

No. 885,994.

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W. L. HAMILTON.

REGISTER HOOK.

APPLICATION FILED AUG. 15, 1907.

Fig. 1.

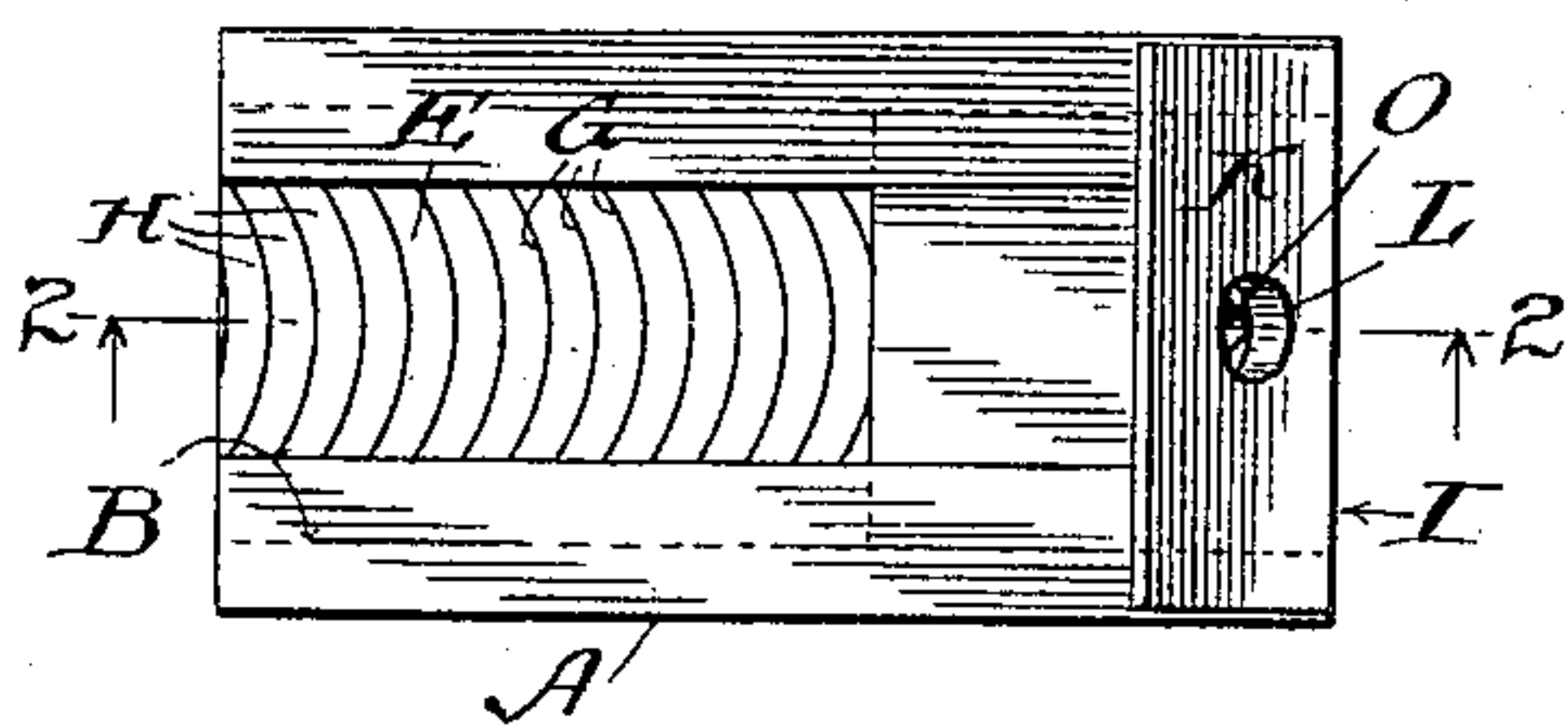


Fig. 4.

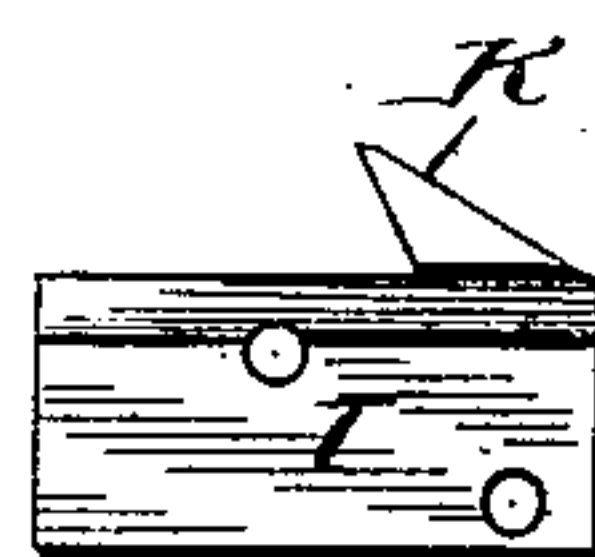


Fig. 2.

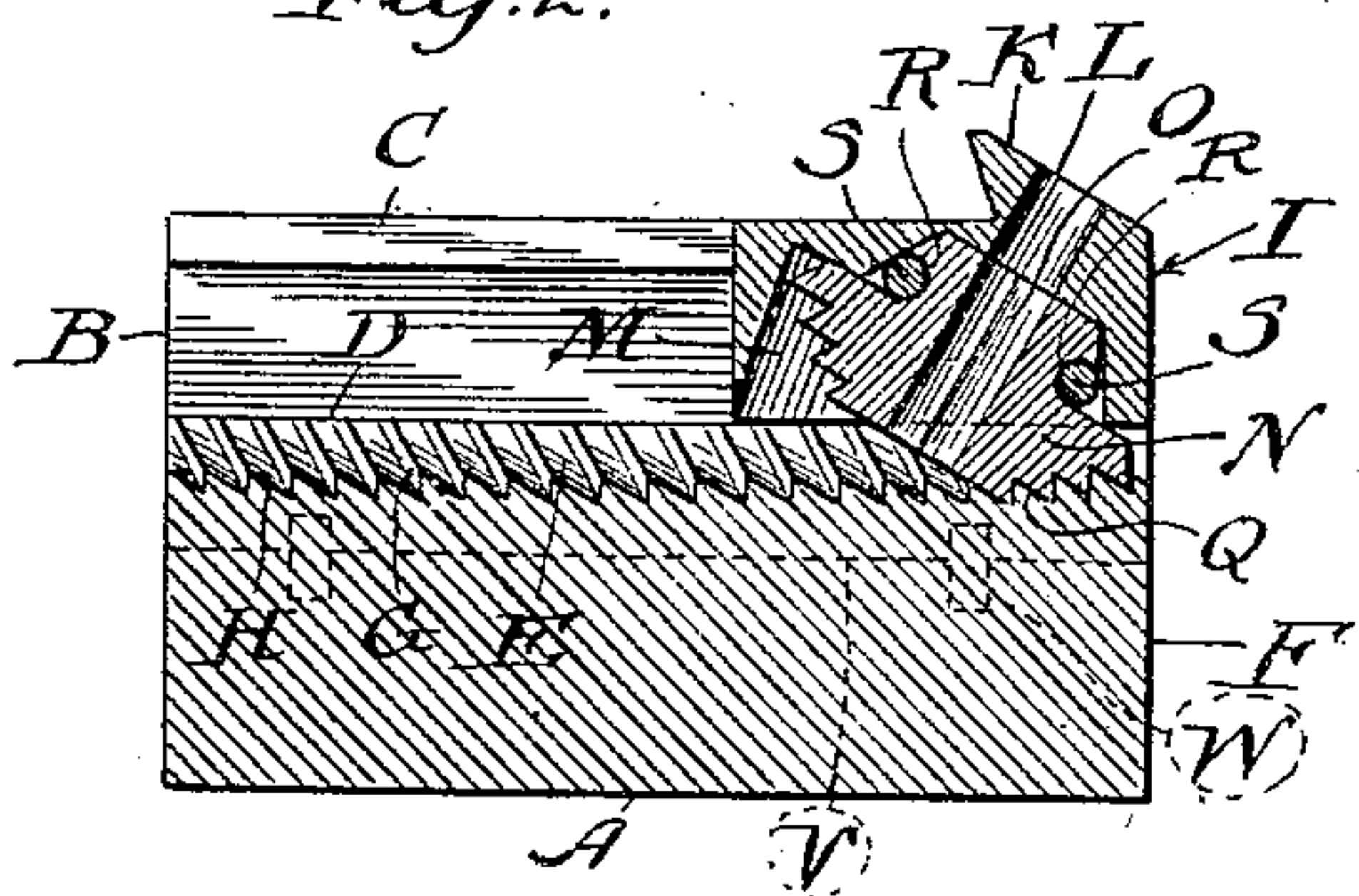


Fig. 3.

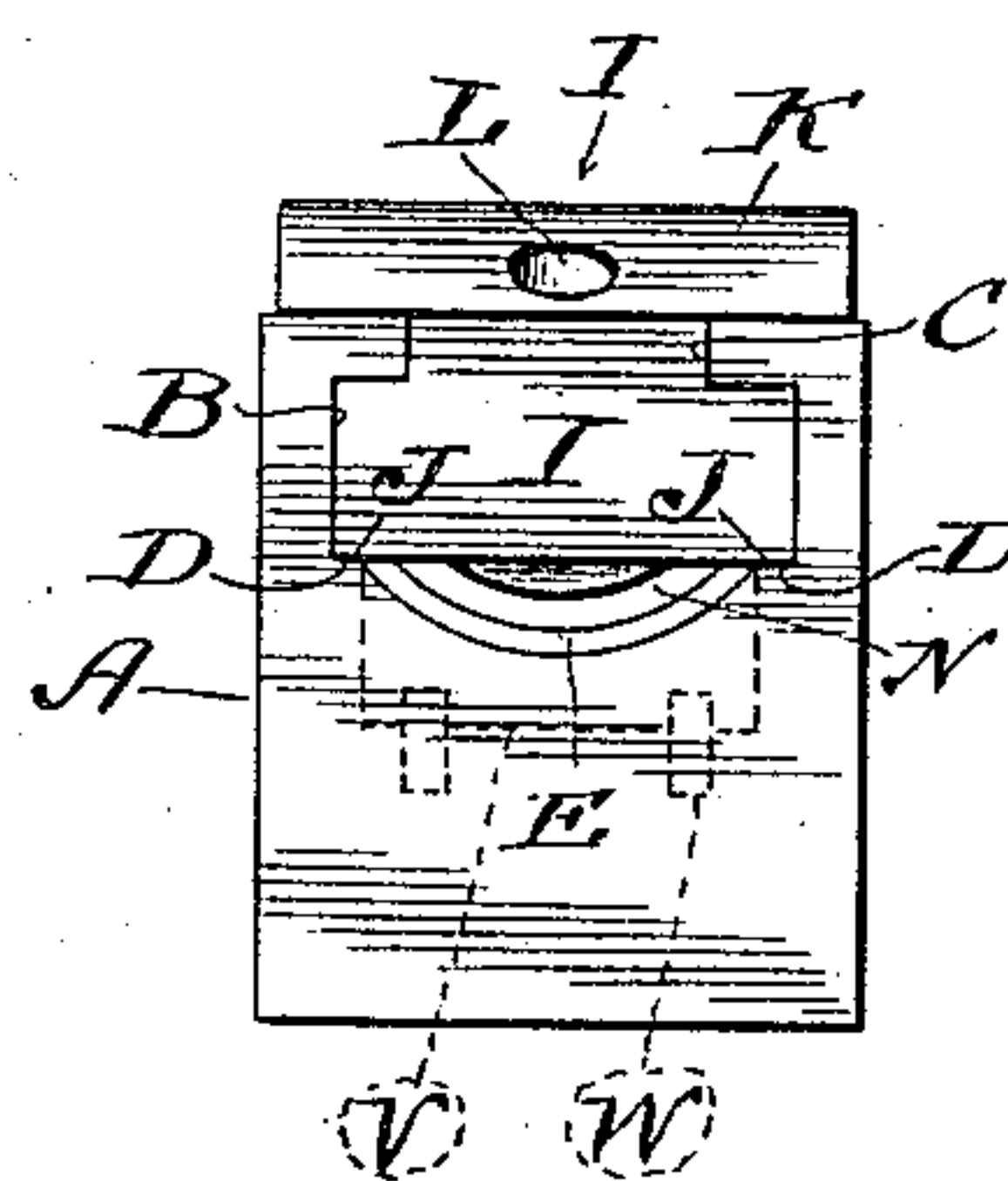


Fig. 5.

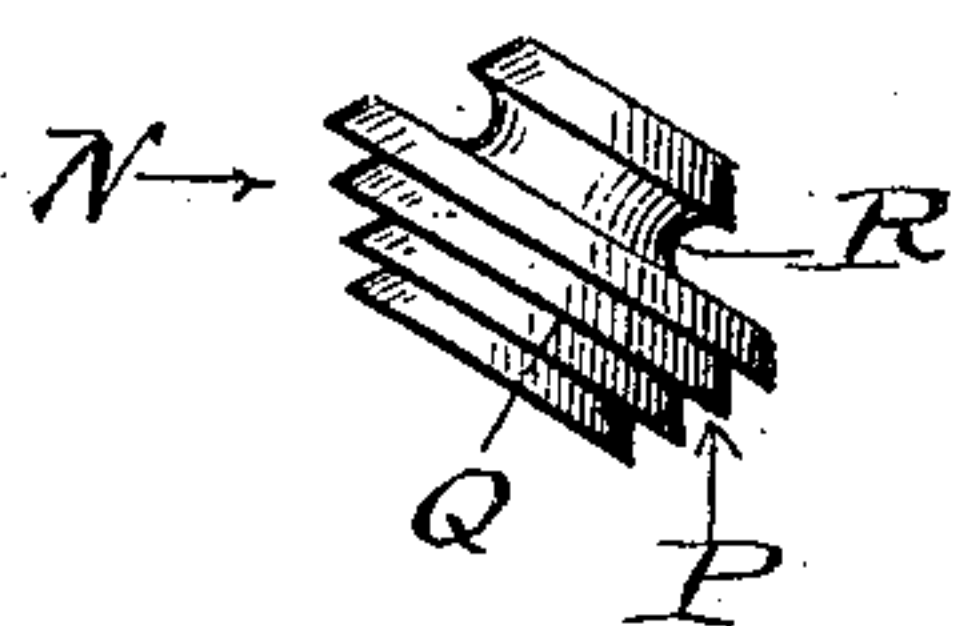


Fig. 7.

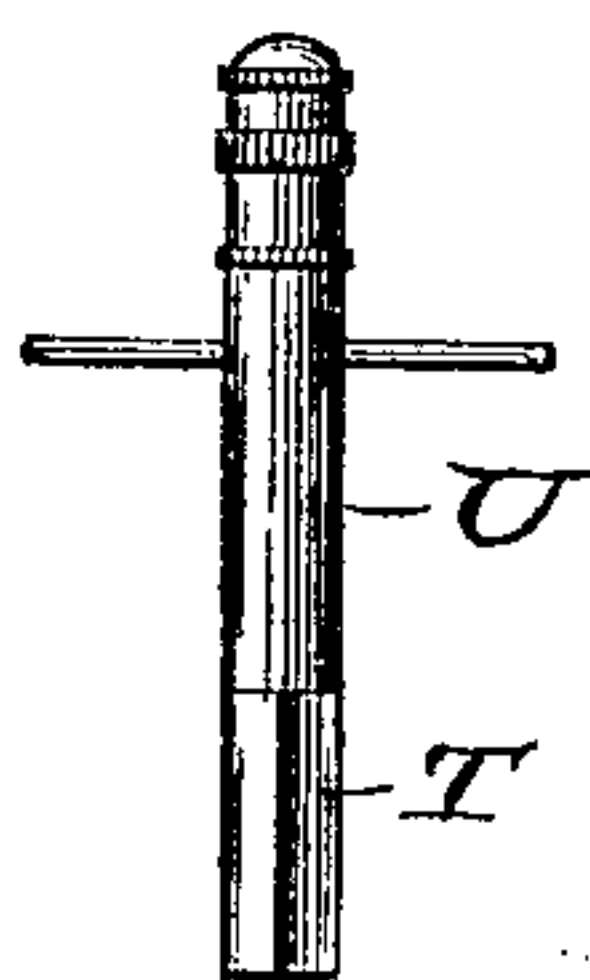
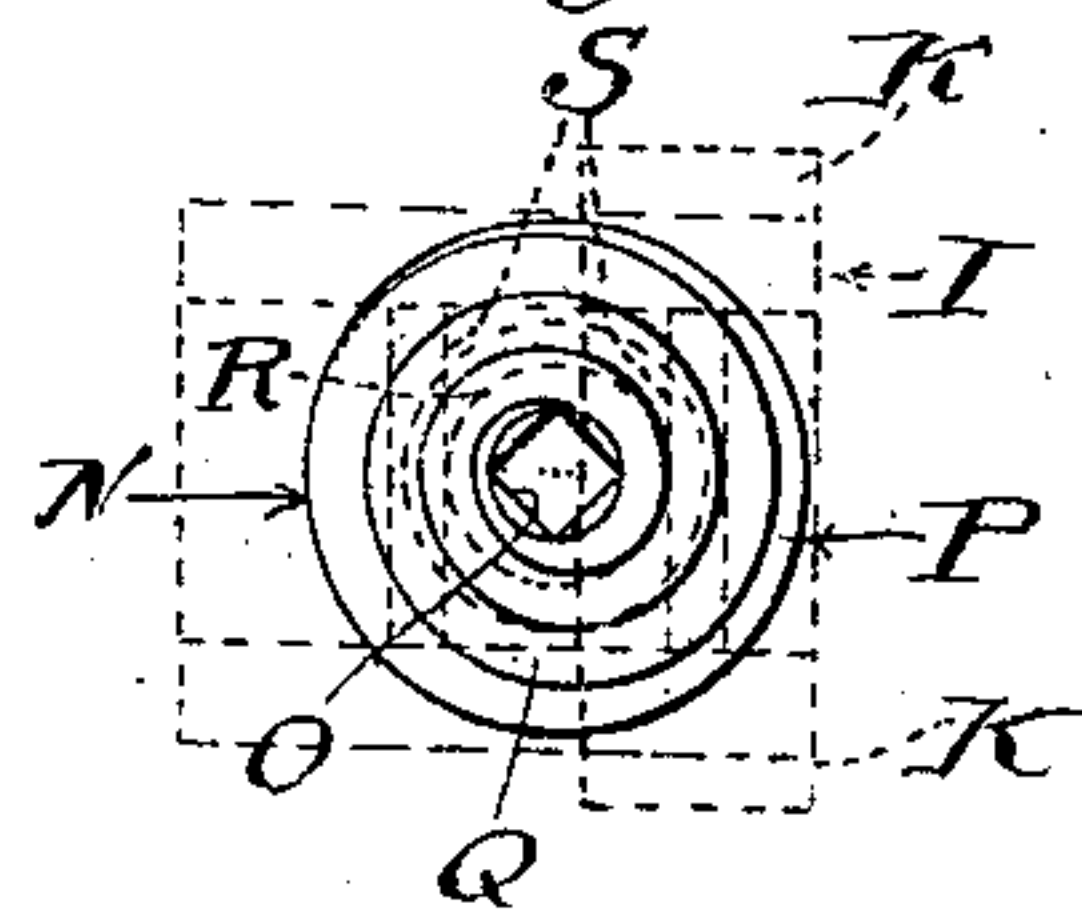


Fig. 6.



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REGISTER-HOOK.

No. 885,994.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed August 15, 1907. Serial No. 388,683.

To all whom it may concern:

Be it known that I, WILLIAM L. HAMILTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Register-Hooks, of which the following is a specification.

My invention relates to that class of register hooks used by printers to hold and adjust printing plates supported in a form made up and secured on a printing press.

The object of my invention is to secure a minimum of parts, light weight combined with a maximum of strength, simplicity in construction, ease and quickness in operation, a maximum of holding power and the narrowest practical marginal space between the printing plates made up in the same form.

The manner in which I accomplish my object is described in the following specification and illustrated in the accompanying drawings in which:

Figure 1 is a top plan view. Fig. 2 is a central vertical longitudinal section on the line 2—2 Fig. 1. Fig. 3 is a rear end view. Fig. 4 is a side view of the clamp. Fig. 5 is a side elevation of the spiral nut. Fig. 6 is an end view of the nut and underside of the clamp. Fig. 7 is the key insertible in the nut.

In the drawings A is the body of the hook and B the channel extending through it. The open top C of this channel is somewhat narrower than the lower part as shown in Fig. 3. This channel forms a guide way in which a clamp is held and free to slide. In the base D of this channel are double curved ratchet teeth E which may form an integral part of the body A or be affixed or attached thereto. These teeth may extend from the end F to the opposite end of the body A or only such distance as may be required by the movement of the clamp. The curves of these teeth are horizontal as shown in Fig. 1, and vertical as shown in Fig. 3, and the rear face G is vertical and the inclined face H form an acute angle with the base line as shown in Fig. 2. A clamp I is adapted to fit and slide freely in the channel B. The base J extends over the ratchet teeth and rests on the base of the channel on each side of the line of said teeth as shown in Fig. 3. Forming part of this clamp is a jaw K which may

be an integral part thereof or be affixed or attached thereto, and may be at right angles to the length of said clamp or diagonal thereto. This jaw extends over the top of the body A as shown in Figs. 1 and 3. Through the central part of this jaw is a key-hole L adapted for the passage of a key. This hole extends into the body of the clamp at an angle as shown in Fig. 2 and forms the axis of a counter bore M in the underside of the clamp. This bore is adapted in depth and shape to form a bearing for the rear half of a conical nut N as shown in Fig. 2. This nut has an axial key hole O in line with the key-hole in the clamp. This hole is square and thereby adapted to receive the square end of a key inserted therein through the key-hole in the clamp, and by which said nut is adapted to be rotated in said bore. The front face P of this nut is conical and has a spiral groove Q adapted to admit the ratchet teeth in the body A which are engaged by said nut when said clamp is inserted in the channel B. In the rear part of the nut is an annular groove R, and extending transversely through said clamp are two pins S adapted to engage said nut in said annular groove and to thereby hold said nut in said bore when the clamp is removed from the body A for cleaning or any other purpose.

When the several parts are constructed as described and shown in the drawings, and the nut is secured in the bore in the clamp, the clamp may be inserted in the body A at either end of the channel, and be moved therein when the nut and ratchet teeth are in contact, by insertion of the square end T of the key U through the key-hole in the clamp into the key-hole in the nut and the rotation of the nut by said key.

It is obvious that when the teeth are fully engaged in the spiral groove in the nut, the line of resistance to the thrust caused by the plate engaging the jaw K is substantially at right angles with the movement of the clamp, and that there can be no give, slip, twist or straining of the parts in contact; that the slightest movement of the nut will move the clamp and thereby permits of the most exact adjustment of the plates engaged by the jaw. It is also obvious that by increasing the depth of the center of the base of the channel, the teeth could form part of a rack plate in-

sertible in the body and held therein by dowel pins as indicated by dotted lines Figs. 2 and 3. It is also obvious, that a plate having a number of parallel or intersecting channels of the shape indicated by the full and dotted lines in Fig. 3, could be substituted for the body A, in which a number of rack plates of any desired length could be adjustably held, and a number of clamps containing nuts as herein described could be moved in said channels into engagement with said racks, and operated as described. It is also obvious that the angle of said key-hole and bore in said clamp, may be raised vertically till one-half of the grooved face of said nut is in engagement with said teeth.

What I claim and desire to secure by Letters Patent is:

1. In a register hook of the kind described, consisting of the body part having an open longitudinal channel, said channel having parallel walls, top and base, the longitudinal central part of said base having double curved ratchet teeth, the vertical part of said teeth facing the front end of said body; a clamp slidably supported in said channel and adapted to be moved therein from end to end, on said clamp is a transverse jaw, and a bore and a key-hole, said bore being in the under part of said clamp and said key-hole extending through the central part of said jaw; a nut insertible in said bore, in said clamp and adapted to be supported and rotated therein, the axis of said nut being adapted to fit a key inserted through said hole through the jaw of said clamp, said nut having a conical face with a spiral groove therein said face and groove being adapted to mesh into said ratchet teeth, said nut being thereby adapted when rotated to move said clamp in said channel as described.

2. In a register hook of the kind described the combination with a body part having an open longitudinal channel with parallel walls and top, the base of said channel being threaded from end to end, the front face of each thread being vertical and thereby adapted to be engaged in a spiral groove in the conical face of a nut; of a clamp slidably supported in said channel and movable therein from end to end, said clamp having a vertically inclined bore and key hole, said bore being adapted for the insertion and support of a conical faced spiral grooved nut in engagement with said thread in said base, the key hole affording access to said nut, the rotation of which moves said clamp in said channel.

3. In a register hook, the combination with a main body having a longitudinal channel the base thereof being threaded from end to end, the threads therein being adapted to fit in a spiral groove in the conical face of a nut; of a clamp slidably secured in said

channel having a transverse jaw, and a bore adapted to support a nut in engagement with said thread in said channel and to be moved therein by the rotation of said nut in said bore.

4. In a register hook, the combination with a main body having a channel there-through, the base of said channel having a threaded portion adapted to mesh in a spiral groove in the conical face of a nut; of a clamp slidably secured in said channel, having a jaw and a countersunk bore extending from the underside of said clamp through said jaw, said bore being adapted to rotatably support a nut in engagement with said threaded portion of said main body whereby said clamp is moved in said channel.

5. In a register hook, the combination with the body having an open channel and threaded portion in the base thereof adapted to mesh in a spiral groove in the conical face of a nut, and a clamp slidable in said channel having a countersunk bore; of a conical nut rotatably supported in said bore, said nut having a spiral groove in the conical face thereof, said grooved face being adapted to engage said threaded portion in said body whereby the rotation of said nut moves said clamp in said channel.

6. In a register hook, the combination with the body having an open channel, and ratchet teeth therein, and a clamp slidable in said channel, said clamp having a vertically inclined bore and key hole; of a conical nut rotatably supported in said bore, said nut having a spiral groove in the conical face thereof, said groove being adapted to engage said teeth in said body, the rotation of said nut in said bore moving said clamp in said channel.

7. In a register hook, having a body part, a channel therein and ratchet teeth in said channel, the combination with a clamp slidably supported in said channel, and having a vertically inclined bore; of a conical faced nut rotatably supported in said bore in said clamp, said face of said nut having a spiral groove adapted to mesh with said ratchet teeth in said channel in said body whereby said clamp is moved in said channel by the rotation of said nut.

8. In a register hook, the body having a channel and inverted threaded arch therein, the clamp slidably supported in said channel having a vertically inclined bore, the conical threaded spiral nut rotatably supported in said bore, adapted to mesh in said threaded arch in said channel the rotation of said nut moving said clamp in said channel.

9. In a register hook of the kind described, the combination with the body having an open channel therethrough, the clamp slidable in said channel, and the nut rotatably supported in a vertically inclined bore in the underside

of said clamp, said nut having a spiral
grooved face; of means in said channel
adapted to be engaged by the spiral groove
in said nut and to thereby cause said clamp
5 to be moved in said channel by the rotation
of said nut when engaged with said means in
said channel.

In testimony whereof he has affixed his
signature in presence of two witnesses.

WILLIAM L. HAMILTON.

Witnesses:

THOMAS J. MORGAN,
JOSEPH STAAB.