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PATENTED JULY 2, 1907.

W. PRELLWITZ.
 ROLLER GUIDE FOR CHANNELING MACHINES.
 APPLICATION FILED NOV. 21, 1906.

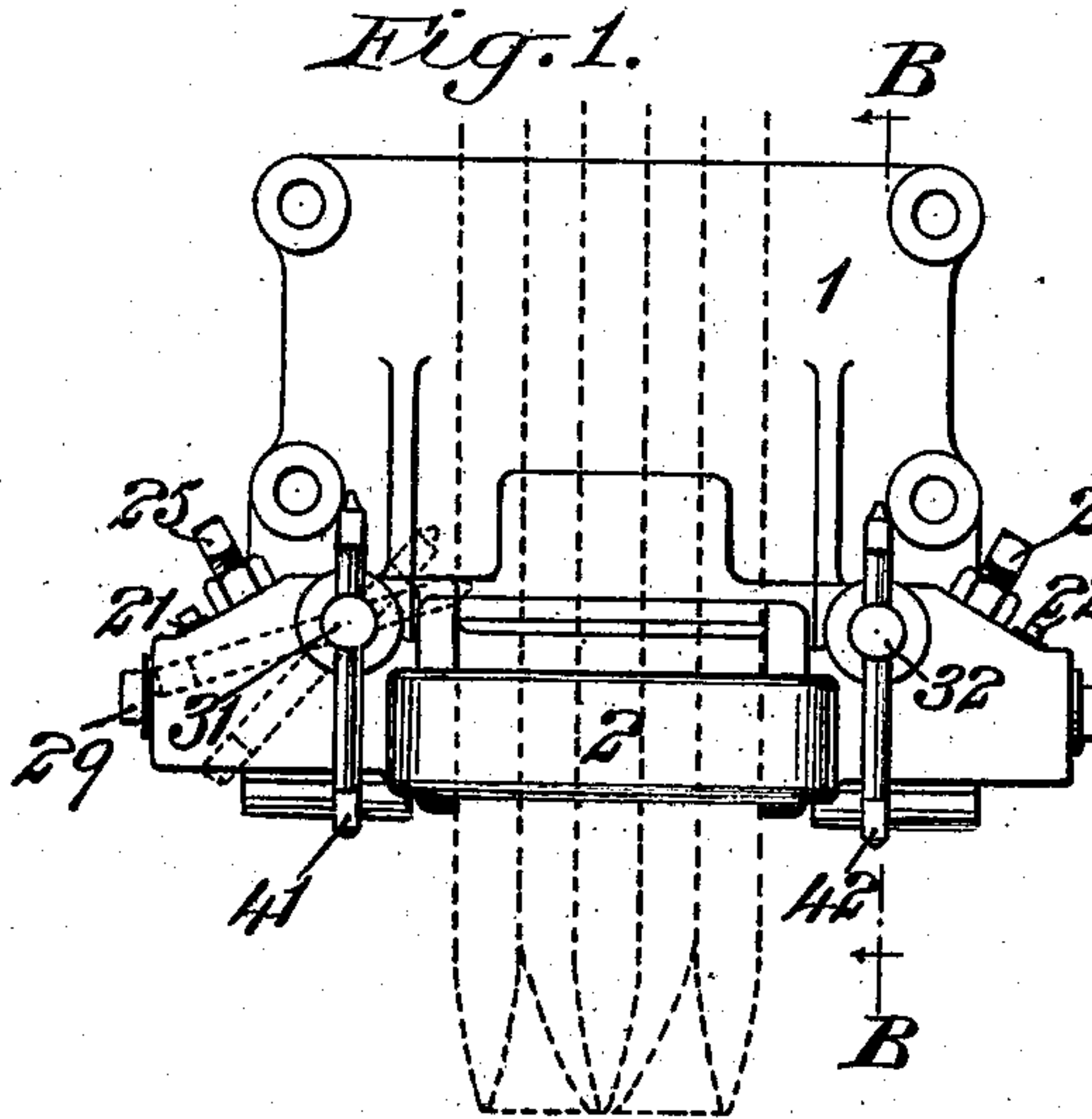


Fig. 3.

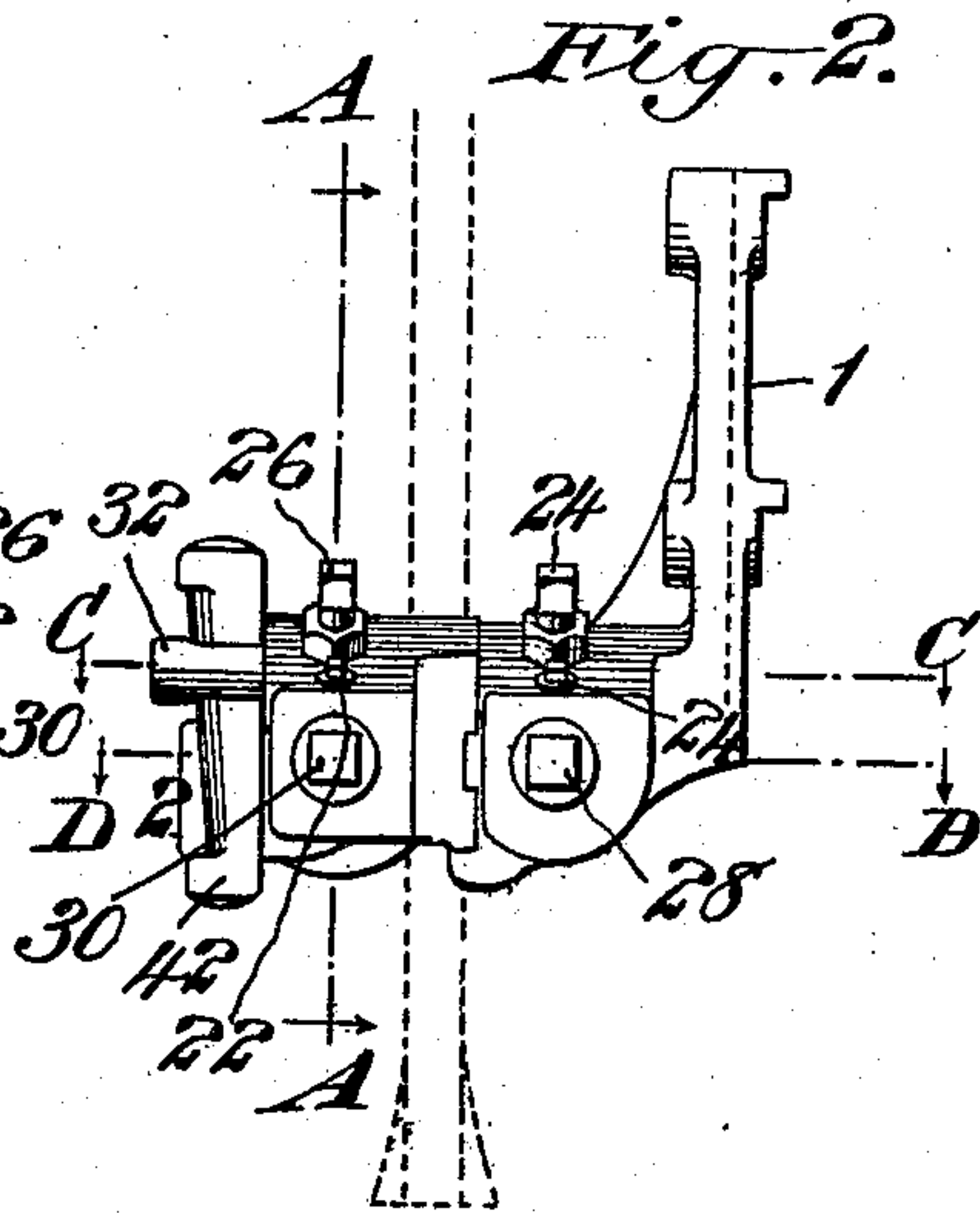


Fig. 4.

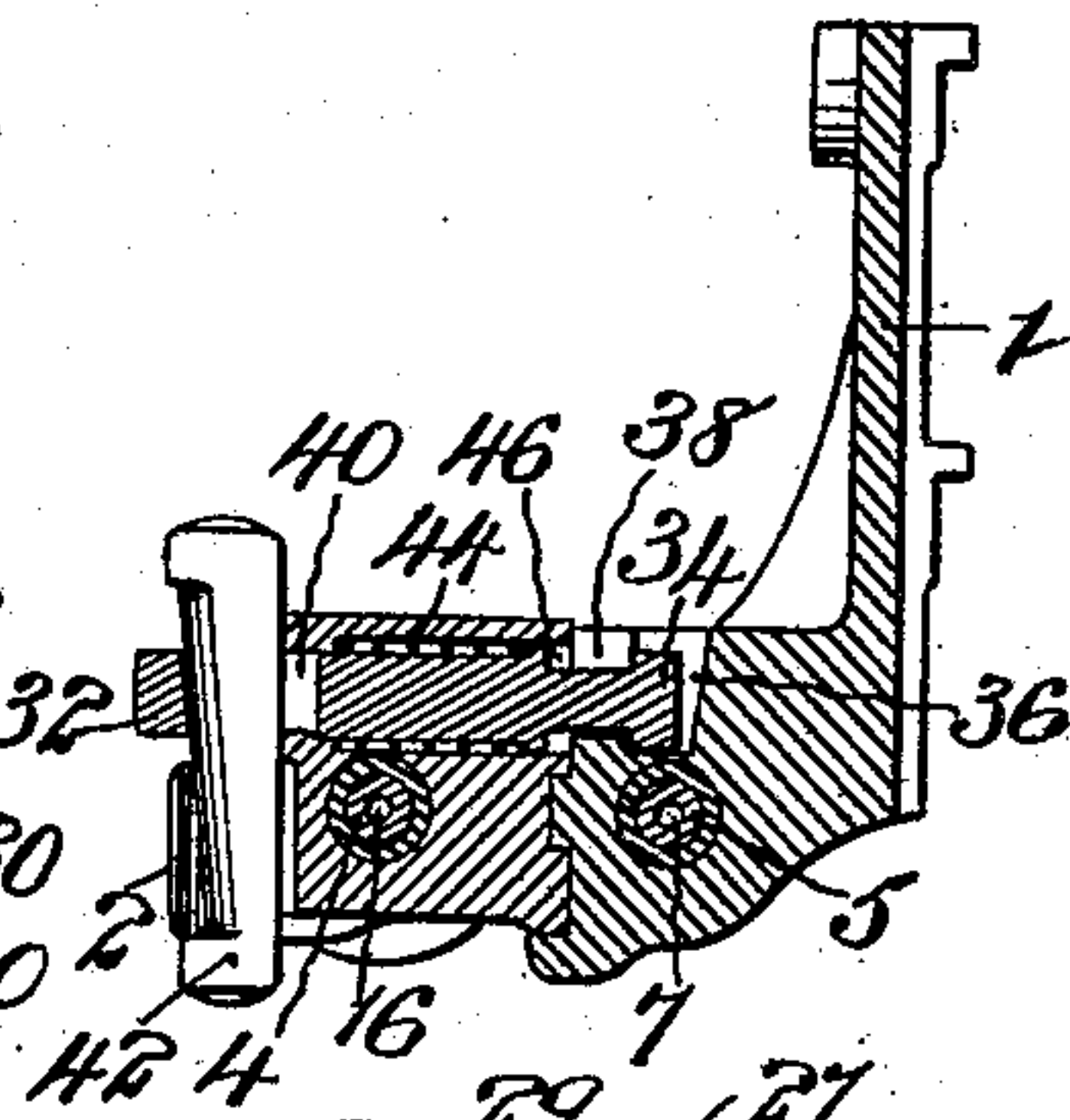
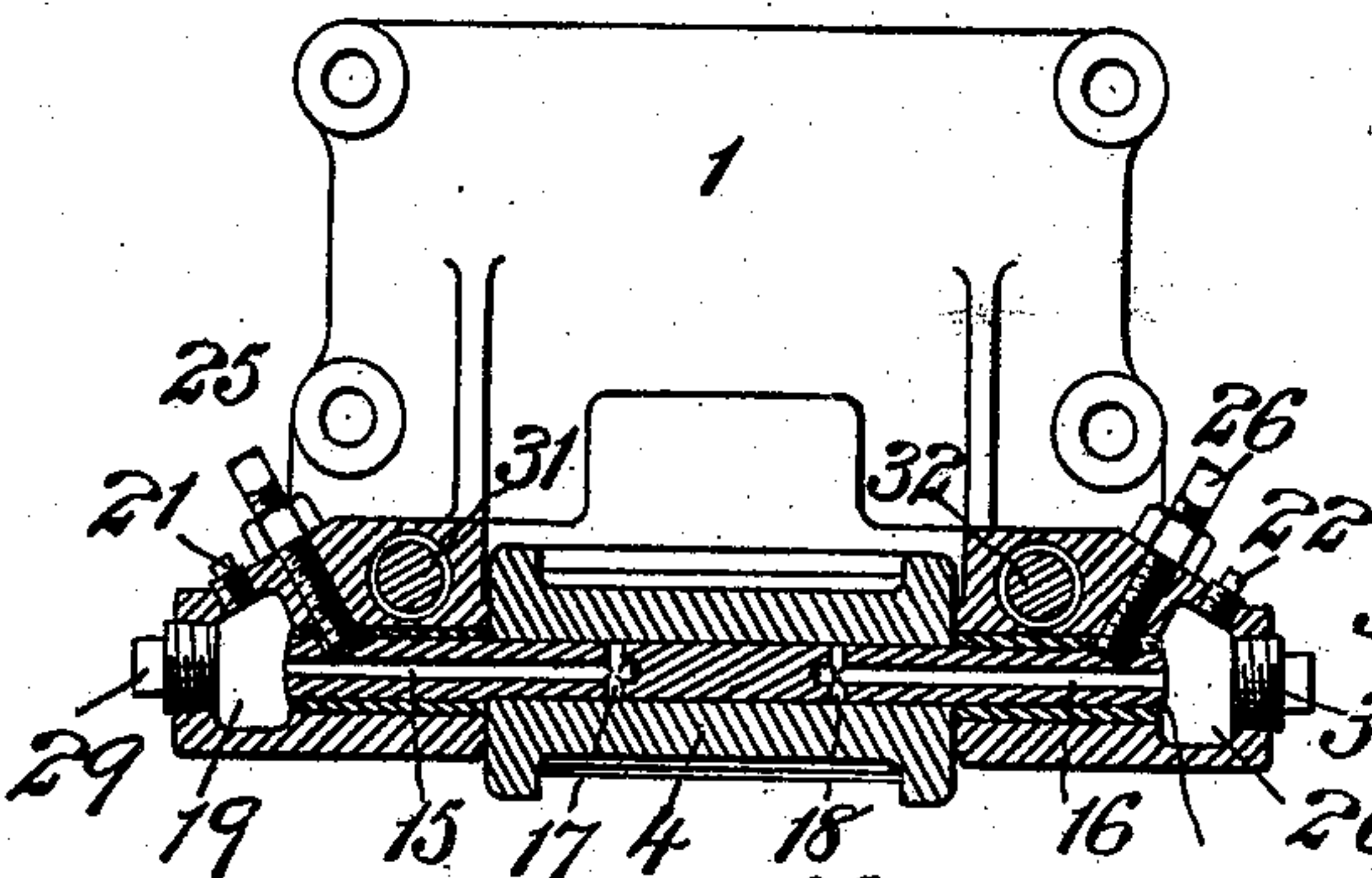
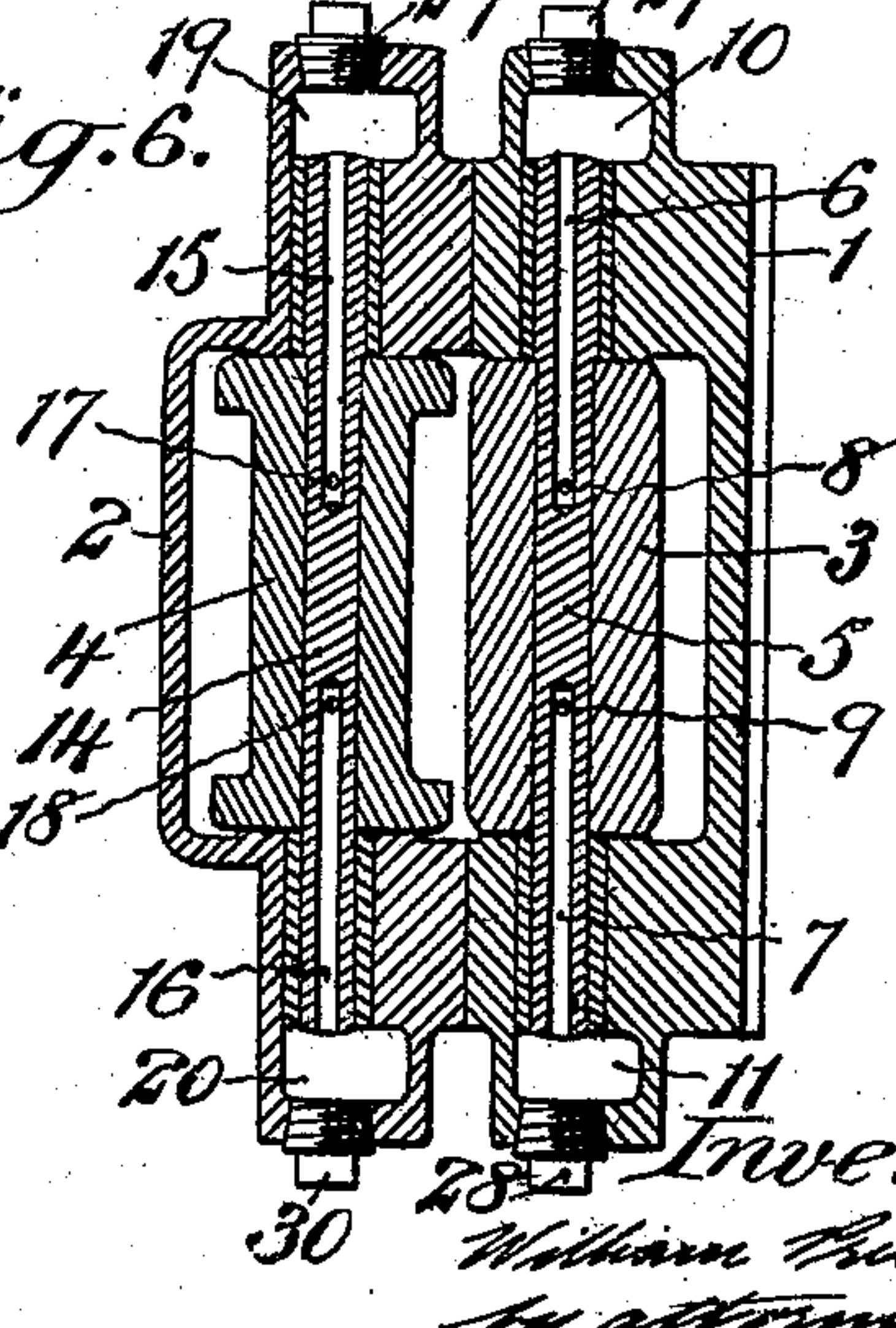
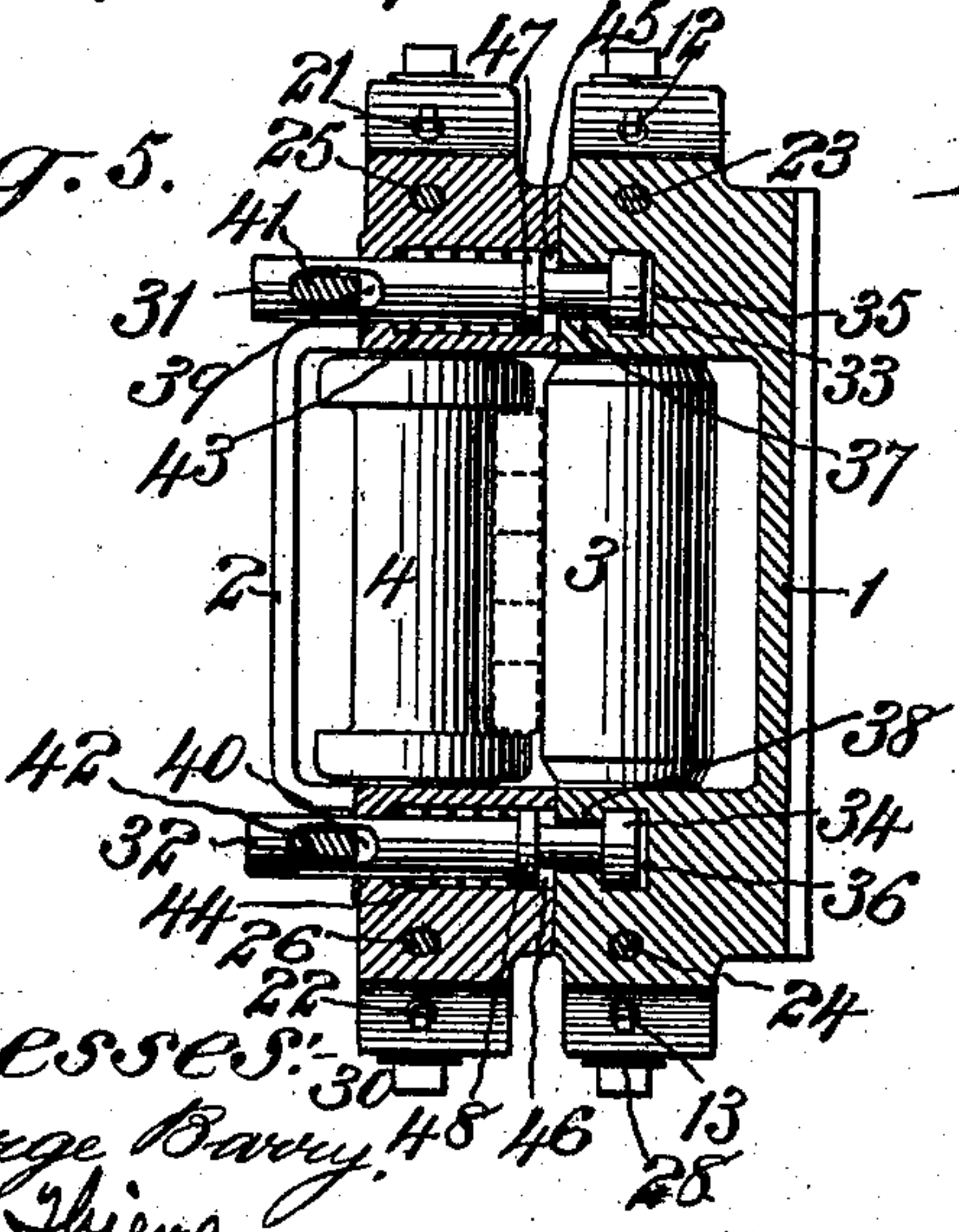


Fig. 5.

Fig. 6.



Witnesses:
 J. George Barry,
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Inventor.
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 Brown & Ward

UNITED STATES PATENT OFFICE.

WILLIAM PRELLWITZ, OF EASTON, PENNSYLVANIA, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

ROLLER-GUIDE FOR CHANNELING-MACHINES.

No. 858,753.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed November 21, 1906. Serial No. 344,460.

To all whom it may concern:

Be it known that I, WILLIAM PRELLWITZ, a citizen of the United States, and a resident of Easton, in the county of Northampton and State of Pennsylvania, have invented new and useful Improvements in Roller-Guides for Channeling-Machines, of which the following is a specification.

The object of this present invention is to provide certain improvements in the construction, form and arrangement of the several parts of a roller guide whereby the outer guide roller support may be made detachable; in which the inner guide roller is made plain for engaging the rear sides of the drill steels and the outer guide roller is made flanged for engaging the edges and front sides of the said drill steels; in which novel means are employed for oiling the guide rollers and in which novel means are employed for preventing the loss of the locking bolt and key when the outer guide roller support is detached from the inner guide roller support.

In the accompanying drawings, Figure 1 represents the roller guide in front elevation, Fig. 2 represents the same in side elevation, Fig. 3 is a vertical section taken in the plane of the line A—A of Fig. 2, looking in the direction of the arrows, Fig. 4 is a transverse vertical section taken in the plane of the line B—B of Fig. 1, looking in the direction of the arrows, Fig. 5 is a horizontal section taken in the plane of the line C—C of Fig. 2, looking in the direction of the arrows, and Fig. 6 is a horizontal section taken in the plane of the line D—D of Fig. 2, looking in the direction of the arrows.

The inner guide roller support is denoted by 1 and the detachable outer guide roller support by 2. The inner plain guide roller is denoted by 3 and the outer flanged guide roller by 4.

The axle 5 for the inner guide roller 3 is secured at its end within the support 1. This axle 5 is provided with longitudinal oil passages 6 and 7 feeding inwardly from its opposite ends to a point within the guide roller 3 where the said passages are provided with one or more branch ducts 8, 9, for feeding oil to the bore of the roller.

Oil chambers 10, 11, are provided in the sides of the support 1, which chambers are in open communication with the passages 6 and 7 of the axle 5. These oil chambers 10 and 11 may be filled through the holes closed by screw caps 12, 13.

The axle 14 for the outer flanged guide roller 4 is supported at its ends in the detachable support 2, which axle is provided with longitudinal oil passages 15, 16, leading inwardly from its ends to points within the said roller, where the axle is provided with one or more ducts 17, 18, for leading the oil to the bore of the roller.

Oil chambers 19, 20, are located in the sides of the detachable support 2 in communication with the passages

15, 16. These chambers may be filled through holes closed by screw caps 21, 22.

The axles 5 and 14 are removably secured in position by providing locking bolts 23, 24, for impinging against the ends of the axle 5 and locking bolts 25, 26, for impinging against the ends of the axle 14.

Screw caps 27, 28, are arranged in alinement with the axle 5 and screw caps 29, 30, are arranged in alinement with the axle 14 so that the said axles may be removed when released by their locking bolts, by a longitudinal movement in either direction.

The means which I have shown for detachably securing the outer guide roller support to the inner support is as follows:—Two locking bolts 31, 32, extend inwardly through the detachable support 2 and are provided at their inner ends with heads 33, 34, arranged to be dropped into enlarged portions 35, 36, of recesses opening through the top of the inner guide support, the reduced portions 37, 38, of said recesses opening through the front of the said inner guide roller support. Shoulders are thus formed for holding the bolts against outward movement when their heads have been dropped into the said enlarged portions of the recesses.

The outer ends of the bolts are provided with elongated slots 39, 40, through which tapered locking keys 41, 42, extend, the inner faces of said keys being arranged to abut against the outer face of the outer guide roller support and the tapered front faces of said keys being arranged to engage the outer ends of the elongated slots 39, 40, for forcing the two supports 1 and 2 snugly together as the keys are driven home.

To prevent the keys from dropping out and the bolts from being removed when the outer support is detached from the inner support, I provide springs 43, 44, located in recesses 45, 46, surrounding the bolts 31, 32, which springs are interposed between the bottoms of said recesses and angular shoulders 47, 48, on said bolts. The heads 33, 34, of the bolts are preferably made round so that the bolts may be turned into any position to bring their keys into different angular positions as shown in dotted lines in Fig. 1.

To insure a perfect alinement of the axes of the two rollers when in operative position, the two supports are provided with an interlocking connection which is shown herein by providing the adjacent faces of the two supports with horizontal tongues and grooves.

When it is desired to remove the drill steels, the keys may be released thus permitting the two supports to be separated by the withdrawal of the heads of the bolts from their recesses and the disengagement of the tongue and groove connection between the adjacent faces of the two supports.

By providing the roller guide with a plain inner roller and a flanged outer roller it will be seen that the

flanged outer roller may be removed with its support thus removing all restraint upon the drill steels in a lateral direction. This will permit the drill steels to be removed without having to be sprung over the flanges of the roller as would be the case if the inner roller were provided with the flanges instead of the outer roller.

It will be seen that the springs 43, 44, will retain the keys within their elongated slots in the bolts when the outer support is detached from the inner support thus preventing the accidental loss of either the keys or the bolts from the said outer support. It will furthermore be seen that ample provision is made for supplying oil to the rollers, in a very simple and effective manner. It will also be seen that a very ready means of permitting the roller axles to be removed when so desired, is also provided.

The special form of lubricating journals for the anti-friction guide roller which are shown and described but not claimed herein form the subject matter of a divisional application filed by me the 23rd day of January, 1907, serial No. 353,583.

What I claim is:—

1. A roller guide for channeling machines comprising an inner plain guide roller arranged to engage the backs of the steels, an inner guide roller support, a flanged outer guide roller arranged to engage the sides and fronts of the steels, an outer guide roller support and means for detachably securing the outer guide roller support to the inner guide roller support.
2. A roller guide for channeling machines comprising an inner guide roller, an inner guide roller support, an outer guide roller, an outer guide roller support and means for detachably securing the supports together, the said sup-

ports having an interlocking connection independent of the said means for detachably securing the supports together, for insuring the proper alinement of the axes of the said inner and outer guide rollers.

3. A roller guide for channeling machines comprising inner and outer guide rollers, supports therefor, locking bolts carried by one and engaging the other support, and tapered keys for bringing the bolts into locking position, for detachably securing the supports together.

4. A roller guide for channeling machines comprising inner and outer guide rollers, supports therefor, locking bolts carried by one and engaging the other support, tapered keys for bringing the bolts into locking position for detachably securing the supports together, and means for preventing the unintentional removal of the said bolts and keys from their supports when the supports are detached.

5. A roller guide for channeling machines comprising inner and outer guide rollers, supports therefor, locking bolts carried by one and engaging the other support, tapered keys for bringing the bolts into locking position for detachably securing the supports together and springs engaging the bolts for preventing the unintentional removal of the said bolts and keys from their support when the supports are detached.

6. A roller guide for channeling machines comprising inner and outer guide rollers, supports therefor having their adjacent faces provided with a tongue and groove interlocking connection for insuring the proper alinement of the axes of the rollers, and means for detachably securing the supports together.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this seventeenth day of November, 1906.

WILLIAM PRELLWITZ.

Witnesses:

WARD RAYMOND,
GEORGE W. HOCH.