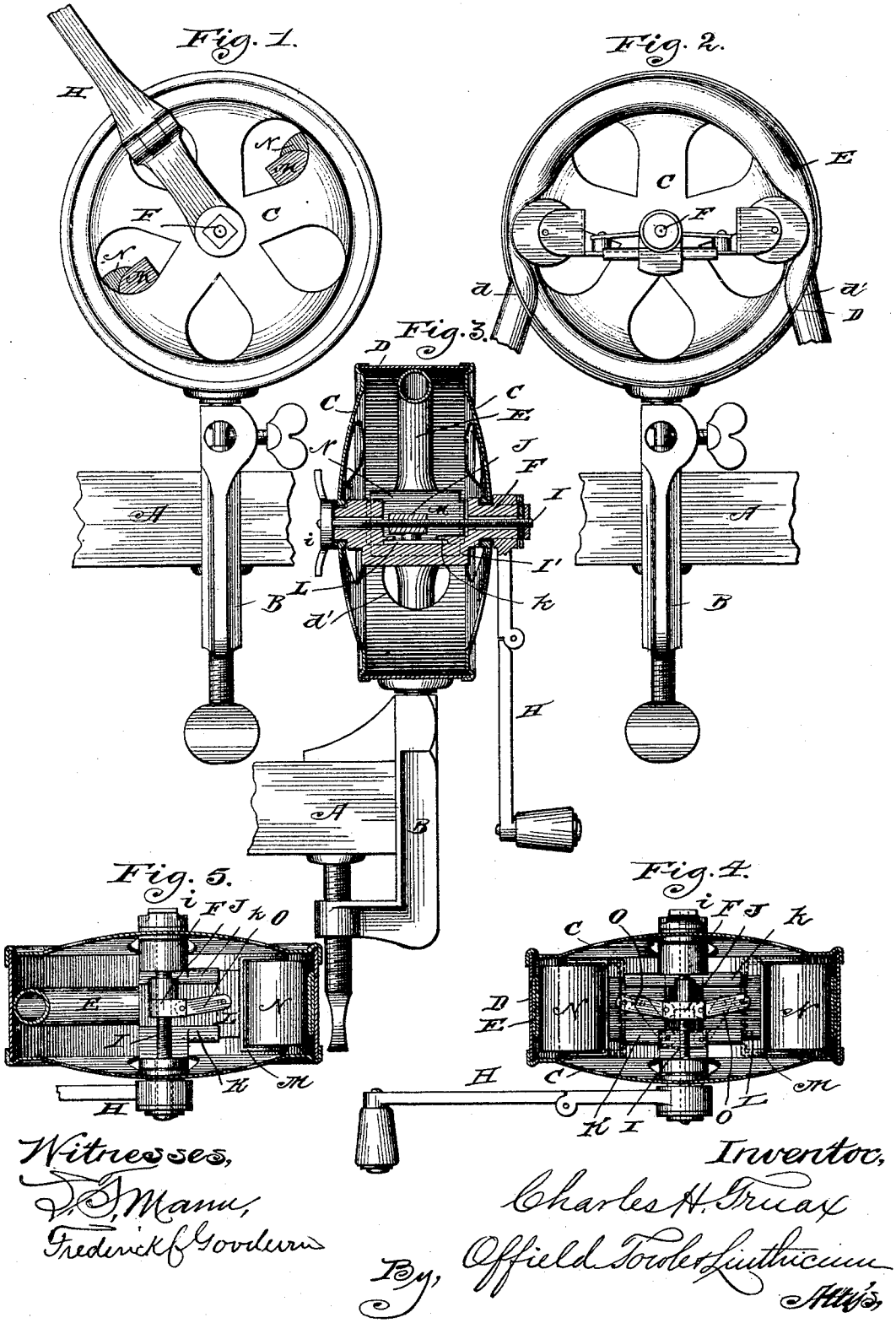
(No Model.)

C. H. TRUAX.

SURGICAL PUMP.

No. 459,054. Patented Sept. 8, 1891.



Witnesses,
D. S. Mann,
Frederick F. Goodwin

Inventor,
Charles H. Truax
By, Offield, Towler & Linthicum
Att'ys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES H. TRUAX, OF CHICAGO, ILLINOIS.

SURGICAL PUMP.

SPECIFICATION forming part of Letters Patent No. 459,054, dated September 8, 1891.

Application filed March 7, 1891. Serial No. 384,106. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. TRUAX, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Surgical Pumps, of which the following is a specification.

My invention relates to that class of surgical pumps in which a flexible tube having a portion of its body located within a cylindrical casing and its ends projected through apertures therein is caused to deliver a liquid by the application of pressure thereto from a traveling roller or rollers having a sliding connection with an arbor journaled transversely of the casing and having outside thereof an operating-handle; and the object of my invention is to provide simple and effective means for varying the extent of the thrust of the pressure device and for locking it in its adjusted position.

In the accompanying drawings, which show the preferred construction, Figure 1 is a side elevation of the pump with its attaching-bracket fixed in position for use, some of the parts being broken away. Fig. 2 is a similar view showing one wall of the casing removed to expose the interior construction. Fig. 3 is a transverse sectional elevation through the casing of the pump, and Fig. 4 is a horizontal sectional plan view. Fig. 5 shows my invention applied to a pump having a single roller.

The pump may be affixed to a support, as A, by means of the bracket B, the pump proper having a cylindrical casing, the side walls whereof are marked C, and these side walls may be apertured or imperforate, as desired. The peripheral wall D of the pump is preferably apertured at two separated points, as *d d'*, which fall on the same side of a plane passing through the center of the pump. Through these apertures is passed a flexible tube E, the body of which inside the casing rests against the peripheral wall. It is to be observed that this tube passes a little more than half-way round the casing. Centrally of the casing is journaled an arbor F, which is rotated by the handle H, which may be jointed, as shown. The ends of the arbor are longitudinally perforated for the passage of an adjusting-screw I, to the threads of which is adapted a traveling nut J, and the arbor has an offset portion I', from which project plates K, having flanges *k* thereon forming ways for the radially-sliding arms L of yokes M, which rotatably support the rollers N. The nut is pivotally connected with the yoke-arm by means of the link O, and the end of the screw I opposite the handle H has a thumb-piece *i* thereon. By turning this thumb-piece it is evident that the traveling nut J may be caused to move laterally and through the links described impart a sliding movement to the roller-carrying yokes, and that by this simple mechanism a delicate, certain, and rapid adjustment may be given to the rollers in either direction.

The operation will be fully understood by reference to the several figures of the drawings.

In Fig. 2 the roller is shown thrust out into operative engagement with the tube, and the like position is indicated in Fig. 4, in which figure the normal or inoperative position is indicated by dotted lines.

In use the tube will be constantly engaged by at least one of the rollers, owing to the fact of the passage of the tube around more than one-half of the circumference of the casing.

The adjusting mechanism is readily applied to a pump having a single roller, as shown in Fig. 5. In this instance one of the plates K is omitted and the nut may carry one or more links connected with the sliding yoke-arm of the single roller.

The adjusting means above described are exceedingly simple in their construction and effective in their operation, being positively acting in both directions, and a sufficient degree of adjustment is provided for to render the pump operative with tubes of different sizes. The keepers forming the ways for the radially-sliding yoke-arms may be cast integrally with the arbor or stamped from a plate soldered in the bottom of the yoke-shaped portion of the arbor, and instead of providing the offset in the arbor its sides may have slots communicating with the longitudinal aperture thereof, through which said slots the ends of the connecting-links may pass for connection with the sliding nut.

Instead of employing a traveling nut, a slid-

ing sleeve, to which the ends of the links are connected, may be used and any suitable means employed for moving the sleeve on its support, or the rod J may be connected directly to the ends of the links and have a threaded connection with the side of the casing or with the thumb-piece exterior to the casing, so as to move the ends of the links and thereby adjust the rollers.

I claim—

1. In a surgical pump having a cylindrical casing and an elastic tube passing through the casing, a rotatable arbor and a traveling pressure device having a sliding connection with the arbor, a threaded rod bearing a traveling nut, and a link pivotally connected to the nut and operating to positively adjust and hold the pressure device radially in either direction with relation to its arbor, substantially as described.

2. In a surgical pump having a cylindrical casing and an elastic tube passing through the casing, a central rotatable arbor and pressure-rollers having a sliding connection with and adapted to be moved in their orbit by the arbor, a threaded rod extending into the casing parallel to the arbor and bearing a traveling nut thereon, and links pivotally connected to the nut and operating to positively adjust the rollers radially in either direction with relation to the arbor, substantially as described.

CHARLES H. TRUAX.

Witnesses:
CHARLES C. LINTHICUM,
FREDERICK C. GOODWIN.