W. BARNETT.

PIPE MACHINE.

APPLICATION FILED MAY 28, 1909.

970,677.

Patented Sept. 20, 1910.

2 SHEETS—SHEET 1.

W. BARNETT.

PIPE MACHINE.

APPLICATION FILED MAY 28, 1909.

970,677.

Patented Sept. 20, 1910.

2 SHEETS—SHEET 2.

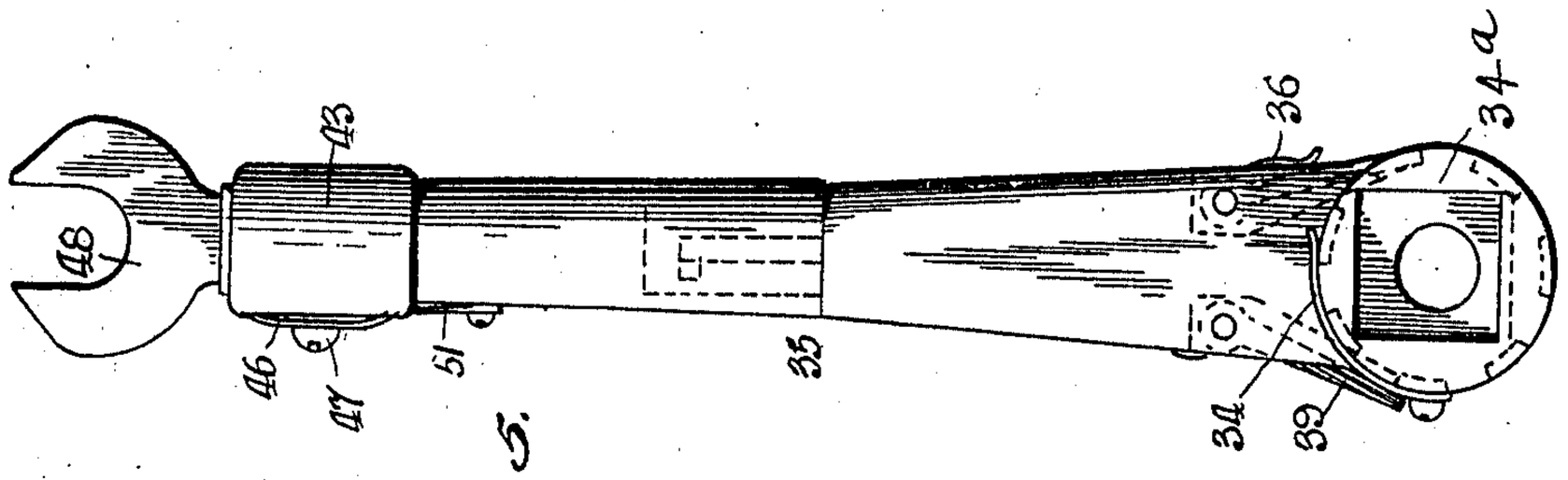
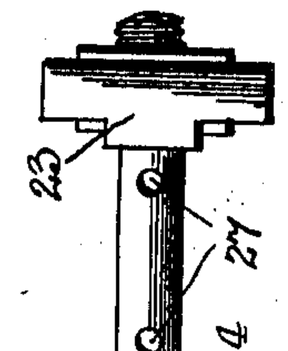


FIG. 5.



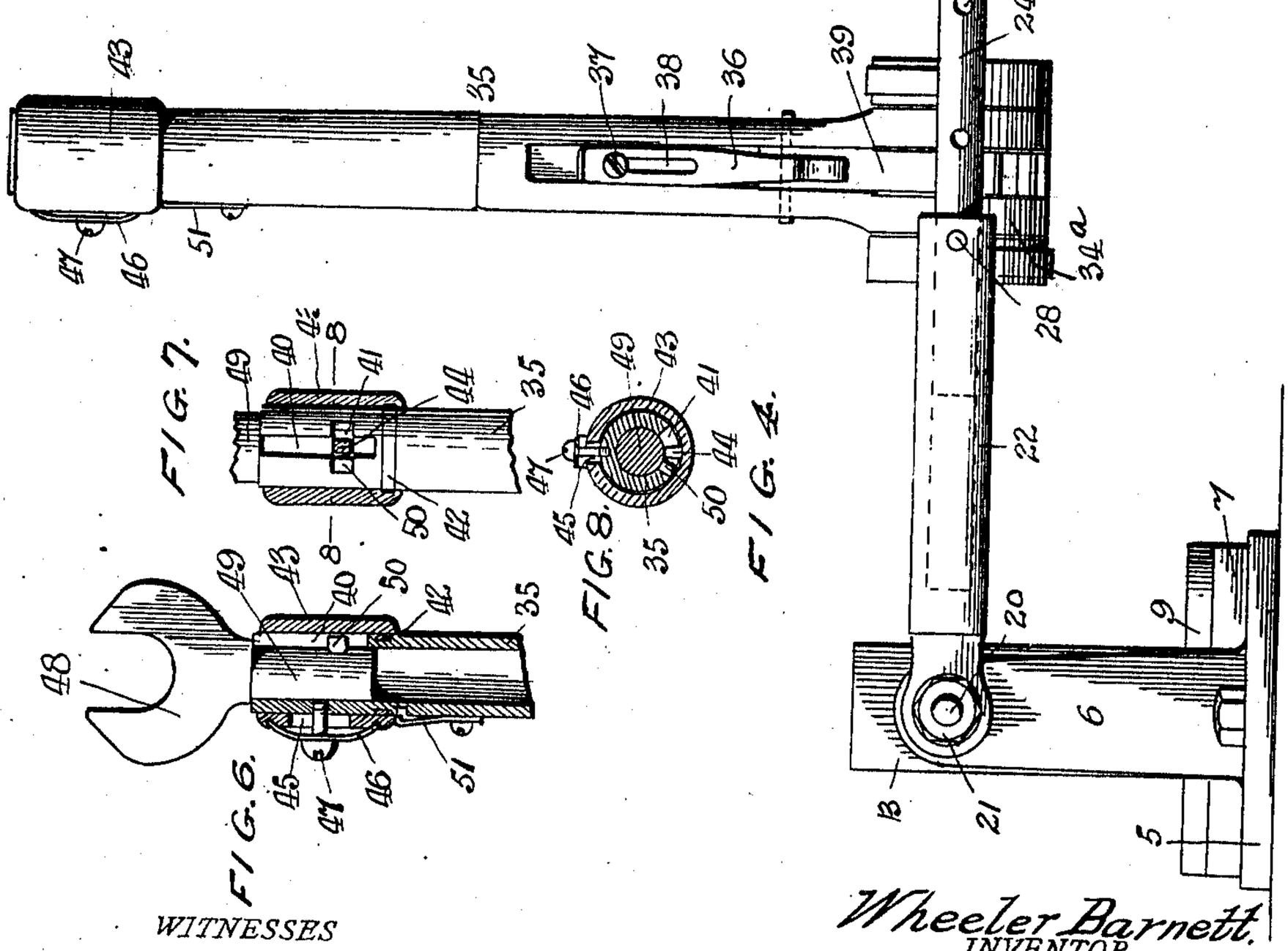


FIG. 6.

FIG. 7.

FIG. 8.

FIG. 4.

WITNESSES

C. N. Davis

Myron G. Clear

Wheeler Barnett.
INVENTOR

C. L. Parker
Attorney

UNITED STATES PATENT OFFICE.

WHEELER BARNETT, OF KNOXVILLE, TENNESSEE.

PIPE-MACHINE.

970,677. Specification of Letters Patent. **Patented Sept. 20, 1910.**

Application filed May 28, 1909. Serial No. 498,860.

To all whom it may concern:

Be it known that I, WHEELER BARNETT, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented certain new and useful Improvements in Pipe-Machines, of which the following is a specification.

My invention relates to adjustable pipe machines, and more particularly to adjustable machines for drilling, tapping, reaming and performing other similar operations upon pipes and other work, and my object is to provide a machine in which a piece of work may be clamped and embodying a ratchet brace to receive the tool, and an adjustable frame carrying said brace, whereby the brace may be moved toward and from the work, and advanced thereto at different angles.

In the accompanying drawings, which illustrate my invention, and form a part of this specification, Figure 1 is a front elevation of my improved machine. Fig. 2 is a vertical sectional view of portions of my machine, showing in elevation members associated therewith and taken therethrough on line 2—2 of Fig. 1. Fig. 3 is a cross section through the brace on the line 3—3 of Fig. 2. Fig. 4 is a side elevation of the machine in the lower position. Fig. 5 is an elevation of the brace removed. Fig. 6 is a detail sectional view of the end of the brace. Fig. 7 is a similar view looking at right angles to Fig. 6, and, Fig. 8 is a detail cross section through the brace end, on line 8—8 of Fig. 7.

In the embodiment of my invention as shown, I provide a base plate 5, to be secured upon a suitable support, and having upstanding vertical arms 6 projecting therefrom, adjacent the ends thereof, and a superposed plate 7 secured thereto, between said upstanding arms. Plates 5 and 7 are provided with a transverse opening therethrough, while plate 7 has a transverse opening 8 extending at right angles to and intersecting the first mentioned openings. Mounted upon the plate 7, is a block 9, having a central square projection 10 for engagement within the first named plate openings, said projection 10 having an opening 11 to aline with the opening 8 of plate 7 and receive a locking pin therein, (not shown). The block 9 has a central T-rail 12, extending thereupon, upon which is mounted the conformably slotted lower end of an upstanding shank 13, having a curved upper end 14 forming a jaw. Shank 12 slides, in opposition to a stationary shank 15, upstanding from block 9 and having a curved jaw 16, by means of the threaded bolt 17 having a handle 18. Shanks 12 and 15 have intermediate pieces 19 provided with knurled concave adjacent faces, and forming pipe jaws, as shown.

To the upper ends of the plate arms 6 are pivoted, secured by bolts and nuts 20 and 21 respectively, tubular arms 22 of an inverted U-shaped frame, comprising also an upper cross bar 23, and legs 24, extending from the ends thereof, and adapted for slidable engagement in the tubular arms 22, as shown. The cross bar 23 is provided with a longitudinal slot (Fig. 2) and with tongues 25, upon its edge along said slot, within which slides a grooved block 26, having a central threaded opening. The legs 24 have equi-distantly spaced transverse openings 27, selected ones of which are engaged by locking pins 28, extending transversely through the ends of the tubular arms 22.

The drill brace which I employ comprises a feed screw 29, which has its upper end screw threaded, as at 29′, and arranged within the screw threaded opening in the block 26. The feed screw 29, has rigidly secured to its lower end a rectangular block 30, having one of its sides beveled, as at 31. The drill brace further comprises a tool socket 32, provided upon its upper end with a block 33, similar to the block 30, and having one of its sides beveled, as at 34. The beveled blocks 30 and 33, are adapted to be inserted within corresponding openings upon the upper and lower ends of a ratchet head 34^a. The openings upon the ends of the ratchet head 34^a are substantially larger than the blocks 30 and 33, respectively, so that said blocks may be removed. The blocks 30 and 33 are held within the openings upon the ratchet head 34^a, as shown in Fig. 2, by means of the pins 34^b, which are secured upon springs 34^c. The pins 34^b pass through the upper and lower ends of the ratchet head 34^a and extend within openings upon the sides of the blocks 30, and 33, opposite to the beveled sides of the same.

The handle 35, which extends from the ratchet head is in two longitudinal sections having relatively engaging bayonet projections and slots, shown in dotted lines in Fig. 5, the inner section of which carries slidable

springs 36, held by screws or the like, 37, through their slots 38, and independently movable to control the pawls 39, which engage ratchet head 34ª. The outer section of handle 35 has a longitudinal slot 40 extending from its outer end, and a transverse slot 41 extending through said longitudinal slot adjacent its inner end; said handle section has also a circular groove below and adjacent the inner end of the slot 40, for the reception of a spring 42. A sleeve 43 for engagement about the end of said handle section, has an inwardly extending lug or projection 44, adapted to extend with the slot 40 and to be moved to the inner end thereof beyond slot 41. Sleeve 43 is also provided with a longitudinal slot 45 spanned by a bow spring 46 also having a longitudinal slot and through which slot is passed a screw 47 threaded into the end of the handle section, and together with spring 42, tensioning the sliding movement of said sleeve. A tool 48, such as a nut span, is provided with a shank 49, having a projection 50 adapted for engagement in the slot 40. Thus when shank 49 is projected into slot 40, sleeve 43 is moved inwardly until its projection 44 is in the extremity of said slot, permitting shank 49 to be turned slightly in either direction to move its said projection into the transverse slot 41, when said sleeve is moved outwardly until its projection 44 alines with transverse slot 41 to prevent the removal of said shank. The sleeve 43 is held by a latch spring 51 secured to handle 35, which must, as shown, be pressed inwardly in order that said sleeve may be moved to release the tool.

From the foregoing, it will be seen that a pipe or other piece of work clamped as shown in Fig. 1, may be transversely drilled, tapped or reamed, and that by loosening nuts 21, and moving the adjustable extensible frame downwardly to the position shown in Fig. 4, the operation may be performed longitudinally thereof.

Having fully described my invention, I claim:

In combination, a support provided with spaced upstanding arms, an adjustable U-shaped member pivotally connected to the ends of said arms, a vise arranged between said arms and provided with clamping jaws in horizontal alinement with the upper ends of said arms, a drill mounted upon said U-shaped member and comprising a ratchet head and feed screw and chuck, and means for rotating said ratchet head.

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

WHEELER BARNETT.

Witnesses:
W. H. ROBERTS,
C. W. CONNER.