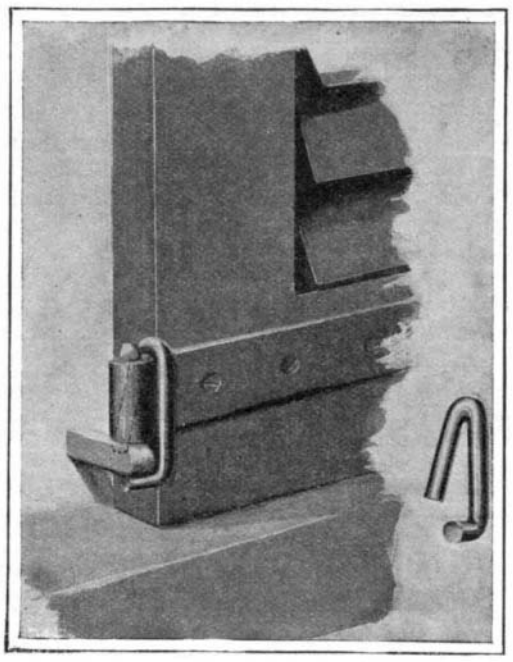
conform more or less to the ordinary conical and pointed type. A modification of this type also obtains in the lemurs of Africa and Asia; some of which—the African galagos—share with certain bats the power of folding up their ears when at rest. On the other hand, when we reach the higher monkeys and apes, we find the ears assuming that flattened and depressed form characteristic of the human species, this type



WINDOW-BLIND GUARD.

being probably the one best adapted to an arboreal existence, at any rate in the case of comparatively large animals.

Adaptation to a life spent in the forest, where upright ears on the top of the huge head (which is used in pushing a way through the thickets) would be inconvenient and liable to injury, must probably be regarded as the reason why elephants have acquired ears of a flap-like and depressed type. No diminution in the power of hearing is, however, thereby induced, for when an elephant scents danger it immediately cocks its huge sail-like ears, and thus catches every available sound vibration.

If proof were needed that the size and upright position of ears is correlated with the necessity of catching all possible waves of sound, we have it in the fact that among domesticated animals there is a tendency for these appendages to drop, or "lop," as in the case of spaniels and rabbits. That the ears of spaniels and "lop-rabbits" tend to grow to a great size, has nothing to do with the argument, the excessive development in these cases being due, as in the tails of domesticated sheep, to a kind of degenerate or retrograde action.

In this it has been possible to refer to a few only of the most salient points connected with the ears of mammals. The observant reader, when his attention has once been directed to it, will, however, not fail to find the subject an attractive one, wherein he may find a field of wide interest.

WINDOW-BLIND GUARD.

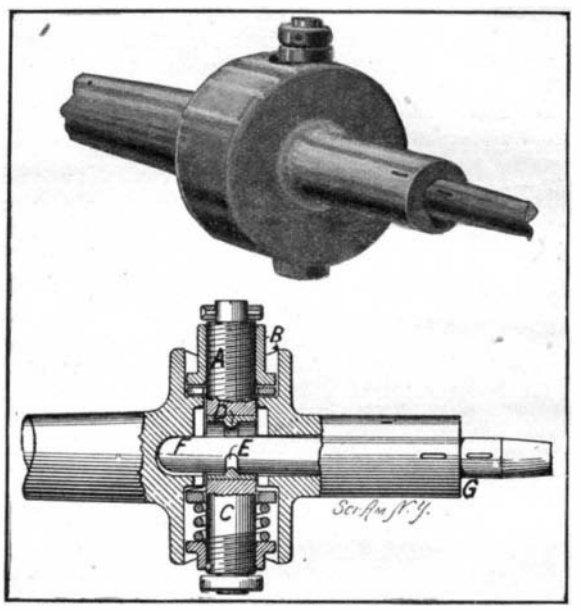
The fact that the ordinary hinges used on window blinds and shutters are inadequate for the office they serve, is often demonstrated in a high wind by the unhinging of a blind. In the usual construction it is the weight of the blind which keeps the hinges in place, and no provision is made for retaining the blind when the latter is accidentally lifted. To remedy this deficiency, a simple device has been invented, which may be attached to any blind hinge of standard make to guard against dislodgment. This window-blind guard is illustrated in detail in the accompanying engraving, which also shows the device in position on a shutter hinge. The hinge comprises the usual hanger, whose spiked end is driven into the window casement or the wall of the building. The hanger carries a pintle adapted to enter the eye or sleeve of the leaf hinge, which is attached to the blind. Between the sleeve and blind the guard is applied. The guard is made of stout wire bent to form a hook at the upper end, which hooks over the upper edge of the leaf. The lower end of the wire is formed with a finger, which projects approximately at right angles to the body of the guard. This finger is adapted to engage the under side of the hanger, thus preventing the leaf from being lifted off the pintle. The illustration shows the blind in closed position, and it will be evident that the blind may be opened without interference from the guard, whose finger will merely rotate with the leaf hinge while the blind is being swung open. A patent on this improved window-blind guard has just been granted to Mr. Louis D. Richardson, 789 Cranston Street, Providence, R. I.

A novelty which has been brought out during the present season consists of a skate which folds so completely that a pair may be carried in a man's pocket or a lady's muff. On the foot the folding skate has much the same appearance as the ordinary one, but upon being removed the portions by which it is attached to the shoe are foldable so that they occupy a position parallel to the blade. Thus they form a flat shape less than a half-inch in thickness. A wallet is furnished with each pair, one skate being fitted into each of the pockets. It makes a parcel less than an inch in thickness and of a length slightly greater than that of the skate.

CHUCK FOR ROCK DRILLS.

The accompanying engraving illustrates a chuck of novel form adapted for holding rock drills with sufficient yield to prevent their breaking under pounding or jarring strains of the driving mechanism. The chuck is of such form that the drill may be quickly placed and securely held between two opposed springs.

One of our views shows a section of the chuck. It

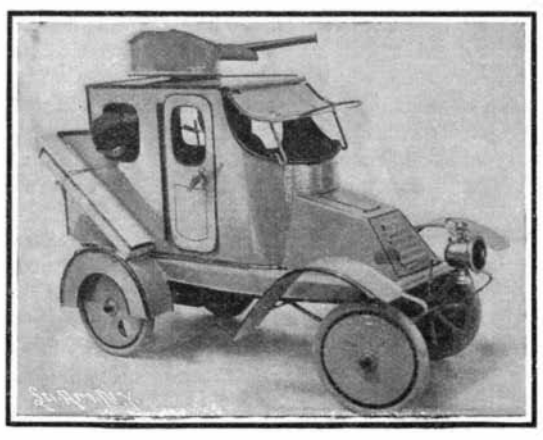


CHUCK FOR ROCK DRILLS.

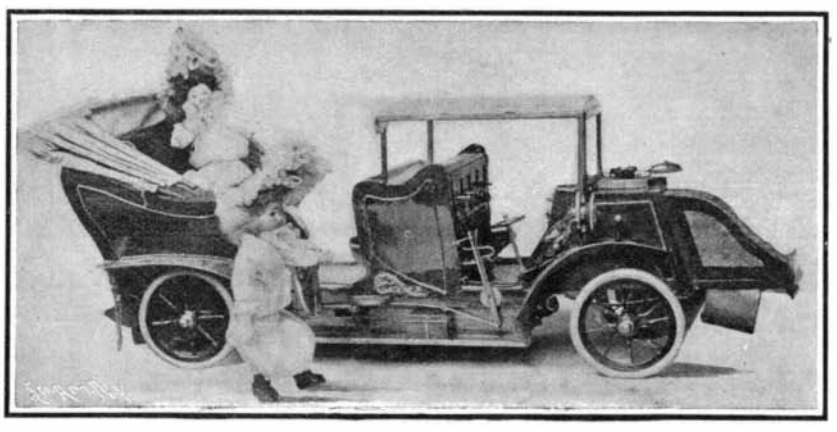
will be observed that the chuck comprises a tubular member formed with a circular enlargement. In the circular enlargement a transversely extending chamber is provided. Fitted into this chamber is a stud *A*, threaded at its upper end to receive a nut *B*. Between this nut and shoulder in the chamber is a split spring washer. In an opening in the stud *A* is a sleeve *D*, formed with a central rib, which is adapted to engage a groove *E* in the drill shank. The lower end *C* of the stud is threaded to receive a nut, and between this nut and a washer which bears against a shoulder in the chamber, is a coil spring. Collars are provided at opposite ends of the stud to prevent entire removal of the nuts. The latter are loosened when it is desired to insert a drill in the bore of the chuck.

The chuck and drill are provided with notches, which are adapted to be brought into alinement when the drill is inserted, so as to bring the groove *E* in proper position. The bore is slightly tapered to a larger diameter at its outer end. The nuts on the stud are now screwed down against their respective springs, and as one of the springs is stronger than the other, the shank of the drill will be pressed by the rib of sleeve *D* to the position illustrated, with the inner end bearing against the upper side of the bore at *F*, and the outer end bearing against the lower side of the bore at *G*. When the drill is in use it will yield against the action of the springs, and thereby serve as a cushion to take up any lateral strains which are imposed upon it. A patent on this improved drill chuck has recently been granted to Peter McKay, of Day Dawn, Murchison, Western Australia.

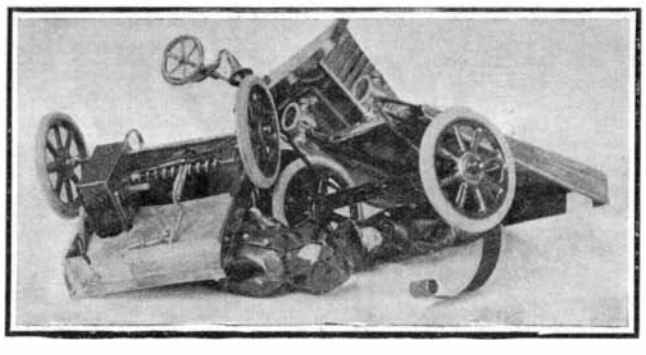
Cork forests exist in several parts of Morocco, and when order is established, and the cost of transport is lessened by the construction of roads and bridges, these forests may well be turned to profit.



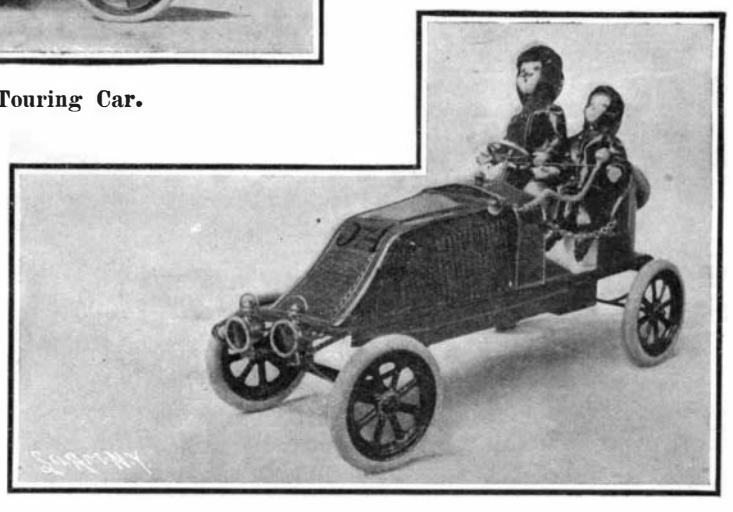
A Toy War Automobile.



A Model of a Comfortable Touring Car.



The Collapsible Automobile Wrecked.



The Machine Before the Wreck.

NEW TOY AUTOMOBILES.

BY OUR PARIS CORRESPONDENT.

There has been held at Paris, during the last six years, an annual toy exhibition which is organized by M. Lepine, the Prefect of Police, and is intended to bring out the most interesting novelties of the year. Inventors, and especially the small manufacturers of toys, are encouraged by the models exhibited and the prizes which are awarded, and by the fact that the leading toy dealers visit the show and take up anything that seems novel. As Paris has a very large trade of this character, the show is now recognized as one of the features in developing the industry. Seeing that the public is having its attention directed more and more toward scientific and mechanical progress, such as airships, automobiles, and the like, it is only natural that mechanical toys should figure somewhat prominently at the present exhibition. We illustrate some of the designs which attracted the greatest attention. One is a very ingenious device in the shape of a collapsible automobile, which is so built that it will run for a certain distance at a high speed and then suddenly collapse, throwing the chauffeur out and giving an excellent imitation of a real motor accident. Another is a model of a large-sized touring car, and the third a model of the Charron-Girardot-Voigt war automobile.

NEW TOY AUTOMOBILES.