

E. MOULDS.  
 VERNIER DRILLING GAGE.  
 APPLICATION FILED MAY 8, 1917.

1,335,347.

Patented Mar. 30, 1920.

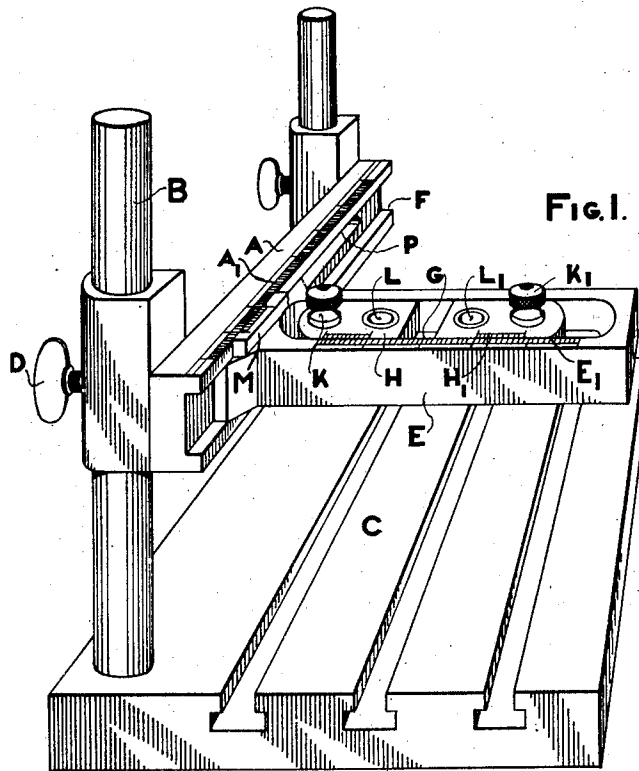


FIG. 1.

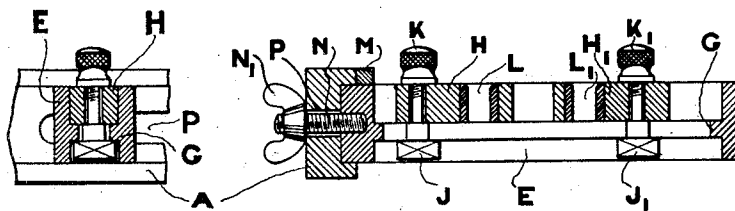


FIG. 2.

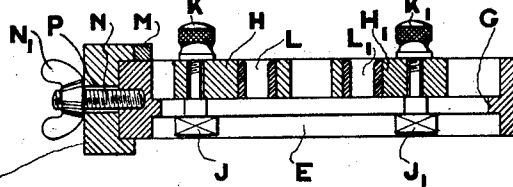


FIG. 3.

Witnesses.  
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 Atty.

# UNITED STATES PATENT OFFICE.

EDWARD MOULDS, OF MANCHESTER, ENGLAND.

VERNIER DRILLING-GAGE.

1,335,347.

Specification of Letters Patent.

Patented Mar. 30, 1920.

Application filed May 8, 1917. Serial No. 167,351.

## *To all whom it may concern:*

Be it known that I, EDWARD MOULDS, a subject of His Majesty the King of England, and resident of Manchester, in the county of Lancaster, Kingdom of England, have invented certain new and useful Vernier Drilling-Gages, of which the following is a specification.

This invention which is intended to provide means for accurately drilling and spacing holes such as holes in jigs, etc., where positive accuracy is required, consists of a grooved graduated bar disposed in a horizontal position and capable of moving up or down along vertical pillars or suitable slides and of being clamped at a suitable height from the work, and a second graduated horizontal bar disposed at right angles to and constructed to slide along the first bar, a vernier scale being provided to enable the amount of movement to be determined, and also means for clamping the second bar when in the desired position.

The second bar is slotted in such a way that a ledge is formed in the slot and provided with two sliding blocks containing the drill bushes, which blocks slide along the ledge, vernier scales being provided to enable the exact amount of movement to be determined, and means for clamping the bush blocks in position when adjusted. The blocks may also be provided with a suitable fine screw adjustment.

The invention will be fully described with reference to the accompanying drawings in which:—

Figure 1 is a perspective view of the instrument;

Fig. 2 is a transverse section of the second slotted bar, and

Fig. 3 is a longitudinal section of the same.

The first bar A is mounted on vertical pillars B or suitable U-shaped slides shown in Fig. 4, accurately perpendicular to the table C, and is provided with screws D or other similar means for clamping it in adjusted position thereon.

The second bar E, which slides in a groove F in the first bar A is slotted longitudinally in such a way that an interior ledge is formed along the walls of the slot between the top and bottom edges of the

bar, on the top of which ledge the drill bush blocks H and H<sup>1</sup> are supported and can slide, and the underside of which ledge the square bolt heads J and J<sup>1</sup> of the bolts engage. The bolts pass through holes in said blocks and may be tightened by the nuts K and K<sup>1</sup>, thus clamping the bush blocks to the bar, the distance apart of the bushes L and L<sup>1</sup> being determined from the vernier scale E<sup>1</sup>.

The drilling of holes of different diameter may be effected by the use of slip bushes in the usual way.

The bar E is also provided with a vernier M for reading from the scale A<sup>1</sup> on the first bar A, and with a screw stud N which, passing through a slot P in the bar A provides together with a wing-nut N<sup>1</sup> a means of clamping the two bars at right angles to each other in any adjusted position.

What I claim is:—

1. A drilling gage comprising a grooved bar and a slotted bar, the grooved bar having means whereby it may be vertically adjusted and the slotted bar being constructed to have one end fit in and slide along the groove of the grooved bar, a horizontal slot in the grooved bar intersecting the groove thereof, a stud in said horizontal slot and a nut on the stud, said stud and nut providing means for holding the slotted bar in any period of adjustment, and drill bush blocks carried by the slotted bar.

2. In combination with a plurality of vertically disposed pillars or slides, a grooved bar having its grooved side facing outwardly, means for vertically adjusting said bar along said pillars or slides, a slotted bar having its inner end fitted in and adjustable along the groove of the first-mentioned bar, means for holding said slotted bar in its adjusted position, and adjustable drill bush blocks carried by the slotted bar.

3. A drilling gage comprising a vertically adjustable horizontal bar, a second horizontal bar supported by the first-mentioned bar and horizontally adjustable along the same, said second bar being slotted to form an interior ledge extending along the walls of the slot at a point between the top and bottom edges of the bar, drill bush blocks extending across the slot of the second bar and supported by and slidable on said ledge,

screws having their heads engaging the underside of the ledge and passed through said blocks, and nuts on the upper ends of the screws.

- 5 4. In combination with a plurality of vertically disposed pillars or slides, a horizontal bar connecting said pillars or slides, means for vertically adjusting said bar

along said pillars or slides, a second horizontal bar having its inner end fitted to and 10 adjustable along the first horizontal bar, and drill bush blocks carried by the second horizontal bar.

In testimony whereof I have hereunto signed my name.

EDWARD MOULDS.