PSYCHOLOGY-ENGINEERING

Driver's Own Reflex Act Throws Car "Out of Control"

Sudden Jolting Makes Anyone Stiffen Arms and Press With Feet; Safety Pedal is Recommended as Remedy

A NEW auto appliance to prevent ten per cent. of all serious automobile accidents such as that which took the life of Belgium's young queen was described by Dr. Yandell Henderson, Yale University professor of applied physiology, in a report to the National Academy of Sciences.

The device would prevent the type of accident now explained by the phrase "the car got out of control." In these accidents it is not the car but the driver that gets out of control, Prof. Henderson said. A self-preserving reflex action of the human body that "could not be eradicated in a million years" is what makes motor cars in perfect condition suddenly "get out of control."

The reflex action is a "self-righting reflex," much like that which causes a cat, no matter how it is dropped, to twist around and land on its feet. It occurs in all animals. Even a new-born baby has it. No training can eradicate it. It is a righting reaction to recover balance and regain support of the body. In the driver of a motor car, it may be brought into play by a jolt or by a start such as any driver may experience when he sees a child run into the street ahead of his car.

"Freezes" on Wheel

"When it occurs in the driver of a car," Prof. Henderson explained, "the impulse that dominates him is to steady himself in his seat. He grasps the wheel with his whole strength, his arms stiffen, and he is as likely to steer off the road as along it. Simultaneously and as part of the same nervous and muscular complex, he performs another act so instinctive that in many cases he is entirely unconscious of it. His legs are forcibly extended and his feet are pressed down hard.

"Any motorist, no matter how experienced, who is suddenly and severely jolted, instantly reacts to steady himself in his seat; and in so doing he presses his foot down hard on the accelerator pedal."

The result is that the car tears along at its highest speed, "out of control," until it runs into a tree, wall, over a ditch or overturns.

The remedy Prof. Henderson suggests is a safety pedal for the left foot at the spot where this foot normally rests when not on the clutch. Heavy pressure on this pedal, which would occur with the same reflex that drives the right foot down hard on the accelerator, should either counteract the pressure of the right foot on the accelerator and allow the throttle to close, or it should turn another butterfly valve in the carburetor and shut off the power.

This safety pedal would work because one of the characteristic and reliable features of the thrust of the legs in the self-righting reflex is that the two legs are always pushed forward and downward together, Prof. Henderson explained.

By way of accustoming the motorist to the safety pedal, Prof. Henderson suggests that moderate pressure on it might be allowed to blow the horn.

Prof. Henderson described many accidents of the "car out of control" type which showed how the motorist himself was out of control due to this reflex.

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MEDICINE

Take Step Toward Better Spotted Fever Vaccine

THE FIRST step toward a simpler, cheaper and safer method of making a vaccine to protect against Rocky Mountain spotted fever seems to have been taken by U. S. Public Health Service scientists at the National Institute of Health.

Federal disease fighters at their Hamilton, Mont., laboratory have for some time been producing an effective vaccine for this usually fatal disease. This vaccine is made from infected ticks, the insects that transmit the disease. Production of the vaccine is difficult, costly and dangerous. Two of the men working

TIME ROUND THE WORLD

The U. S. Naval Observatory in Washington has just put into operation its new world time "wheel." Based on the measurement of time by the rotation of the earth, it is possible to set the wheel for a given hour at any part of the world and find out what time it is at any other part. Capt. Julius Hellweg, director of the Naval Observatory, is shown above adjusting the wheel.