H. BOWEN.

WORK HOLDER FOR DRILLING MACHINES.

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1,093,029.

Patented Apr. 14, 1914.

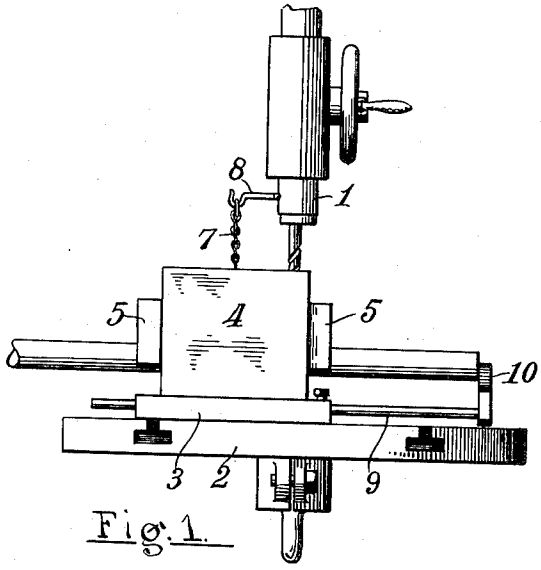


Fig. 1.

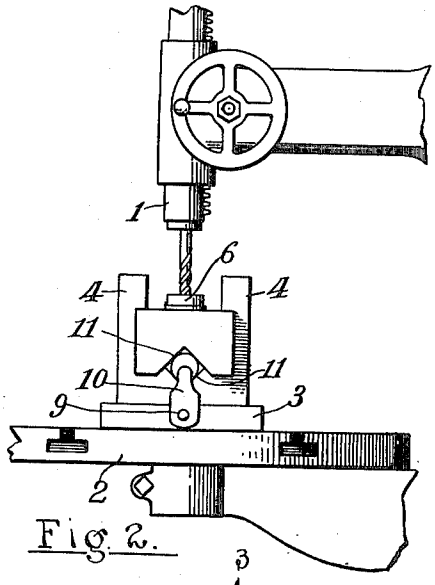


Fig. 2.

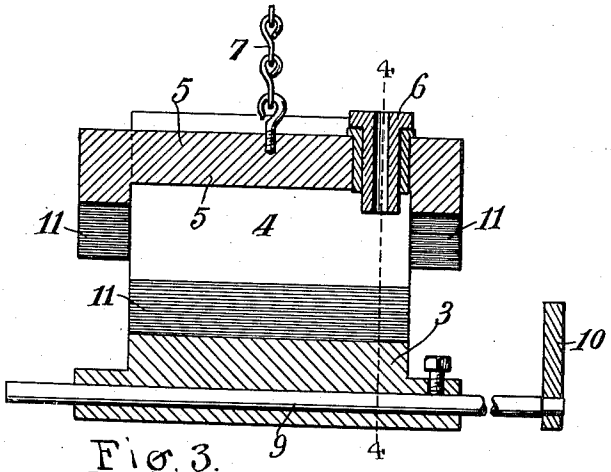


Fig. 3.

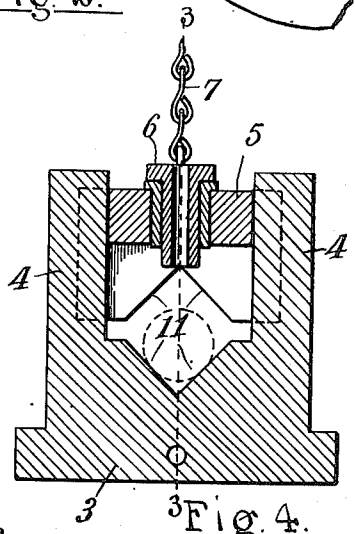


Fig. 4.

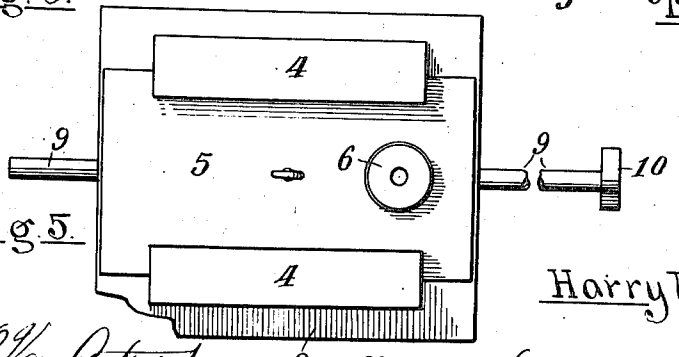


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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WORK-HOLDER FOR DRILLING-MACHINES.

1,093,029.

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Application filed March 21, 1913. Serial No. 755,837.

To all whom it may concern:

Be it known that I, HARRY BOWEN, a citizen of the United States of America, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Work-Holders for Drilling-Machines; 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 improvements in work holders for drilling machines, and particularly to holders for cylindrical work such as shafting, rods and the like, whereby the same may be accurately drilled through the axis, and it consists essentially of a base mounted on the drilling machine, parallel upright walls thereon; a block or weight slidable between said walls the base and ends of the weight provided with opposing V grooves, and a jig or guide for a drill inserted in the weight, and in various features of combination or arrangement, as will more fully appear by reference to the accompanying drawings in which:

Figure 1 is a front elevation of a device embodying my invention. Fig. 2 a side elevation of the same. Fig. 3 a vertical longitudinal section on the line 3—3 of Fig. 4. Fig. 4 a transverse vertical section on the line 4—4 of Fig. 3 and Fig. 5 a plan view of the device.

Like numbers refer to like parts in all of the figures.

1 represents the sleeve carrying the drill spindle of any convenient drilling machine. 2 the bed plate of the same. 3 a suitable base mounted on the bed plate and provided with vertical walls 4 arranged parallel and spaced apart and having parallel inner sides and ends to engage and accurately guide the vertically movable block 5, having its opposing sides slidable between the said walls and its ends oppositely extending and slidably embracing the ends of the walls and the base whereby the block is accurately guided and vertically movable.

Inserted in the block is a drill guide consisting of a suitable hardened steel jig. This guide is mounted in a bushing and inter-changeable with other similar guides adapted for other sizes of drills.

9 is a rod adjustable in the base 3 and carrying a stop 10 on one end to locate the work in the device.

The base and the over-hanging ends of the block 5 are provided with opposing V grooves 11 whereby the work is accurately adjusted and held relative to the guide with the axis of the work in line with the axis of the guide 6.

The block 5 is preferably of considerable weight whereby it is sufficiently heavy to clamp the work and hold the same by gravity alone. To conveniently operate this device I prefer to connect the block 5 with sleeve of the drill spindle whereby the block is raised when the drill is raised out of the work to automatically release the work, a chain 7 attached to the center of the block at one end and a hook 8 projecting from the sleeve, being shown for the purpose.

What I claim is:—

1. A work holder for drilling machines, comprising a base and a weight provided with opposing V grooves, guiding means for the weight, and a drill jig in the weight communicating with the V groove therein.

2. A work holder for drilling machines, comprising a base, vertical parallel walls on the base, a weight vertically slidable between the walls, the base and weight having opposing V grooves, and a drill jig in the weight communicating with the V groove therein.

3. A work holder for drilling machines, comprising a base, parallel vertical walls on the base, a weight vertically slidable between the walls and having overhanging ends embracing the ends of the base and walls said base and ends being provided with opposing V grooves, and a drill jig extending through the weight radially to the V groove in the ends thereof.

4. A work holding attachment for drilling machines, comprising a base, vertical

parallel guides on the base, a weight slidably engaging the guides, said base and weight being provided with opposing V grooves, a drill jig in the weight communicating with the V groove therein, and means for attaching the weight to a vertically movable part of a drilling machine.

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

HARRY BOWEN

Witnesses:
WILLIAM W. FISK,
CLARNCE O. A. SMITH.