

(No Model.)

2 Sheets—Sheet 1

J. MATTHEWS.  
BOTTLING MACHINE.

No. 260,765.

Patented July 11, 1882.

Fig: 1

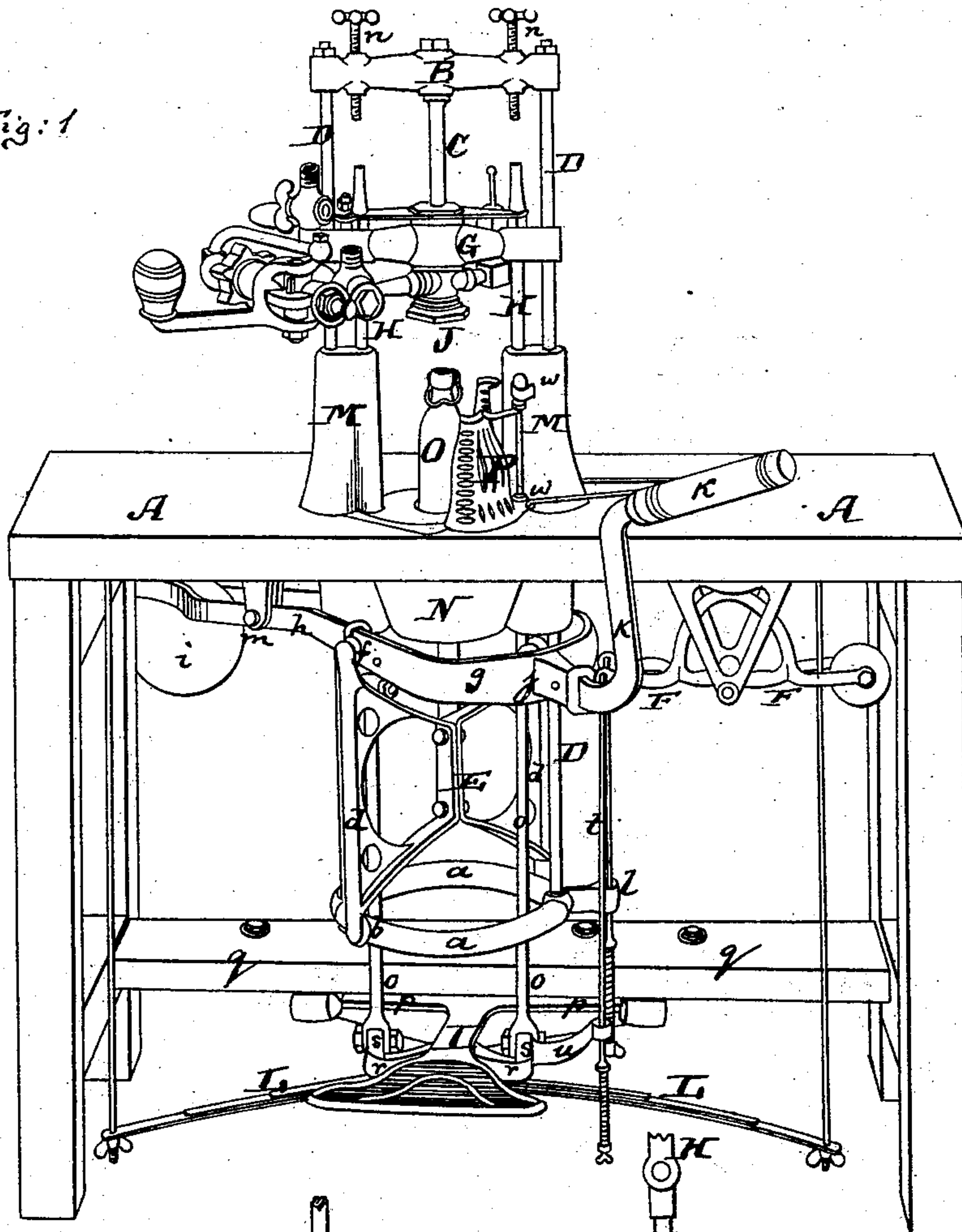


Fig: 2

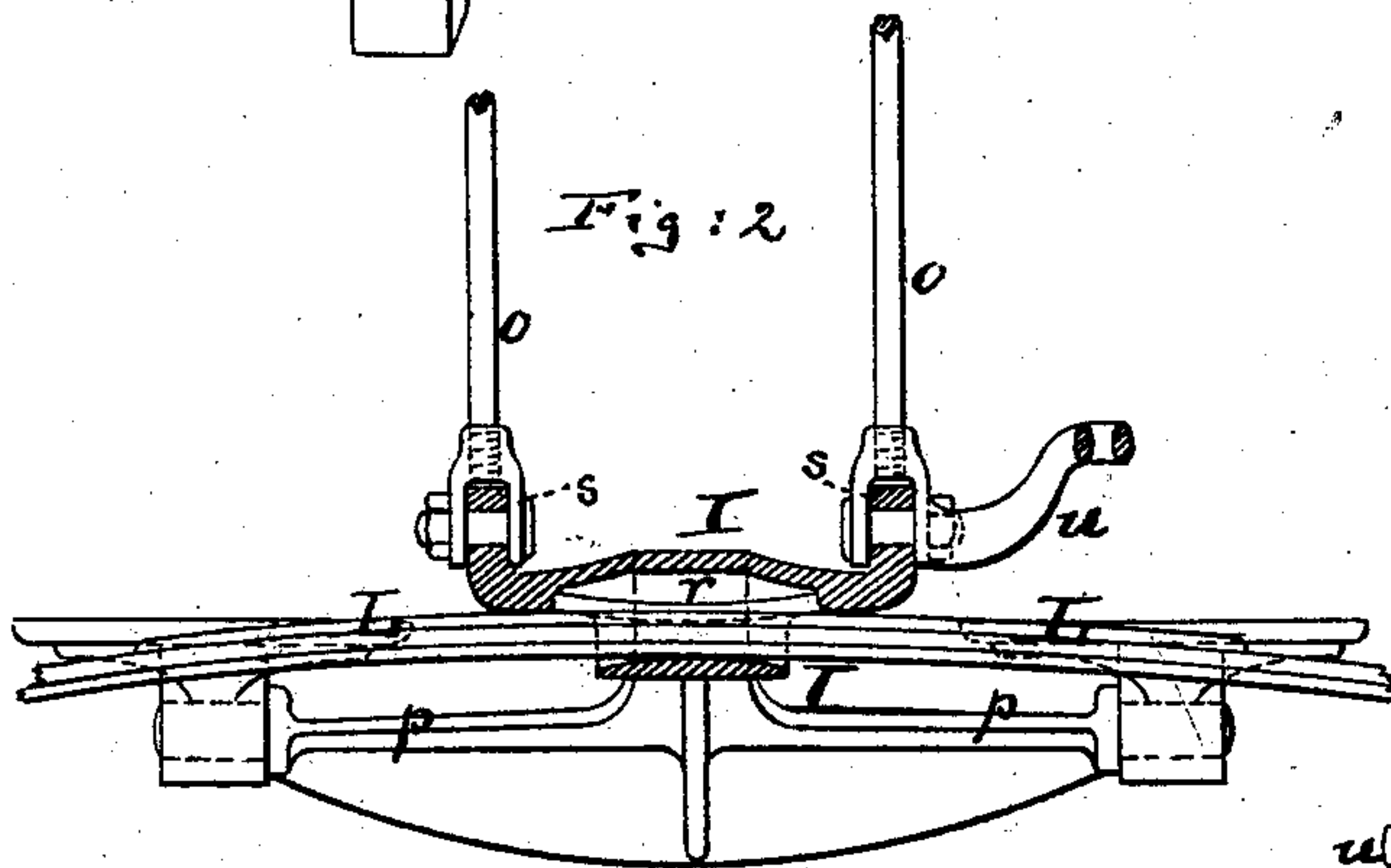
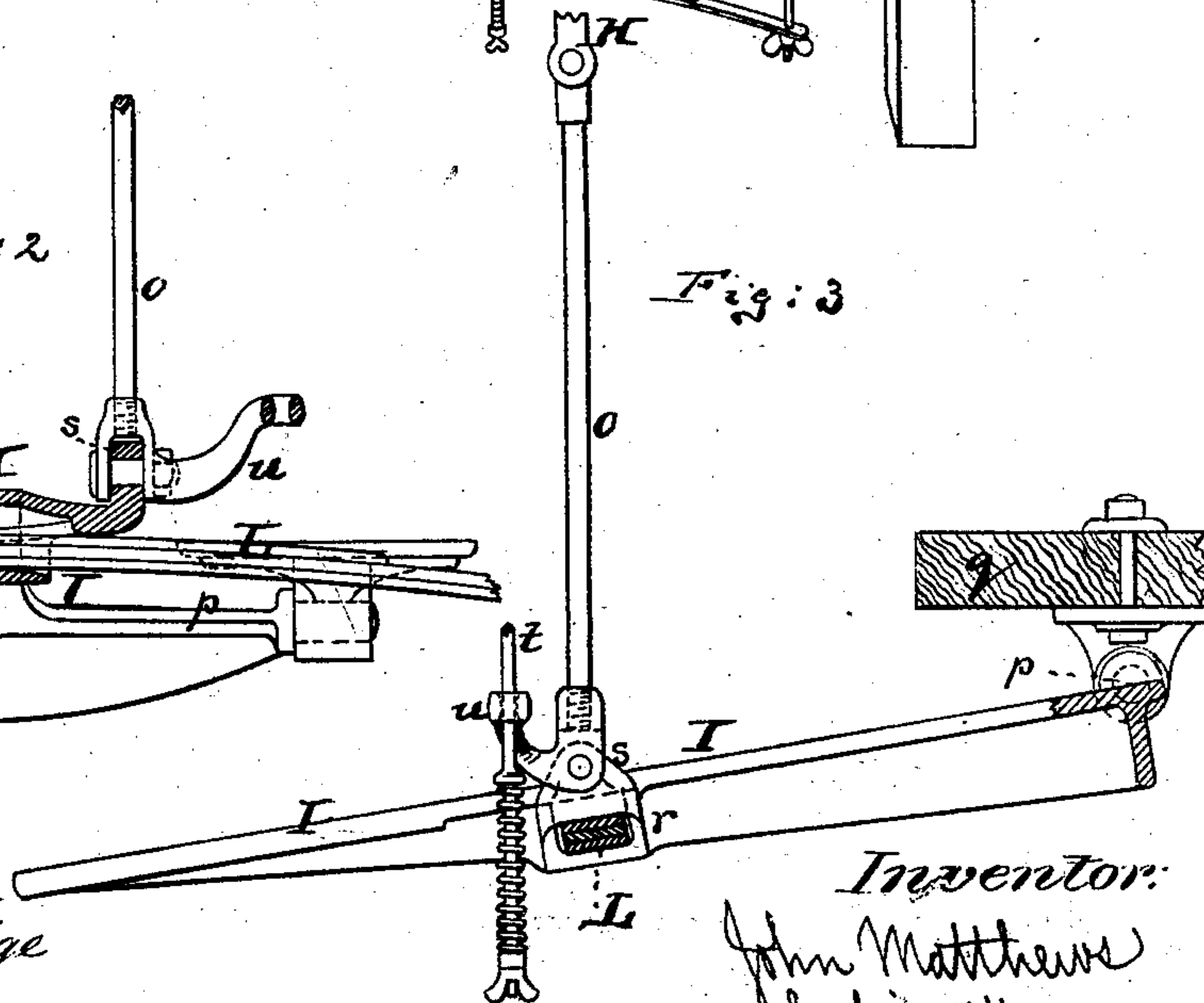


Fig: 3



Witnesses:  
John C. Tunbridge  
John M. Speer

Inventor:  
John Matthews  
by his Attorney  
Briesen & Bate

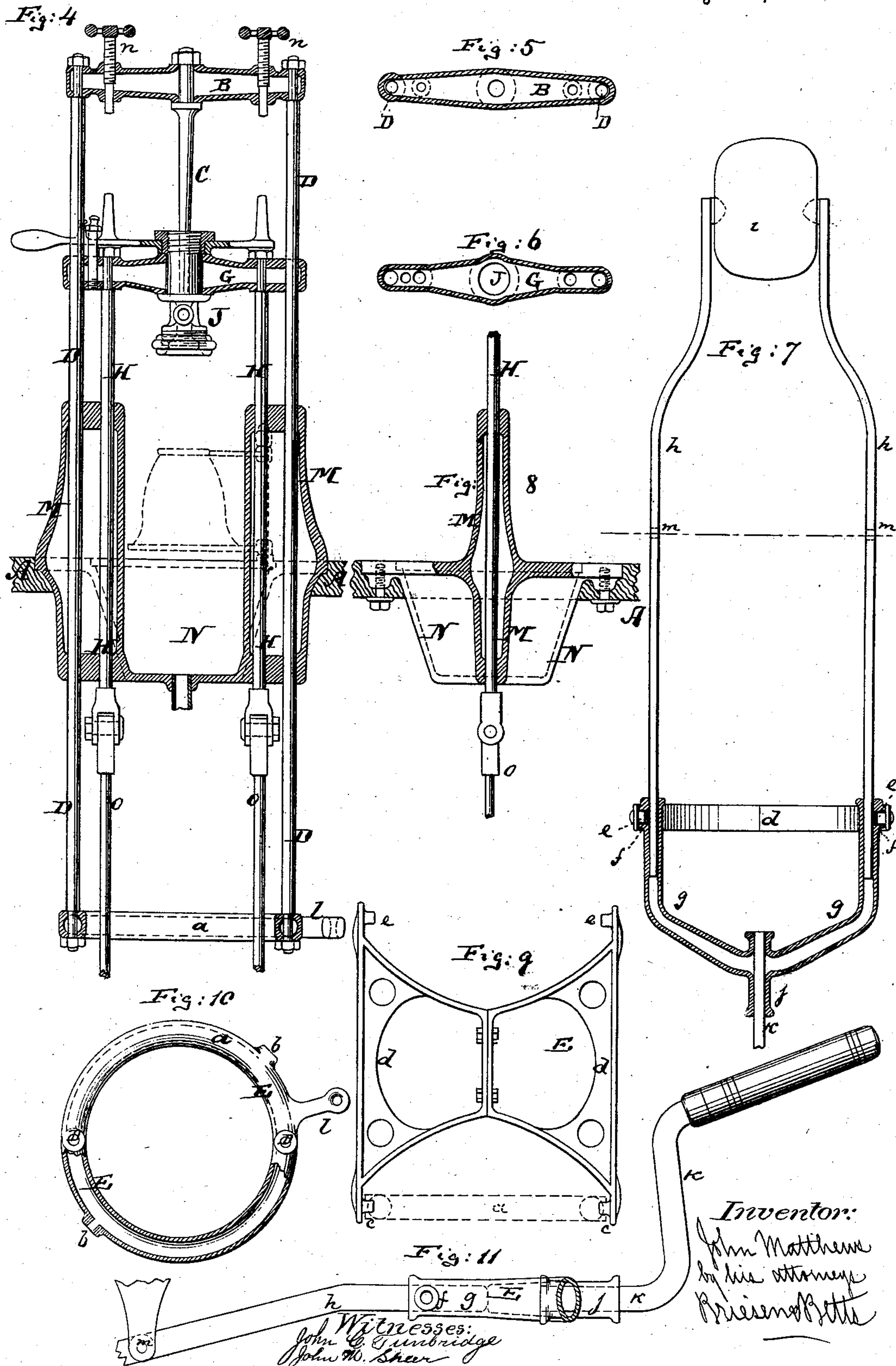
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2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

JOHN MATTHEWS, OF NEW YORK, N. Y.

## BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 260,765, dated July 11, 1882.

Application filed November 23, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MATTHEWS, of New York, in the county and State of New York, have invented an Improved Bottling-Machine, of which the following is a specification.

Figure 1 is a perspective view of my improved bottling-machine. Fig. 2 is an enlarged front view, partly in section, of the treadle and its connection. Fig. 3 is a sectional side view of said treadle. Fig. 4 is a vertical longitudinal section of the sliding portion of the apparatus. Figs. 5, 6, 7, 8, 9, 10, and 11 are detail views of portions of the machine, hereinafter more fully referred to.

In bottling-machines as heretofore made the sliding rods that extend through the table and carry the upper movable cross-heads are exposed to contact with the liquid that escapes in drops or jets during the act of bottling, and, becoming rusty, lose much of their freedom of movement. The machines are also in respect to their movable parts unnecessarily heavy, and undue force is required to keep them in motion. The connection of the actuating-treadle with the sliding rods that carry the lower cross-head and with the retracting-spring is also objectionable, being expensive to make and liable to twist or break the parts. These and other objectionable features it is the endeavor of the present invention to obviate.

The invention consists in providing standard-guides for the vertical sliding rods to keep them from contact with the escaping liquid, keep them straight, and furnish a surface for the admission of a lubricant.

It also consists in a peculiar construction of the cross-heads, yoke, and yoke-frame, whereby said parts can be made in part tubular, and therefore light and strong; also, in a novel construction of treadle for a more perfect connection with retracting-spring and guide-rods for the lower cross-head, and in other details of improvement, all as hereinafter more clearly described.

In the accompanying drawings, the letter A represents the table or frame of my improved bottling-machine.

B is the upper cross-head, carrying the plunger C. This cross-head is supported on verti-

cal rods D D, that extend downward through the table, and have their lower ends connected to the lower ring, *a*, of the yoke-frame E. This yoke-frame consists of the ring *a*, which constitutes its lower portion, and which has diametrically-opposed sockets *b* for receiving the inwardly-projecting gudgeons *c* at the lower part of the upright lattice-framing *d*. (See Figs. 9 and 10.)

The lattice-framing *d* consists of two castings or pieces of equal form, bolted together at their inner lines of contact, and provided with the lower gudgeons, *c*, that have already been mentioned, and of upper inwardly-projecting gudgeons, *e*. These gudgeons *e* enter corresponding sockets, *f*, in the yoke proper, *g*. The latter is shown in horizontal section in Fig. 7, and in partial side view in Fig. 11. The yoke proper, *g*, which is of nearly semi-annular form, is made hollow, as shown in Fig. 7, with open ends to receive the rods *h h*, that carry the weight *i*. At its middle the yoke proper, *g*, has a socket, *j*, for receiving the shank of the operating-handle *k*. The ring *a* is also made hollow, as shown in Figs. 4 and 10, and is pierced vertically to receive the lower ends of the rods D, that are locked to said ring by suitable nuts or pins. The ring *a* has also a projecting eye, *l*, which furnishes the means of connection with the balanced frame F, that hangs beneath the table A. The yoke-frame E is pivoted at *m* to lugs that extend downward from the table.

By making the parts *a* and *g* hollow and uniting them to the sectional connecting-frame *d*, simplicity of construction, lightness, and consequent ease of operation are insured.

The upper cross-bar, B, is made hollow throughout its length, and is perforated vertically to receive the upper ends of the two rods D D, the set-screws *n n*, that limit the downward movement of the bar B, and the shank of the plunger C, all of which parts are secured to said cross-head B.

Fig. 5 is a horizontal section of the hollow bar B, showing the five perforations in it for the reception of the parts D D, *n n*, and C.

The lower cross-bar, G, of the machine is sustained below the cross-bar B by vertically-movable rods H H, that extend downward through the table A, and are at their lower



ends jointed (see Fig. 4) to rods *o o*, that are pivoted to the treadle *I*, as shown in Figs. 2 and 3. The said lower cross-bar, *G*, is also made hollow, and has likewise five vertical perforations—two for the rods *D D*, that pass freely through it, two for the rods *H*, that are rigidly secured to it by nuts or pins, and one for the filling-head *J* of the machine, which it carries.

By making the bars *B* and *G* hollow, as stated, great lightness and ease of operation, together with proper strength, are insured, besides furnishing ready means of attachment for the parts they carry.

The treadle *I* has outwardly-projecting wings *p*, that are hung in proper bearings, which are fastened to a fixed beam, *q*, of the table *A*. Between the wings *p* and the treading-plate or end of the treadle is rigidly secured to the same a hollow cross-bar, *r*, with turned-up end pieces, *s s*, that furnish the lugs for receiving the pivoted lower ends of the rods *o*. (See Fig. 2.) The ends of the hollow cross-bar *r* are open, so that the retracting-spring *L* can be passed through said bar, as shown. By this means the lower pivots of the rods *o* are brought nearly in line with the pivots *p* of the treadle, thus avoiding great strain, and the spring *L* joins the treadle beneath the body thereof, thereby preventing breakage of the parts.

Where a balanced frame, *F*, is used it may connect by a rod, *t*, with a projecting eye, *u*, of the treadle. In practice I prefer to make the treadle, including its wings or pivots *p*, hollow cross-bar *r*, and upwardly-extending ends, in one piece, either cast or wrought.

Where the rods *D D* and *H H* pass through the table *A*, I provide the latter with two upwardly-projecting hollow posts, *M M*, that embrace said rods above said table—that is to say, through each post *M* passes one rod, *D*, and the rod *H* nearest it, as shown. These hollow posts are guides for said rods, keeping them straight, prevent any liquid from the filling apparatus or bottle from reaching the said rods, and permit proper lubricants being used to ease the up and down movements of said rods.

I prefer to make the two hollow posts *M M* in one piece with the pan *N*, that sustains the bottle *O* to be filled. This arrangement is indicated in Figs. 1 and 4, and involves the downward extension below the top of the table of the posts *M*, or parts thereof; but for lighter machines the two posts *M* may be united by a suitable horizontal connecting ring or bar; or they may be separately secured and held in place.

The posts may be held in place on the table by laterally-projecting flanges and screws, as shown in Fig. 8, or by other means.

The posts *M* are also of great service on bottling-machines that fill the bottles in inverted position, and in fact in all machines that require but one set of treadle-rods, *H H*, and

not two sets, *D* and *H*. To one of the posts *M* are also affixed lugs *w*, to which are pivoted the jaws of the bottle-holding screen *P*. This does away with the ordinary separate pivotal support for said screen.

I regard the posts *M* above the table *A* and around the rods *H* or *H* and *D* as a very important improvement on every kind of bottling-machine, and do not, as regards their use, desire to limit myself to the particular kind of machine which is illustrated in the drawings, or to any other particular kind of machine.

The operation of the machine is like that of every ordinary bottling-machine, and need not be further described.

I am aware that bottle-clasps *P* have already been used; but they were heretofore never attached pivotally to the guides of the rods *D*, and always required separate connecting devices.

I claim—

1. In a bottling-machine, the combination of the upper cross-head, *B*, with the rods *D D*, hollow ring *a*, the sectional yoke-frame *E*, table *A*, and mechanism, substantially as described, for moving the frame *E*, as herein shown and described.

2. The yoke-frame *E*, consisting of the hollow ring *a*, having sockets *b* and projecting eye *l*, the sectional lattice-frame *d*, having gudgeons *c c* and *e e*, the yoke proper, *g*, having sockets *f f* and *j*, and the weighted rods *h* and handle *k*, all combined substantially as herein shown and described.

3. The ring *a*, made hollow, perforated vertically to receive the rods *D*, and provided with bearings for the gudgeons *c*, and with the eye *l*, in combination with the yoke-frame and with the balanced frame *F* of a bottling-machine, substantially as herein shown and described.

4. The yoke proper, *g*, made hollow and with open ends for the reception of the rods *h*, and provided with sockets *e e* and *j*, in combination with the yoke-frame of a bottling-machine, substantially as herein shown and described.

5. The lattice-frame *d*, made of two equal parts, each having a gudgeon, *c*, and a gudgeon, *e*, combined with the ring *a* and yoke *g* in the yoke-frame of a bottling-machine, substantially as herein shown and described.

6. In a bottling-machine the hollow cross-head *G*, combined with moving rods *H H*, filling-head *J*, rods *D D*, screws *n n*, hollow upper cross-head, *B*, and plunger *C*, substantially as herein shown and described.

7. The treadle *I*, having pivots *p p*, combined with the hollow cross-bar *r*, having open ends and upwardly-projecting lugs *s*, substantially as herein shown and described.

8. The treadle *I*, combined with its hollow cross-piece *r*, having lugs *s*, and with the operating-rods *o o* and spring *L*, all being directly connected substantially as herein shown and described.



9. In a bottling-machine, the stationary hollow posts M M, projecting above the table A, which is adapted to support the bottle, and combined with the sliding rods that move on each side of the bottle and carry one or more of the cross-heads of the machine, and that are surrounded by said posts, substantially as herein shown and described.

10. The combination of the hollow posts M with the pan N, with which they are united, and with the sliding rods for the cross-head or cross-heads of a bottling-machine, that pass through said hollow posts, substantially as herein shown and described.

11. The hollow posts M M, embracing the sliding rods of the cross-head or cross-heads of a bottling-machine, and elevated above the bottle-supporting table A, and provided with lugs *w*, in combination with the bottle-clasping screens P, that are pivoted to said hollow posts, substantially as herein shown and described.

JOHN MATTHEWS.

Witnesses:

FRED. MATTHEWS,  
H. P. RAFTERY.