

(No Model.)

W. J. MEWER.
ADJUSTING DEVICE FOR DRILLS, &c.

No. 529,039.

Patented Nov. 13, 1894.

Fig. 1.

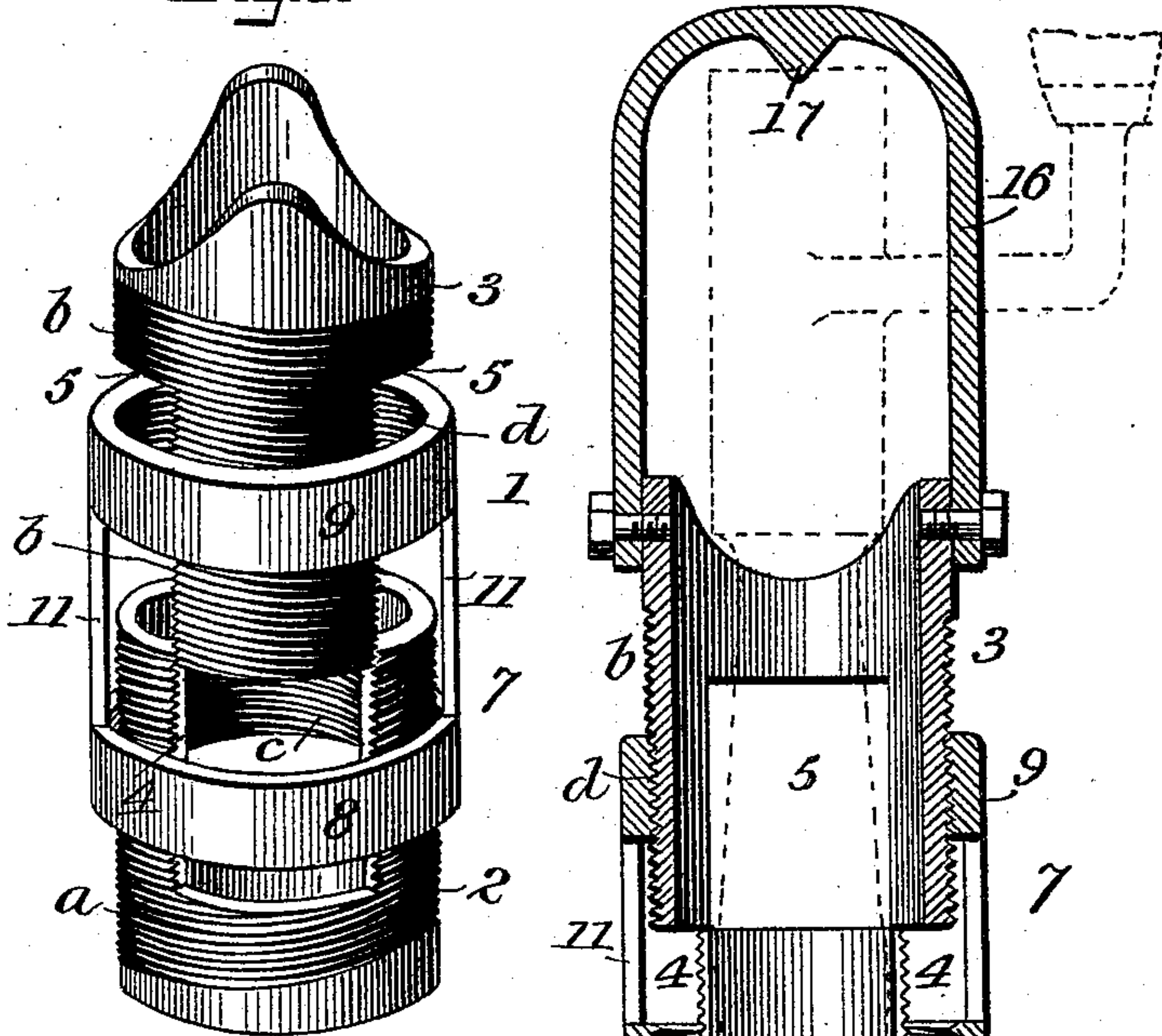


Fig. 2.

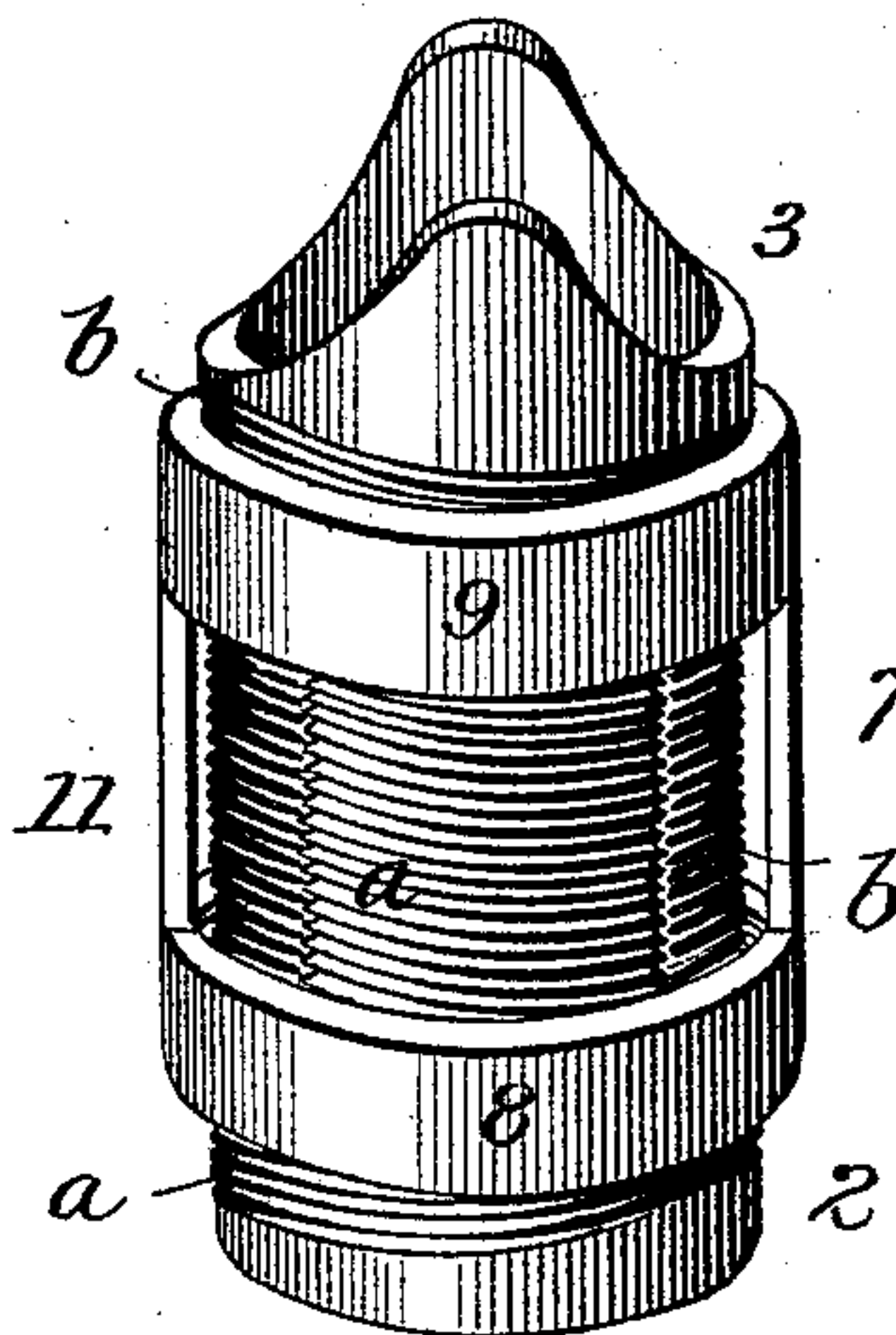


Fig. A.

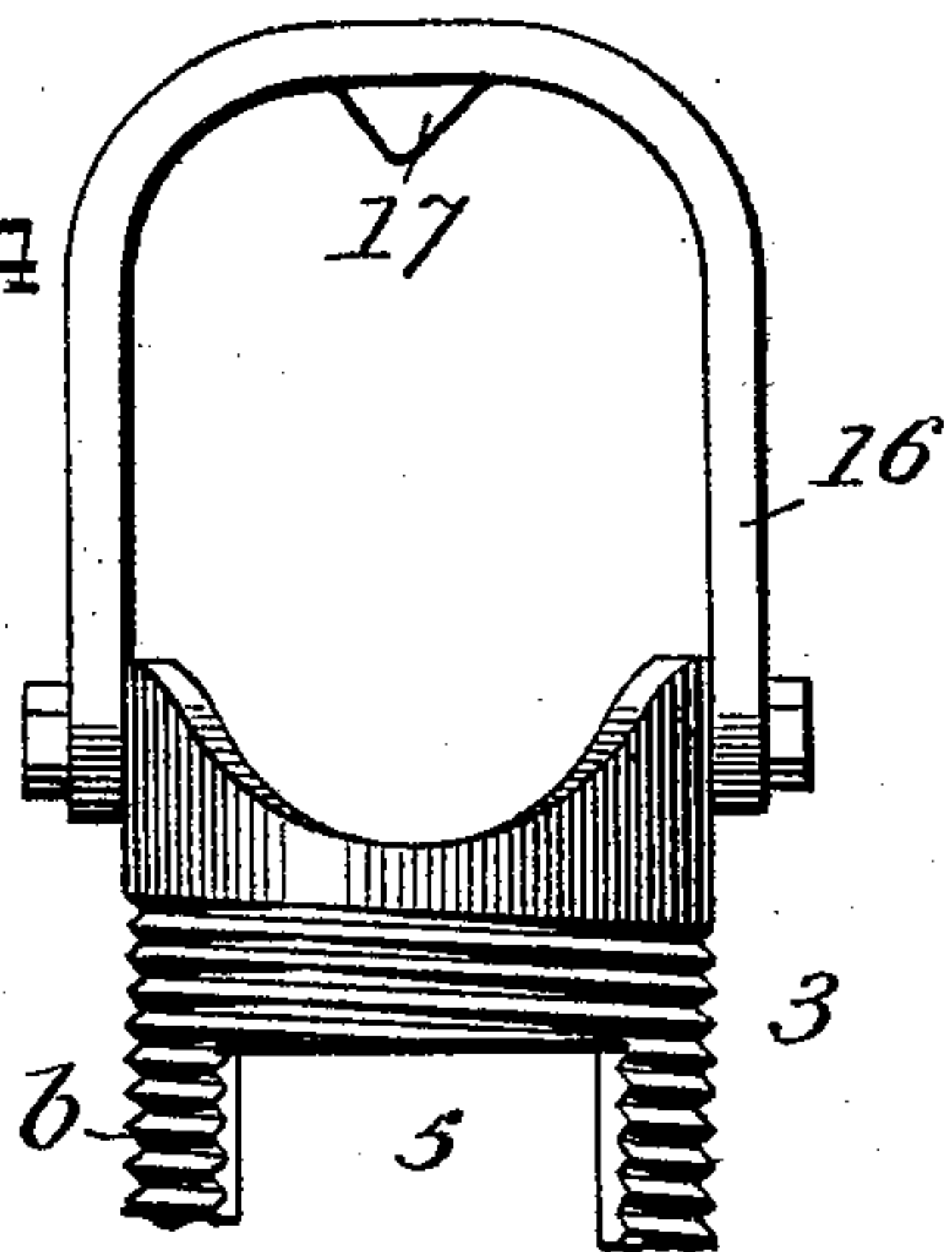
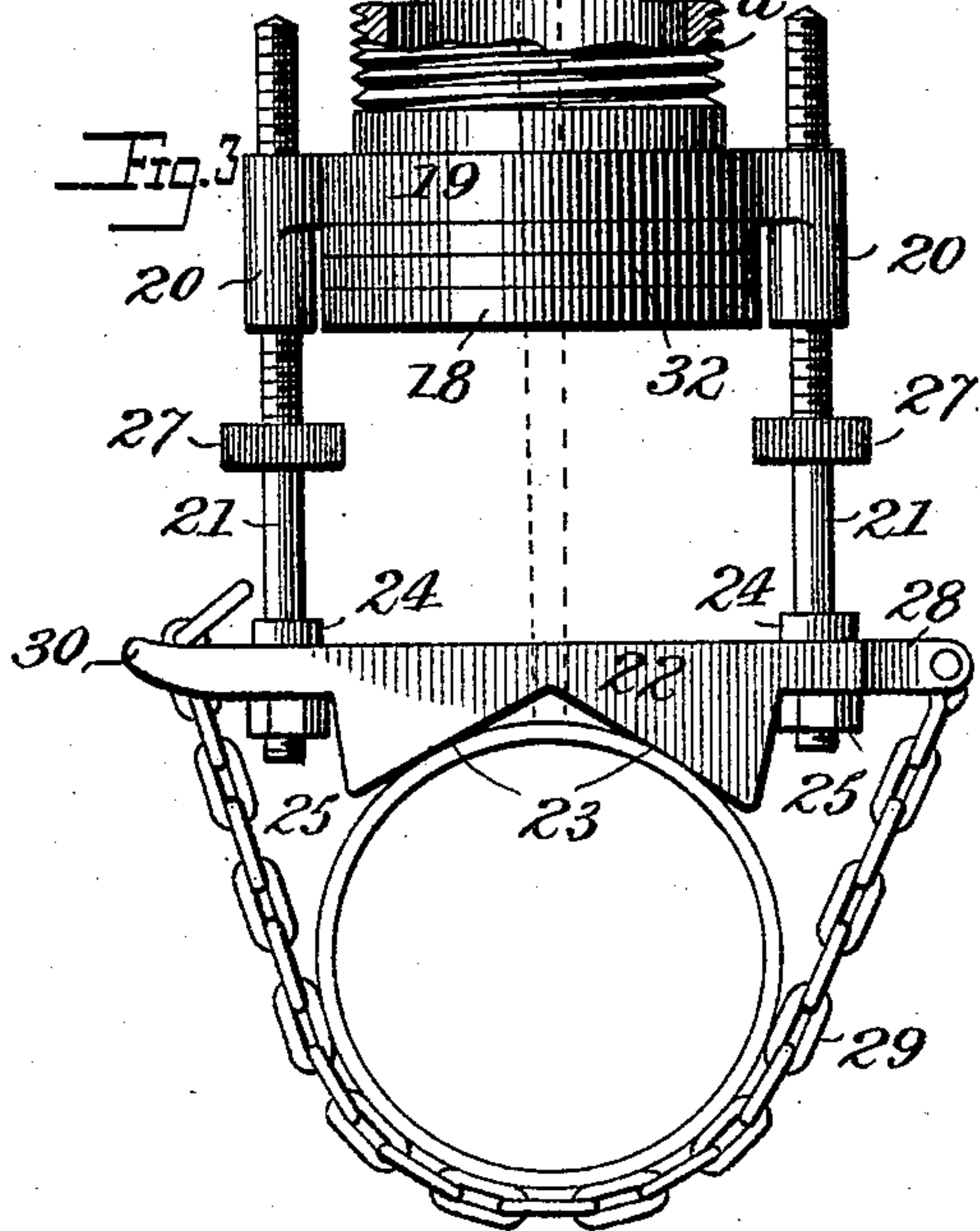


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM JOHN MEWER, OF OLD ORCHARD, MAINE, ASSIGNOR TO JOHN W. DUFF AND WILLIAM J. C. MILLIKEN, OF SAME PLACE, AND HENRY B. BENNETT, OF PORTLAND, MAINE.

ADJUSTING DEVICE FOR DRILLS, &c.

SPECIFICATION forming part of Letters Patent No. 529,039, dated November 13, 1894.

Application filed December 11, 1893. Serial No. 493,412. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN MEWER, a subject of the Queen of Great Britain, residing at Old Orchard, in the county of York and State of Maine, have invented certain new and useful Improvements in Adjusting Devices for Drills, &c., of which the following is a specification.

This invention relates to certain new and useful improvements in adjusting devices; and it consists substantially in such features of construction, arrangement, and combinations of parts as will hereinafter be more particularly described.

The object of the invention is to provide an improved follower or take-up device for effecting the adjustments of various mechanical appliances or devices, such as drills, piston-rod packings, driving-connections, and the like, as will more fully appear when taken in connection with the accompanying drawings, in which—

Figure 1, is a view in perspective of my improved adjusting device, the parts being shown as set outwardly to the full length or capacity for inward adjustment. Fig. 2, is a similar view, showing the parts as closed up to the full limit of inward adjustment, such position also indicating the positions of the parts when set for outward adjustments. Fig. 3, is a vertical sectional view of my improved adjusting devices, and showing in elevation the attachments or connections employed when my improvements are applied or used in connection with a hand-drill, the position and arrangement of the drill being indicated in dotted lines. Fig. 4, is a detail view, showing the preferred construction of the upper end of one of the parts of my improved device.

It will be understood that my invention is adapted to a great many different devices or appliances in which parallel adjustments are to be effected, and in order that the application thereof may be better understood, I have constituted my improvement as a support or attachment for an ordinary hand or breast-drill, by which the latter is rendered capable of use in boring or drilling holes in various permanent metallic structures, without removing the latter, either in part or entirety.

The advantages to be derived from such an arrangement will not be enumerated here, and no more mention made of such a contrivance than is absolutely necessary herein to enable a clear understanding to be had of the purposes of my invention.

In carrying my invention into effect, I construct the same of two counterpart sections, and an adjusting sleeve, each of said sections being received by or working in the other, in such manner as to increase or shorten the length accordingly as the adjusting sleeve be turned or operated in one direction or the other.

While I have herein shown a preferred embodiment of the invention, it will be apparent that immaterial changes therein could be made without departing from the general spirit or scope intended. For instance, I have herein represented as a preferred form, the two principal parts of my invention as being provided with recesses in diametrically opposite sides, and the intervening portions of each part coinciding with and being received by the recesses of the other, accordingly as the operating sleeve is turned. It is evident that the number of recesses and intervening portions could be increased with equal effect.

The extreme or outer ends of the device when the parts thereof are in place or position, may be provided with suitable connecting portions, so as to enable the device to connect together the ends of parts which are to be adjusted with relation to each other, as for instance between opposite ends of two rods, or the like. For such purpose, therefore, any form of connecting devices may be employed.

When my device is employed for the purpose herein selected, for example, I preferably provide one end of one part with a bearing-point, and the corresponding end of the other part is likewise altered so as to hold or support certain devices used to attach my improvement to a pipe or other structure, as will hereinafter be explained.

Reference being had to the drawings, 1, represents my improved adjusting device as a whole or entirety.

2, indicates the part or section which for the sake of clearness, I will call the stationary part; while 3, represents the movable or adjustable part or section. As will be observed, the two parts are cylindric, and are complementary to each other, that is to say, each part or section is in part received by the other; and, as shown, this is accomplished by taking two shells or short cylinders and forming or providing the same with continuous screw-threads, *a* and *b*, respectively, preferably on their exterior surfaces. At diametrically opposite sides each part or section has a portion of its body cut out to constitute in the part 2, the recesses 4, 4, and in the other part the corresponding recesses 5, 5.

As shown in Fig. 1, the two parts or sections 2, and 3, are shown in the outermost positions with respect to each other; and it will be observed also by this figure, as well as the others, that the screw-threads of the two parts trend or lie in different directions, that is to say, the thread of the part or section 2, is a right-hand thread, while that of the part or section 3, is a left-hand thread. Some such arrangement is necessary so as to cause one part to be adjusted in or out with respect to the other part whenever the operating sleeve is properly turned.

It will, of course, be understood that by simply reversing the directions of the threads, the same effect would be had, it being only necessary in such case to reverse the relative positions of the parts shown in Figs. 2 and 3, in order to obtain the same direction of adjustment.

7, represents a rotary sleeve or collar surrounding the two parts, and preferably, though not essentially, consisting of two separate ring-shaped portions 8 and 9, joined together or united by connecting portions 11. The said portion 8, is provided interiorly with a right-hand screw-thread *c*, adapting the sleeve to the part or section 2; and the said portion 9, is in like manner provided with an interior left-hand thread *d*, to adapt the same to the part or section 3. It is evident from this construction and arrangement that by turning the sleeve upon the part 2, the part 3, will be caused to follow the sleeve, and by turning the sleeve backward, the reverse will be the effect. As the two parts are moved in and out, the solid portions of each part are received into the recesses or cut-out portions of the other, in an evident manner. It will thus be seen that adjustments can be very easily and quickly effected to a nicety, and that in many instances the wear and thrust of various mechanical elements and appliances can readily be compensated for.

As an example of one of the uses to which my improvements are adapted, I have herein shown a support which when properly embodied and fastened to any structure, such for instance, as a pipe or other metallic structure, an ordinary hand or breast-drill may be

employed for boring or drilling holes without the necessity of constantly building up a backing or bearing for the drill, as by the insertion of blocks and the like, frequently practiced in many instances of the ordinary hand-ratchet drill.

Fig. 3, fully illustrates the application in question, and wherein it will be seen that the outer end of the part or section 3, is formed or provided with an arch 16, having a bearing-point 17, designed to rest upon the upper end of the drill or stock, so as to hold the drill to its work. In this instance also the outer end of the part 2, is preferably flanged at 18; and around this part or section is placed a loose collar or yoke 19, formed or provided with interiorly threaded hollow bearings 20, 20, through which pass the screw-rods 21, 21, as shown.

Carried upon the rods 21, is a grip 22, which is formed or provided with jaws 23, which rest upon or against the pipe or other structure being operated upon, and take into the material or body thereof sufficiently to establish a firm and secure hold. The said jaw is held down in place against the collars 24, of the screw-rods by means of the nuts 25, as shown, and the said rods may or may not be formed or provided with milled collars 27, to enable the rods to be readily turned by the hand of the operator.

The grip 22, is formed or provided at one end with projecting lugs 28, to which one end of a chain, rope, or similar tightening means 29, is attached, while the opposite end thereof is slotted or cut at 30, so as to receive and bind the chain or rope tightly after the latter has been placed around the part or structure to be drilled.

Between the flange 18, of the part or section 2, and the loose collar or yoke 19, I place friction washers 31, 32, of any preferred material, so as to receive all wear and friction, and in a large measure render the parts noiseless in operation. Instead of these washers I may, if desired, use a ball-and-socket friction device, such as is used for many purposes in various contrivances or mechanical devices.

The purpose of the screw-rods is to enable drills of different lengths or heights to be employed, for it is evident that were it necessary to have to use a brace or drill which would be too high or long to be received even when the parts 2 and 3, were adjusted outwardly as far as possible, then it is simply necessary to adjust the rods outward by screwing or turning them in the proper direction.

It will be observed that the arch 16, is so attached or secured to the part 2, by screws, as to be capable of being turned down alongside of such part, in order to facilitate the entrance of a drill and its stock when necessary.

Without limiting myself to the precise construction and arrangements of parts shown, I claim—

1. In adjusting devices of the character referred to, two complementary hollow sections

provided with corresponding recesses and extensions, each fitting and working within the other and screw-threaded on their exterior surfaces, means for operating said sections, 5 means at one end of the sections for attachment to the object to be drilled, and a bearing-point formed with or attached to the opposite end of the sections, substantially as described.

2. In adjusting devices of the character referred to, two complementary hollow sections provided with corresponding recesses and extensions each fitting and working within the other and screw-threaded on their exterior surfaces, means for operating said sections to 15 lengthen or shorten the same, a gripping jaw attached to one section, and a bearing-point attached to the other, substantially as described.

3. In adjusting devices of the character referred to, two complementary hollow sections provided with corresponding recesses and extensions each fitting and working within the other, and screw-threaded on their exterior surfaces, a correspondingly screw-threaded 25 sleeve for operating said complementary sections, a gripping jaw, means for adjusting the jaw, and a loose collar, substantially as described.

4. In adjusting devices of the character referred to, two complementary hollow sections provided with corresponding recesses or extensions, each fitting and working within the

other and screw-threaded on their exterior surfaces in opposite directions to each other, a corresponding interiorly screw-threaded 35 sleeve surrounding the sections for operating the same, the loose collar provided with bearings, the screw-rods working in said bearings, anti-friction devices, and an adjustable gripping jaw, substantially as described. 40

5. In adjusting devices of the character referred to, the combination of the complementary sections, and their operating sleeve, a gripping jaw, means for adjusting the jaw, and a loose collar, substantially as described. 45

6. In adjusting devices of the character referred to, the combination of the complementary sections, the arch and bearing-point, the operating sleeve, a loose collar, and an adjustable gripping jaw, substantially as described. 50

7. In adjusting devices of the character referred to, the combination of the complementary sections, the adjusting sleeve, the loose collar provided with screw-threaded bearings, the screw-rods working in said bearings, 55 anti-friction devices, and a grip jaw and jam-nuts, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM JOHN MEWER.

Witnesses:

H. FAIRFIELD,

LUTHER R. MOORE.