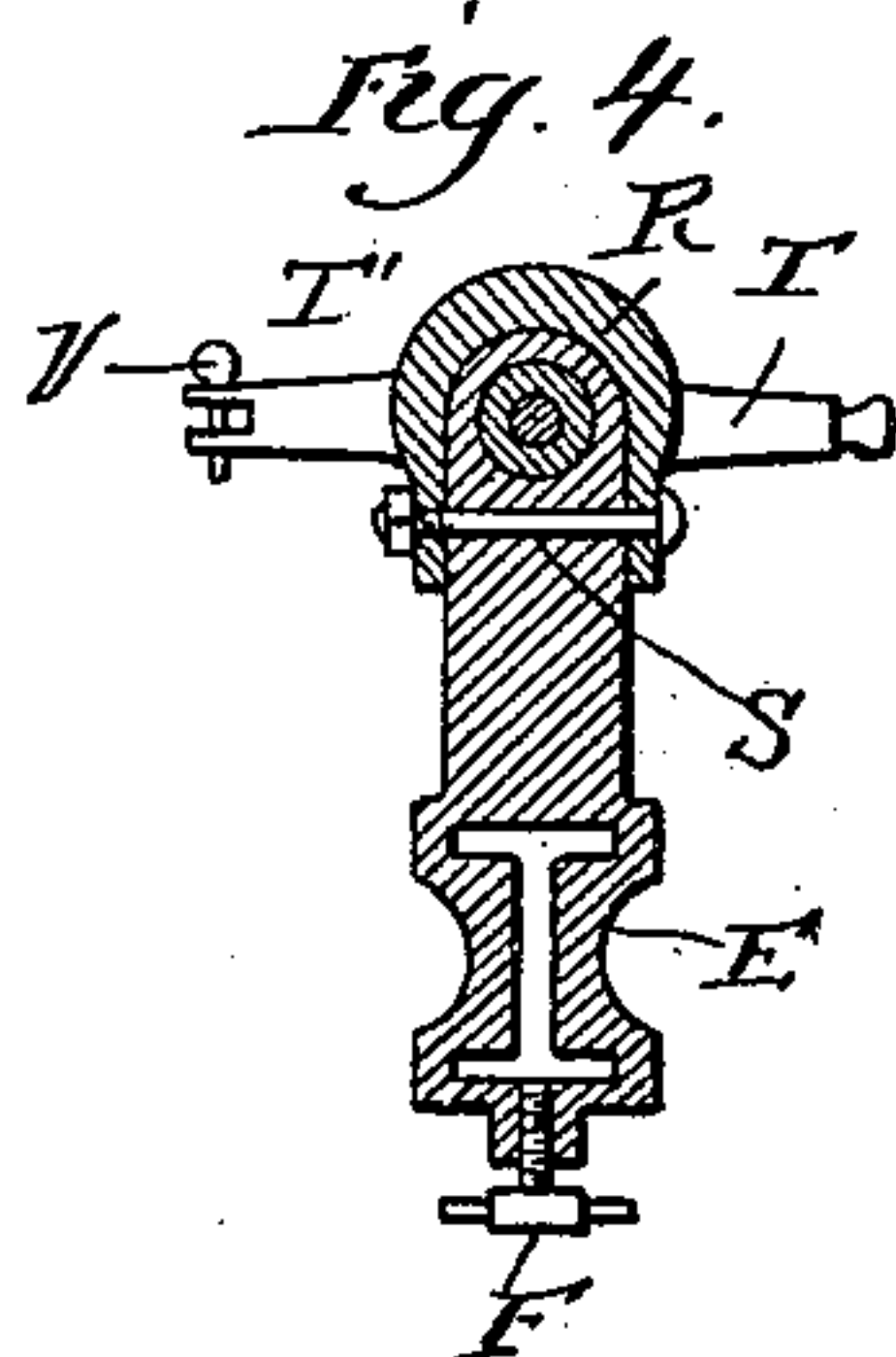
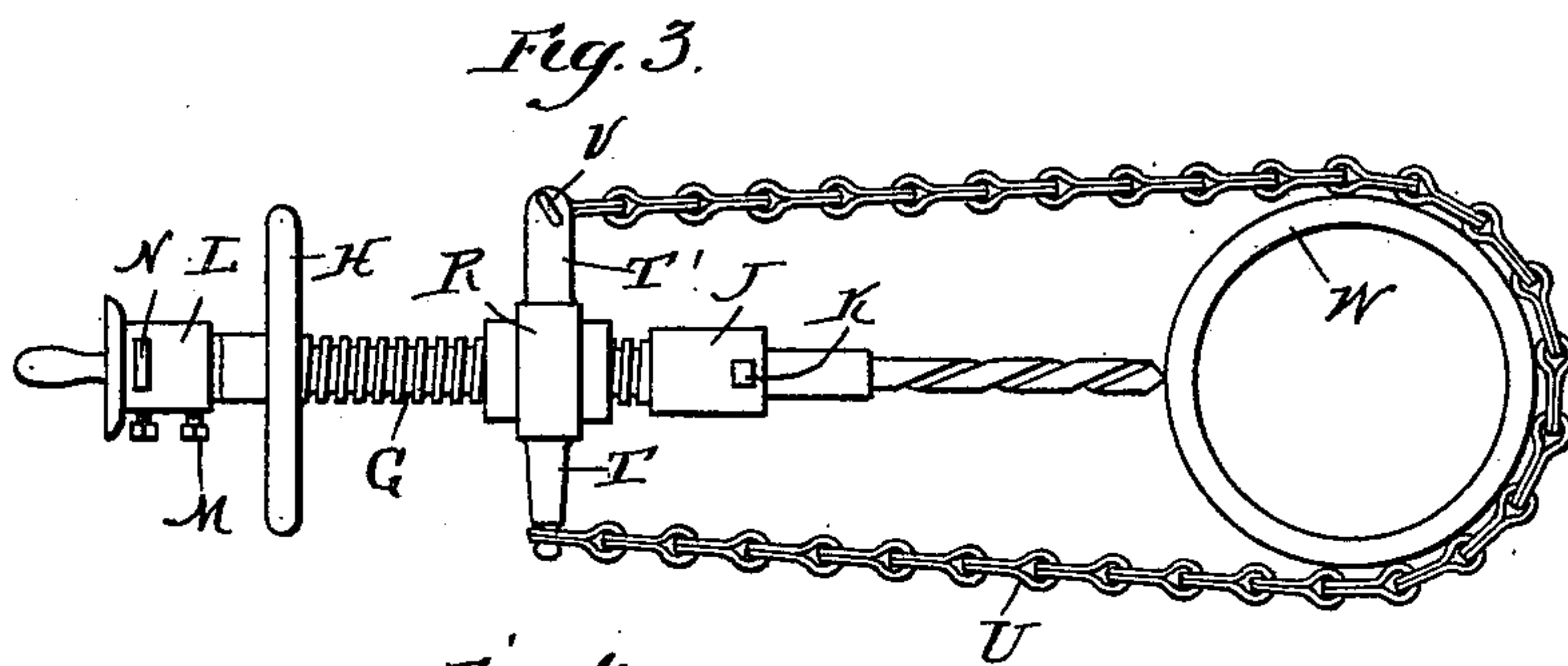
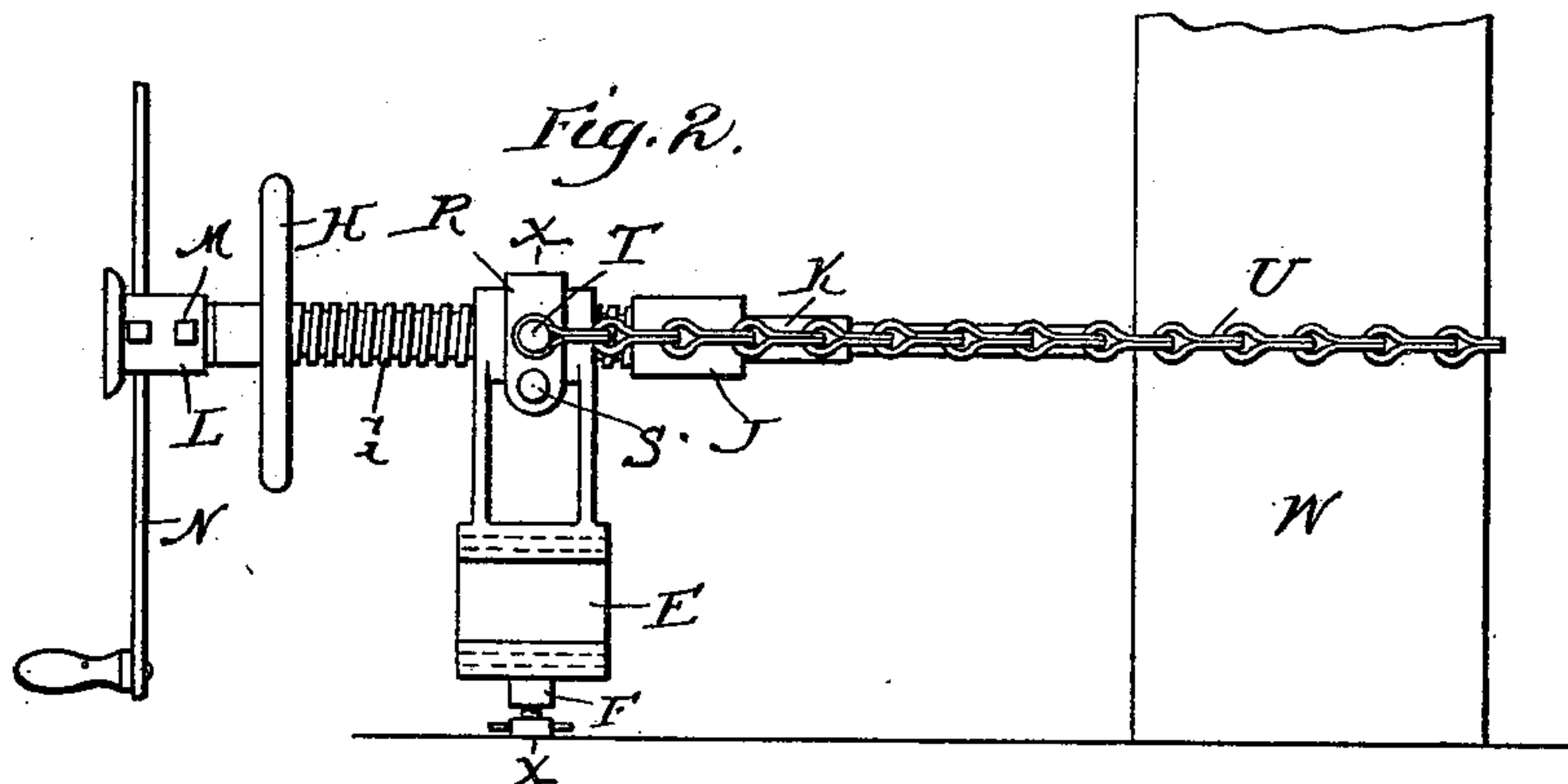
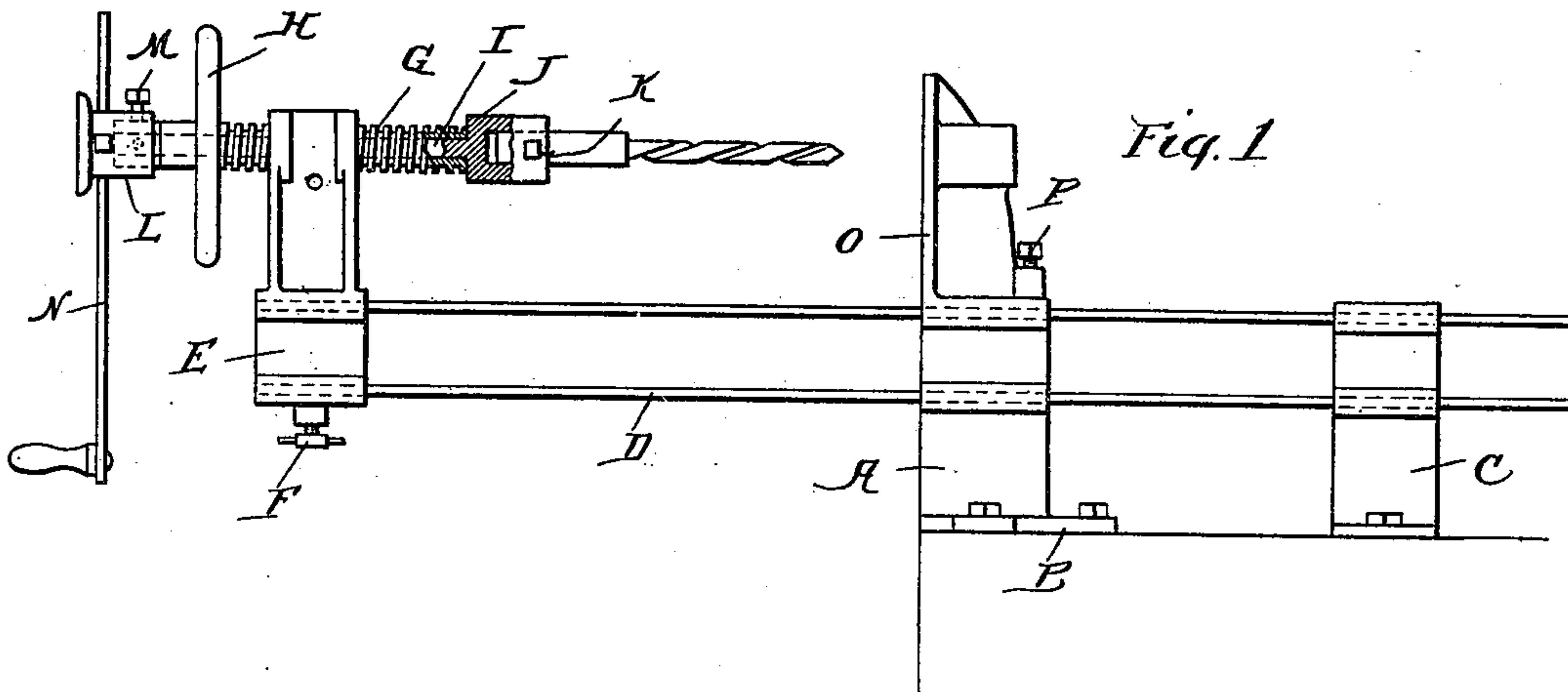


No. 665,399.

Patented Jan. 8, 1901.

P. BROADBOOKS.
DRILLING APPARATUS.
(Application filed Jan. 11, 1900.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

PETER BROADBOOKS, OF BATAVIA, NEW YORK.

DRILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 665,399, dated January 8, 1901.

Application filed January 11, 1900. Serial No. 1,043. (No model.)

To all whom it may concern:

Be it known that I, PETER BROADBOOKS, a citizen of the United States, residing at Batavia, county of Genesee, and State of New York, have invented a certain new and useful Improvement in Drilling Apparatus, of which the following is a specification.

My invention relates to a new and useful improvement in drilling apparatus, and has for its object to so construct such an apparatus as to adapt it for use as a lathe-drill or a brace-drill.

With these ends in view this invention consists in the details of construction and combinations of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of my improvement adjusted for use as a lathe-drill with the yoke and flexible connection removed; Fig. 2, a similar view showing the device adjusted as a brace-drill; Fig. 3, a plan view of Fig. 2, and Fig. 4 a section at the line $x x$ of Fig. 2.

In carrying out this invention I provide a base A, which is provided with the flange B in order that it may be bolted to a bench or other suitable surface, and likewise a base-block C is bolted to the bench, each of these members having an opening therethrough for the reception and guidance of the sliding bar D. The sliding bar has adjustably attached to its outer end the screw-block E by means of the set-screw F, and the operating-screw G is threaded through this block and is provided with the hand-wheel H for its manipulation. The screw-block has ribs G', forming shoulders, between which a yoke to be hereinafter described is secured. This purpose of the shoulders is to more rigidly hold the yoke and relieve the strain on the yoke's securing-bolt.

I is a spindle which passes through the operating-screw, the latter being made hollow for that purpose, and a chuck J is carried by the inner end of the spindle and adapted to hold the drill K. The outer end of the spindle has attached thereto the collar L by means of the set-screw M, the collar being adapted to

receive the crank-handle N, by means of which the spindle, and consequently the drill, may be revolved, and this revolving of the spindle will not affect the operating-screw.

A face-plate O is formed with the base A and acts as a surface against which the work may be placed when the drill is to operate thereon. A set-screw P is so located as to hold the sliding bar D in any desired adjustment, so that the head of the drill may be adjusted for various thicknesses of material.

In operation the work is first placed against the face-plate and the point of the drill brought in contact therewith by the manipulation of the hand-wheel H, after which the revolving of the crank-handle N will revolve the drill, and a continued feeding forward of the drill by the manipulation of the hand-wheel will produce the desired result.

To adjust the device for use as a brace-drill, a yoke R is adapted to fit over the screw-block and be secured thereto by the bolt S. This yoke carries the arms T and T', the outer end of the former being adapted to receive one end of the chain U, while the arm T' is slotted and provided with a pin V, whereby the chain may be adjustably attached thereto. In using the drill in this form the chain is passed around the work (represented by the cylinder W) and the drill brought in contact with said work by the manipulation of the hand-wheel H, after which the drilling is accomplished by the revolving of the crank-handle M, in which case the screw F may be utilized as a leveling-screw, as shown in Fig. 2.

Having thus fully described my invention, what I claim as new and useful is—

In a drilling device, a screw-block having ribs on its top forming shoulders, a yoke embracing the top of the block and lying between and engaging the ribs, a bolt for retaining the yoke in place, a flexible connection attached to the yoke and adapted to embrace the material to be operated upon, a hollow screw threaded in the block and a drill-spindle journaled in the screw, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

PETER BROADBOOKS.

Witnesses:

G. H. HOLDEN,

FRANCIS L. HAWES.