll reach the spot where they're supposed to change in about a mile. When we do, you better scrunch down in that seat! There may be some shooting."

It was weird, driving in that pale moonlight through the quiet, sleeping hills. Seconds ticked off slowly, painfully, and Gus felt his stomach roll around like someone was jabbing it with cold fingers.

## Engine Quits at Wrong Time

"That was the spot back there. I'll bet those guys have gotten wise and made the switch already. I've got to get close enough to make sure."

The lights came closer, until the bulk of the truck was clearly defined in the dim light. "That's the one," Ryan said tightly. "The truck that makes the pick-up." He pulled a .38 from his holster and poked it out the window. "I'm going to take a shot at his tires." But before he could pull the trigger, the truck leaned into a sharp turn. Ryan slowed for the bend, and instantly the engine died into futile silence.

## Gus Has an Inspiration

Ryan sweated as he struggled to get the engine started again. They had lost a quarter of a mile, and it took five minutes of delicate juggling through straights and turns to catch sight of the truck. Then the road suddenly hairpinned, and Ryan was forced to use the brakes. The engine died again.

Gus leaned forward in the seat, listening. Each time the brake was put on, there was the sputter of a juicy short.

Ryan swore softly and grimaced as he started up the motor again for the umpteenth time.

"Hold it a minute, Billy. Stop and let me get under the car."

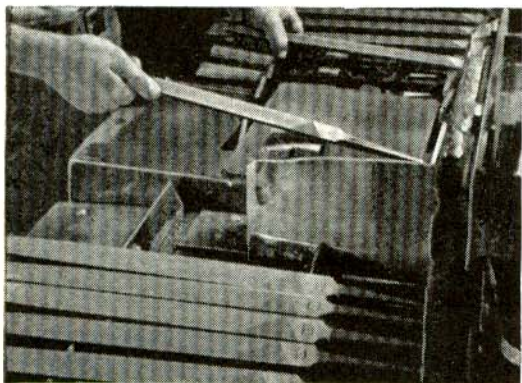
"I can't stop now!"

"You'll never catch him this way. Let me look once more. I can hear something start frying every time you slow down."

Ryan pulled over, and Gus crawled under. He knew now approximately where the

[Continued on page 216]

# Does it say "CLINK"



## ...or "CLUNK"?

One of the proofs of a file's basic soundness is its clear ring—"clink"—when you tap it lightly on an anvil or other hard piece of metal. A dull "clunk" is usually a sign of invisible "water cracks," poor hardening, or even inherently low-grade steel.

Nicholson employs a score of checks and tests in connection with steel examination, forging, blank smoothing, annealing, cutting, hardening and other operations in the manufacture of files. But it is the "ringing test" (as illustrated above) that leads to the final verdict under the Nicholson policy of *Twelve perfect files in every dozen*.

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## Gus Trails a Hot Cargo

[Continued from page 214]

sound was coming from—under the floorboards. His pen-sized flashlight probed the battery carrier. *Just a chance, maybe something else unrelated slapping around—but there it was!* Happily, Gus wedged his screwdriver in and crawled out.

### A Burst of Speed Closes the Gap

"Move over, Billy! You're going to need both hands to shoot on this winding road. She'll hold for awhile."

Gus poured on the speed and fought the curves with squealing tires. The engine gave no sign of quitting now.

"What was it?"

"Tell you later. Got to keep my mind on the road."

They were close to the ridge before the truck was in sight again. Gus gained gradually, until it was only a few hundred feet away. Then the truck picked up speed.

"He's spotted us, Gus. Step on it."

Gus had anticipated the move and, in one short straight, closed the gap.

"Okay, when we come out of this next bend, hold her steady."

### All Over but the Shooting

They howled through the turn, and Billy leaned out the window. For one tense second the gun was poised, and then the sharp report bounced painfully against Gus's eardrums. Another shot, and a third. The truck began weaving wildly.

"There he goes!"

The truck smacked against the bank on the right side, lurched crazily on two wheels, and turned over.

Gus pulled up, and he and the policeman jumped out.

"Wait here, Gus," Ryan said. "I'll go look things over."

Less than a minute later, he was back.

"It's okay. He's cold like a cucumber. And the truck's loaded with loot. Come help me tie him up."

A few minutes later, the hijacker, a smallish, sandy-haired man in a leather jacket, was neatly trussed up in the back seat of the police car. He showed signs of regaining consciousness and appeared otherwise unhurt. Ryan and Gus got back in the front seat.

"What do we do now, Inspector?" Gus grinned, but his knees were still shaky.

[Continued on page 218]

# Keep your Basement dry!



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City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

### **Gus Trails a Hot Cargo**

[Continued from page 216]

"Well, *now's* the time I call the highway patrol. They can come and guard the furs while we take this character back to the brig."

#### **Officer Ryan Winds Up His Case**

Ryan called them on the police radio and gave them directions. Then he leaned back, lit a cigarette and smiled wearily.

"They'll be here in a few minutes. Too bad we didn't get the whole works. But one man and the loot is something. The rest'll turn up later. Now maybe you can tell me what gives with the car."

"Sure. You know those straps under your battery? Well, the front one was eaten away by battery acid. Your mechanic should have noticed it when he put the new battery in last week.

"You see, every time you hit the brake, the battery tipped forward, just a little, but enough to slam the battery cable across the metal edge of the carrier. I was in too much of a rush to notice that the bottom side of the cable had worn insulation from the rubbing. But that's where it was shorting out.

"I wedged my screwdriver in to keep it from tilting. I was beginning to lose hope of finding the trouble until I heard that sputtering noise over the sounds that the car was making.

"Anyway, come around in the morning if your mech isn't out of bed yet, and I'll fix it up. You'll need a new hold-down on the carrier—the old one's half burned away. And don't you forget to return that screwdriver!"

#### **Gus Has His Little Joke**

"Well, Gus, I sure appreciate what you've done tonight."

"You know, Billy, before you interrupted my evening, I was thinking about taking another couple of weeks' vacation . . . but I wonder, I'm beginning to think people in our town might have to go back to horses if we closed the Model Garage that long. Tell me, Billy, how would you like being a mounted cop?"

Billy Ryan made a playful swipe at Gus—then they heard the state cops' siren coming from around the bend up ahead. **END**

*Next Month: Martin Bunn will tell you how Gus Wilson became a football hero—without leaving his Model Garage.*