

J. R. WILSON.
 DRILL SUPPORT.
 APPLICATION FILED JAN. 19, 1911.

999,137.

Patented July 25, 1911.

2 SHEETS—SHEET 1.

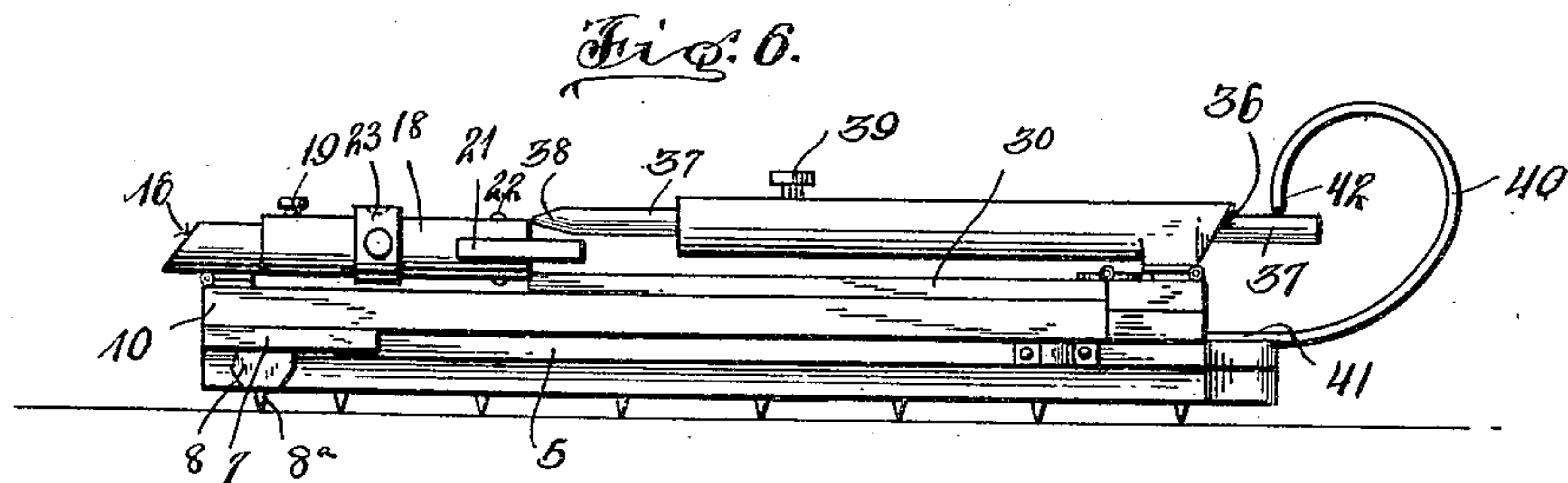
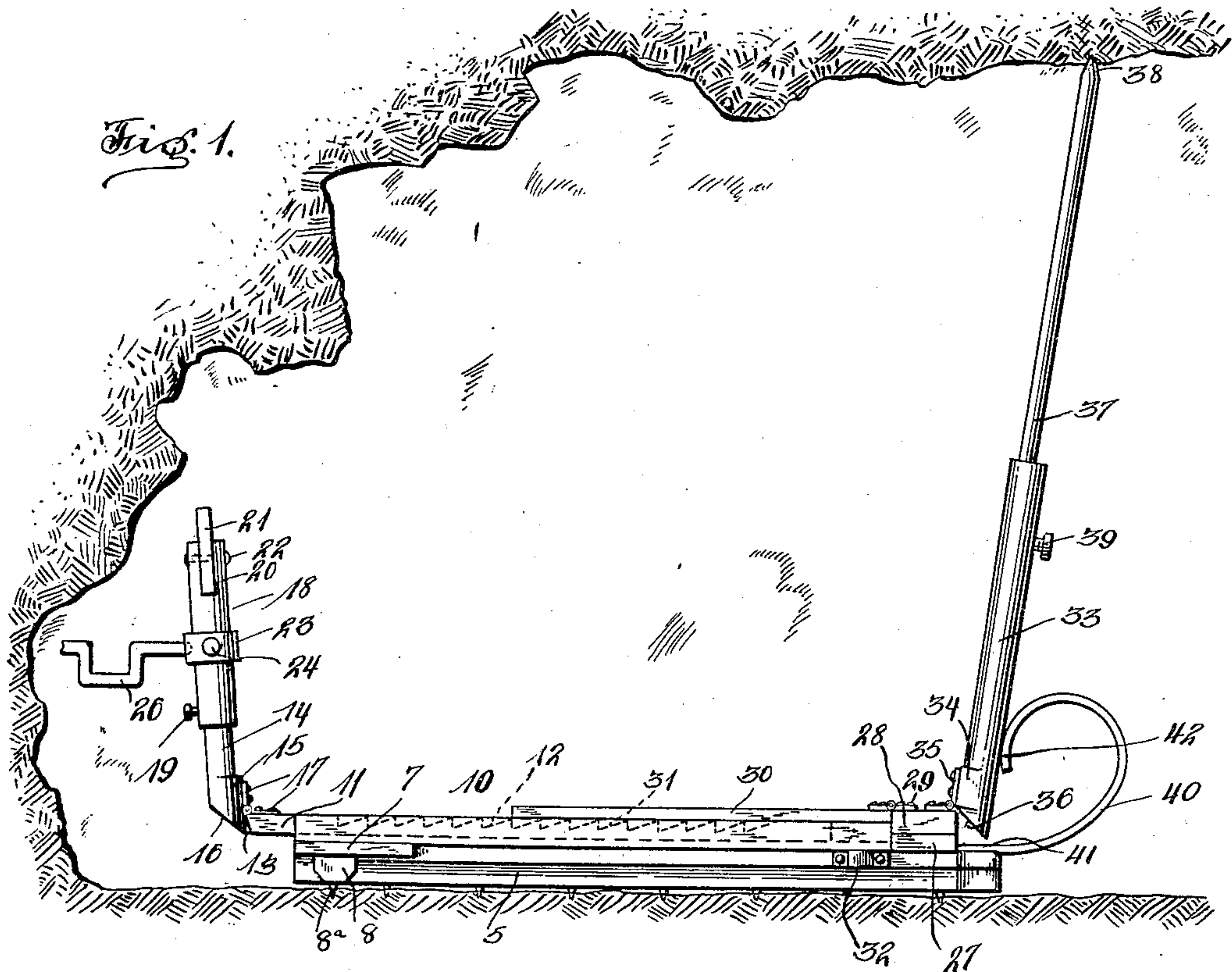
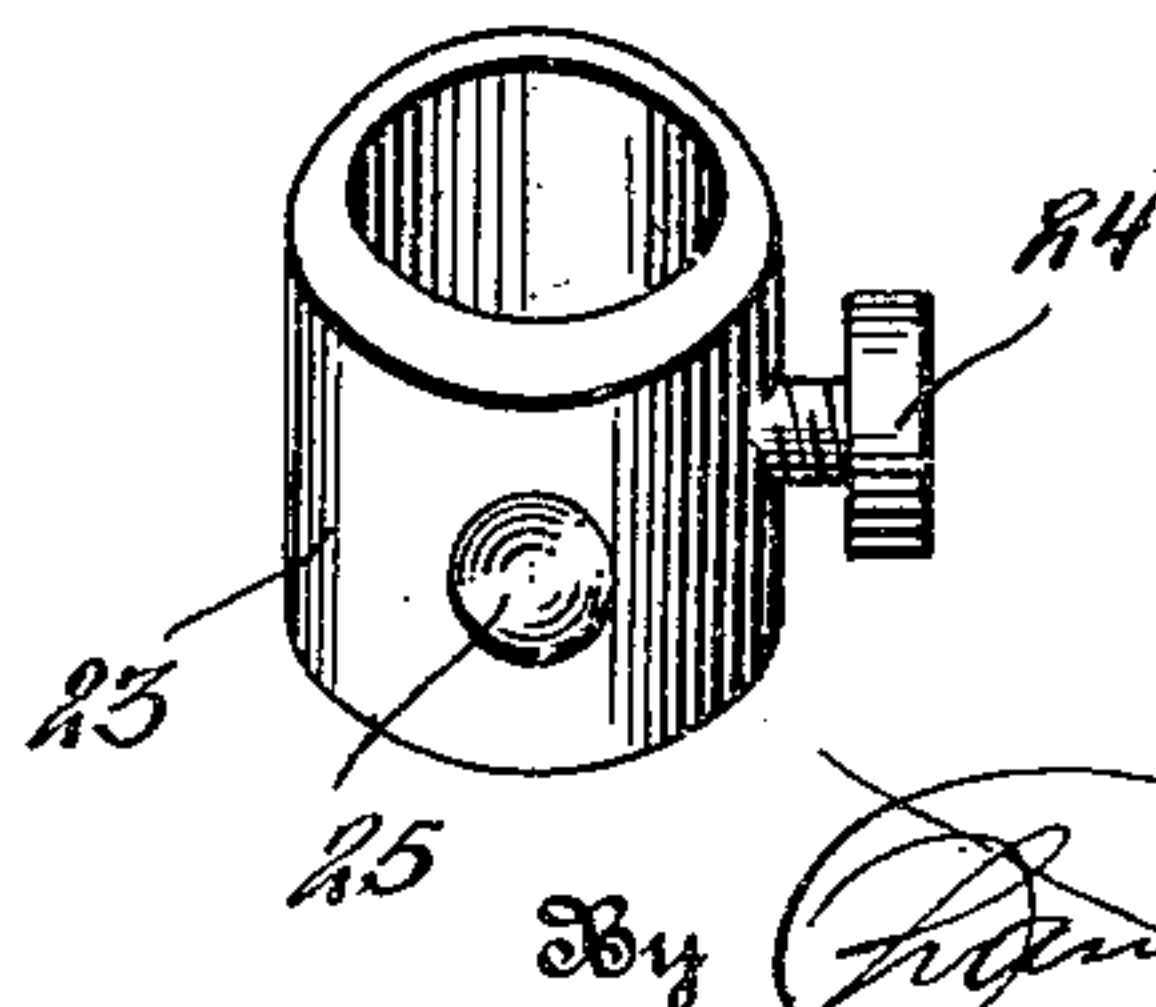


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 3.

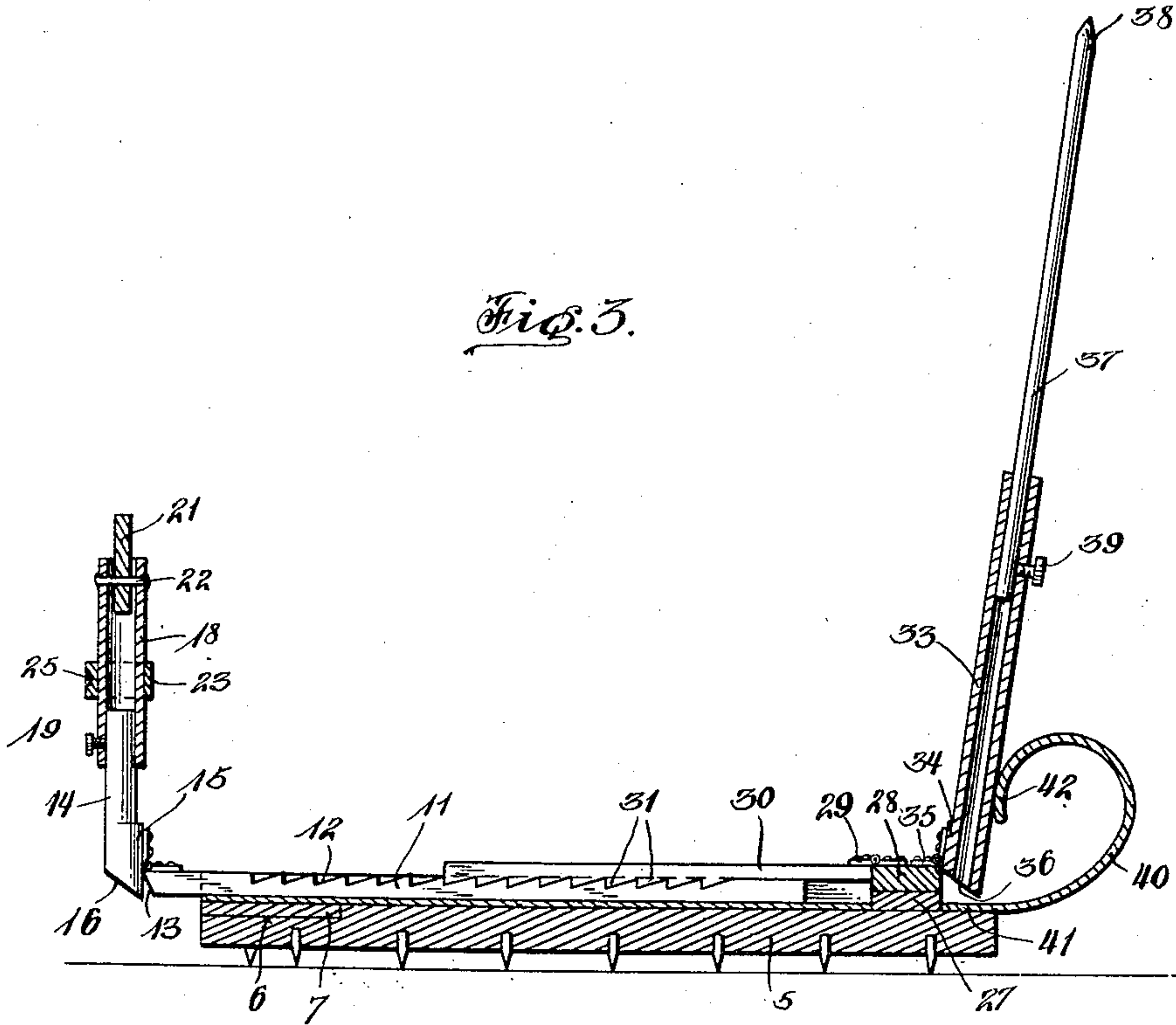


Fig. 2.

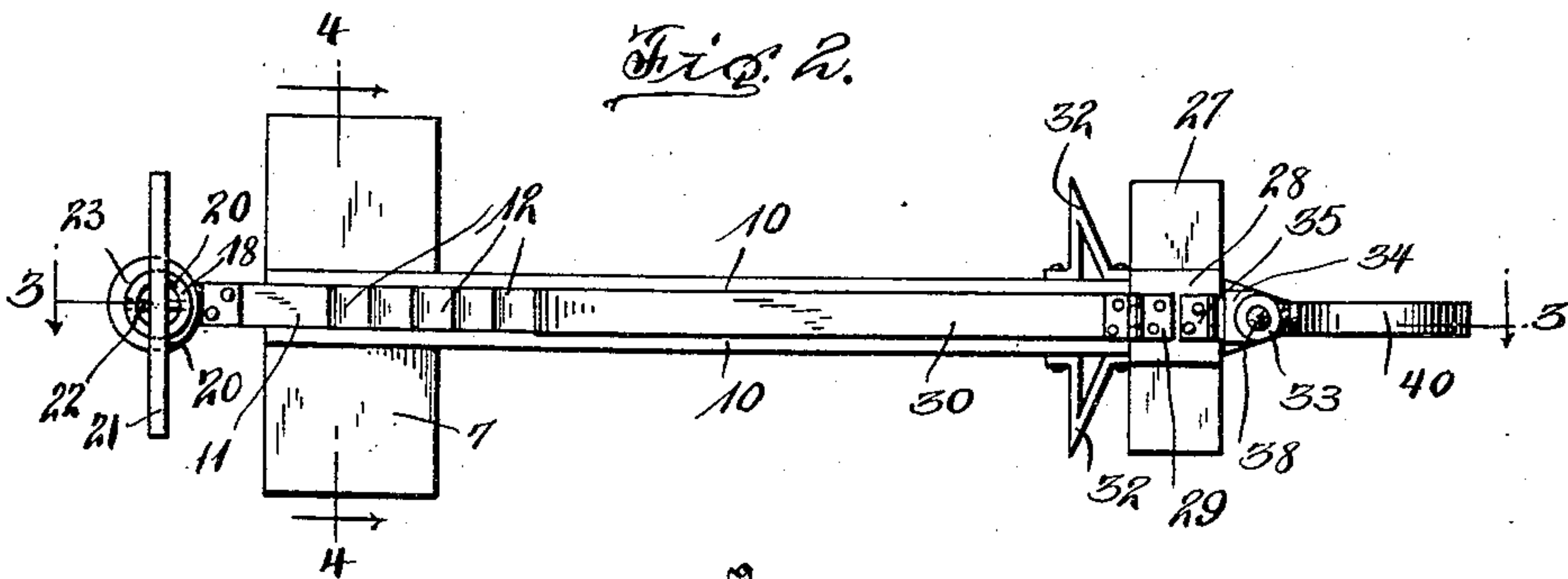
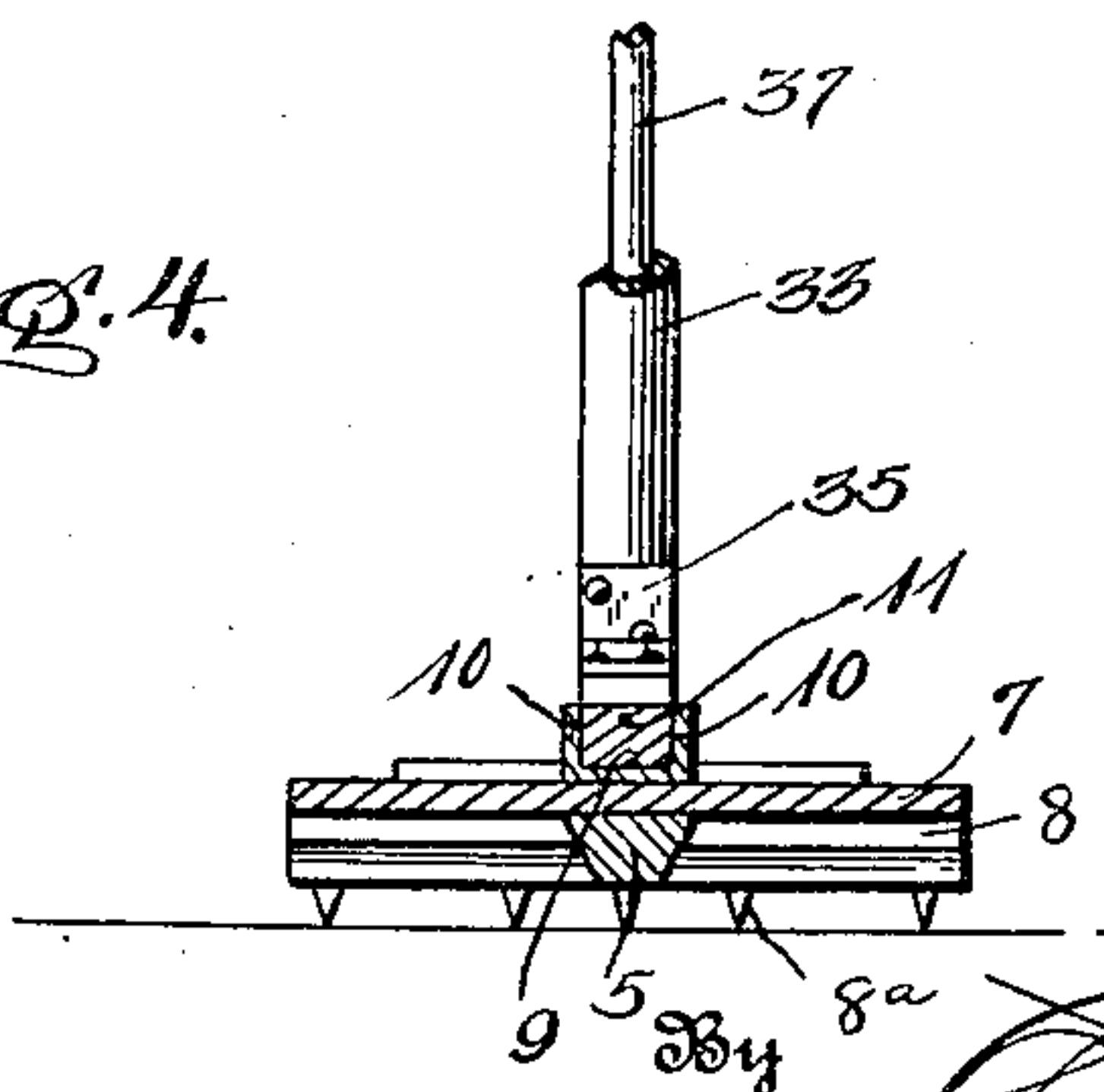


Fig. 4.



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DRILL-SUPPORT.

999,137.

Specification of Letters Patent.

Patented July 25, 1911.

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To all whom it may concern:

Be it known that I, JUDGE R. WILSON, a citizen of the United States, residing at Pineville, in the county of Bell, State of Kentucky, have invented certain new and useful Improvements in Drill-Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in a support for drills especially adapted for use in coal mines although the structure is suitable for use in other places.

It has been the custom in mines when employing drills to use what is known as a breast-plate for the purpose of enabling the operator to more easily retain the drill in proper alinement and also to increase the force on the drill. This form of support has been found to be extremely unhandy and time-consuming.

The principal object of this invention is to provide a support for drills which may be positioned with ease and despatch and when so positioned will form a support for a drill which may be adjusted to various heights as desired and by means of which the drill can be easily and quickly operated.

A still further object of the invention is to provide a support of the character described which can be folded into a very compact form and when in this form can be transported or stored away as may be desired.

A still further object of the invention is to provide a support of the character described which is composed of a minimum number of parts, is therefore simple in construction and is cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a side elevation of my invention showing the same

operatively positioned within a mine-shaft, Fig. 2 is a top plan view thereof, Fig. 3 is a vertical longitudinal sectional view taken on the line 3—3 of Fig. 2, Fig. 4 is a vertical transverse sectional view taken on the line 4—4 of Fig. 2, Fig. 5 is a perspective view of the adjustable collar, and Fig. 6 is a side elevation of my invention showing the same in its folded relation.

Like reference numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings 5 designates a longitudinal support having a recess 6 formed in one end thereof for the reception of a transverse end piece 7. Laterally projecting from the support 5 and secured thereto and to the end piece 7 are transverse supports 8, the said longitudinal and transverse supports being provided with a plurality of projecting teeth 8^a by means of which the said structure will grip the earth. Fixedly secured to the support 5 and end piece 7 is a longitudinal guide plate 9 having upstanding longitudinal guides 10—10 secured thereto. A sliding bar 11 is disposed between the guides 10 and is provided with a plurality of transverse teeth 12. The forward end 13 of said bar is undercut to form an inclined surface. A post 14, preferably formed of solid metal, is provided at its lower end with a heel 15 and an inclined base 16. The heel 15 is disposed contiguous to the end 13 of the bar 11 and is secured thereto for swinging movement by a hinge 17. It will be observed in this connection that by means of the undercut end 13 and the inclined base 16 the said post is free to be tilted forwardly of said bar 11 for a limited distance. A sleeve 18 is slidably mounted on the upper end of the said post and is secured in any adjusted position by a set screw 19 or other suitable means. The upper end of the sleeve is provided with diametrically opposite spaced slots 20—20, and disposed within these slots is a breast-plate 21, the ends of the plate projecting on either side of the said sleeve. This plate is secured to the sleeve by rivets 22 or other suitable fastening means. Slidably mounted upon the sleeve is a collar 23, and this collar may be secured in any adjusted position by a set screw 24. A seat 25 is formed in the collar and is adapted to receive the outer end of the boring tool which is designed

nated as a whole by the reference numeral 26.

It will be observed that by reason of the sleeve 18 being adjustable on the post and the collar 23 adjustable on the sleeve, very minute adjustments can be made with said collar. By this means the seat 25 of the collar can quickly be positioned in alinement with the opening formed by the drill. It will also be observed that the post 14 is in the nature of a lever, and that by pressure upon the breast-plate a similar pressure will be imparted to the drill.

Secured to the support 5 in rear of the guide plate 9 is a transverse foot brace 27, and centrally secured thereupon is a block 28. Secured to said block by means of a hinge 29 is a rack-bar 30 having a plurality of teeth 31 formed on its underside. This rack-bar is disposed directly upon the sliding bar 11, and the teeth 31 engage with the teeth 12 of said bar for limiting the rearward movement of said bar 11. After an opening has been drilled for a certain depth and the post 14 has been extended forwardly to the limit of its movement, the rack-bar 30 can be elevated and the bar 11 moved forwardly as will be readily understood.

Laterally projecting from the guide plate 9 are foot braces 32 which are secured to said plate by any suitable means. These foot braces 32 are disposed intermediate the cross-piece 7 and the transverse foot-brace 27.

The invention further comprises a tubular post 33 which is provided near its lower end with an offset bearing-block 34. A hinge 35 is connected to the block 28 and the block 34, thereby forming a pivotal connection for the tubular post 33. The lower edge 36 of the post is inclined to permit of said post being tilted rearwardly. Disposed within the post and projecting through the upper end thereof is a solid rod 37 and a pointed upper end 38, said rod being retained in any adjusted position within the tubular post by means of a set-screw 39 or other suitable fastening means.

A flat spring 40 has one end 41 thereof fixed to the rear end of the support 5, and has its free end portion 42 upwardly and forwardly curved and disposed in contact with the tubular post 33 for normally keeping the latter in a vertical position.

In practice after the support has been positioned on the floor of a shaft, the rod 37 of the tubular post 33 is adjusted, and the point 38 thereof is engaged with the ceiling of said shaft. The operator then positions the end of the drill in the seat 25 of the collar 23. If the opening to be drilled is low the operator can kneel on the transverse piece 7 with his feet upon either of the foot-braces 27 or 32 as may be desired. He can then lean forwardly upon the breast-plate 21 and thereby create pressure upon the drill. As

the drill feeds into the opening the said breast-plate will of course be moved forwardly. Upon the limit of movement of the post 14 being reached the operator can extend the bar 11 forwardly and renew the above mentioned operation. It will be noted that the tubular post 33 and rod 37 coact to form a brace by means of which rearward movement of the support during the drilling operation is prevented.

What is claimed is:—

1. A support for drills comprising in combination, a support, a bar longitudinally movable on said support, a lever secured to the bar a breast-plate secured to the lever, means adjustably supported by the lever below the breast-plate for supporting one end of a drill, and means for locking said lever in an adjusted position.

2. A support for drills comprising in combination, a support, a guide plate on said support, a bar longitudinally movable in said guide plate, a lever pivotally connected to one end of the bar, and means carried by the lever for supporting one end of a drill.

3. A support for drills comprising in combination, a support, a guide plate on said support, a bar longitudinally movable in said guide plate, a lever pivotally connected to one end of the bar, means carried by the lever for supporting one end of a drill, and means for locking said bar in an adjusted position.

4. A support for drills comprising in combination, a support, a guide-plate on said support, a bar longitudinally movable in said guide-plate, a lever pivotally connected to one end of the bar and including a longitudinal extensible element, means carried by said element for supporting one end of a drill, and means for locking said element in adjusted position.

5. A support for drills comprising in combination, a support, a guide-plate mounted on said support, a bar longitudinally movable in said guide-plate, a post pivotally connected to the forward end of said bar for tilting movement, a sleeve slidably mounted on the upper end of said post and provided at its upper end with diametrically opposed slots, a breast-plate disposed within the slots, means for locking the sleeve to the post, a collar slidably mounted on the sleeve and provided with a seat for receiving and supporting one end of a drill, and means for locking the collar in an adjusted position to the sleeve.

6. A support for drills comprising in combination, a support, a bar longitudinally movable on said support a lever secured to the bar means carried by the lever for supporting one end of a drill, a vertical bracing element pivotally secured to the support opposite the lever, and laterally projecting foot braces carried by the support and arranged

intermediate the lever and the bracing element.

5 7. A support for drills comprising in combination, a longitudinal support, a transverse end piece secured to the front end of the support, a transverse foot brace secured to the rear end of the support, a bar slidably mounted within the guide-plate, a lever pivotally connected to the forward end of the bar for tilting movement, means for locking the bar in an adjusted position, and a vertically disposed bracing element pivotally connected to the rear end of the support.

10 8. A support for drills comprising in combination, a support, a bar longitudinally movable on said support, a lever secured to

the bar means carried by the lever for supporting one end of a drill, a tubular post pivotally mounted on the support opposite the lever, a rod slidably mounted within the post and having a pointed upper end, means for securing the rod to the post in an adjusted position, and a spring having one end secured to the support in rear of the post and having its other end normally engaging said post for keeping the latter in a normally vertical position. 20 25

In testimony whereof, I affix my signature, in presence of two witnesses.

JUDGE R. WILSON.

Witnesses:

L. D. HOSKINS,
F. F. WILSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
