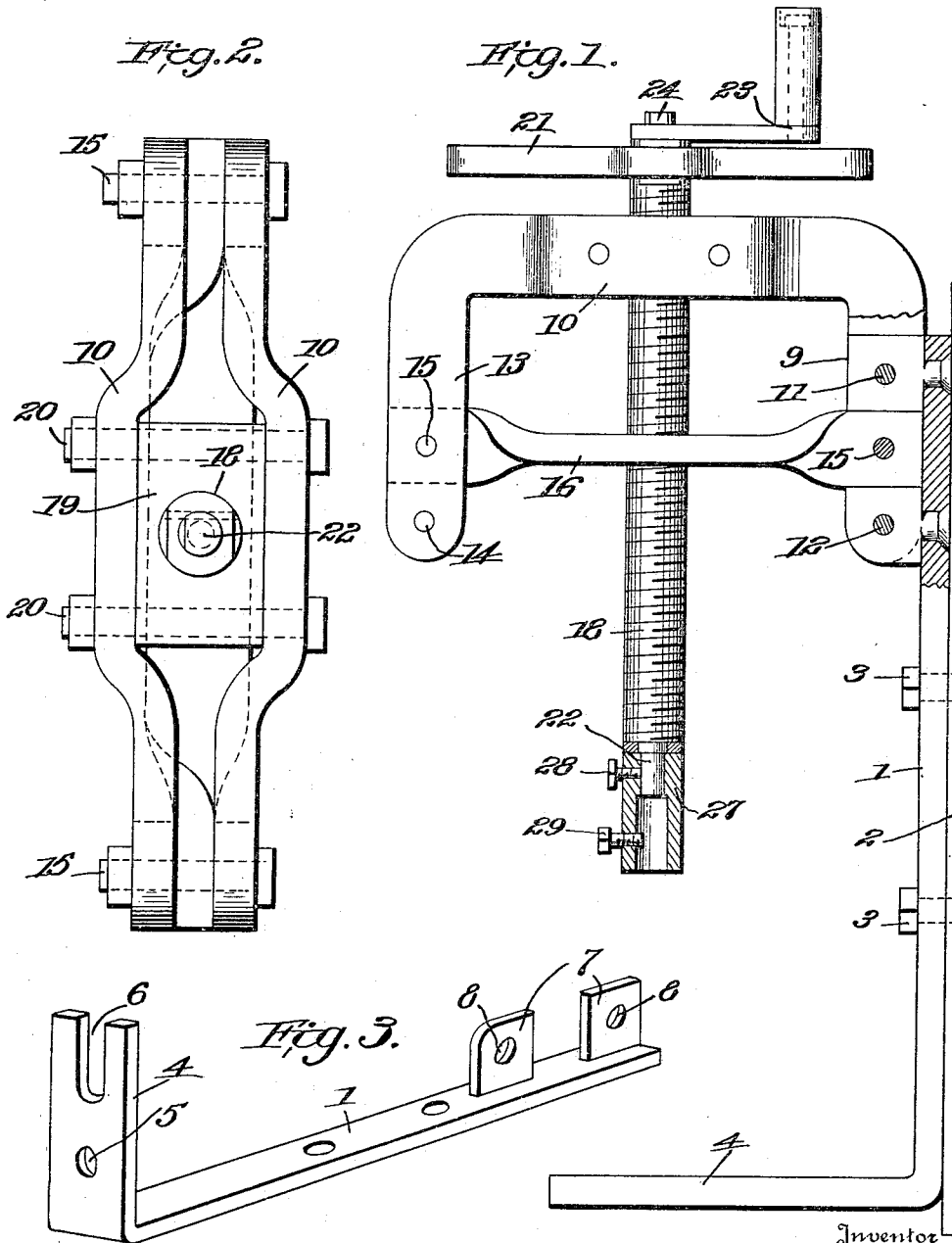


W. A. HAWKINS.
 CONVERTIBLE DRILLING MACHINE AND GEAR JACK.
 APPLICATION FILED OCT. 10, 1916.

1,282,079.

Patented Oct. 22, 1918.
 2 SHEETS—SHEET 1.



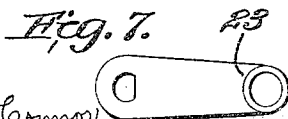
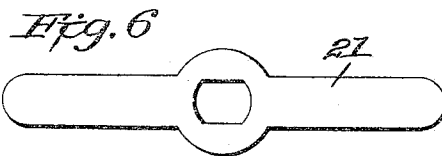
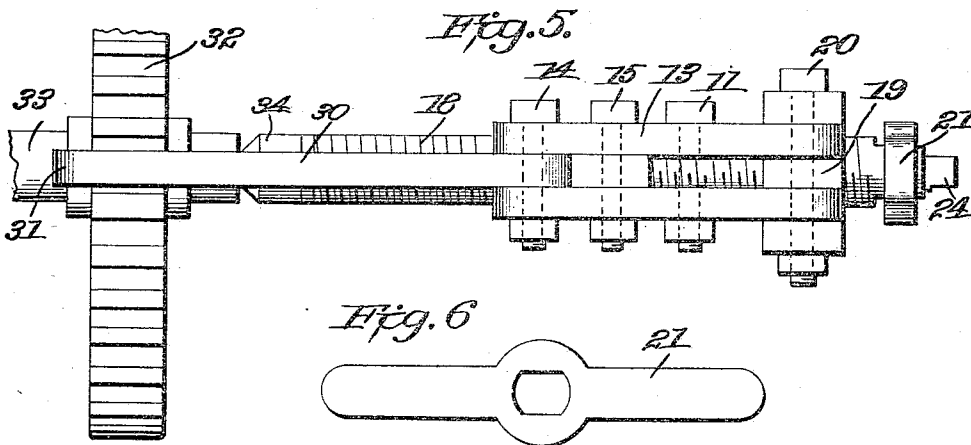
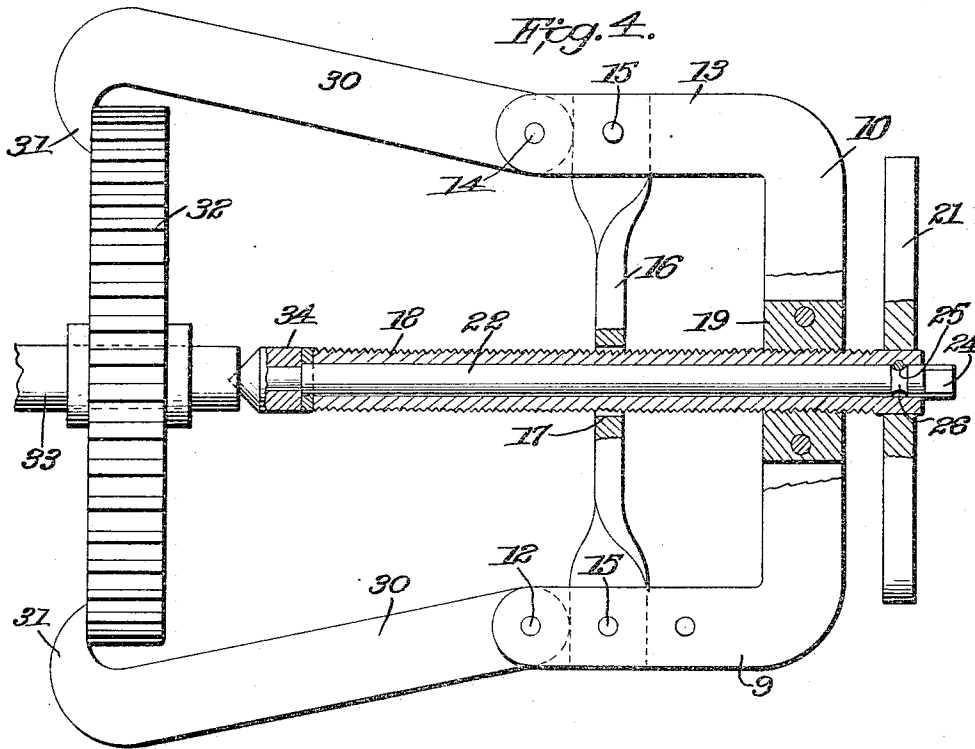
Witness
 M. A. O'Connor
 Wm. S. Fowler

Inventor
 Walter A. Hawkins
 By Richard Owen
 his Attorney

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UNITED STATES PATENT OFFICE.

WALTER A. HAWKINS, OF KANKAKEE, ILLINOIS.

CONVERTIBLE DRILLING-MACHINE AND GEAR-JACK.

1,282,079.

Specification of Letters Patent.

Patented Oct. 22, 1918.

Application filed October 10, 1916. Serial No. 124,853.

To all whom it may concern:

Be it known that I, WALTER A. HAWKINS, a citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Convertible Drilling-Machines and Gear-Jacks, of which the following is a specification.

This invention relates to certain new and useful improvements in a drilling machine and gear jack combined.

The primary object of the invention resides in the provision of a gear jack and drilling machine combined, which will be of simple construction, highly efficient in use and inexpensive.

For a further object this invention contemplates the provision of a drilling machine and gear jack combined in which the interchangeable parts may be readily removed or secured in position.

With these and other objects in view as will appear as the nature of the invention is better understood, the same consists in the novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the accompanying drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views,

Figure 1 is an elevation of the complete device assembled for use as a drilling machine.

Fig. 2 is a plan view of the same.

Fig. 3 is a perspective view of the supporting plate.

Fig. 4 is an elevation, partly in section, showing the device employed as a gear jack.

Fig. 5 is a plan view of the device as shown in Fig. 4.

Fig. 6 is a detail view of the screw operating handle, and

Fig. 7 is a similar view of the screw operating crank.

Referring more in detail to the drawings, 1 designates the supporting plate which is adapted to be secured to a bench or other stationary member 2 by bolts 3 or the like, passed through the main portions of said plate 1. The plate 1 is provided with a turned end 4 having an aperture 5 and a slot 6 formed therein, by means of which the end 4 may be secured to a stationary support, if desired. On the main portion of the

plate 1 and adjacent the opposite end of the same are provided the ears 7 which are suitably perforated, as shown at 8, and provided for engagement between parallel turned ends 9 of the pair of frame members 10, bolts 11 and 12 being passed through said parallel ends and through the perforations 8 of the ears 7, as clearly shown in Fig. 1 of the drawings. This will securely hold the parallel frame members 10 in proper position upon the supporting plate 1. The opposite ends of the frame members 10 are designated by the numeral 13 and are turned at an angle to the main portions of said frame members 10 and parallel with the first mentioned ends 9. A bolt 14 is passed through the ends 13 to properly connect the same. The ends 13 and also the ends 9 are furthermore strengthened and connected by bolts 15 which extend through the ends of the screw guiding strip 16, the main portion of which is turned at right angles to the ends of said strip and provided with a central aperture 17, through which the screw 18 passes.

The main portions of the frame members 10 have outwardly-off-set centers, between which is positioned the block 19, having securing members 20 passed through the same and through said frame members 10 to securely hold the block 19 in proper position. The screw 18 is threaded through the block 19 and has a handle 21 mounted upon its rear end or upper end by means of which the screw 18 may be fed through the block 19.

The shaft 22 is extended through the screw 19 and projects from the opposite end of the same, a crank or operating handle 23 being mounted upon the squared rear or upper end 24 of said shaft 22. Longitudinal movement of the shaft 22 independently of the screw 18 is prevented by the locking pin 25 extended transversely through the screw 18 and engaging in the annular groove 26 of the shaft 22. The forward or lower end of the shaft 22 is reduced and adapted to support the removable drill socket 27 which may be secured in position by a set screw 28 or the like and carries a second set screw 29 for securing a drill, not shown, within said socket 27.

From the foregoing it will be readily apparent that any suitable drill may be secured in the socket 27 and the device operated by means of the handle 21 and the crank or handle 23.

When the device is to be employed as a gear jack, the frame members 10 are removed from the supporting plate 1 and the gear hooks 30 are pivoted upon the bolts 12 and 14, said hooks 30 having turned free ends 31 for engagement with one face of the gear 32 to be removed from the shaft 33. The socket 27 is also removed from the shaft 22 and the center cap 34 engaged upon the forward or lower end of the shaft 22, then by proper operation of the shaft 22 and screw 18, the point of the center cap 34 may be forced against the end of the shaft 33, causing the hooks 30, as they are drawn back, to pull the gear 32 off of the shaft 33. It is believed that this use of the device may be readily understood by referring to Figs. 4 and 5 of the drawings and further description of the same is unnecessary.

While the form of the invention shown and described is what is believed to be the preferred embodiment thereof, it is nevertheless to be understood that such minor changes may be made therein as do not depart from the scope of the invention as claimed.

What is claimed is:—

1. A combined drilling machine and gear jack comprising frame members removably mounted upon a support, a block between said frame members, a screw threaded through said block, rotating means for said screw, guide means for said screw, said frame members being adapted to support removable gear wheel engaging members, a drill supporting shaft mounted in said screw, said shaft being adapted at times to support a removable member for coöperation with the last mentioned members, and rotating means for said shaft.

2. A gear jack, including parallel frame members, a movable spacing block secured therebetween, gear engaging members carried by the ends of said frame members, a sleeve threadedly supported by said block, a shaft extending through said sleeve, and means carried by said shaft for coöperation with said gear engaging members.

3. A gear jack, including parallel frame members, having angularly extended end portions, gear engaging hooks pivotally secured to said end portions, a movable spacing block secured between the intermediate portions of said frame members, a threaded sleeve movable in said block, means for operating said sleeve, a shaft extending through said sleeve means for rotating said shaft independently of said sleeve, and means carried by said shaft for coöperation with said gear engaging hooks.

4. A gear jack, including parallel frame members, gear hooks pivotally carried by said frame members, a block carried by said members, a guide strip supported in alignment with said block, a threaded sleeve passing through said block and guide strip means for rotating said sleeve, a shaft extending through said sleeve, and provided with a reduced end and a gear shaft engaging member detachably engaged upon said reduced end.

5. A convertible gear-jack comprising a frame including spaced side members having their opposite ends turned to extend at right angles and in the same direction, the angular ends of one side member extending in spaced parallelism with the angular ends of the opposite member, a block secured between said side members intermediate the ends thereof, a guide strip arranged to extend in spaced parallelism with the intermediate portion of said side members and having its opposite ends clamped between the angularly extended ends of said members, a shaft extending through said block and said guide strip, a removable gear shaft engaging member carried by said shaft, and a plurality of gear engaging hooks movably secured between the end portions of said side members.

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

WALTER A. HAWKINS.

Witnesses:

L. A. HAWKINS,

W. A. SCHNEIDER.