W. A. CASWELL.

Apparatus for Attaching Hose to Couplings.

No. 199,350. **Patented Jan. 22, 1878.**

FIG. 1.

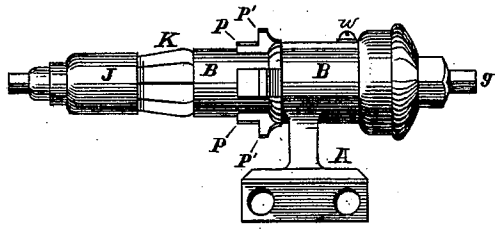


FIG. 3.

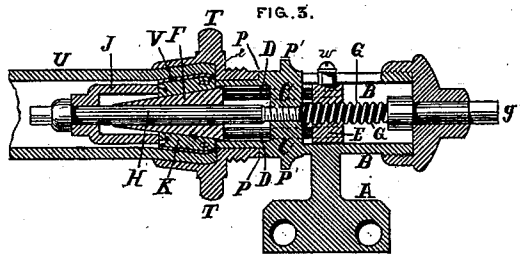


FIG. 2.

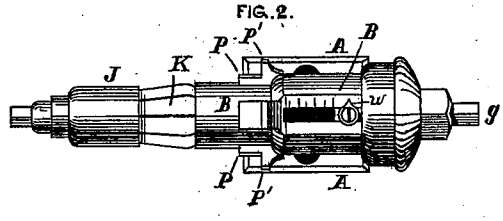


FIG. 5.

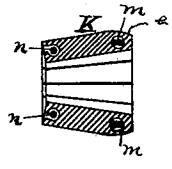
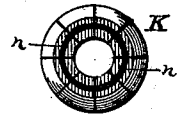


FIG. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. CASWELL, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO E. B. PRESTON, OF SAME PLACE.

IMPROVEMENT IN APPARATUS FOR ATTACHING HOSE TO COUPLINGS.

Specification forming part of Letters Patent No. **199,350**, dated January 22, 1878; application filed November 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM A. CASWELL, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Apparatus for Attaching Hose to Couplings, of which the following is a specification:

In the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation, and Fig. 2 a plan view, of the apparatus. Fig. 3 is a vertical central longitudinal section of the same inserted into a hose and coupling, as in the act of fastening the hose to the coupling, to illustrate the internal construction and the operation of the machine. Figs. 4 and 5 are views upon a somewhat larger scale of the segmental expanding-piece, Fig. 4 showing an end view looking at the smaller end, and Fig. 5 a longitudinal section.

Like letters of reference denote like parts wherever used in the several figures.

In the said drawings, A represents the frame for securing the apparatus to a bench. Upon this frame is mounted a barrel, B, divided by a transverse partition, C, through which pass freely the guide-rods D, which may be four in number. These guide-rods are secured at one end to a traveling nut, E, and at the other end to a cone, F, so that the revolution of the screw G will cause the cone to move back or forward, as the case may be. This screw may be turned by a winch or handle applied to the squared end *g*, that projects to the rear.

In order that it may move freely and without binding, the cone is mounted to slide upon a central rod, H, supported from the center of the partition C at the rear, and from the elongation J of the barrel at the front.

Surrounding the cone, and located between the barrel and its prolongation J, is the segmental expanding-piece K, made up of several segments, whose united contour forms interiorly a hollow cone, and exteriorly a cone having a rounded base, the base or larger diameter of both interior and exterior cones being toward the rear of the machine.

The several segments are maintained in position by a wire, *m*, coiled through holes in the base, and by a spring, *n*, which may be a simple rubber band slipped into a slot on the face of the smaller ends.

This construction permits the expansion of the segmental piece by the cone, and causes it to contract when the cone is withdrawn.

The hose-coupling T to be secured upon a hose is slipped over the barrel up to the stops P or P′, the former for a male and the latter for a female coupling. The hose U itself, previous to this, we will suppose has been inserted in the chamber of the coupling prepared to receive it, and a metal thimble, V, slipped inside of the end of the hose. The cone is now driven forward by the screw and the piece K expanded, swaging out the thimble to a conical form, firmly securing the coupling and hose together by means of the expanded ring.

The rounded base *e* of the expanding-piece produces in the ring a concave rounding at a corresponding point, for the purpose of producing a smoother water-way.

By expanding the ring in conical form greater strength of fastening is attained, a greater resistance against separation by what is termed the "back pressure" of the hose being secured.

A pointer, *w*, moved through a slot in the barrel by the traveling nut, indicates to the operator the amount of expansion given to the ring.

An index or scale may be marked on the barrel, to afford a guide for the different kinds of hose—say, from two to five plies or thicknesses.

I claim—

1. The segmental expanding-piece, made conical exteriorally, and with a rounded base to form a smoother water-way, substantially as specified.

2. The combination, with a hose-fastening apparatus consisting of an expanding-mandrel, of an indicator or index to denote the amount of expansion by means of the forward motion of the nut, substantially as specified.

3. The combination, with the barrel, of the traveling nut, the screw for impelling the same, the guide-rods, the cone attached thereto, and moving on a central guide-rod, and the segmental expanding-piece, substantially as specified.

W. A. CASWELL.

Witnesses:
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