

P. E. REECE.
 WORK HOLDER FOR DRILL PRESSES.
 APPLICATION FILED JUNE 6, 1908.

Patented May 4, 1909.

920,493.

Fig. 1.

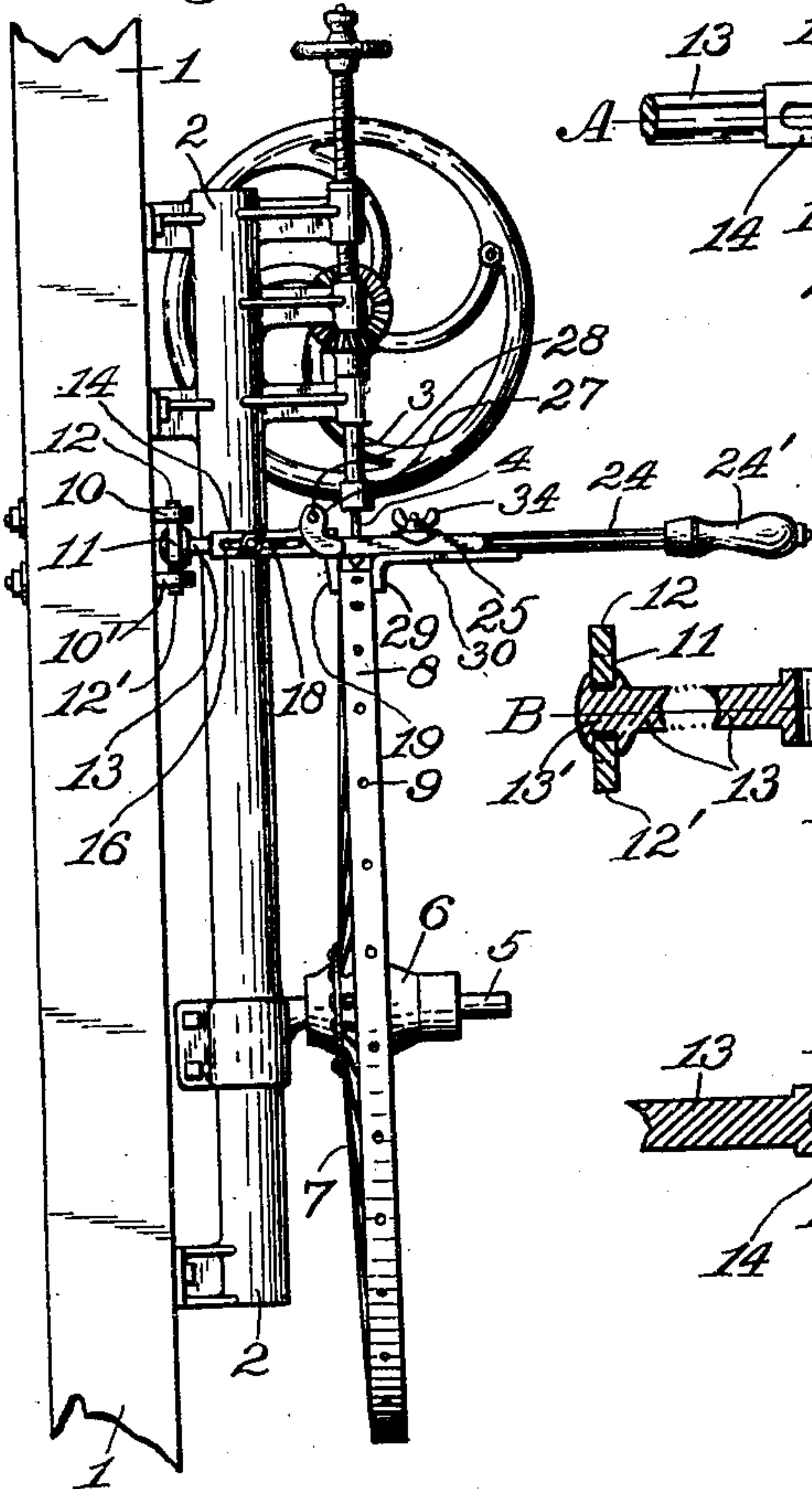


Fig. 2.

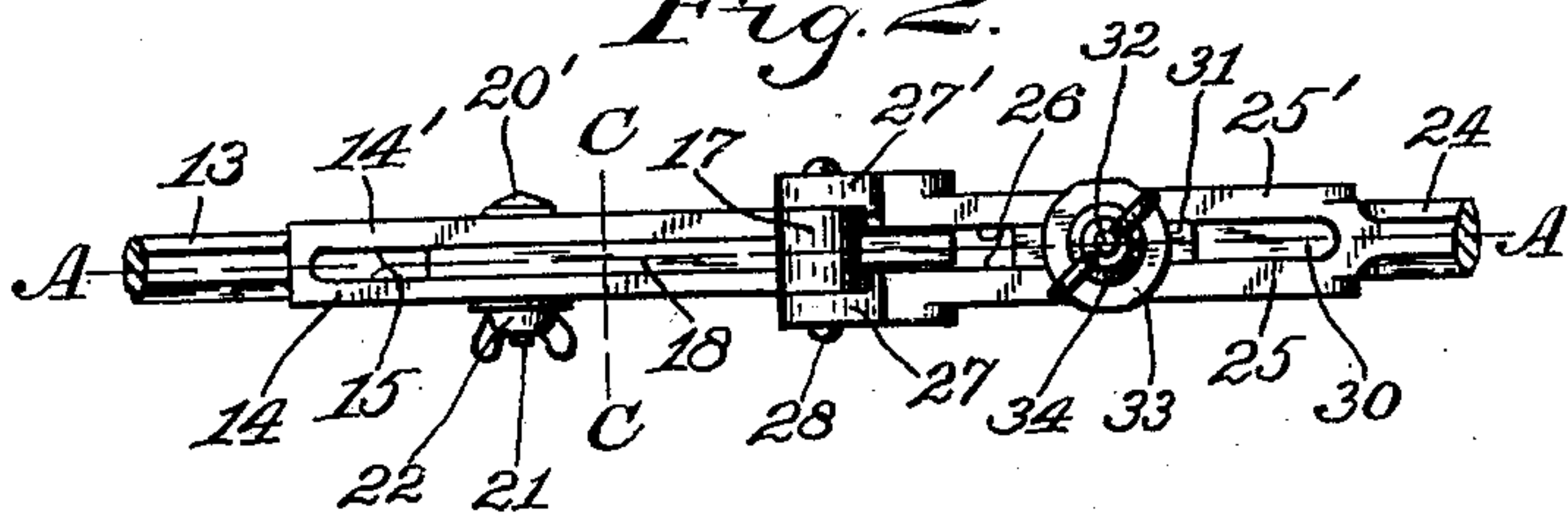


Fig. 3.

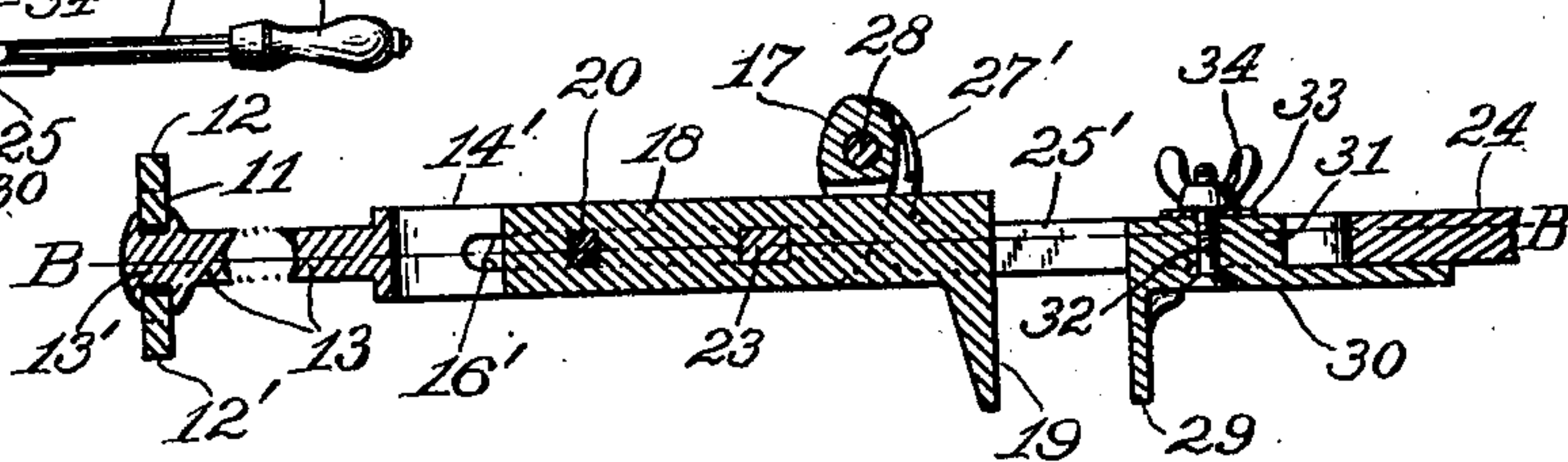


Fig. 4.

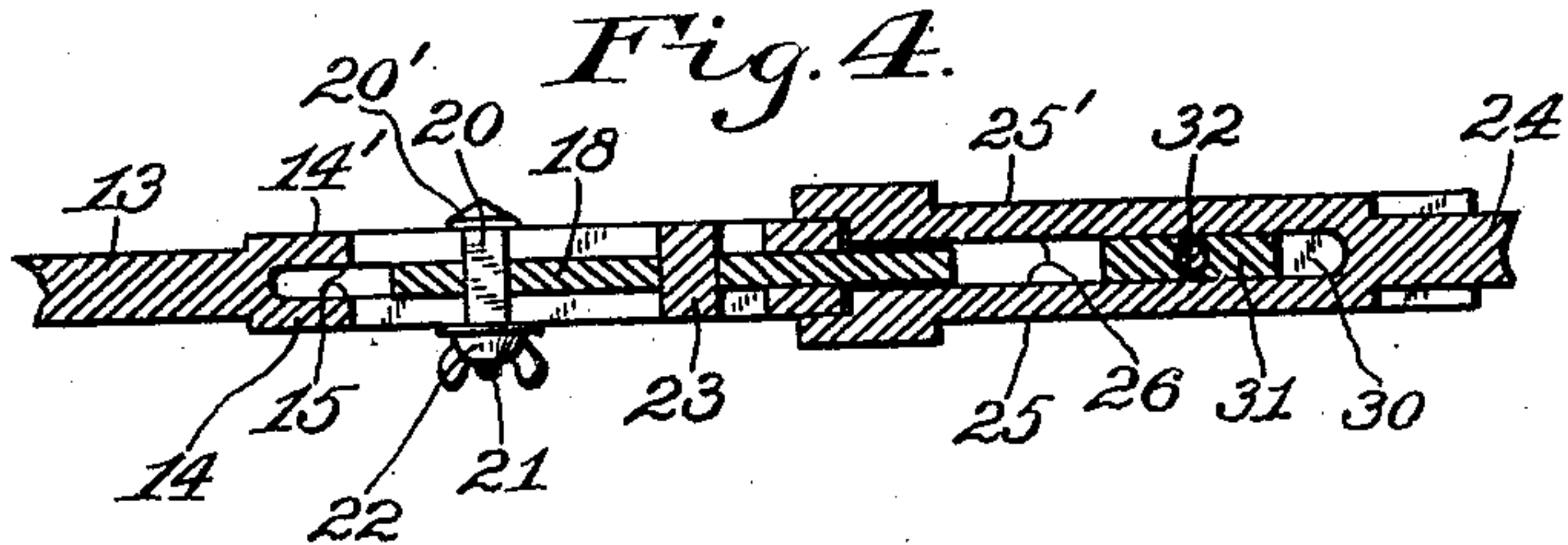


Fig. 5.

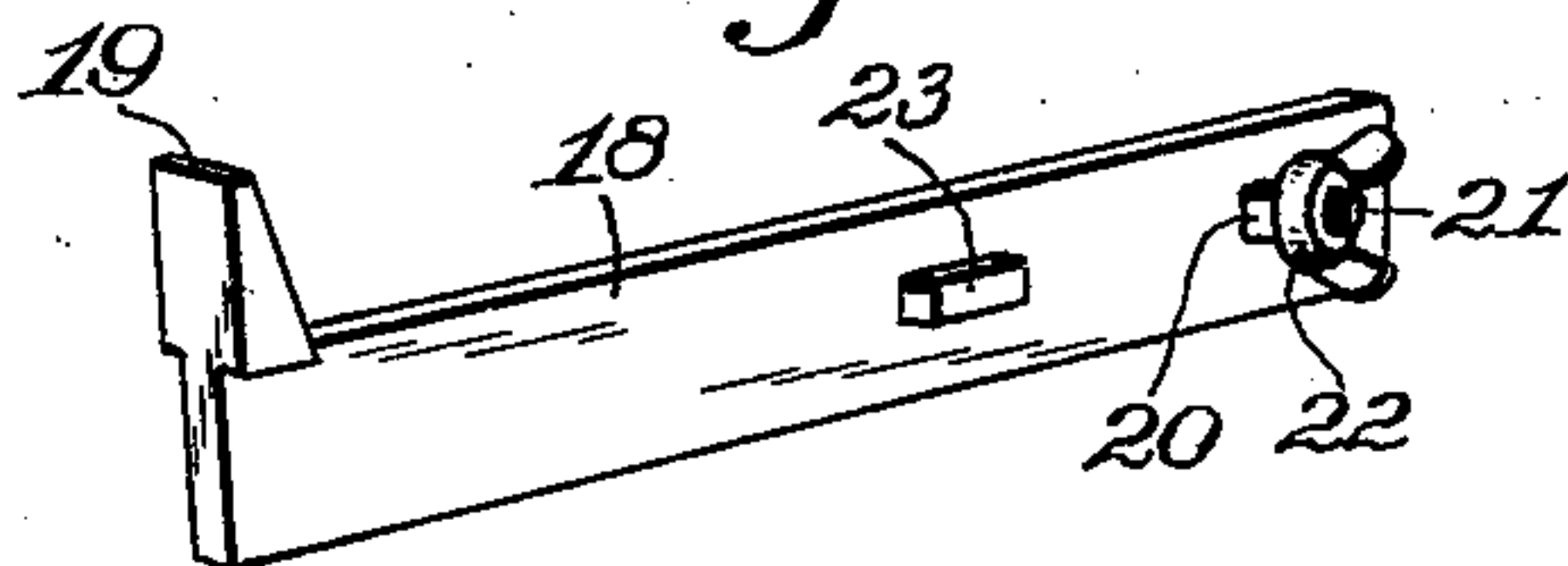


Fig. 6.

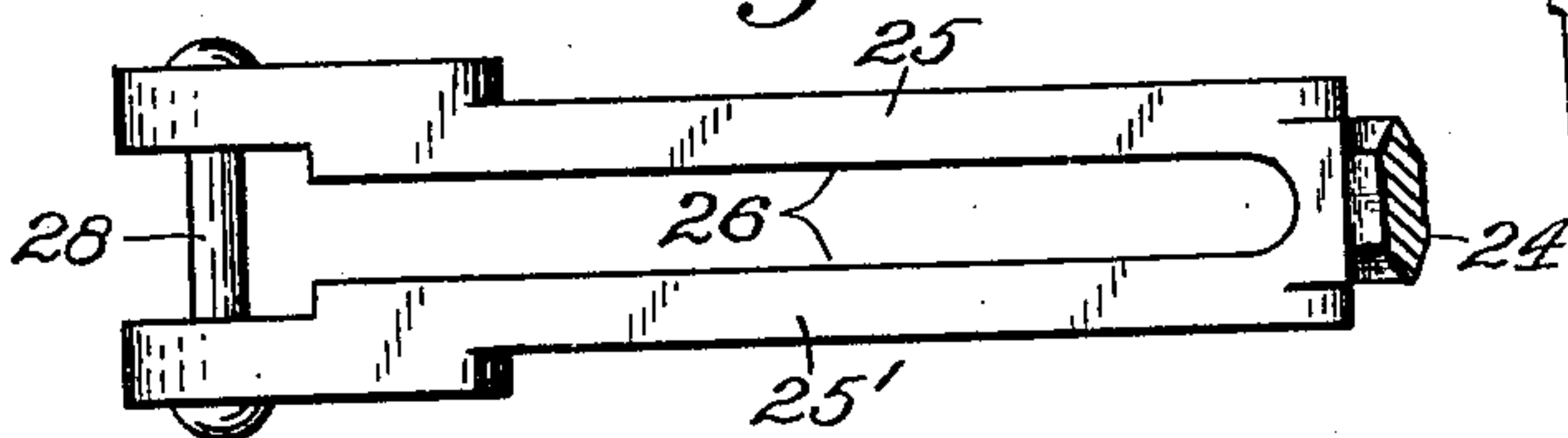


Fig. 7.

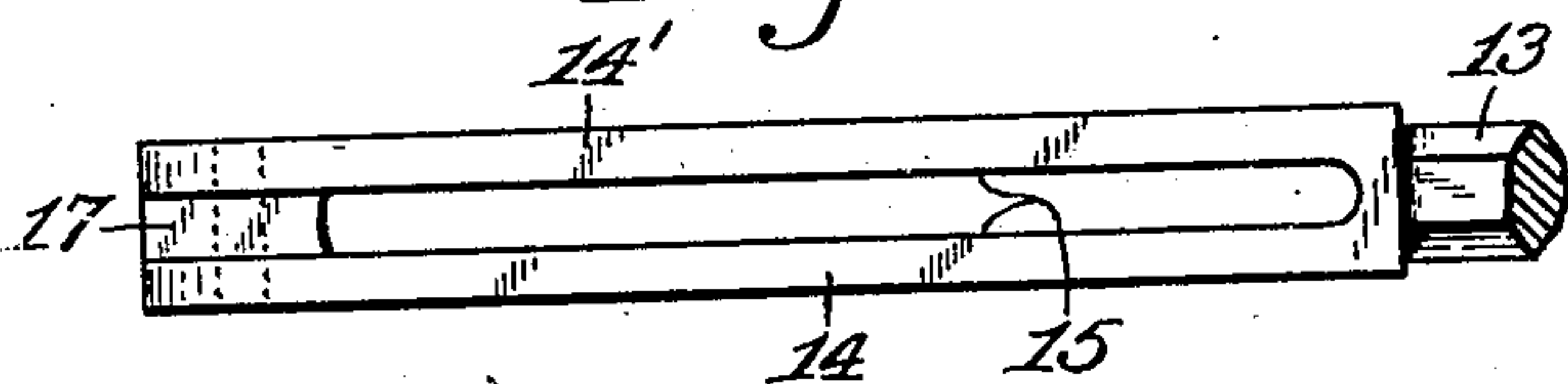
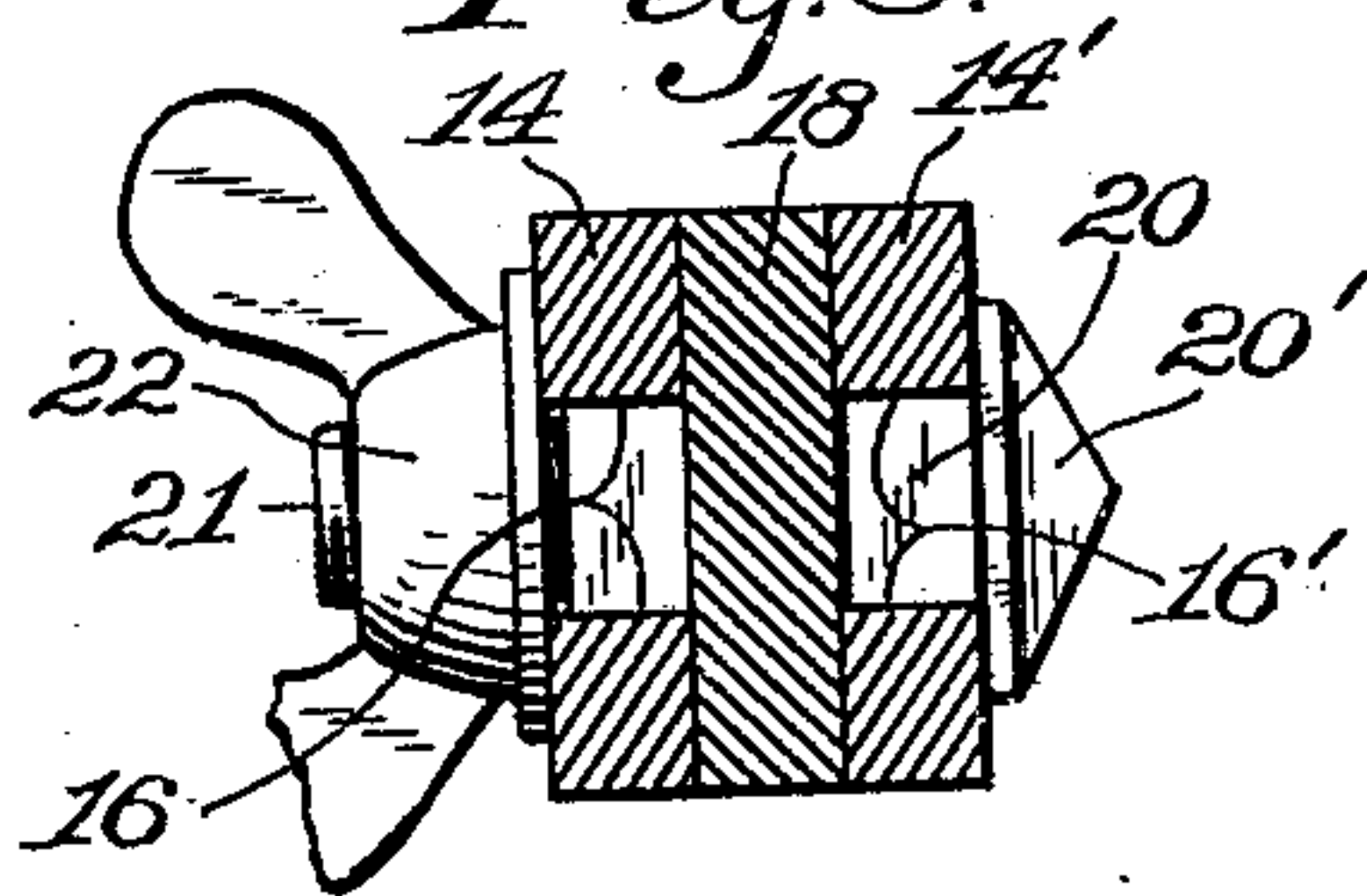


Fig. 8.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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WORK-HOLDER FOR DRILL-PRESSES.

No. 920,493.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed June 6, 1908. Serial No. 437,044.

To all whom it may concern:

Be it known that I, **PARMER E. REECE**, a citizen of the United States, residing at Lochiel, in the county of Benton and State of Indiana, have invented certain new and useful Improvements in Work-Holders for Drill-Presses; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to tools or implements for holding articles steadily while being worked on by machinery, the invention having reference more particularly to a tool or implement that is designed to be used in connection with drill-presses for holding wagon wheels steadily while drilling bolt holes in the tires of wheels, and for holding other work on the drill-press while being drilled.

Objects of the invention are to provide means for holding work by hand while being operated on by machinery, but without requiring the work to be clamped or otherwise secured by such apparatus as has been heretofore employed that required considerable time for operation thereof; a further object being to provide an improved work holder that may be readily adjusted for different kinds of work and be quickly operated, and which will be durable and economical in use.

With the above mentioned and other objects in view the invention consists in an adjustable lever vise adapted to be mounted in association with a drill-press, or other machine for holding vehicle wheels or other articles while being drilled or otherwise worked on; and the invention consists further in the novel parts, and in the combinations and arrangements of parts, as hereinafter particularly described and defined in the appended claims.

Referring to the drawings Figure 1 is a side elevation of a hand-power drill-press with which the invention is associated and showing the improved tool in operative position for holding a vehicle wheel while drilling holes in the tire thereof; Fig. 2, a fragmentary top plan view of the improved tool; Fig. 3, a longitudinal sectional view on the line A—A in Fig. 2; Fig. 4, a longitudinal sectional view on the line B—B in Fig. 3; Fig. 5, a perspective view of one of the ad-

justable jaws of the tool; Fig. 6, an inverted plan view showing a portion of the lever part of the tool; Fig. 7, an inverted plan view showing a portion of the main part of the tool; and Fig. 8, a transverse sectional view of the line C—C in Fig. 2.

Similar reference characters throughout the drawings indicate like elements or features referred to herein.

In the drawings the numeral 1 indicates a base member which, as shown, may be a vertical post forming a part of a work shop or may be a part of a drill-press, and 2 indicates the column of the drill-press on which the machinery and the drill-spindle 3 thereof is mounted, 4 indicating a drill held in the spindle. It will be understood that drill-presses usually include a table for supporting the work and it is usually mounted on the column 2 and may be swung around from below the drill or removed from the column when desired, and such table being well known is not illustrated herein; or in some cases a table may be mounted removably on an arbor 5 that is mounted on the column 2 so as to be adjustable vertically or to swing about the column. When drilling holes in wheel tires on the wheels, or forming tenons on the ends of wheel spokes, the wheel is placed on the arbor 5 so as to move rotatively thereon without being fastened thereto. In the illustrations a hub 6 of a wheel 7 is shown on the arbor with the tire 8 under the drill 4, and bolt holes 9 have been drilled in the tire. In performing such work it is desirable to hold the wheel steadily so that the drill will work smoothly and reliably and not catch in the holes being drilled, and for such purposes the improved tool has peculiar advantages.

The invention comprises two housings 10 and 10' adapted to be suitably attached to the base member 1 at one side of the column 2 or obviously may be adapted to be mounted on the column if desired, a swivel-head 11 having trunnions 12 and 12' mounted in the housings, and an arm 13 of suitable length having an end 13' swiveled in the swivel-head 11, so that the arm which comprises a portion of the main part of the tool may be adjusted rotatively as occasion may require, said arm having two guide-bars 14 and 14' formed thereon with a guide-way 15 between them, the guide-bars having guide-ways 16 and 16' respectively therein, and the ends

of the guide-bars have a boss 17 formed thereon that stands off at one side of the plane of the arm and extends across the guide-way 15. A jaw-bar 18 provided with a vise-jaw 19 is mounted adjustably in the guide-way 15, and has a square guide-bolt 20 mounted therein that extends into the guide-ways 16 and 16' to assist in guiding and retaining the jaw-bar between the guide-bars, the bolt having a head 20' on one end thereof engaging the guide-bar 14' at the outer side thereof, the opposite end of the bolt having a screw threaded end 21 on which is a thumb-nut 22 for binding the bolt to the guide-bars, the bolt being loose in the jaw-bar 18. The jaw-bar 18 is provided also with a guide-block 23 that is secured thereto and extends into the guide-ways 16 and 16' to assist in guiding and retaining the jaw-bar so that, as will be seen, the jaw-bar extends under the boss 17 and may be adjusted so as to change the position of the jaw 19 toward or from the swivel-head 11 which supports the arm or main part of the tool.

A lever 24 having a handle 24' on one end thereof has its opposite end bifurcated so as to form two guide-bars 25 and 25' with the guide-way 26 between them, the guide-bars having ears 27 and 27' formed on their ends and which stand off at one side of the plane of the lever and are connected to the boss 17 by a pivot 28. A vise-jaw 29 has a guide-plate 30 formed thereon that engages the guide-bars 25 and 25' and has also a guide-block 31 that extends into the guide-way 26, the guide-block being provided with a clamp bolt 32 on which is a washer 33 that engages the guide-bars, a thumb-nut 34 being arranged on the clamp bolt for securing the vise-jaw tightly to the guide-bars of the lever and permitting the vise-jaw 29 to be adjusted toward or from the stationary vise-jaw 19, the vise-jaw 29 being movable in operation by reason of its attachment to the swinging lever.

In practical use the work to be drilled is placed under drill 4 of the drill-press and supported in any desirable manner so that the drill may be lower at the point at which the operation is to take place, whether a hole is to be drilled or a hollow drill is to be used to form a tenon on the end of a spoke, and then the arm 13 is swung into position either with the pivot 28 horizontal, as shown, or vertical, as may be required in some cases, and then the jaw 19 is adjusted so as to engage one side of the work, after which the jaw 29 is adjusted so as to engage the oppo-

site side of the work when the lever 24 is approximately in alinement with the arm 13, so that by a slight pressure on the handle 24' the work may be securely clamped while being operated on, being held by the hand of the operator. After performing an operation and the work is required to be shifted or removed and other work placed in position, the lever 24 is moved about its pivot 28 so that the jaw 29 is quickly moved away from the work, thus releasing it, and then may be as quickly moved again so as to clamp and hold the work repeatedly, thus saving a large amount of time usually required in handling wrenches for manipulating clamp bolts or similar devices.

Having thus described the invention, what is claimed as new, is—

1. A work-holder including a housing, an arm connected pivotally to the housing, a vise-jaw mounted adjustably on the arm, a lever pivoted on the arm, and a vise-jaw mounted adjustably on the lever.

2. A work-holder including a housing, an arm supported pivotally by the housing and having a guide thereon, a vise-jaw mounted adjustably on the guide, a lever pivoted on the arm and having a guide thereon, and a vise-jaw mounted adjustably on the guide of the lever.

3. A work-holder including a housing, a swivel-head supported pivotally by the housing, an arm swiveled on the swivel-head, a vise-jaw mounted adjustably on the arm, a lever pivoted to the arm and provided with a handle, and a vise-jaw mounted adjustably on the lever.

4. A work-holder comprising a housing, an arm connected pivotally to the housing and having a boss thereon that stands off from the plane of the arm, a vise-jaw mounted adjustably on the arm adjacent to the boss, a lever pivoted to said boss, and a vise-jaw mounted on the lever.

5. A work-holder comprising a housing, an arm connected pivotally to the housing and having a boss thereon that stands off from the plane of the arm, a vise-jaw mounted on the arm, a lever pivoted to the boss, a vise-jaw mounted adjustably on the lever, and means for securing the vise-jaw rigidly to the lever.

In testimony whereof, I affix my signature in presence of two witnesses, on the 1st day of June, 1908.

PARMER E. REECE.

Witnesses:

M. MITCHELL,
L. D. OWINGS.