GUS explains

Mystery of Vibration in Car

"S"TOP the car, Clem," Mrs. Ferrers commanded. "I can't stand that awful drumming sound another moment. My head aches like fury. It's driving me crazy. Can't you do something about it?"

Clem Ferrers smiled placatingly. "Sure, Aggie, we'll stop and I'll see what I can do. It didn't seem so bad to me."

"It wouldn't!" his wife snapped. "I declare, Clem, you'd never notice anything wrong so long as the wheels keep turning around."

With that she sprang out, plumped herself down on a near-by rock, and rested her head in her hand, a picture of woe.

"Good thing I'm not so gosh-blinked fussy," Clem murmured to himself as he clawed the tool kit out from under the rear seat and hesitatingly thumbed over the various articles in it. Finally his eyes lighted up as his fingers closed over the handle of a huge monkey wrench.

"Maybe a couple swipes with this'll bend it so it won't rattle so," he muttered as he climbed up on the fender and began to inspect the top.

At this particular point in the proceedings, an auto service car labeled "Model Garage" hove into sight with the huge hands of Gus Wilson clasped firmly around the steering wheel. Perched beside the veteran auto mechanic was his partner, Joe Clark.

"What do you reckon he's fixin' to do up there with that big wrench?" Joe questioned as Gus applied the brakes.

"That's just what I want to know," Gus said as he climbed out and walked over to Ferrers' car.

"What's gone wrong, mister?" he asked.

"The madam, there, she says something in the roof is humming so it gave her a headache," Clem explained. "I thought maybe if I gave it a couple of socks here and there, whatever is loose might get stuck so it couldn't wiggle any more. Got any good ideas?"

"Sure," said Gus. "Climb down and let me drive your car so I can see what the noise sounds like."

Gus took the wheel, with Ferrers beside him, and drove off.

"There's nothing the matter with the top," Gus reported when they got back. "Trouble is, some of the body bolts have come loose. At certain speeds you get a vibration in the body that seems to come from the top. I'll tighten up the bolts."

"Beats me how the noise could sound like it came from the top when those bolts underneath were doing it," Ferrers puzzled, as he bent down to watch the work.

"Simple enough," Gus told him. "All noise comes from vibration. And vibrations scot around in metal or wood till they reach a place where there's a broad, flat surface that isn't fastened all over. Then off they go into the air. Your car tells you where the noise is coming from, but not how it got there."

THAT was a funny case," observed Joe as the two garage men continued on their way home. "There's a lot about this vibration business I don't savvy at all. For instance, I can understand how mounting an engine in the chassis with rubber at every point ought to cut down the vibration, but what's the difference between just ordinary rubber mounting and this 'floating power' they talk about? Does 'floating power' mean anything at all?"

"Did you ever hit a baseball too near the end of the bat, or maybe too near your fingers?" Gus countered. "Stung like a flock of bees, didn't it? When you hit the ball with just the proper spot on the bat, you didn't feel anything except the club stopping in the air, eh? Well, floating power is like that. It's all in the location of the engine supports."

"Suppose," Gus continued, "you could hang an engine up in the air without any supports and start it going. What would happen? It would vibrate a bit—no engine is perfect that way—but if you looked over the engine, you'd find at least two spots that didn't seem to move at all. They're like the spot on the baseball bat and the place where your hands hold it. You could touch one of those spots on the engine and you wouldn't feel any vibration to speak of, showing that the whole engine was wobbling back and forth with that point as one of the centers."

Floating power means holding the engine in the frame by those points where there's no vibration—after you've found where they are. Of course, you can't hang an auto motor in the frame with only two supports. Extra rubber-mounted brackets are put in to steady the engine a bit and to keep it from (Continued on page 107)

GUS says:

The fellow who takes a real interest in his car often gets to be a specialist. That's bad business. What's the use of spending all your time trying to get the carburetor adjustment perfect, if the ignition system isn't up to scratch? Why clean spark plugs until you have the corners worn off when the shock absorbers really need attention? It's a lot more sensible to have everything about the car somewhere near right.
Small Ideas May Have Large Commercial Possibilities

If you hope to realize profits from your invention, you must protect it with a United States 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.

I Serve You in Secrecy
You can communicate with me in perfect confidence. Any drawings, sketches or letters you send me will be kept in strict confidence. I don't want your invention to be published before you are ready. Your first step—the move you should make—is to SEND THE COUPON FOR MY FREE BOOK.

Clarence A. O'Brien
Registered Patent Attorney
WASHINGTON, D. C.

INVENTORS
who derive large profits from simple and useful inventions
ought to know the steps leading up to a successful patent application. The book "Inventor-Genius" gives those steps free. Address Clarence A. O'Brien, 635 F St., N. W., Dept. 19, Washington, D. C. Established 1889

INVENTIONS WANTED
Patented or unpatented. If you have an idea for a sale, write HARTLEY'S, Inc., Box 928-D, Bangor, Maine.

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

TERMS REASONABLE
Book and Information Free.

L. F. RANDOLPH
340 Victor Building
Washington, D. C.

AIRJETTOR
an auxiliary carburetor producing a secondary stage of carburation.

Mileage Increase Guaranteed
Agents and Distributors making $500 to $1000 per month. Write for full details.

AIRJETTOR CO., 290 Broadway, Buffalo, N. Y.