

No. 879,430.

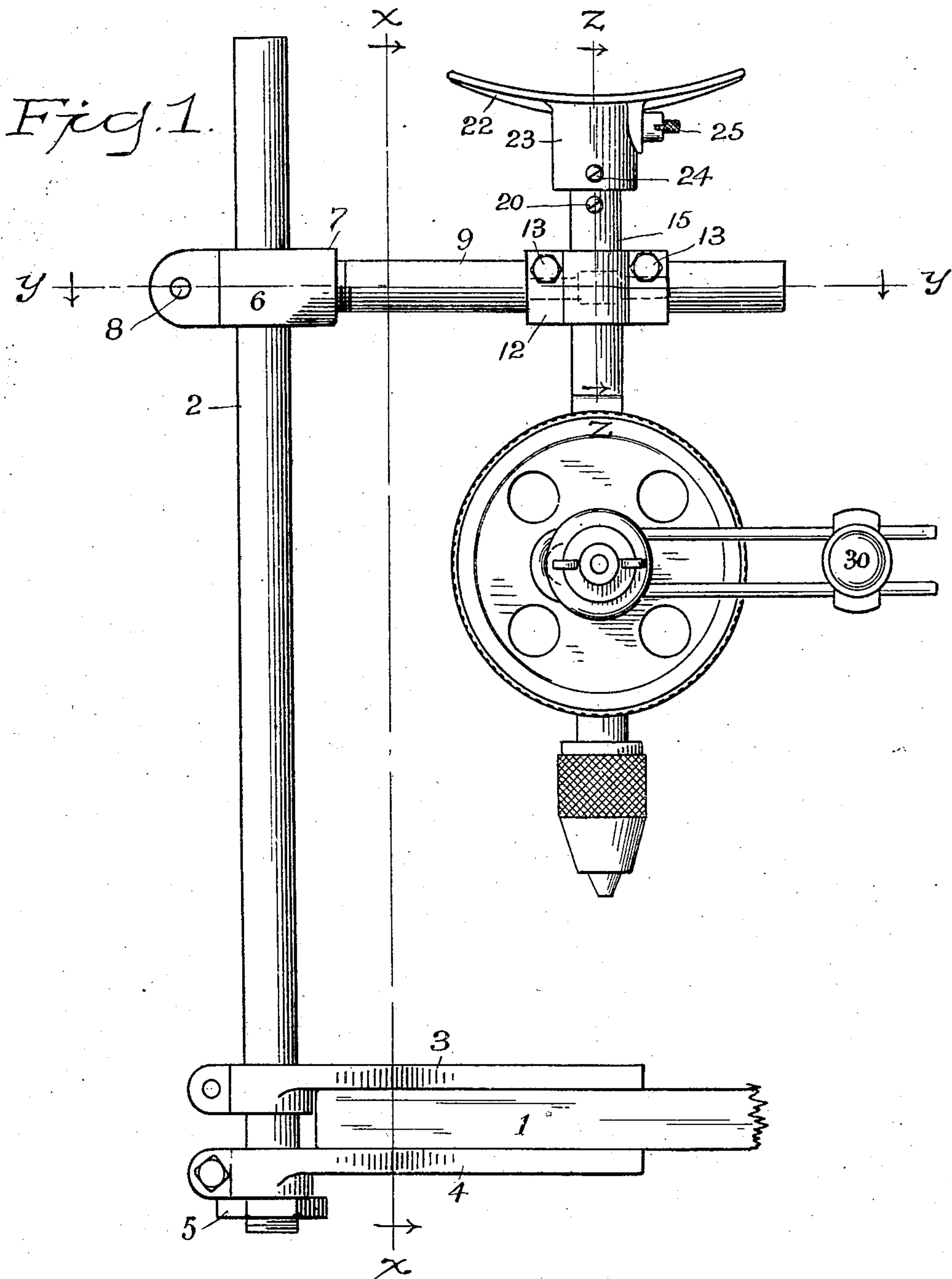
PATENTED FEB. 18, 1908.

W. H. ADAMS.

DRILL ATTACHMENT.

APPLICATION FILED MAR. 1, 1907.

2 SHEETS—SHEET 1.



**WITNESSES**

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M. J. Longden

*INVENTOR*

W. H. Adams

BY

ATTORNEY

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2 SHEETS—SHEET 2.

Fig. 2.

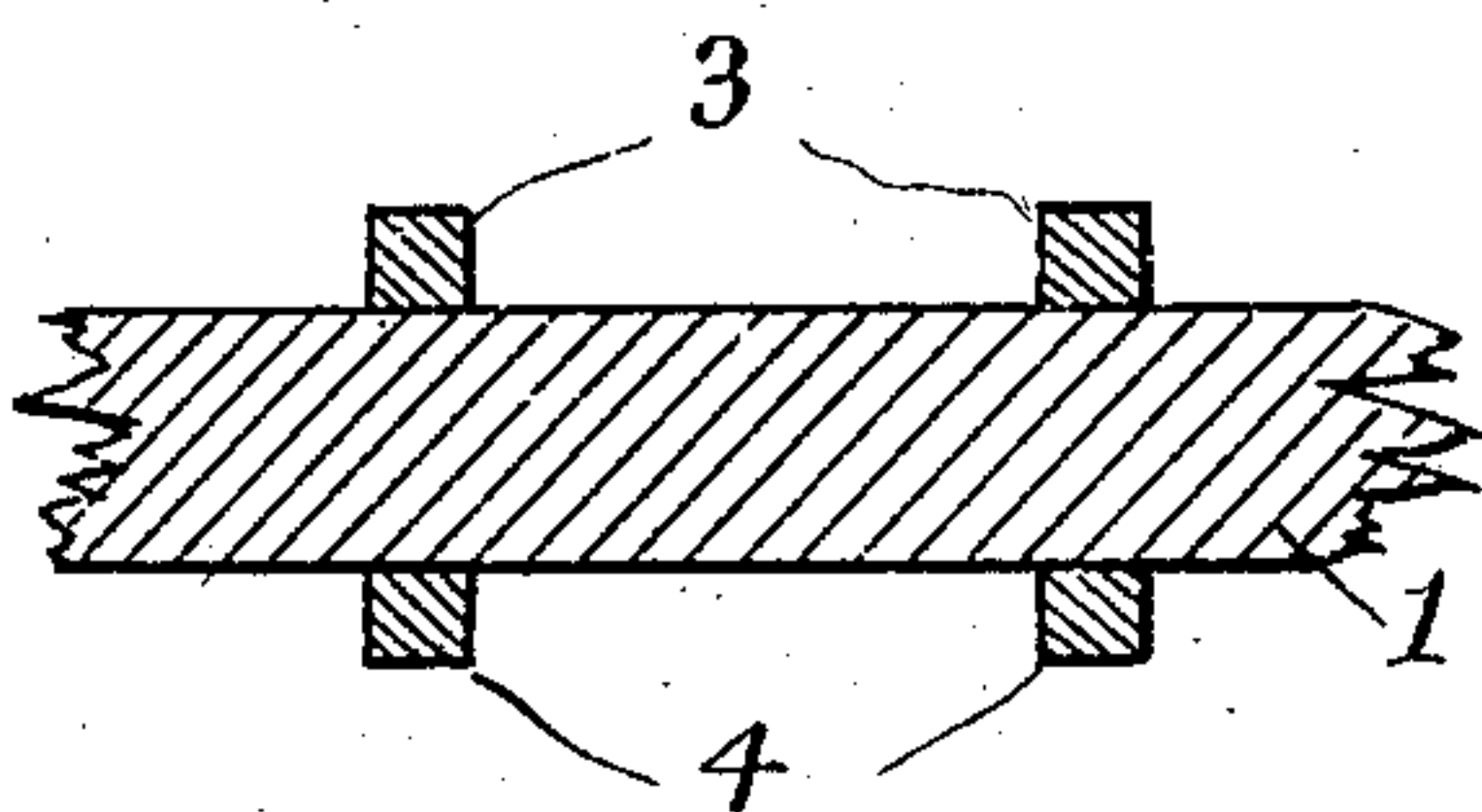
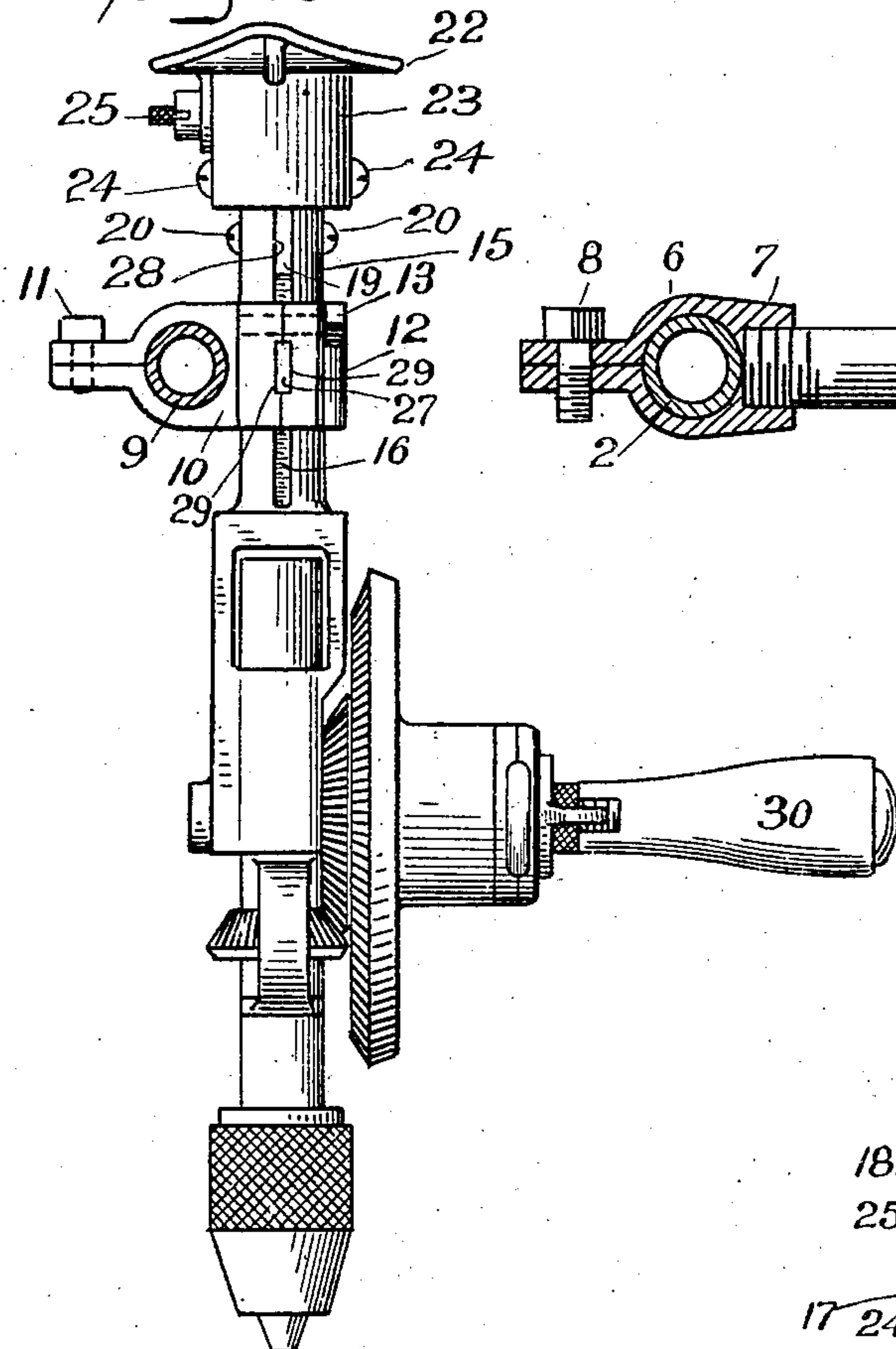


Fig. 3.

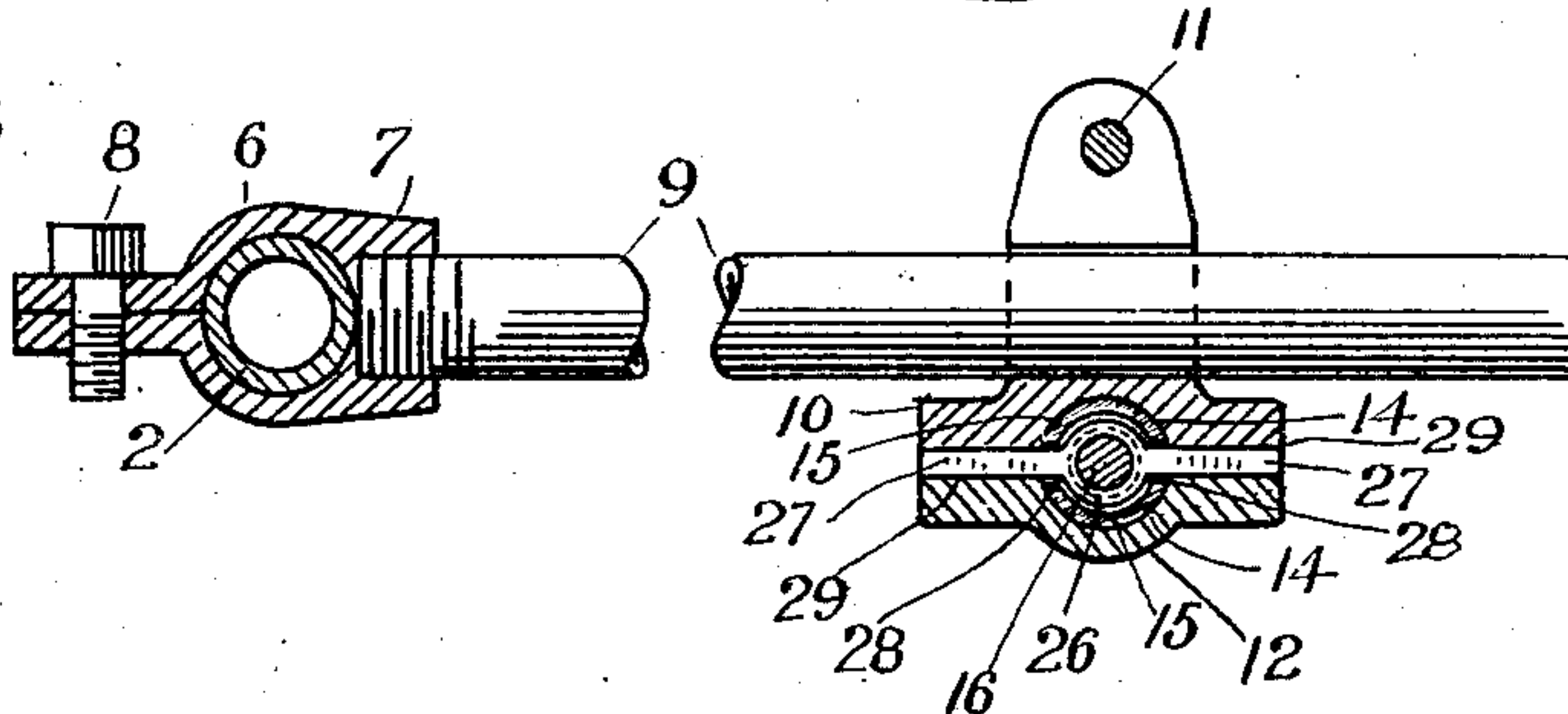
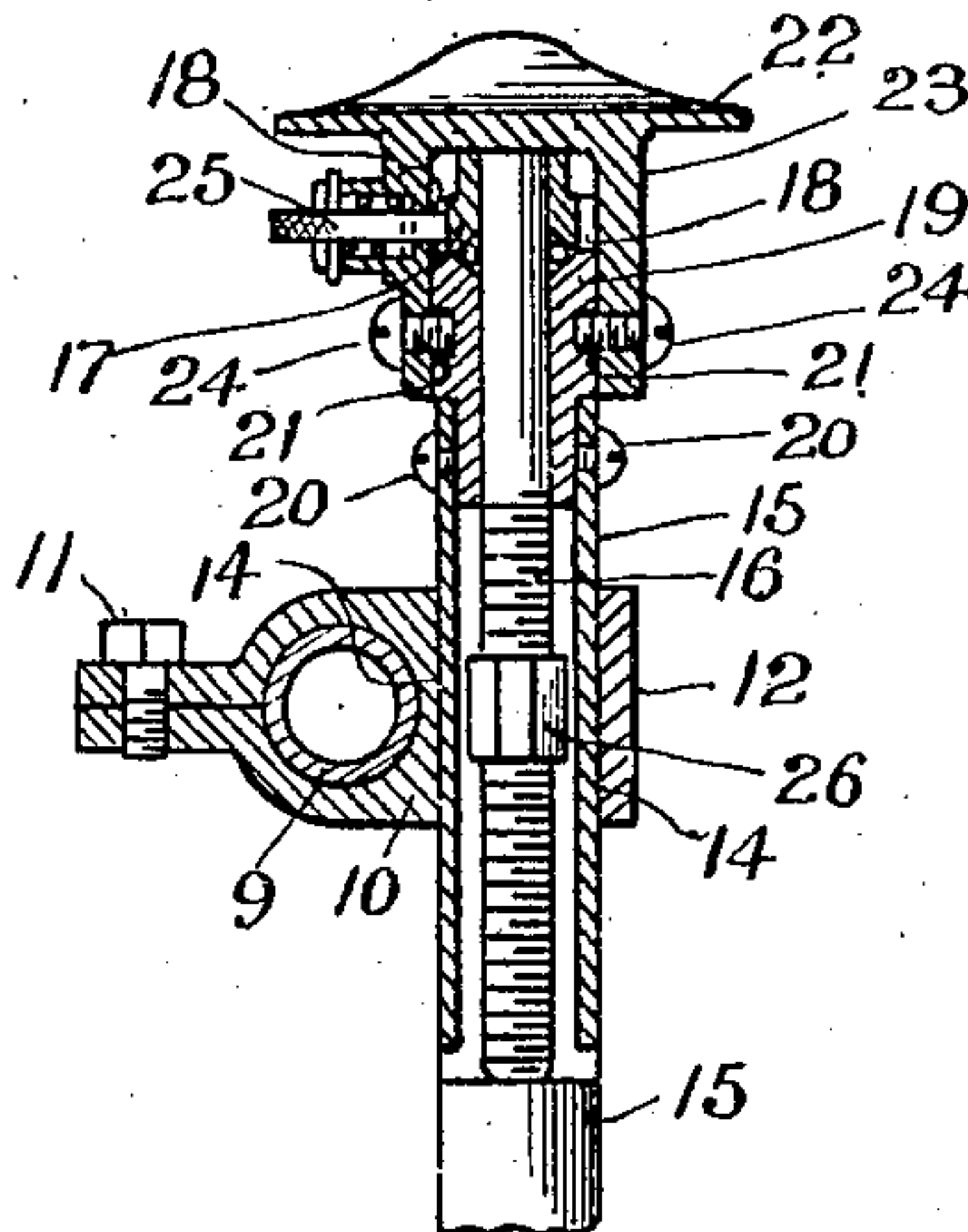


Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WALTER H. ADAMS, OF SOUND BEACH, CONNECTICUT.

## DRILL ATTACHMENT.

No. 879,430.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed March 1, 1907. Serial No. 360,100.

*To all whom it may concern:*

Be it known that I, WALTER H. ADAMS, a citizen of the United States, residing at Sound Beach, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Drill Attachments; 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.

My invention relates to drill attachments and consists of certain combinations of parts and arrangements of parts, such as will be hereinafter fully set forth and then particularly pointed out in the claims which conclude this description.

In the accompanying drawing Figure 1 is an elevation illustrating my improvement—  
Fig. 2 a section at the line *x, x*, of Fig. 1—  
Fig. 3 a section at the line *y, y*, of Fig. 1, and  
Fig. 4 a section at the line *z, z*, of Fig. 1.

Similar numbers of reference denote like parts in the several figures of the drawing.

Work which requires a drilling operation must either be brought to a stationary drilling apparatus, or else a breast drill or other similar hand operated drill must be used, but it is frequently impossible to bring the work to the drilling machine, and hand operated drills are, as a rule, worked under great disadvantages, owing to the fact that it is well nigh impossible to hold them steady during the operation of drilling.

My improvement aims to provide a portable attachment which may be clamped to any stationary object while at the same time the drill itself is not only held steady but is capable of both a vertical and a horizontal adjustment.

Referring to the accompanying drawing, 1 is any suitable platform, ledge or other stationary object, and 2 is an upright which is secured firmly to said ledge by means of clamping plates 3, 4, which surround said upright and are bound firmly against said ledge by means of the nut 5 which is driven on the lower threaded portion of said upright firmly against the bottom clamp. This method of clamping is of course very ordinary and will require no further detail description. Around the upper portion of this upright is a sleeve 6 whose inner extremity is formed into an interiorly threaded socket 7 while the outer extremity is split so as to afford spring sections, and through these sections extends

a bolt 8 whereby said sleeve may be firmly secured to said upright or loosened therefrom as the occasion may demand.

9 is a horizontal bar which has a threaded end which is driven firmly within the socket 7, and around this bar is a sleeve 10 whose rear extremity is split so as to afford spring sections while a bolt 11 is driven through these sections to clamp the sleeve firmly to the bar 9 or release it therefrom. To the forward portion of this sleeve 10 a cap-piece 12 is secured by means of bolts 13, and said piece and forward portion are cut away to provide a vertically disposed bearing 14.

15 is the frame of any approved form of drill which frame extends up through the socket 14 in such manner as to be capable of a free lengthwise movement therethrough.

The lower portion of the drill which comprises the gearing, the operating handle, and the chuck, I will not describe since they form no part of my present invention, and moreover, a description of this portion of the drill would not aid in an understanding of my invention. It would appear necessary, however, that I should describe the upper portion of the drill which contains the feeding mechanism, which latter is in direct combination with the forward portion of the sleeve 10.

The frame 15 is hollow and contains the feed screw 16 to the upper extremity of which latter is secured a collar 17 within whose periphery is formed a ratchet 18.

19 is a sleeve loose around the shank of the feed screw and secured to the frame by means of screws 20, and within this sleeve is formed an annular groove 21.

22 is a plate having a depending hollow hub 23 which latter loosely contains the sleeve 19.

24 are screws which are driven through the hub 23 and extend within the annular groove 21, whereby said hub will be free to turn independently of the sleeve but will be secured to the latter with respect to lengthwise movements.

25 is any suitable spring pawl which extends through the hub 23 into engagement with the ratchet 18 so that when this pawl and ratchet are in engagement the turning of the plate 22 will effect the turning of the feed screw.

Around the threaded portion of the feed screw is a nut 26 provided with laterally extending wings 27 which latter project through elongated slots 28 in the frame 15



and are confined within recesses 29 formed in the abutting faces of the forward portion of the sleeve 10 and cap-piece 12, so that it will be clear that when the feed screw is  
 5 turned the nut will remain stationary thereby permitting said screw and the parts carried thereby to travel in a vertical plane. When the handle 30 is turned around the drill will be revolved and the feeding of the  
 10 drill is accomplished by turning the plate 22.

Vertical adjustments of the drill to locate the latter in its proper position immediately above the work are brought about by adjusting the position of the sleeve 6, and by  
 15 loosening this sleeve and swinging the bar 9 in the arc of a circle the drill may be brought immediately above any work that is within the radial sweep of said arm. By adjusting the position of the sleeve 10 on the bar 9  
 20 lengthwise thereof the position of the drill may be adjusted to perform its functions at a distance nearer to or further away from the upright 2.

In case the drilling operation is at an angle  
 25 the sleeve 10 is loosened and said sleeve turned around on the bar 9 until the drill is brought at the proper angle and thereupon the sleeve is tightened. Moreover, this sleeve 10 may be adjusted so as to bring the  
 30 position of the drill in a horizontal plane, whereupon the drill can then be used after the manner of an ordinary breast drill. It will thus be seen that the drill is capable of universal adjustment and can be used effectively in all instances where a suitable ledge  
 35 for clamping the drill is afforded.

By equipping the chuck with a grinding tool instead of a drill, my improvement becomes useful for the purpose of grinding  
 40 valve seats and the like, and since the drill is

held steady the grinding will be effected evenly.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a drill, a stationary member, a hollow member secured thereto, a feed screw extending through the hollow member, a stationary nut engaging the feed screw, a collar rigidly secured to the upper end of  
 45 said feed screw and formed with peripheral ratchet teeth, a sleeve loosely surrounding the feed screw and rigidly secured to said hollow member said sleeve having an annular peripheral groove, a plate having a  
 50 hub loosely engaging said sleeve, screws carried by said hub to project in said annular groove of the sleeve, and a spring pressed pawl carried by the hub and engaging said ratchet teeth of the collar. 55

2. In a drill, a stationary member formed with a central vertical arc-shaped socket and with opposite lateral recesses which merge into said socket, a hollow tube member having a feed screw therein, a nut on said screw  
 60 having wings which extend through openings provided therefor in said tube member, means to secure said tube member and said wings of the nut to said stationary member in unison, said means comprising a cap  
 65 member having a vertical socket to receive said tube member and recesses to receive said nut wings, and means to secure said cap member to said stationary member. 70

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

WALTER H. ADAMS.

Witnesses:

F. W. SMITH, Jr.,  
 M. T. LONGDEN.