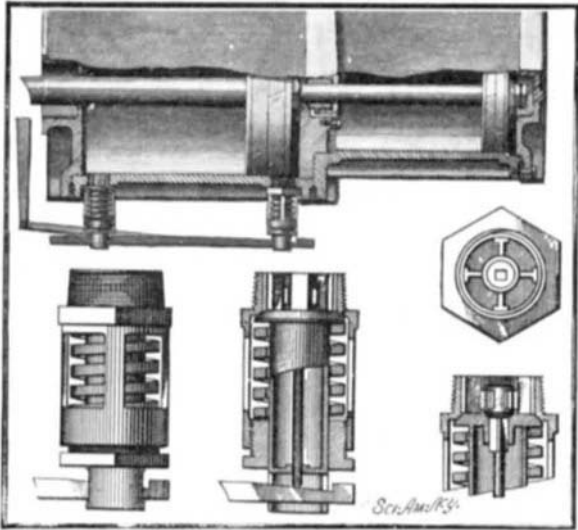




CYLINDER-COCK FOR COMPOUND LOCOMOTIVES.

In the accompanying engraving we illustrate an improved cylinder-cock adapted especially for use on cylinders of compound locomotives, to provide means whereby the engineer may open communication between the ends of the cylinder and the atmosphere upon starting, and which will also prevent any undue excess of pressure while running. In the upper fig-



CYLINDER-COCK FOR COMPOUND LOCOMOTIVES.

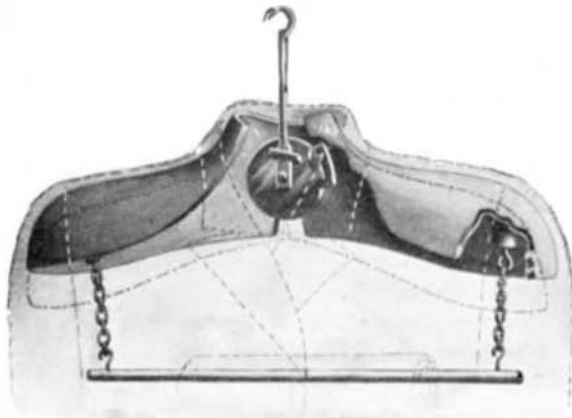
ure of the engraving the high-pressure cylinder is shown at the right and the low-pressure cylinder at the left. A cylinder-cock is threaded into each end of the low-pressure cylinder. The details of the cylinder-cock are shown clearly in the lower figures, the one at the left being a side view, and the center figure a partial section. The device comprises a casing formed with large openings inside and closed at the bottom by a plug threaded therein. A valve-seat is formed at the upper end of the casing to receive a valve. A heavy spring normally keeps this valve seated. The valve is formed with a tubular extension, which passes through an opening in the plug and extends below the bottom of the casing. Near the lower end of this extension is a spider, in which is a central opening, which serves as the bearing for the stem of a second smaller valve. The latter closes an opening in the larger valve above referred to. The valve stem is guided at its upper end by radial extensions bearing against the sides of this opening. The smaller valve, as shown in the section at the extreme right of our engraving, operates within a cage extending upward from the face of the larger valve. The top of this cage is closed by a plug. The smaller valve may be opened by means of a rod, which has bearings in the bottom extension of the larger valve, and which is formed with an inclined face engaging the end of the valve stem.

On account of the lower temperature of the steam in the low-pressure cylinder, it is liable to considerable condensation previous to exhaust while the locomotive is running, and this accumulating is liable to break the intermediate head, or that of the low-pressure cylinder. But with these cylinder-cocks in use, when this accumulation becomes sufficient to create a dangerous pressure, the larger valve is pressed from its

seat, permitting escape of the fluid through the side openings in the casing. At the same time the downward movement of this valve carries the seat from the smaller valve and furnishes an additional opening, the escape therefrom being through the spider. When the pressure falls below the tension of the spring, the larger valve is returned to its seat, thus closing both valves. When the engineer in starting desires to release the water from the cylinders, it is only necessary to move the cylinder-cock rod. The operating faces of this rod will then press against the lower ends of the valve stems, raising the smaller valves in their seats, the larger valve remaining in place. This opens communication with the atmosphere through the opening in the larger valve and through the spider. The invention thus provides a compact and effective means both for relieving the cylinder of water, through manual operation by the engineer, and for performing this operation automatically when it accumulates excessively. Mr. Charles B. Alvis, of Las Vegas, New Mexico Ty., is the inventor of the improved cylinder-cock.

IMPROVED GARMENT HANGER.

In the accompanying engraving we illustrate an improved coat and trousers hanger, which is made adjustable to accurately fit any coat, so as to keep it in perfect shape and in the exact position which it will assume when upon the wearer. The hanger, it will be observed, comprises two wings or shoulder pieces, pivoted together. These wings are formed with circular extensions, an extension on one wing fitting between the two on the other; the outer extension is covered with a plate having a central pivot pin passing through all the extensions. This plate is provided with an arc-shaped slot at one side, through which passes a pin secured to the inner extension. The pin, which is threaded, is provided with a thumb nut adapted to lock the parts in any relative position desired. Pivoted on a central extension of the circular plate is a hook, which is limited in its movements by a strap. A bar on which trousers may be hung is suspended below the main hanger frame by chains attached to the shoulder pieces. It will be obvious that a hanger of this character can be so adjusted that it will exactly fit any coat whether having square or drooping shoulders, and will also fit the neck of the garment in such a manner as to prevent any alteration



IMPROVED GARMENT HANGER.

in shape when the coat is left on the hanger any considerable length of time. Thus the original shape of the coat is effectually preserved—an advantage gained which, we believe, has not been attainable with any previous form of coat hanger. The inventor of this improved garment hanger, Mr. John A. Carlson, of 1210 Sterling Place, Brooklyn, N. Y., is a custom cutter, and his experience with the many unsatisfactory garment hangers on the market led him to produce this garment hanger, which he believes will fully meet all requirements.

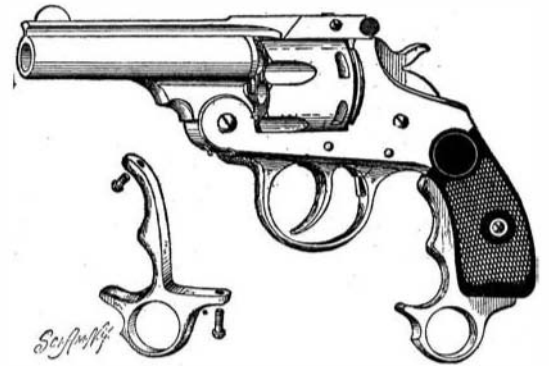
NOVEL ATTACHMENT FOR AUTOMOBILES.

A resident of Canada proposes to humor the skittish horse by attaching life-size dummy horses in front of automobiles, so that they will present the appearance of horse-drawn vehicles. Aside from its office of deceiving timid and high-strung horses, such an attachment would prevent the fear often experienced by the novice, of being pitched over the dashboard of his automobile. The accompanying illustration shows how it is proposed to attach the dummy horse to a motor vehicle. The forward part of the horse, it will be observed, is carried on a roller, mounted on a

swivel fork, while the rear is supported by plates attached to the legs and fitted to the forward axle of the vehicle. The body of the horse is made hollow and provides ample storage place for fuel, tools, extra tires, and any other equipment with which it is desired to provide a motor vehicle. Entrance to this tool chest is had through a door in the rear, the tail of the figure serving as the door handle. In the head of the horse a chamber is formed to receive a search light for use at night, and colored lenses at each side serve as eyes for the creature. In its mouth the animal carries an automobile horn. The reins are attached to the lower jaw of the figure, and must be normally held taut, permitting the bulb of the horn to expand and fill with air. When, however, the tension on the lines is relaxed, the jaw, under action of the spring, closes onto the bulb, causing the horn to sound. A patent on this invention has recently been secured by Mr. Henry Hayes, of Fort Thomas, Ontario (Box 620).

ODDITIES IN INVENTION.

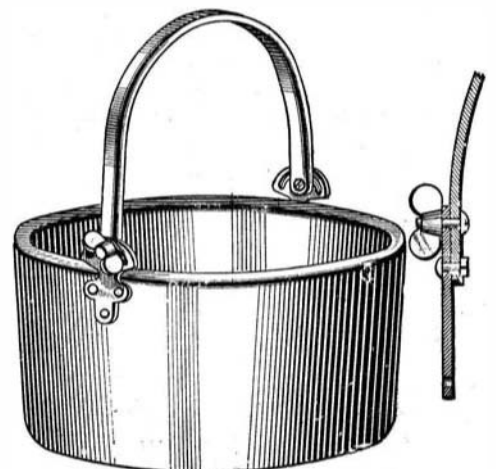
REVOLVER GRIP.—The accompanying engraving illustrates a useful attachment for revolvers which is



REVOLVER GRIP.

adapted to provide a firm grip on the weapon. Heretofore, to obtain a strong grip on a revolver, it has been necessary to design the same with a long sweep of the handle, which presents the disadvantages of weight and cumbersomeness. The grip here shown provides a hold for the entire hand, without adding any appreciable amount of weight to the weapon. Its use would prevent the very common occurrence of having a revolver knocked from the hands of the holder, and would preclude the possibility of its being wrenched from the hands by superior strength at just the very moment when it is most desired for defense. The grip is attached to the revolver by means of screws, and it may, therefore, be easily removed at the option of the user. The attachment is manufactured by the Iver Johnson's Arms and Cycle Works, Fitchburg, Mass.

HANDLE ATTACHMENT FOR KITCHEN UTENSILS.—A useful handle for pots, kettles, and utensils of various kinds is illustrated herewith. It is especially adapted for use on those receptacles which have to be heated and which have a pivoted bail or handle that hangs down in contact with the receptacle while it is being heated. The handle, when in such position, becomes hot very quickly, and it is the object of the invention here shown to remedy such undesirable conditions. As indicated in the engraving, the improved handle is so arranged that it may be secured in any desired position. At opposite sides of the utensil pivot plates are attached to which the ends of the handle are pivoted. These pivot plates are formed with semi-circular slots through which screws on the handle extend. By means of thumb nuts on these screws, the handle may be prevented from turning on its pivots. When the utensil is being heated the handle may be moved to vertical position, and clamped in place by tightening the thumb nut. This will prevent excessive heating. Furthermore, the handle may be secured at any in-



HANDLE ATTACHMENT FOR KITCHEN UTENSILS.

cline desired, as for convenience in pouring out the contents of the vessel. If desired, the handle may be pivoted to the utensil in the usual manner at one end



NOVEL ATTACHMENT FOR AUTOMOBILES.