

(No Model.)

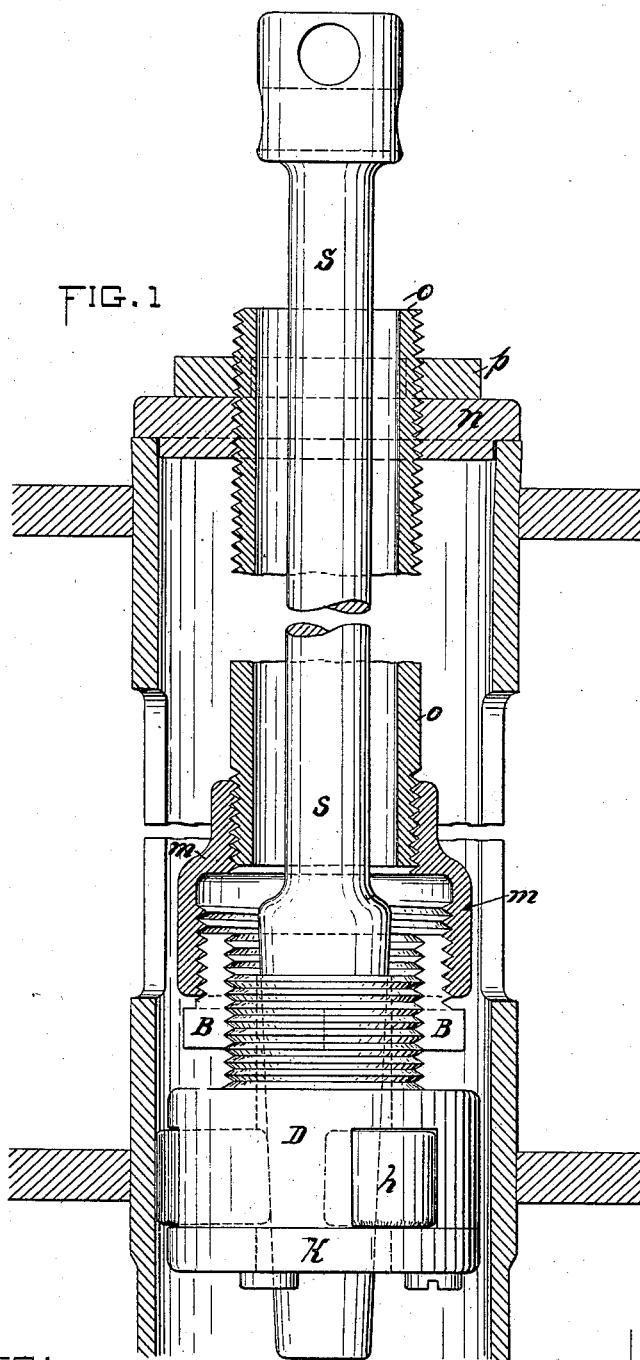
2 Sheets—Sheet 1.

G. A. ROWELL.

TUBE EXPANDER.

No. 343,730.

Patented June 15, 1886.



WITNESSES:

Aug. C. Ringling
Chas. Waterbury

INVENTOR

George A. Rowell
By Chas. W. Forbush
Att'y.

(No Model.)

2 Sheets—Sheet 2.

G. A. ROWELL.

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Fig. 3

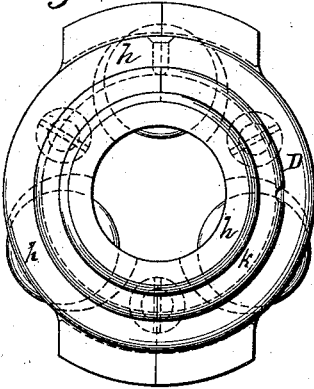


Fig. 2

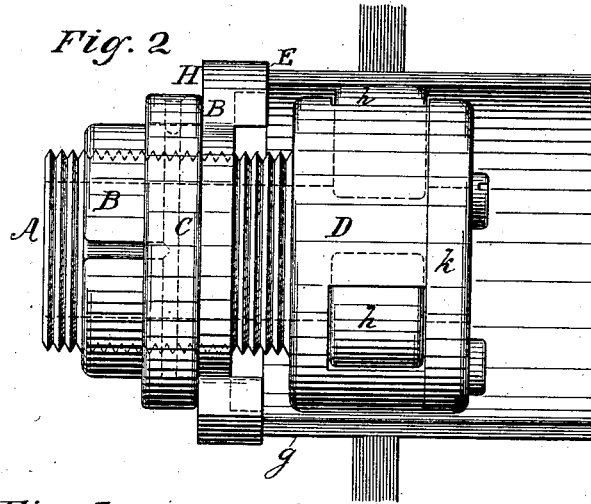


Fig. 6

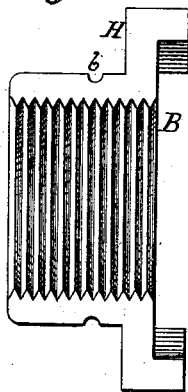


Fig. 5

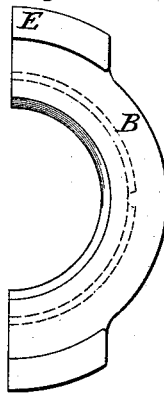


Fig. 4

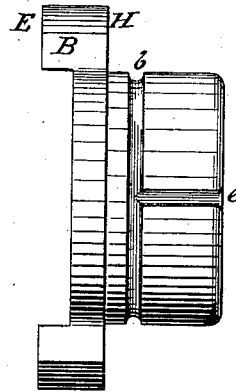


Fig. 7

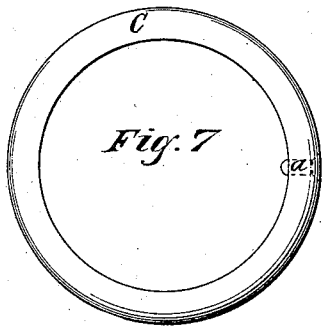


Fig. 8



WITNESSES:

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ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE A. ROWELL, OF BROOKLYN, NEW YORK.

TUBE-EXPANDER.

SPECIFICATION forming part of Letters Patent No. 343,730, dated June 15, 1886.

Application filed November 6, 1885. Serial No. 181,993. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. ROWELL, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Adjustable Tube-Expanders, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which—

Figure 1 is a longitudinal view, partly in section, of a device embodying a modification of my invention; Figs. 2 and 3, a side and end view, respectively, of the expander head; and Figs. 4, 5, 6, 7, and 8 represent various views of the several parts of the same detached.

In order that others may understand and use my invention I will proceed to describe the same in detail and explain its operation, and subsequently point out in the claims its novel features.

In the drawings, A is the neck of the expander, having a series of concentric circumferential grooves that engage with corresponding grooves formed within the halved collar B, as shown, respectively, in Figs. 1 and 6, in order that the collar B may be placed and adjusted at any desired point on the neck A and bear against the end of the tube to be expanded. The halved sections of the collar B are held together by means of a collar or ring, C, placed over and around the same, and fastened by a pin, *a*, that engages with the circumferential groove *b* on the collar B, as shown in Figs. 4, 6, and 8. The ring C may be applied and removed without removing the pin *a* by placing it so that the pin *a* will register with the longitudinal groove *c*, as shown in Fig. 4.

The body of the expander is shown at D, and contains a series of rolls, *h*, loosely arranged in recesses of somewhat larger diameter to provide for their radial movement, and are held in the recesses by means of the removable cap-plate *k*. By the adjustment of the collar B its face can be placed against the tube *g* to be expanded, as shown in Fig. 2, and allow the expanding-rolls to occupy a different position in relation to the end of the tube, so that the rolls may always be placed opposite the seat

upon which the tube is to be expanded and permitted to operate concentrically. The collar B may also be reversed on the neck of the expander, so as to allow the face H to project beyond the body of the expander, and thereby make a greater distance between the end of the tube and the position of the rolls against the seat than if the collar is placed, as shown in the drawings, with the face E bearing against the tube.

The device, as shown in Fig. 1, is designed for use at places that are inaccessible except through the interior of the tube to be expanded, and in this instance the ring C is dispensed with, and a female screw-cap, *m*, as an equivalent device, substituted, to which is connected a hollow shank, *o*, of the desired length to reach the place at which the expander D is to be operated. This hollow shank *o* is provided at its free end with a screw-thread that engages with a cap-nut, *n*, that bears against the end of the tube, and also with an external jam-nut, *p*, which when applied retains said shank at its point of adjustment.

The conical expanding drift or spindle *s* is passed through and operated independently of the adjustable collar B to force the rolls outwardly and revolve the head D in the usual way.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A tube-expander consisting of a revolving expanding-head constructed with concentric circumferential grooves, and a stationary adjustable collar to engage with said grooves and bear against the end of the tube to be expanded, substantially as described.

2. A tube-expander consisting of a revolving expanding-head, and an adjustable collar to bear against the end of the tube to be expanded, said collar being made in sections and held in adjustment by a removable ring or its equivalent, as described.

GEORGE A. ROWELL.

Witnesses:

C. W. FORBES,
AUG. CREVELING.