

W. E. PEREAU.
Bit-Braces.

No. 145,524.

Patented Dec. 16, 1873.

Fig 1

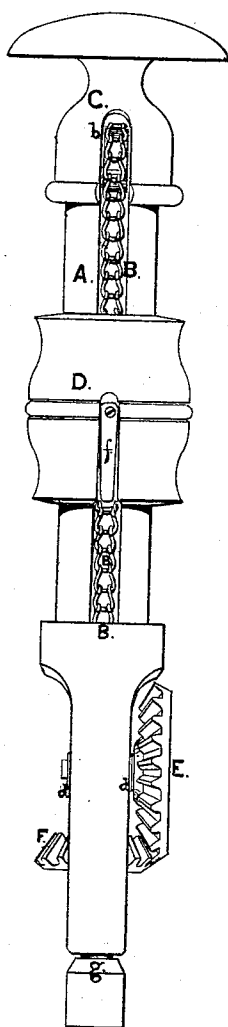


Fig 2

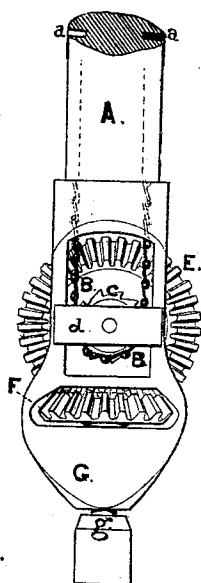
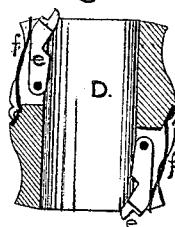


Fig 3



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM E. PEREAU, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN BIT-BRACES.

Specification forming part of Letters Patent No. **145,524**, dated December 16, 1873; application filed June 5, 1873.

To all whom it may concern:

Be it known that I, WILLIAM E. PEREAU, of Oakland, county of Alameda, State of California, have invented an Improvement in Bit-Braces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters marked thereon.

My invention relates to an improvement in bit-braces or stocks for holding and rotating boring-tools, whereby it is rendered more serviceable, and the tool more effective in its operation. It consists in certain novel combinations and arrangements of parts by which a reciprocating movement of a slide is caused to give a continuous rotary motion to the boring-tool, as will be more particularly described hereinafter.

Referring to the drawings, Figure 1 is an elevation of my improved brace. Fig. 2 is a view of the lower portion of the brace taken from the left-hand side of Fig. 1. Fig. 3 is a vertical section through the center of the reciprocating slide.

The cylindrical portion A of the brace or stock is made with grooves *a a* on opposite sides, in which the endless chain B runs. The upper portion or head C of the brace holds a pulley, *b*, and a second one, *c*, provided with teeth to engage with the links of the chain B, is held in bearings *d d* in the lower part G of the stock. The slide D works smoothly on the cylindrical part of the stock over the chain B, and when it is grasped by the hand of the operator, and moved up and down upon the stock, it gives motion continuous and in one direction to the endless chain B, through the agency of the pawls *e e*, pivoted in slots within the slide, and held against the chain within the grooves by the springs *f f*. The axis of the pulley *c* has secured to one end a bevel-gear, E, which engages with and drives the bevel-pinion F, secured to the upper end of the vertical spindle *g*, with the stock, whose lower end holds and carries the boring-tool. In this manner the reciprocating motion given to the slide D moves the endless chain continuously forward, and, through the medium of of the toothed pulley *c* and the bevel-gear and

and pinion, the motion is converted into the necessary rotatory one for operating the boring-tool.

As the panels *e e* are hung in reverse directions and on opposite sides to each other, one of them is engaged with the links of the endless chain while the other is passing over them, so that, although the movement of the slide is up and down, the chain runs continuously forward, or in one direction.

The chain B is formed of wire links, of any suitable form that will enable them to properly engage with the teeth of the pulley *c*, and also permit the points of the pawls *e e* to catch into them, in order to obtain the required positive movement of the parts, and prevent slip or loss of motion whenever the boring-tool meets with any increased resistance.

My improved brace, as thus constructed and operated, has a decided advantage over those in common use at the present time, in which the power is applied by means of a handle or crank, for the reason that it can be employed in small spaces or confined situations, where the others are of no use, or can be but imperfectly operated, if at all.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the slide D having spring-pawl *e e*, with the chain B, the parts being arranged as described, for the purpose set forth.

2. The mechanism for changing the reciprocating motion of the slide D into a continuous rotary one, of the boring-tool held in the spindle *g*, consisting of the endless chain B, the pawls *e e*, pivoted in a reverse direction to each other, and in opposite sides of the slide D, and the springs *f f* for holding them in contact with the chain B, the pulleys *b c*, and the bevel-gears F F, constructed, arranged, and operating substantially as set forth and specified.

In witness whereof I have hereunto set my hand and seal.

WM. E. PEREAU. [L. S.]

Witnesses:

C. W. M. SMITH,
MORDECAI DISNEY.