

Hints for Men Who Work on Cars

*Axle wedge stops shimmying.
Rim spreader is easy to make.
Door locks to guard children.*

POPULAR SCIENCE MONTHLY awards each month a prize of \$10, in addition to regular space rates, for the best idea sent in for motorists. This month's prize goes to Mrs. F. J. Fales, Lyons, N. Y., for her suggestion for a nail lock for rear doors (Fig. 5). Contributions to this department are requested especially from professional auto mechanics.

SHIMMYING and hard steering often are due to a slight inaccuracy in the setting of the king-pin angles. If the king-pins are too nearly vertical, or the king-pins actually lean forward instead of backward, the wheels will not have the proper tendency to straighten out by themselves after rounding a curve. Figure 1 shows a way to fit the axle to obtain more caster action. Thin wedge-shaped plates should be cut out and bolted between the spring and the spring seat on the axle with the thick end toward the rear. Sometimes only a slight change will make a big difference.

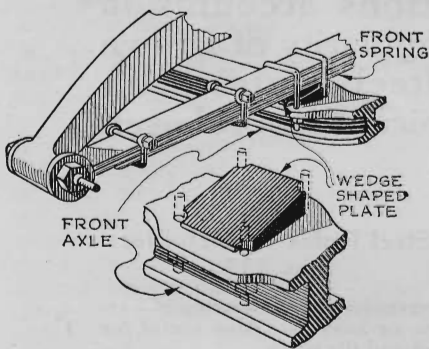


Fig. 1. Metal wedge, bolted between spring and spring seat on axle, will improve steering.

REPAIRING BRAKES

IF, THROUGH wear or an accident, one of the connecting lines to a hydraulic brake leaks or is broken off, no pressure can be applied to the other brakes. Under such conditions, the temporary repair shown in Figure 2 will render the three remaining brakes operative. Remove the union. Place a leather washer and the head cut from a nail, as shown. This will

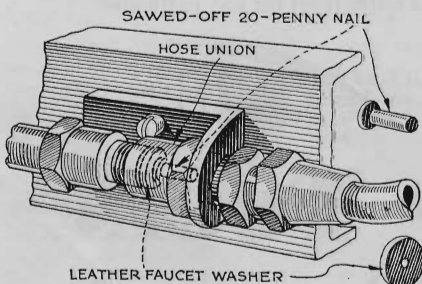


Fig. 2. A break in hydraulic piping can be fixed temporarily with nailhead and leather washer.

seal the joint and allow pressure to be applied to the remaining brakes. This will serve temporarily and permit the driving of the car to a repair shop.

RIM SPREADER

THE device shown in Figure 3 will prove serviceable in mounting tires on rims of various sizes. It consists, as shown, of a wooden platform in which three rings of holes are bored part way through. Four-foot lengths of iron pipe are strung together with a wire through holes in the pipe as shown and the top disk is notched to support the other ends of the pipes. By choosing the proper ring of holes it is possible to get a wedge which will spread any rim till it locks. The cost of a rim spreader of this type is low.

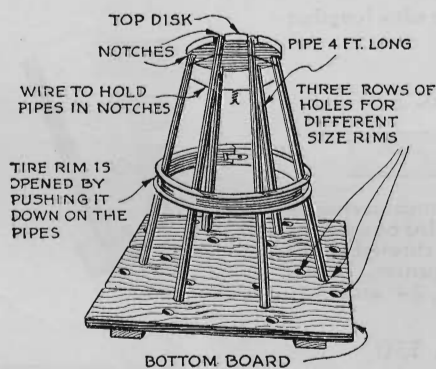


Fig. 3. Spreading a rim is made easy with this device of iron pipes and a wooden platform.

UNMATCHED DOORS

IT IS customary to make the doors of equal width on the ordinary twelve by eighteen foot home garage. With doors of this width it is necessary to open first one door and then go back and open the other one. If one door is made extra wide and the other narrow, as in Figure 4, time is saved because the narrow door can be pushed all the way open even in a strong wind, while a hold is still retained on the other.

An equal amount of time can be saved in closing the doors. Simply walk in with the wide door till you reach a point where the edge of the short door may be grasped and then continue in with both doors.

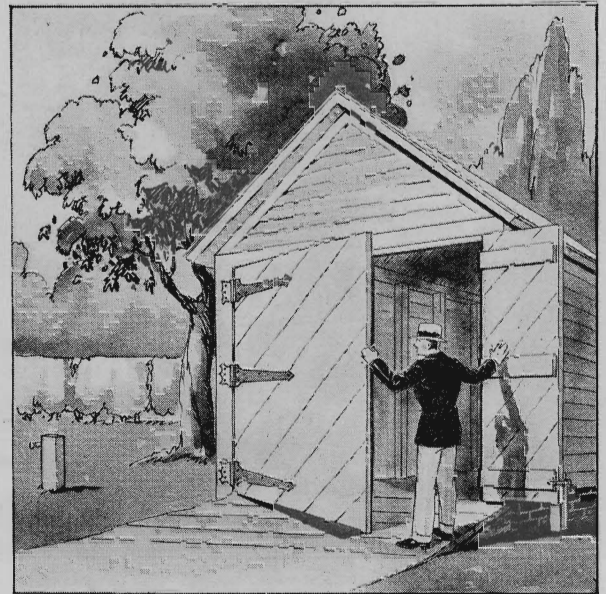


Fig. 4. With garage doors of unequal width, as shown, the opening and closing of them in high wind by one person is simple.

TWO LOCKS FOR DOORS

WHEN children are carried in the back seats of cars fitted with four doors there is always a chance that one of the children may pull open the latch of one of the rear doors and fall out. Figure 5 shows two ways to prevent this trouble. The view at the lower left shows a strap arranged to hold the door latch in a closed position. The upper illustration shows a hole drilled through the door jamb and into the rear door large enough to receive a heavy nail which can be slipped into the hole. So long as the nail is in place the rear door cannot be opened. If possible, select a point for the hole where it will pass through the edge of the latch strike plate so that there will be no tendency for the nail to enlarge the hole.

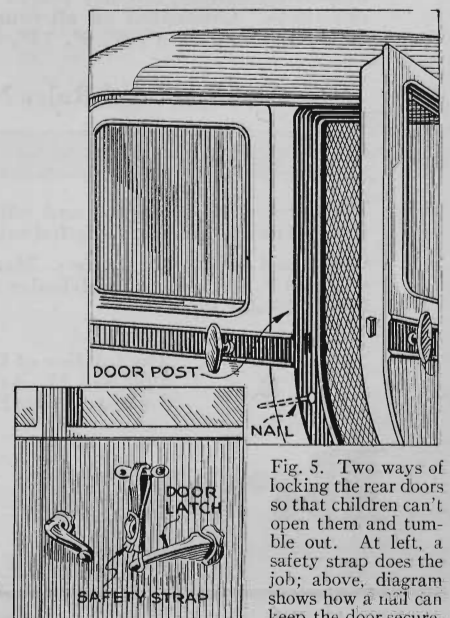


Fig. 5. Two ways of locking the rear doors so that children can't open them and tumble out. At left, a safety strap does the job; above, diagram shows how a nail can keep the door secure.