

(No Model.)

A. WAGNER.  
SWIVEL LOOM.

No. 488,511.

Patented Dec. 20, 1892.

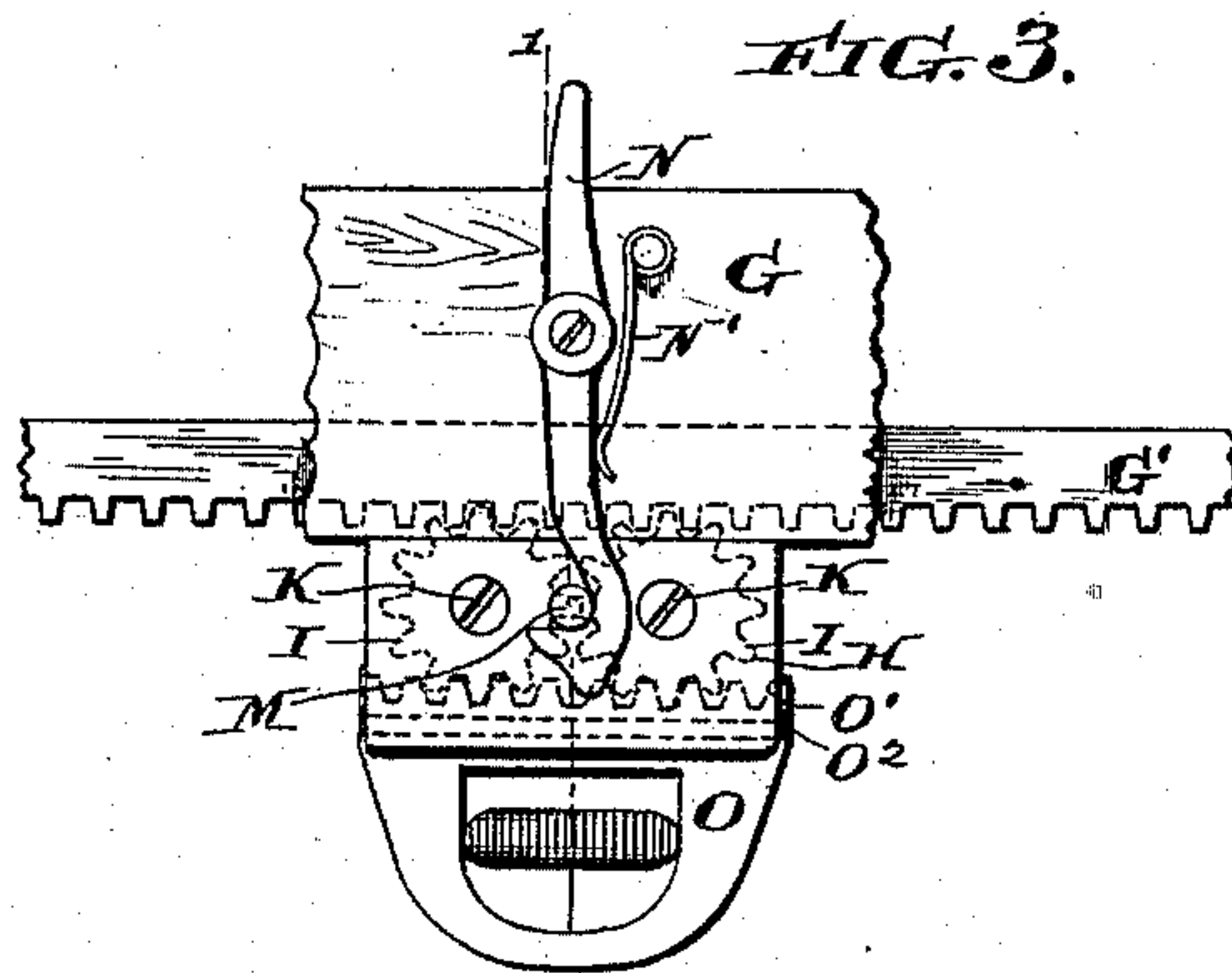
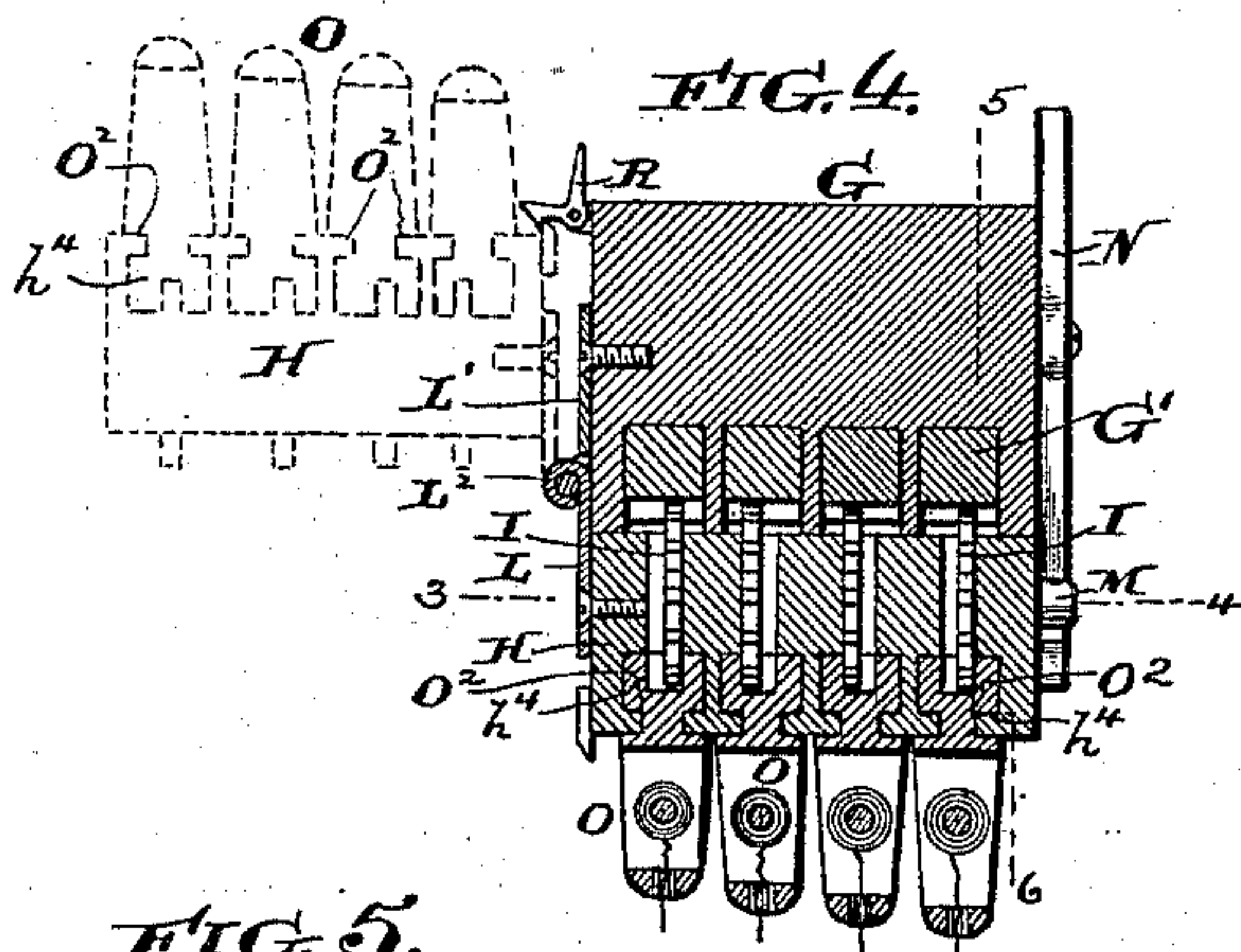
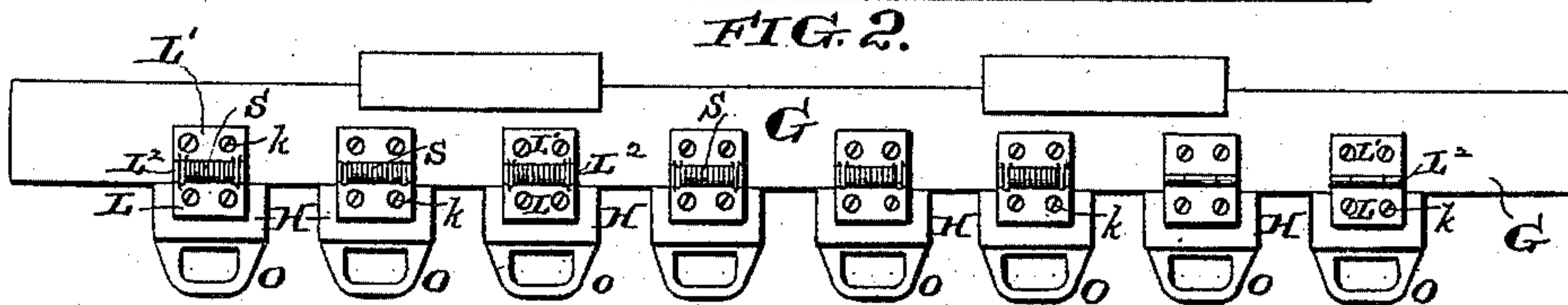
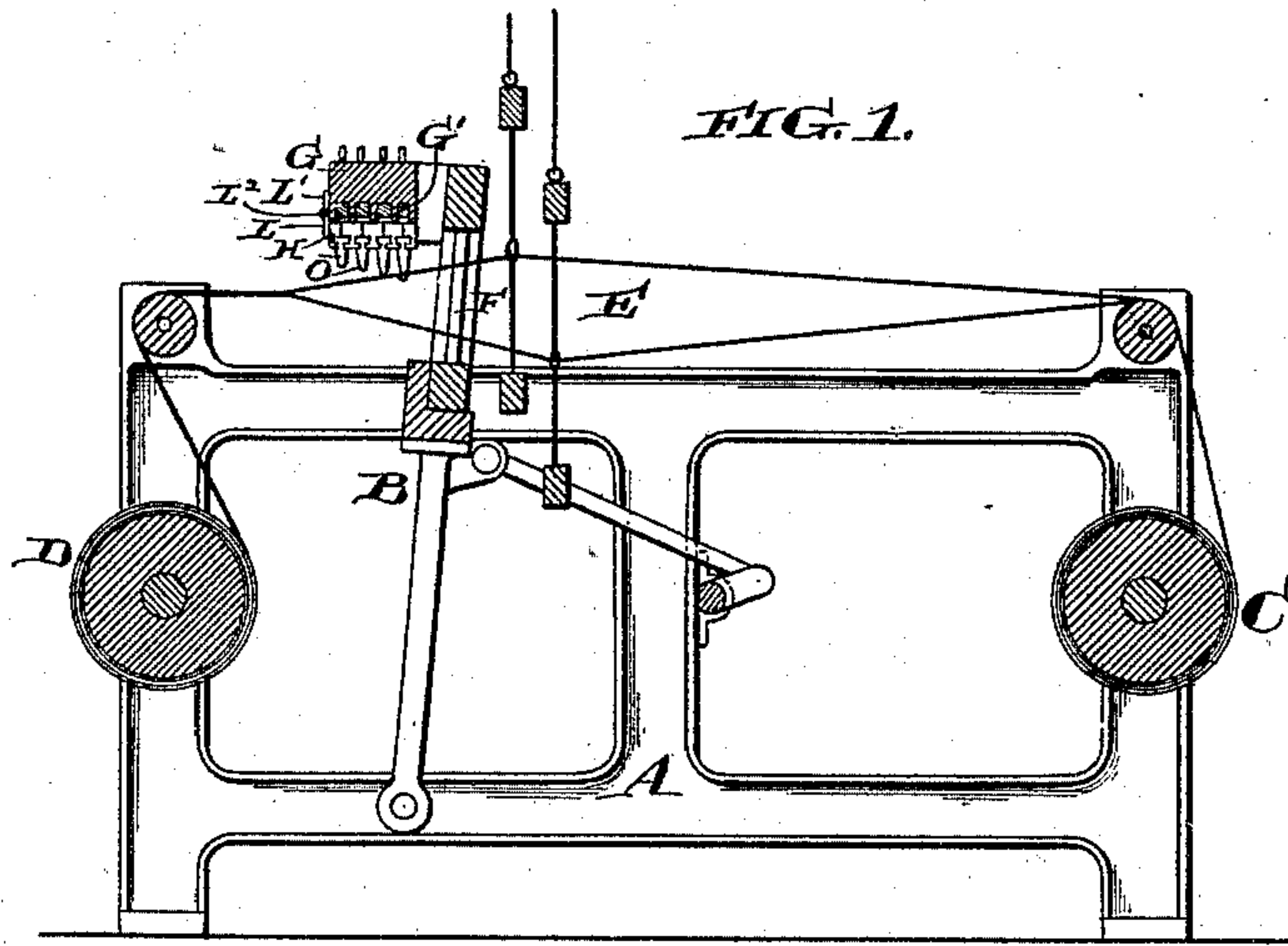
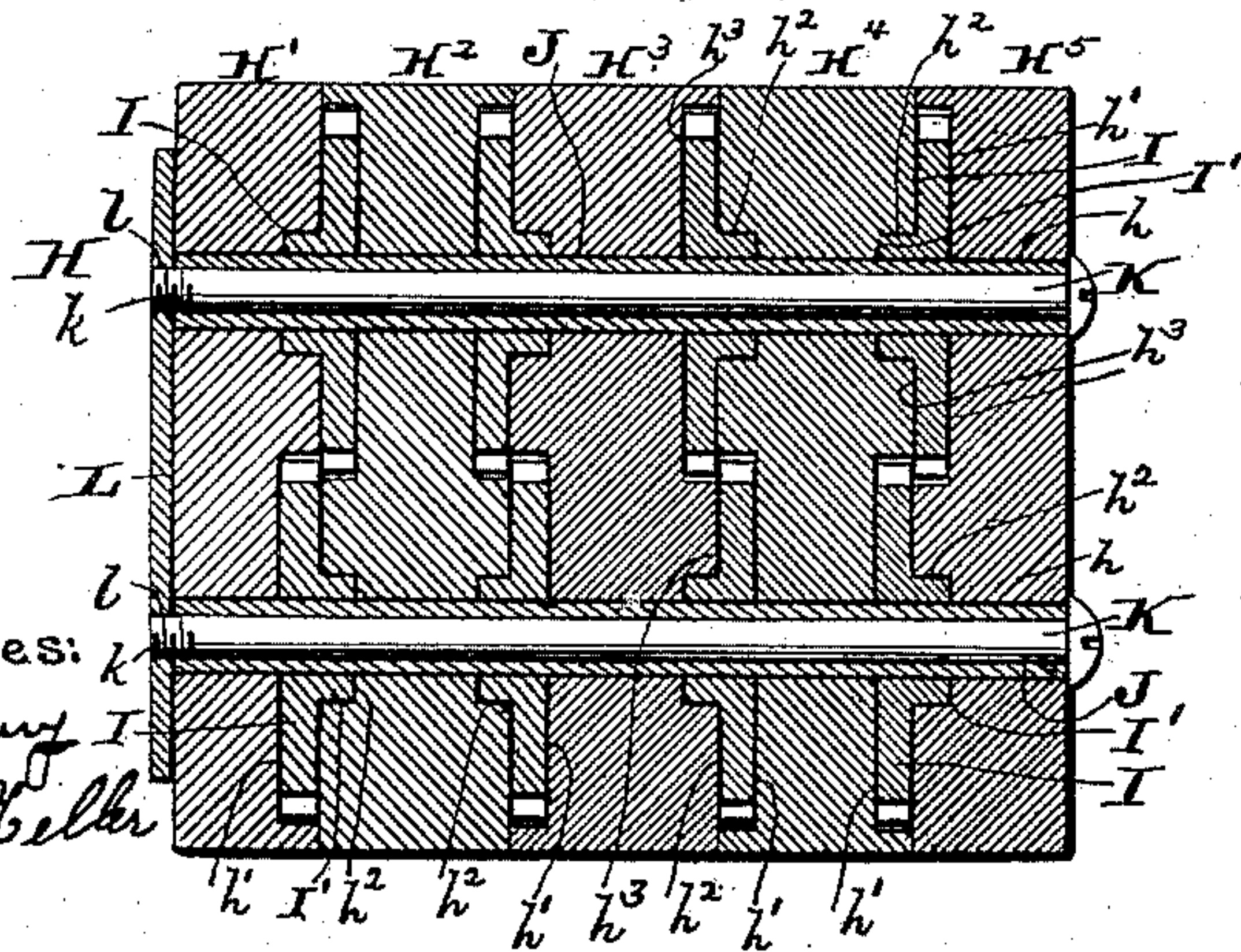
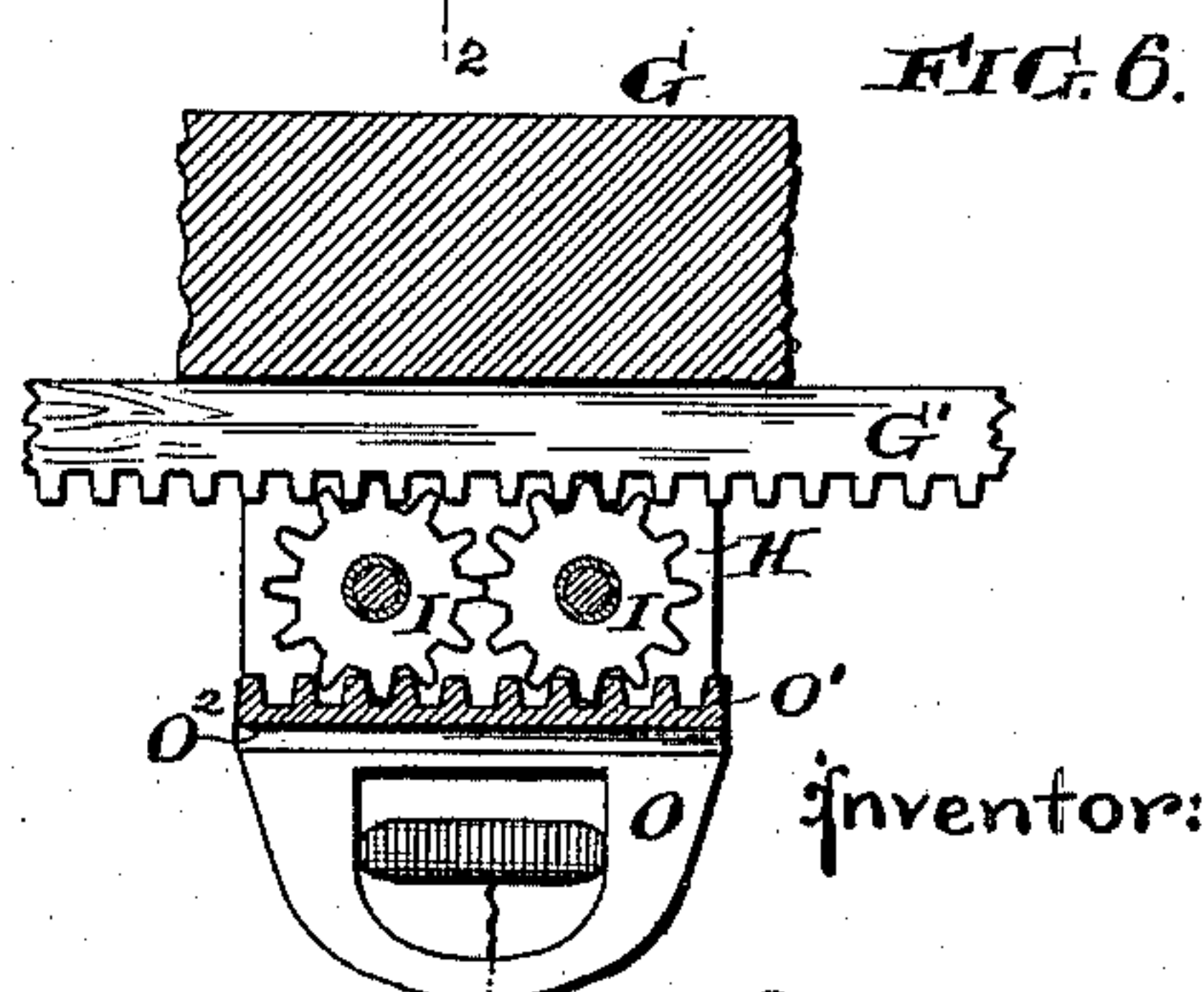


FIG. 5.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

AUGUST WAGNER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
SCHAUM & UHLINGER, OF SAME PLACE.

## SWIVEL-LOOM.

SPECIFICATION forming part of Letters Patent No. 488,511, dated December 20, 1892.

Application filed May 18, 1891. Serial No. 393,217. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST WAGNER, of the city and county of Philadelphia, State of Pennsylvania, have invented a certain new and useful Improvement in Swivel-Looms, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to swivel shuttle-loom such for instance as the loom described in the patent to Wadsworth No. 338,891 of March 30, 1886; and has for its object to provide an improved construction of the carrier blocks which hold the shuttles and an improved mode of attaching such blocks to the swivel batten beam.

Much difficulty has heretofore been met with in looms of the character referred to in getting at the swivel shuttles in order to remove them or the blocks containing them from the beam or to replace the bobbins in the shuttles. In another application filed by me May 18, 1891, Serial No. 393,218, I have described and shown an improved carrier block adapted to contain a single shuttle and an improved device for attaching the carrier blocks to the beam so that they will be readily and independently removable therefrom.

My present invention consists in securing the carrier block to the beam by means of clamping plates hinged together so that each block can be readily turned up from a position beneath the supporting beam to one alongside of it without detaching it from the beam.

It further consists in the particular way in which a number of parts making up the carrying block are secured together to form such block and it will be understood that, save in certain details of construction my present invention is applicable to single shuttle blocks as well as to those carrying two or more as shown in the drawings. Reference being now had to the drawings which illustrate my invention and in which,—

Figure 1 is a side elevation of a portion of a loom illustrating the position of the swivel shuttles with respect to the reed and shed. Fig. 2 is a front view of the swivel batten beam with the attached shuttle-carrying

blocks. Fig. 3 is a back view of a portion of the beam and block attached thereto. Fig. 4 a cross-sectional view taken on the line 1—2 of Fig. 3 and showing in dotted lines the position to which the shuttle-carrying block can be thrown. Fig. 5 is a cross-sectional view on the line 3—4 of Fig. 4 drawn to a somewhat larger scale; and Fig. 6 a sectional view taken on the line 5—6 of Fig. 4.

A is the frame of the loom; B the lay; C the warp beam; D the cloth roll; E the shed; F the reed.

G is the swivel batten beam which, in practice, is moved at proper intervals vertically or vertically and horizontally as shown and described in the Wadsworth patent above referred to; the mechanism for actuating the beam forming no part of this invention I have not thought it necessary to illustrate it.

H H H, &c., are the shuttle-carrying blocks which, in operative position, are secured at regular intervals along the bottom of the beam G as shown in Fig. 2. I secure the said blocks to one side of the beam by means of clamping-plates L and L' united by a hinge L<sup>2</sup> so that the block with its contained shuttles can be thrown from the position shown in full lines in Fig. 4 to the position shown in dotted lines in the same figure or to an intermediate position; it will be understood that each carrier block is independently hinged to the beam. The block may be held in operative position by any convenient means; preferably a spring, as S, Fig. 2, is arranged to hold the block in position in the ordinary way of a spring hinge; a catch N pivoted on the opposite side of the beam G to that on which the hinged clamp is secured can be advantageously made to engage a latch pin M on the block; a light spring N' holding the pivoted catch in position and the upper end of the catch projecting above the beam so that it can be made to release its hold upon the block by a light pressure of the finger (see Fig. 3). It is advisable to provide a catch as shown at R (Fig. 4) to catch and hold the block when turned away from the beam. In the bottom of the block H are grooves h<sup>4</sup> formed by planing longitudinal slots in the bottoms of the parts which make up the block into which grooves extend the shanks O<sup>2</sup> of the shuttles O; the tops of these



shanks support or are formed into racks O' which engage with pinions I pivoted in the blocks and extending above the tops thereof so as to engage rack bars G' moving in grooves at the bottom of the beam G. Pinions I are arranged in the block so as to engage each shuttle. In the above features of construction the blocks are generally similar to those which have heretofore been used but in the special features of construction which I am about to describe the blocks shown in the drawings are, I believe, new with me.

I form each block of a series of parts or plates as H' H<sup>2</sup> H<sup>3</sup>, &c. (see Fig. 5); two parts being used for a single shuttle carrier block, three for a double shuttle block and so on. On the abutting faces of the parts making up the block I form circular grooves or depressions of a size sufficient to receive pinions of the desired thickness, said depressions being concentric with parallel transverse perforations *h* which are formed through each part so as to register with the perforations in the abutting parts. The pinions being placed in position in the circular depressions formed to receive them, and the parts H' H<sup>2</sup>, &c., being placed together, a hollow tube J is passed through the perforations in the parts of the block and through the center of the pinion wheels for which it serves as an axle or bearing. The parts having been assembled are then secured together preferably as shown in Fig. 5 by means of screw-bolts K which pass through the tubes J and the threaded ends *k* of which screw into a plate or plates on the outside of the block; preferably they screw into threaded perforations *l* formed in the part L of the hinged plates L L'.

In order to bring the centers of the wheels or pinions I closer together or, in other words, to shorten the length of the carrier blocks, it is convenient to stagger the two pinion wheels upon each swivel shuttle and where this construction is adopted I form in the face or faces of each of the separate parts of the carrier block, first, a circular depression *h'* large enough to receive the pinion I, said depression being concentric with one of the transverse perforations; while about the other perforation I form the circular depression *h*<sup>2</sup> of a size which will fit neatly about a hub extension I' which I form on each pinion wheel; in this way each pinion I is centered not only by the tubular bearing upon which it rests but also by the bearing of its hub extension I' in the circular depression *h*<sup>2</sup>.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination of the beam G with separate and independent swivel carrying blocks H arranged to carry the swivel shuttles and hinged clamps connecting them to the beam, all substantially as described and so that the blocks can be thrown up to the side of the beam.

2. The combination of the beam G with swivel shuttle carrying blocks H arranged to carry the swivel shuttles; hinged clamps connecting said blocks to the beam, and springs as arranged to hold the blocks normally to the beam while permitting them to be turned out from it, all substantially as described and so that the blocks can be thrown up to the side of the beam.

3. The combination of the beam G with swivel shuttle carrying blocks H arranged to carry swivel shuttles, hinged clamps L L' connecting the blocks to one side of the beam, and a catch arranged to engage and hold the blocks on the opposite face of said beam substantially as specified.

4. The combination of the beam G with swivel shuttle carrying blocks H arranged to carry swivel shuttles, hinged clamps L L' connecting the blocks to one side of the beam and a catch R arranged to catch and hold block away from the beam, substantially as specified.

5. A swivel shuttle carrying block H made up of two or more parts grooved on their abutting faces to receive pinions I and in their bottoms to form grooves *h*<sup>4</sup> in combination with transverse bearing rods running through the sections substantially as specified.

6. A swivel shuttle carrying block H consisting of two or more parts grooved on their abutting faces to receive pinions between them and in their bottoms to form recesses *h*<sup>4</sup>, in combination with tubes J passing through said blocks, pinions I journaled on said tubes and situated in the grooves of the blocks and binding bolts K extending through tubes J and arranged to clamp the parts of the blocks together substantially as specified.

7. A swivel shuttle carrying block H consisting of two or more parts grooved to receive pinions between them in combination with tubes J passing through said blocks pinions I journaled on said tubes and situated in the grooves of the blocks and bearing rods extending through said tubes, substantially as specified.

8. A block H made up of a series of parts H' H<sup>2</sup>, &c., said parts having parallel registering perforations *h* *h* and on one or both faces a circular depression *h'* concentric with one transverse perforation and of a size to receive a pinion I and a circular depression *h*<sup>2</sup> concentric with the other transverse perforation and of a size to receive the hub I' of a pinion in combination with staggered pinions I having hubs I', tubes J passing through perforations *h* and serving as bearings for the pinions and clamping bolts K arranged to clamp and hold the parts of the block together.

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Witnesses:

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