

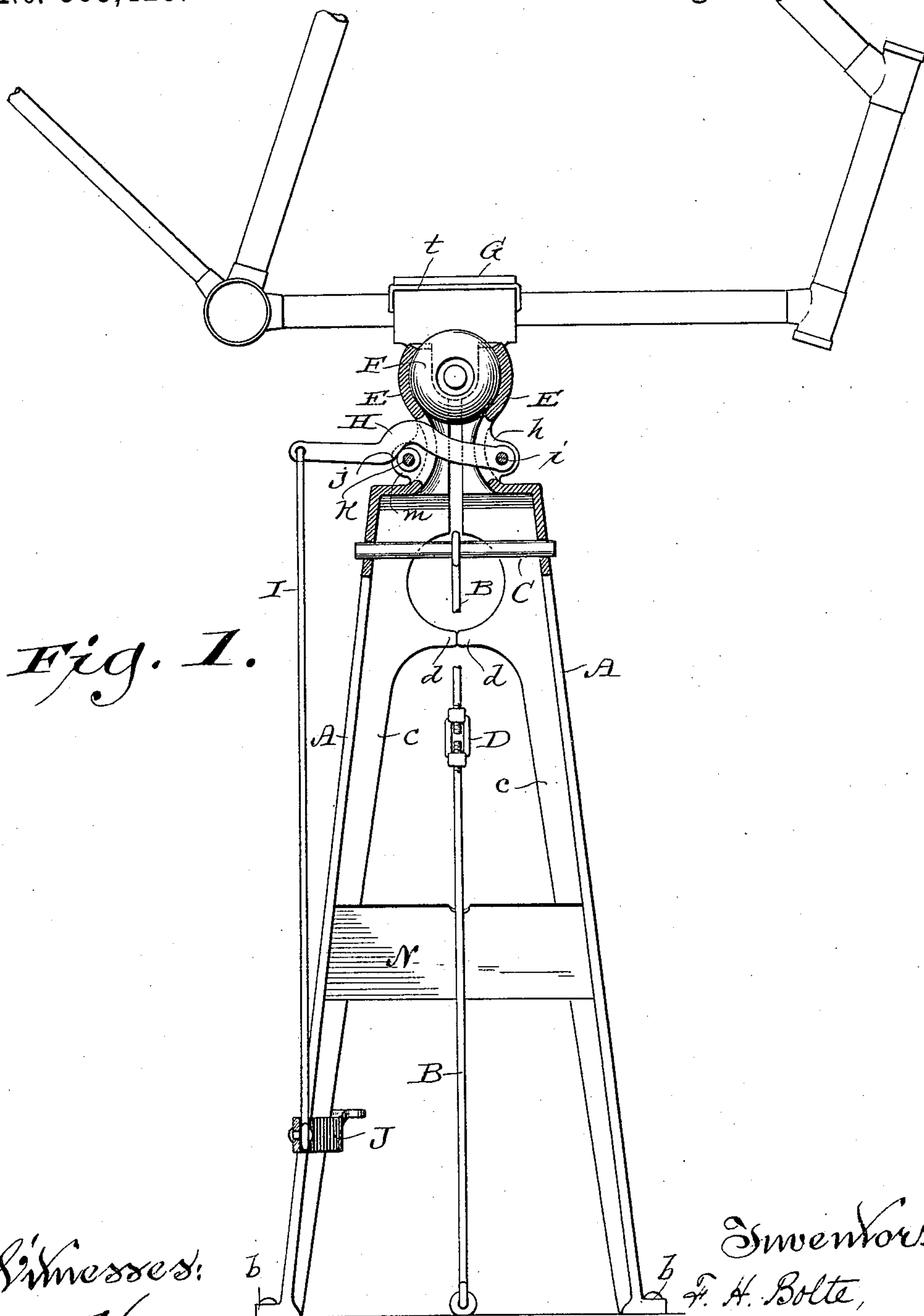
(No Model.)

2 Sheets—Sheet 1.

F. H. BOLTE, T. A. DONLEVY & J. R. CONNELL.
VISE.

No. 565,425.

Patented Aug. 11, 1896.



Witnesses:
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H. E. Oliphant

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(No Model.)

2 Sheets—Sheet 2.

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WISE.

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Fig. 3.

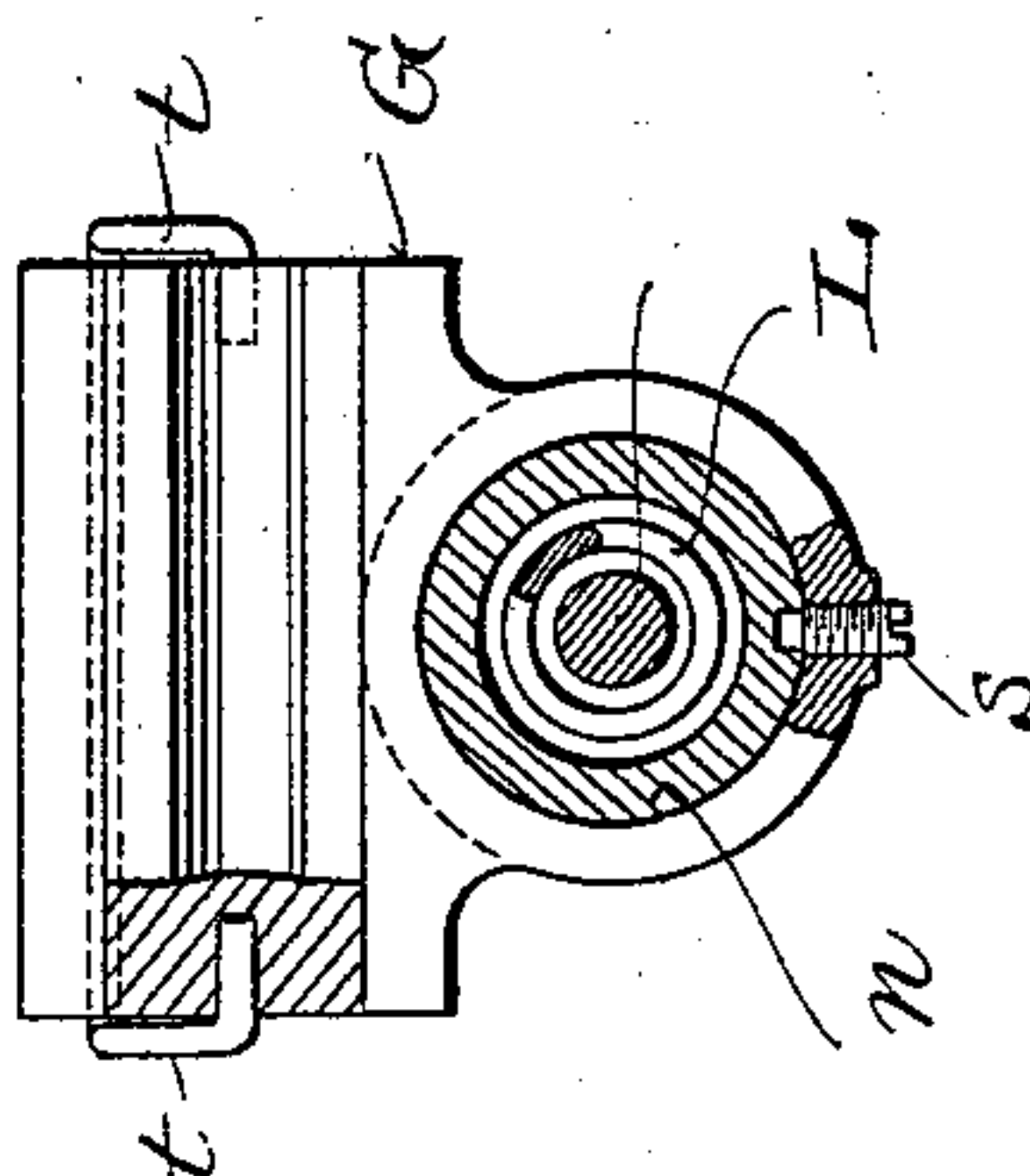
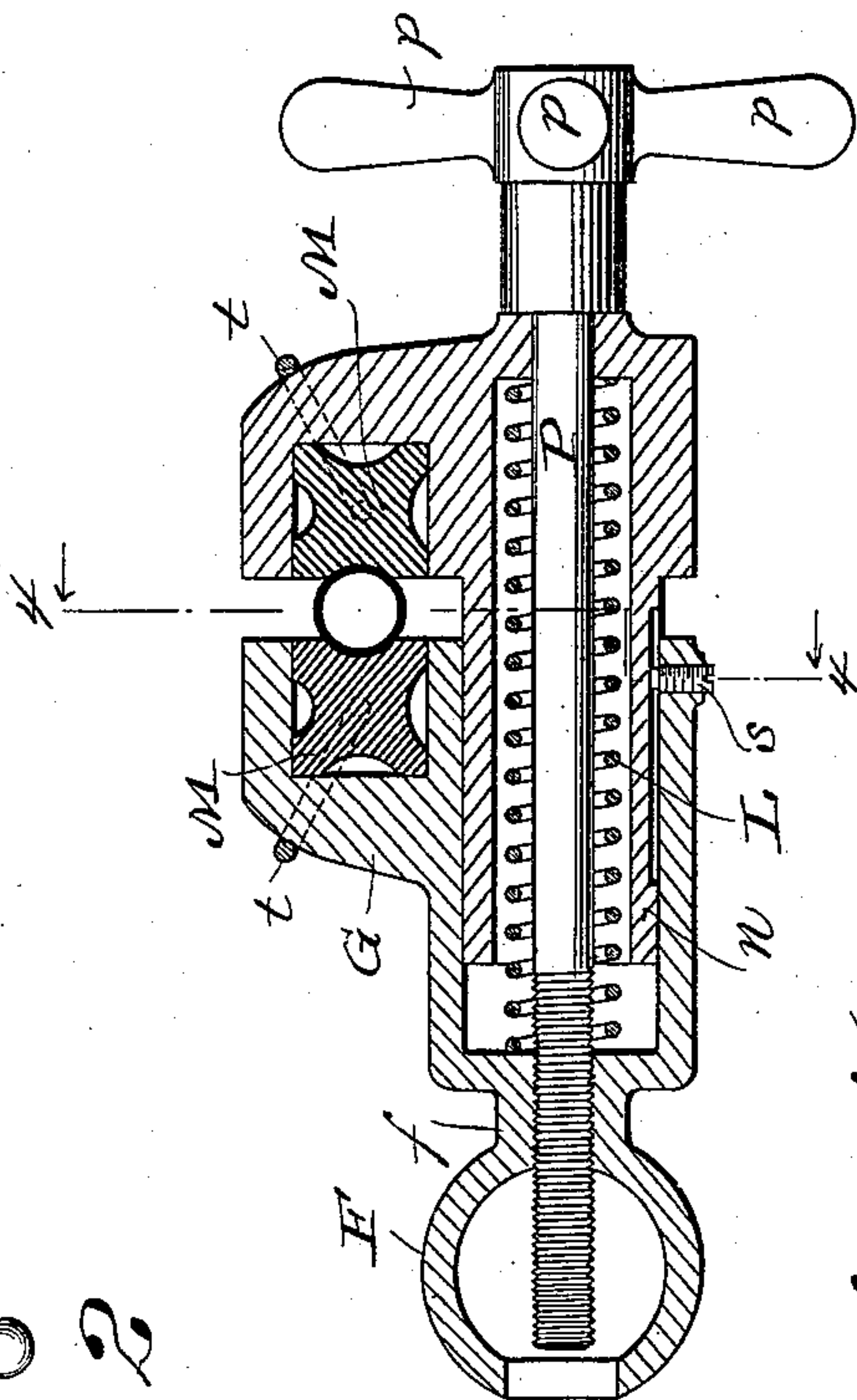
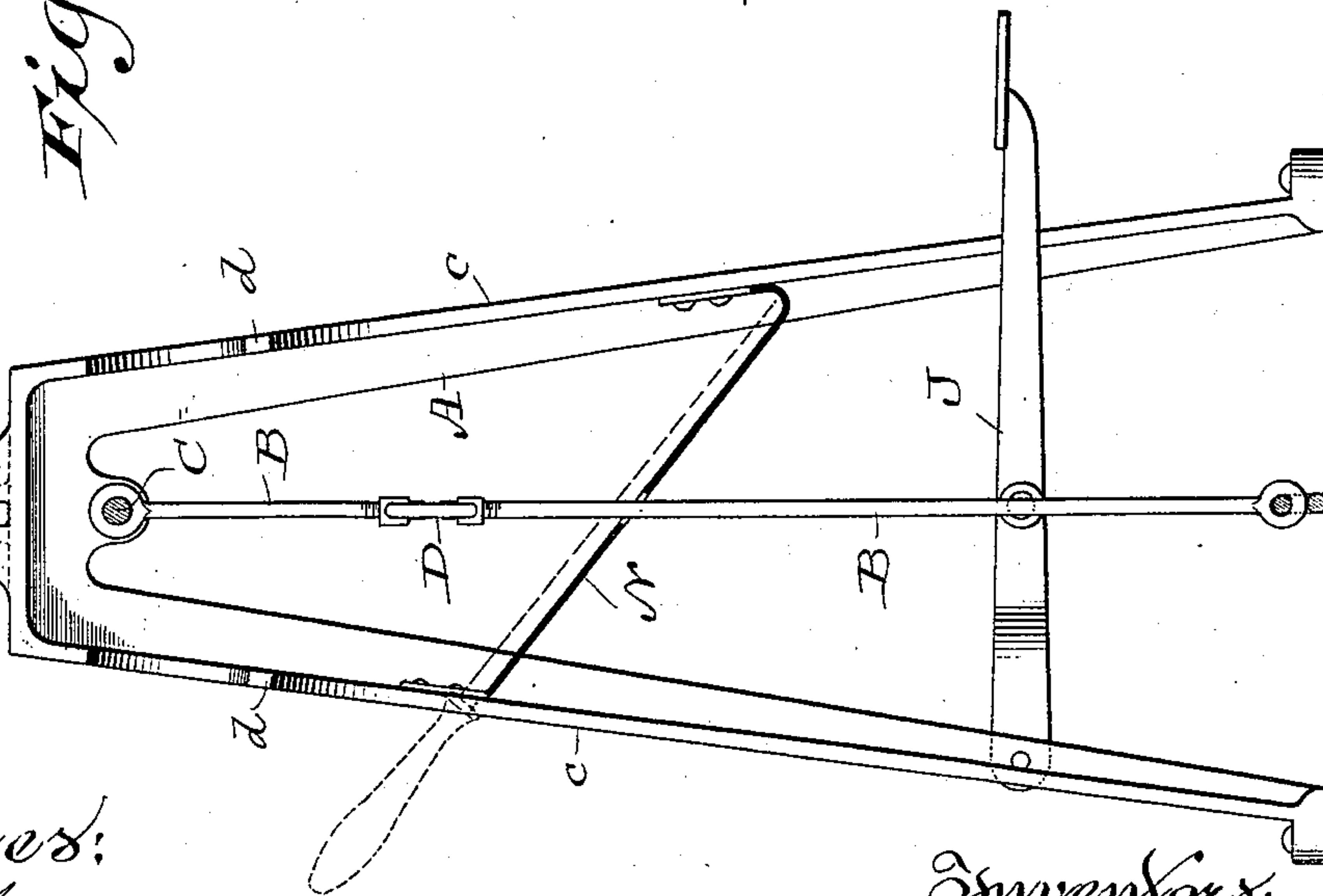
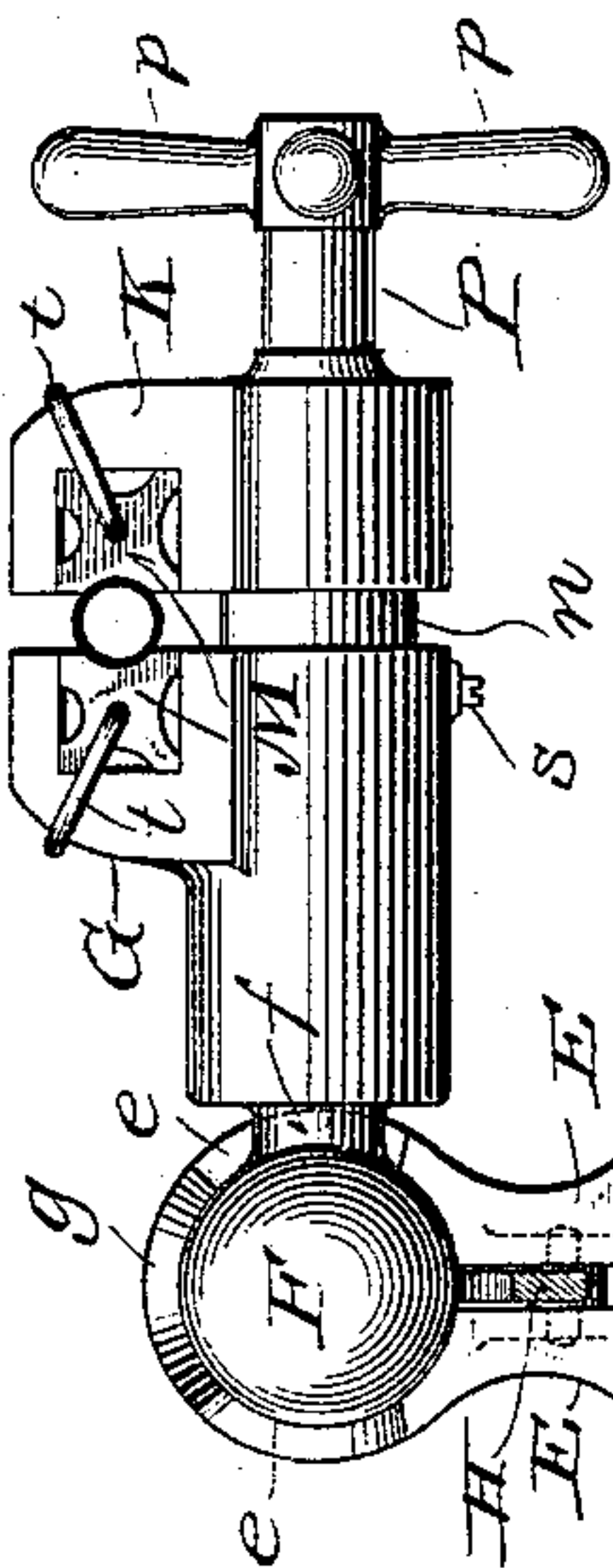


Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK H. BOLTE, THOMAS A. DONLEVY, AND JAMES R. CONNELL, OF
MILWAUKEE, WISCONSIN, ASSIGNORS TO THE BOLTE CYCLE MANU-
FACTURING COMPANY, OF SAME PLACE.

VICE.

SPECIFICATION forming part of Letters Patent No. 565,425, dated August 11, 1896.

Application filed November 18, 1895. Serial No. 569,359. (No model.)

To all whom it may concern:

Be it known that we, FRANK H. BOLTE, THOMAS A. DONLEVY, and JAMES R. CONNELL, citizens of the United States, and residents of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Vises; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has for its object to facilitate filing of bicycle-frames and other work; and it consists in a simple economical structure embodying a universally-adjustable vise hereinafter more fully described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a rear elevation, partly in section, of a structure embodying our invention; Fig. 2, an elevation on a plane central of the structure as viewed at a right angle to the showing in the preceding figure; Fig. 3, a detail longitudinal section illustrating the jaw portion of said structure, and Fig. 4 a partly-transverse section viewed on a plane indicated by line 4-4 in Fig. 3.

Referring by letter to the drawings, A represents standards, each of which is provided with feet *b*, that may be made fast to a floor or other support by screws, spikes, or other suitable means. Each standard has inturned longitudinal flanges *c*, provided with lug extensions *d*, the latter of one standard being in touch with those of the other to form fulcrum-points. The frame embodying the standards may be stiffened and held down to the floor or other support by means of a central vertical rod B, connecting a horizontal bar C (run through the upper portion of said standards) with said support, the rod being preferably in two sections united by a turn-buckle D, in order to take up possible slack.

Each standard is provided with a vertically-disposed head extension E, that constitutes one section of a socket for a ball F at one end of a clamp-jaw G, and the socket-sections have their meeting edges recessed, as shown at *e*, to form seats of sufficient depth engageable with the neck *f* of said

ball when it is desirable to hold said clamp-jaw in horizontal position in one direction or the other from the vertical center of the supporting-frame at a right angle to the latter. The meeting edges of the standard extensions E are also recessed, as shown at *g*, to form a circular track for the ball-neck *f*, and from the foregoing it will be seen that the aforesaid clamp-jaw and parts in connection therewith may be adjusted to extend horizontally or vertically from the frame or at any angle intermediate of a horizontal and vertical plane, while at the same time said jaw may have a pivotal adjustment when the ball-neck *f* is out of its seats and within the limits of its circular track.

The head extensions of the standards are provided with lateral lugs *h*, united by a pivot *l* for a cam-notched lever H, operative in conjunction with a catch herein shown in the form of an antifriction-roller *j* on a pin *k*, connecting other lateral lugs *m* of said head extensions. A link-rod I connects the lever H with a treadle J, fulcrumed on one of the standards, and, by pressure on the treadle, said lever is operated to clamp the socket-sections tight against the ball F in order to hold the clamp-jaw G and parts connected therewith in adjusted position, this clamping action being due to spring of the metal in the frame above the fulcrum-points or lug extensions *d* of the standards.

The clamp-jaw G is provided with a recess for the engagement of a hollow shank *n*, pertaining to another clamp-jaw K, that faces the one aforesaid, and contained within said recess and shank under tension is a spiral spring L, that surrounds a shouldered screw-rod P, the latter being provided at its outer end with spokes *p* to facilitate its adjustment. The screw portion of the rod engages a tapped opening in the ball-neck *f*, and the shouldered outer portion of said rod bears against the clamp-jaw K to actuate the latter against resistance of the aforesaid spring. To limit outward movement of the clamp-jaw K, its shank *n* is provided with a longitudinal recess engaged by a stop-screw *s* set in the other jaw, as shown in Fig. 3.

The jaws G K being of metal, it is preferred

able to recess the same and provide them with bearing-blocks M, of rubber, wood, or other suitable material, that will not mar work held in the vise embodying said jaws. The
 5 blocks herein shown are square and have their several faces provided with seats of different radius in order that the vise may be best adapted to clamp tubing or other
 10 round work of different diameters. A bail t is connected to each block, and, being forced down on the curved outer corners of a corresponding jaw, it holds said block in position for use. The blocks being detachable from the jaws, new ones may be readily substituted for those that become worn or broken.
 15

As a matter of convenience a shelf N, inclined or otherwise, may be secured within the frame for the support of files not in use.

A structure such as the one herein described enables a filer to readily shift whatever he is working on into convenient positions without the loss of time that results in the use of an ordinary hand-vise.
 20

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—
 25

1. The combination of a frame comprising separate standards each of which has inwardly-extending lugs abutting those of the
 30 other, head extensions of the standards constituting a sectional socket, a cam-notched lever in pivotal connection with said head extensions, a lever-catch also in connection with the aforesaid head extensions, a treadle
 35 in link-rod connection with the lever, and a vise having a ball end adjustable in the socket.

2. The combination of a frame comprising separate standards each of which has inwardly-extending lugs abutting those of the
 40 other, head extensions of the standards constituting a sectional socket, a vise having a ball end adjustable in the socket, suitable means for clamping the socket-sections on

said ball end of the vise, a bar run through said standards and a stay-rod connecting the
 45 bar with the frame-support.

3. The combination of a frame comprising separate standards, each of which has inwardly-extending lugs abutting those of the
 50 other, head extensions of the standards constituting a sectional socket, a vise having a ball end adjustable in the socket, suitable means for clamping the socket-sections on
 55 said ball end of the vise, a bar run through said standards, and a stay-rod that being in two sections, united by a turnbuckle, connects the bar with the frame-support.

4. The combination of a frame comprising separate standards each of which has inwardly-extending lugs abutting those of the
 60 other, head extensions of the standards constituting a sectional socket, a vise having a ball end adjustable in the socket, and suitable means for clamping the socket-sections on
 65 said ball end of the vise.

5. The combination of a frame comprising separate standards each of which has inwardly-extending lugs abutting those of the
 70 other, head extensions of the standards constituting a sectional socket having vertical seats, a vise having a ball end adjustable in the socket as well as a neck for the engagement of said seats, and suitable means for clamping the socket-sections on said ball end
 75 of the vise.

In testimony that we claim the foregoing we have hereunto set our hands, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

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 T. A. DONLEVY.
 J. R. CONNELL.

Witnesses:

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