

R. FJELLMAN.  
Jack-Screw.

No. 222,028.

Patented Nov. 25, 1879.

Fig. 1.

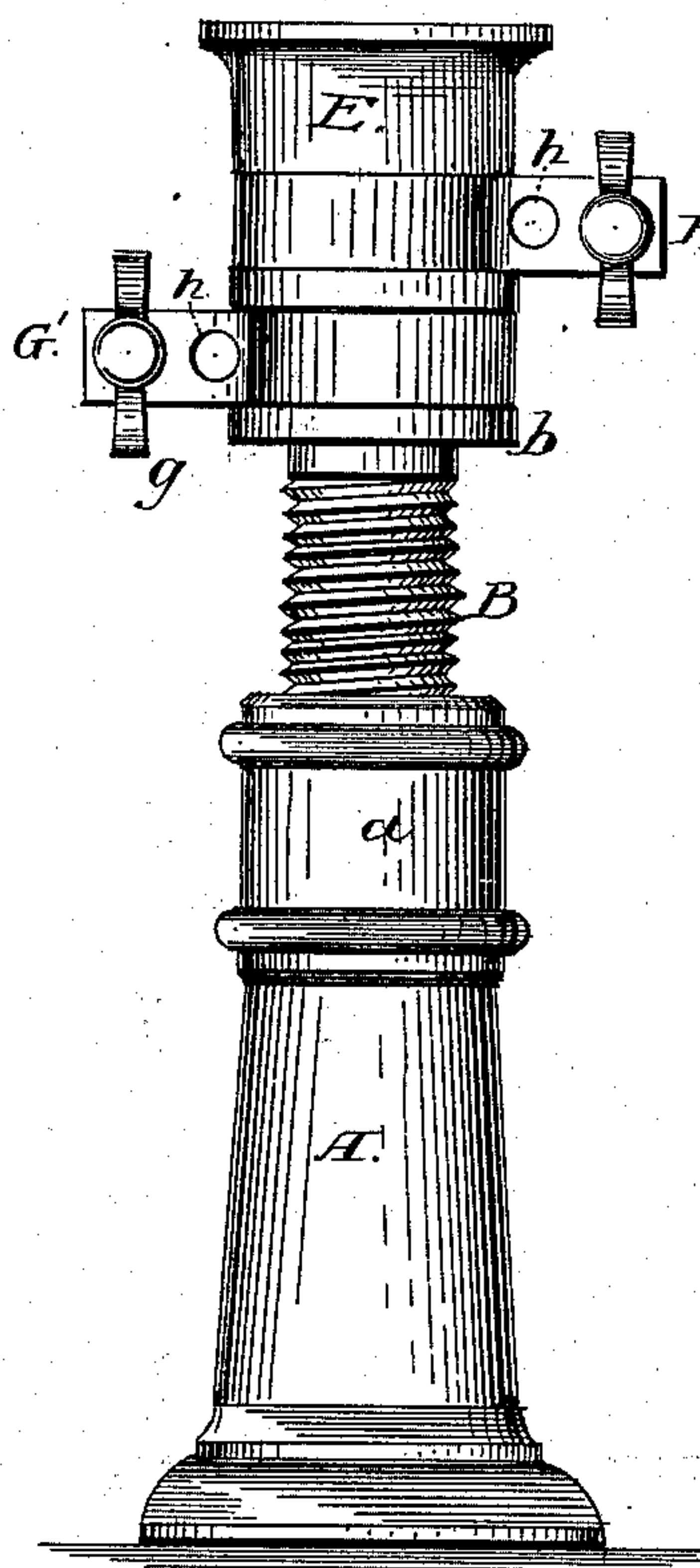


Fig. 2.

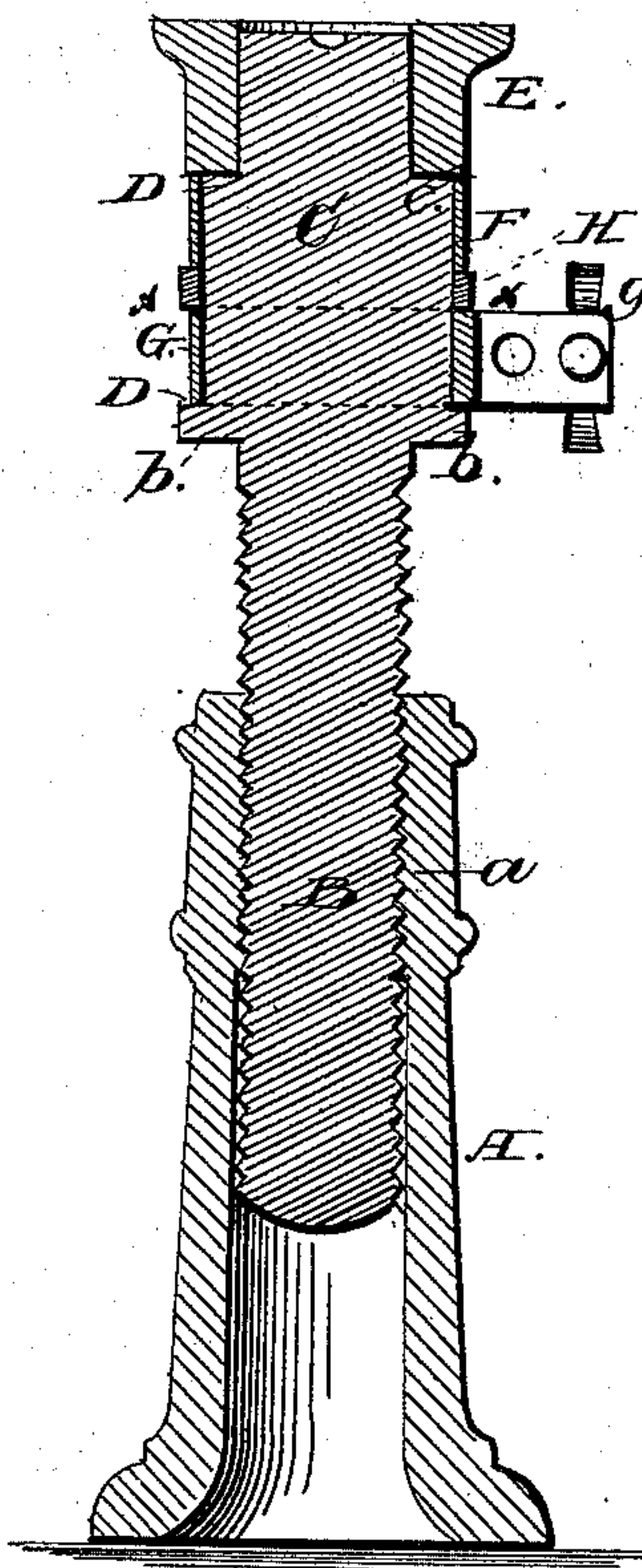


Fig. 3.

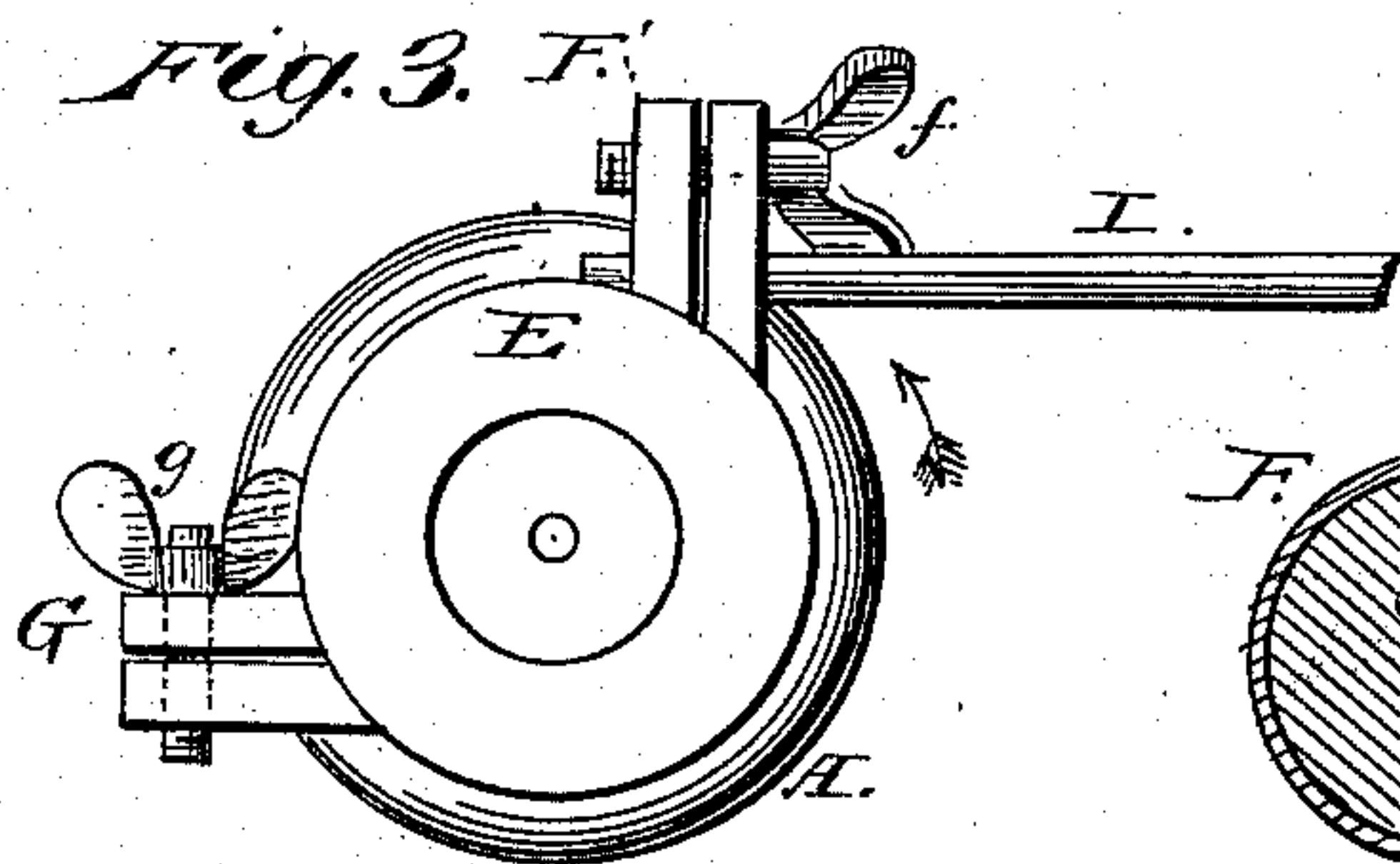


Fig. 4.

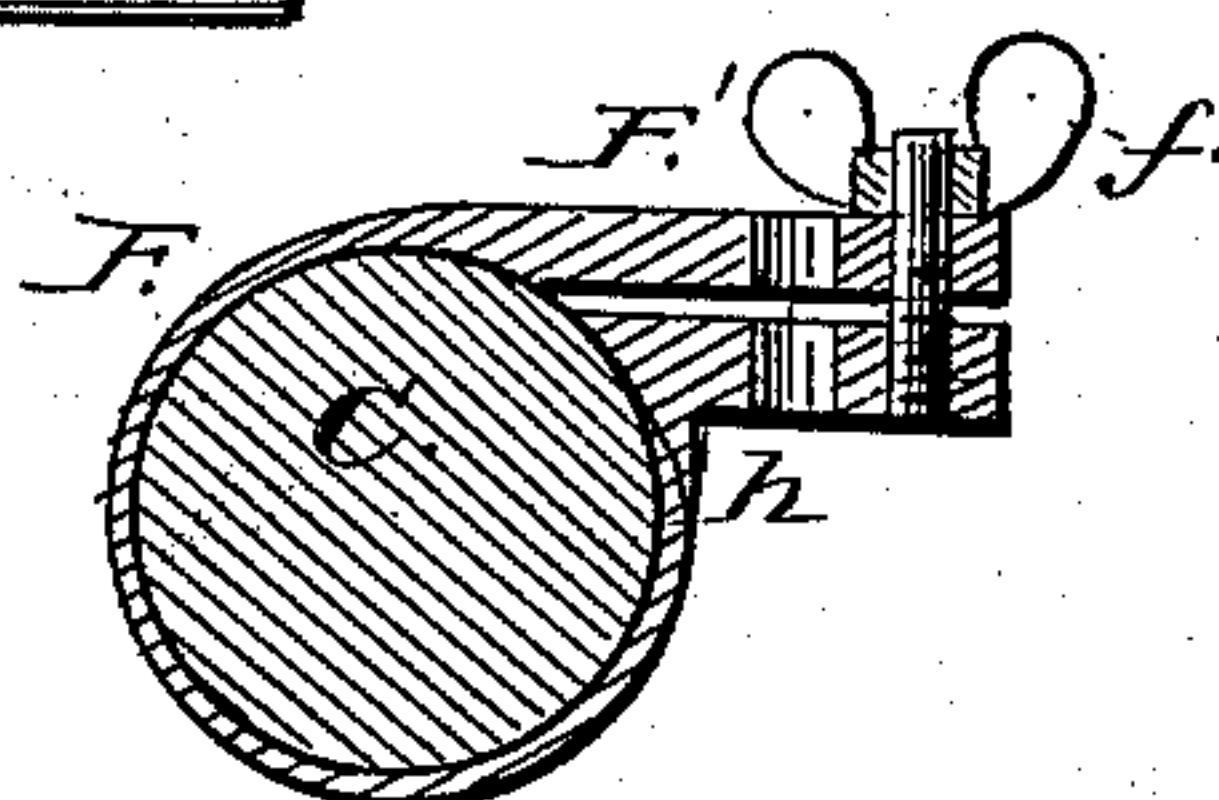
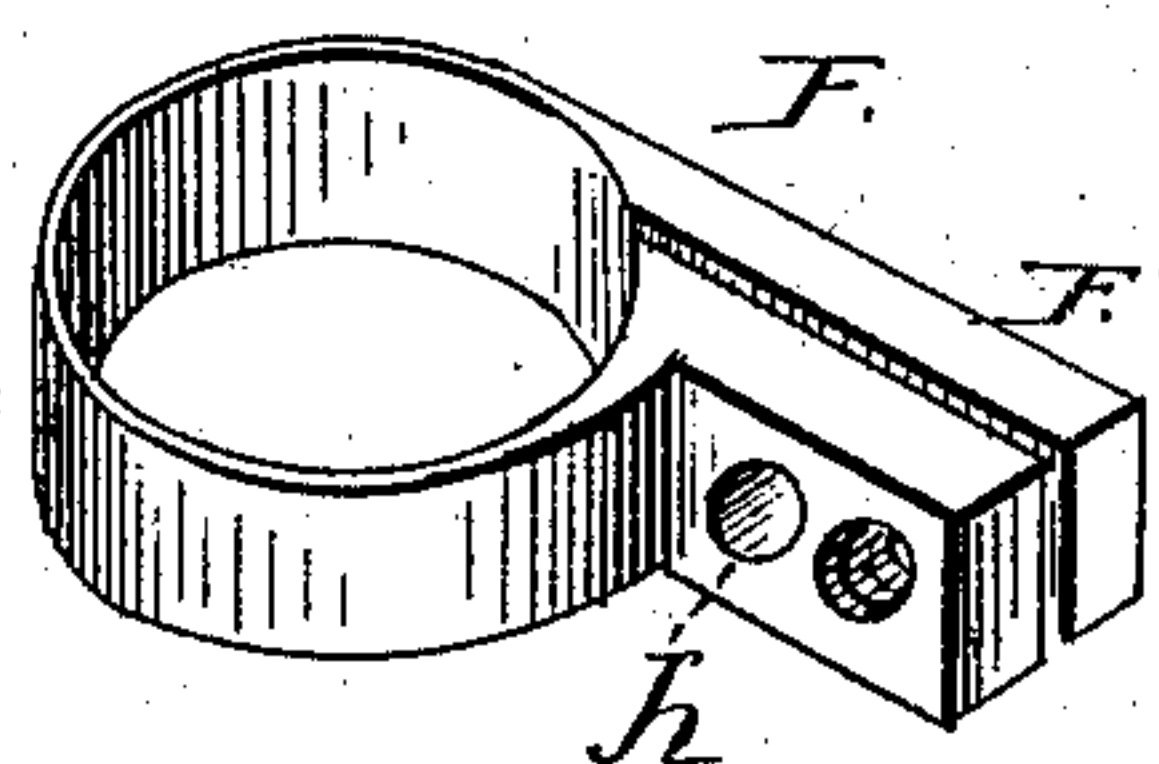


Fig. 5.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ROBERT FJELLMAN, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-THIRD OF HIS RIGHT TO WILLIAM PFAENDER, JR., OF SAME PLACE.

## IMPROVEMENT IN JACK-SCREWS.

Specification forming part of Letters Patent No. **222,028**, dated November 25, 1879; application filed July 21, 1879.

*To all whom it may concern:*

Be it known that I, ROBERT FJELLMAN, of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Jack-Screws; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation. Fig. 2 is a vertical section. Fig. 3 is a plan or top view. Fig. 4 is a cross-section on line *x x*, Fig. 2; and Fig. 5 is a detail view of one of the operating-bands detached.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to that class of lifting implements known as "jack-screws;" and it consists in the combination, with the screw, moving vertically in a threaded socket, of a set of flexible bands, the two projecting ends of each of which are parallel to each other and tangential to the band, while the parallel double ends of each band point toward each other and are perforated for the insertion of the operating-lever, substantially as herein-after more fully set forth.

In the drawings, A is the standard or socket, which has a screw-threaded collar, *a*, at its upper end, into which works the screw B. This is made with a solid head or post, C, having an annular flange or shoulder, *b*, at its lower end, and an offset, *c*, at its upper end, forming a pivot, D, upon which the centrally-perforated movable head E is inserted, bearing with its lower end against the offset or shoulder *c*.

F G are two flexible bands, made, preferably, of steel or malleable iron, which are inserted upon the cylindrical head C and separated by a washer, H. The two ends of each of these bands are made thicker than the band itself, and project, parallel to each other, tangentially to one side, as shown in the drawings, and are united by set-screws, (denoted by *f g*, respectively,) which are provided with thumb-nuts, for the purpose of enabling the

operator to regulate the tension of the bands. The two projecting ends or shanks F' G' of these bands are further perforated, as shown at *h*, to admit of the insertion of one end of the operating-lever I.

From the foregoing description, taken in connection with the drawings, the operation of my invention will be readily understood. The bands F G are first adjusted upon the head C, with their projecting ends pointing toward each other, as will be seen by reference to Fig. 3, so as to allow them to slip round with ease. If it is desired to raise the screw, lever I is inserted into the perforation *h* of the upper shank, F', and turned in the direction of the arrow, when the band F will bind around the head and turn this, thus raising the screw in its socket. By inserting the lever into the perforated shank of the lower band, G, and turning it in the opposite direction, the screw will be lowered.

The lever being in both cases worked upon one side of and not inserted into the head gives a better purchase and makes a stronger head, as there are no perforations to weaken it by the removal of metal. The parts are not liable to break or give, as in devices of this class which are operated by a pawl-and-ratchet movement, and the arrangement of the bands and lever permits this device to be operated with advantage where the space for working the lever is limited.

The whole apparatus is exceedingly simple and compact in its construction, making it very strong and durable, which is a desideratum in this class of implements, which are calculated to sustain heavy weights and are often subjected to rough usage.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination, with the standard or socket A and screw B, having solid cylindrical head or post C and shoulder *b*, of the adjustable clamping-bands F G, provided with projecting perforated shanks F' G', pointing toward each other, substantially as and for the purpose shown and set forth.

2. In a jack-screw, the combination, with the screw B, provided with the solid cylindri-

cal head or post C, having shoulder *b*, of the adjustable clamping-bands F G and washer H, substantially as and for the purpose shown and set forth.

3. The combination, with the solid cylindrical head or post C of the screw B, of the bands F G, provided with set-screws *f g* and perforations *h*, substantially as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ROBERT FJELLMAN.

Witnesses:

E. C. BELL,

JOHN A. HIGGINS.