

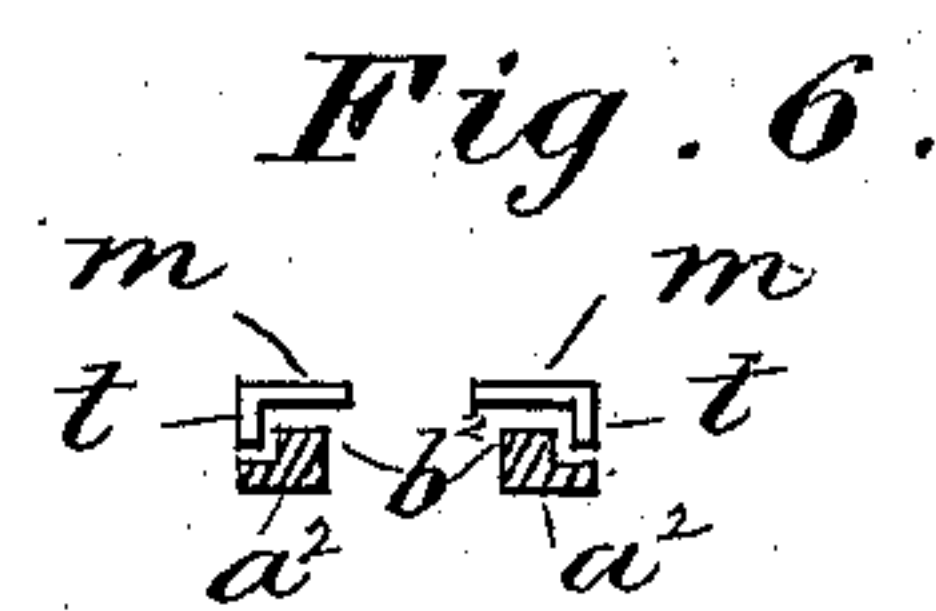
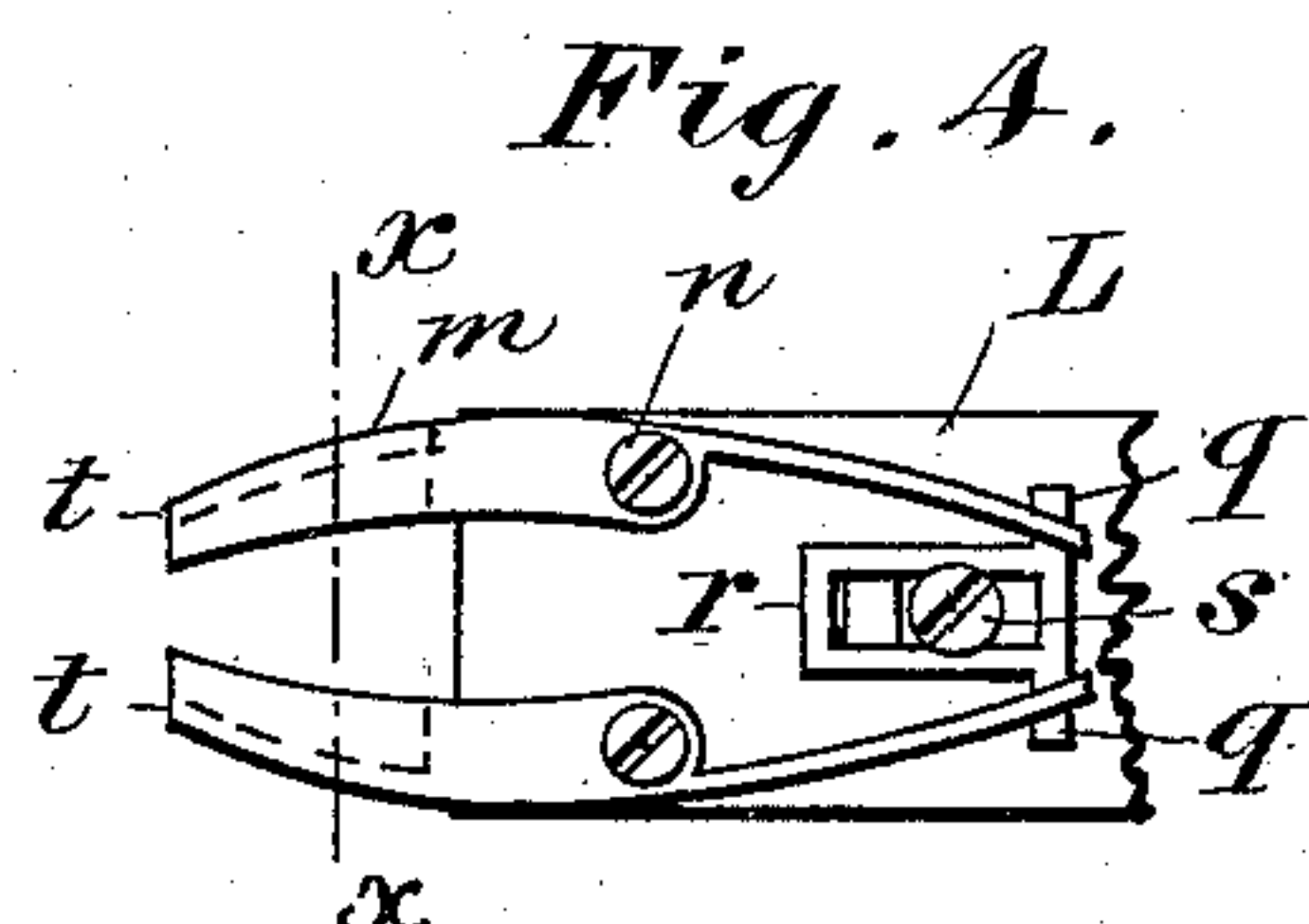
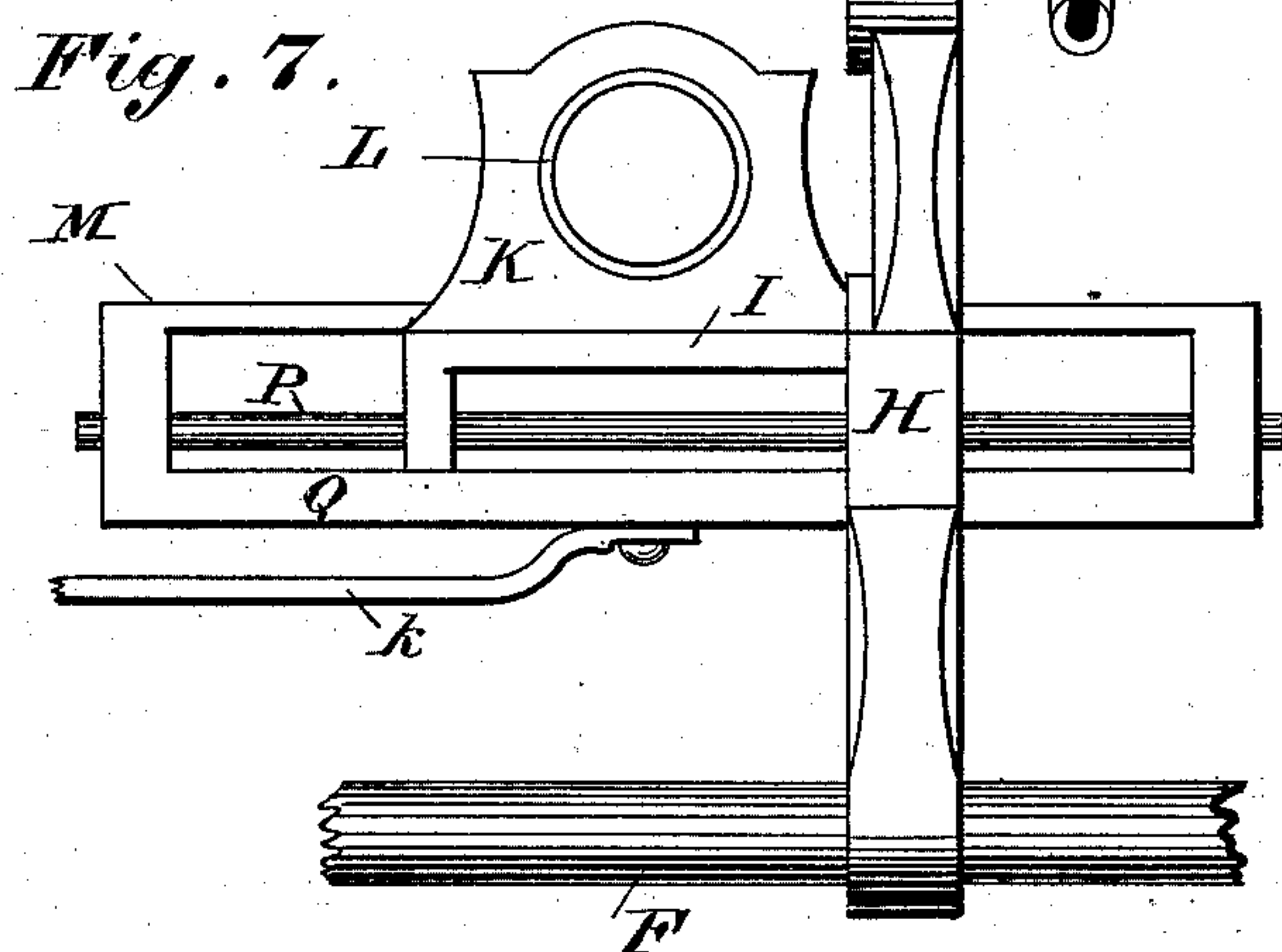
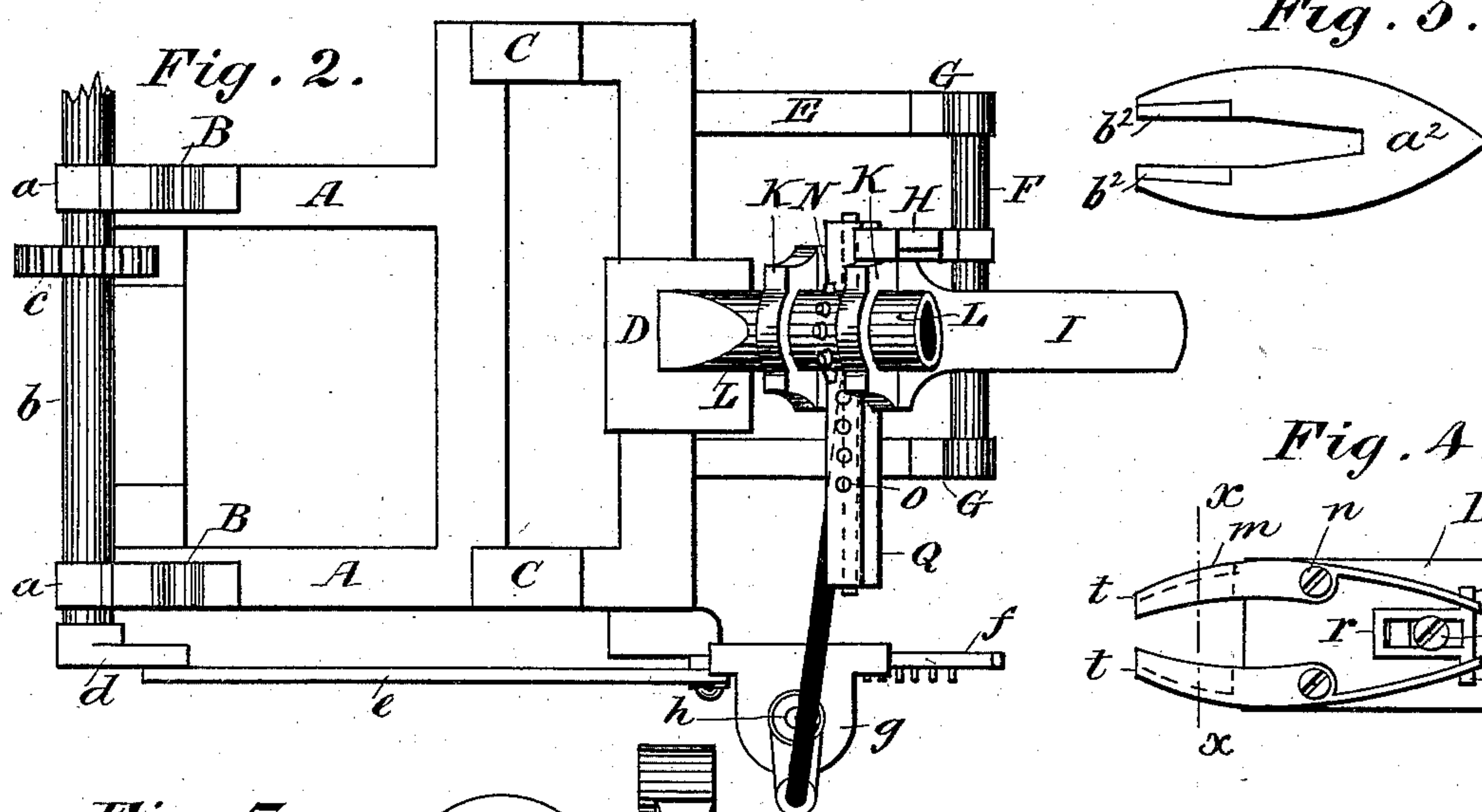
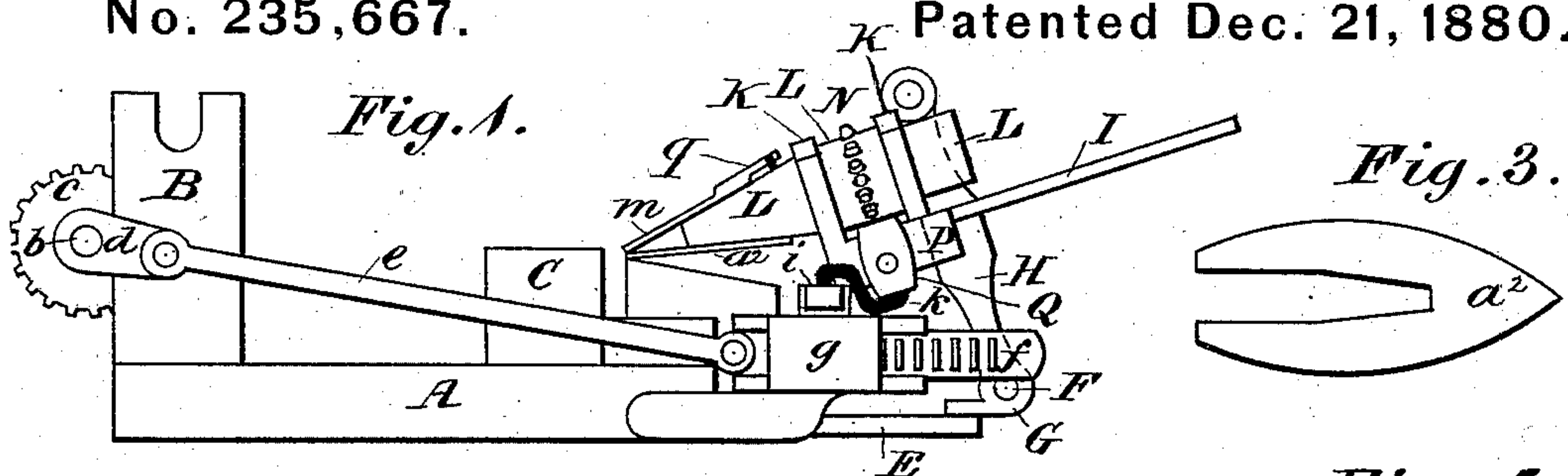
(No Model.)

W. BRIGGS.

## Apparatus for Feeding Nail Machines.

No. 235,667.

**Patented Dec. 21, 1880.**



*Witnesses*

Charles L. Simpson  
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# UNITED STATES PATENT OFFICE.

WILLIAM BRIGGS, OF MONTREAL, QUEBEC, CANADA.

## APPARATUS FOR FEEDING NAIL-MACHINES.

SPECIFICATION forming part of Letters Patent No. 235,667, dated December 21, 1880.

Application filed October 25, 1880. (No model.) Patented in Canada December 13, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM BRIGGS, of the city and District of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Apparatus for Feeding Nail-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has reference, first, to the construction and arrangement of a feeding apparatus so arranged in its action that the parts employed to hold the plate from which the nails are to be cut will turn over and present the plate to be cut and then remain stationary a sufficient period of time for the operation of cutting to be fully performed, when it again turns over and acts in a similar way.

The second part of my invention consists in the construction and arrangement of the jaws employed for holding and guiding the said plate from which the nails are cut.

In the drawings hereunto annexed similar letters of reference indicate like parts, and Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a plan of Fig. 1. Figs. 3, 4, 5, and 6 are details of jaws. Fig. 7 is a front view of part of the plate-turning apparatus.

Letter A is any suitable frame-work for holding the working parts of a nail-cutting machine, which said parts are not shown, as they form no part of the present invention. B are the plumber-blocks for holding the main shaft. C are the blocks to which the cutting-jaw is attached, and D is the rest for holding the bed-die for cutting the nails. All the above are constructed (and the part of them that is not shown in the drawings) in a similar manner as heretofore in use.

To the front of the frame A are attached two brackets, E, carrying a shaft, F, which is free to revolve in the bearings G at the ends of the brackets.

On the shaft F is secured an arm, H, to which is attached a plate, I, of the form shown in the drawings, upon which two plumber-blocks, K, are secured. In these a rotating barrel, L, is held.

A slide is provided, working on the plate I, which slide consists of three bars and an end piece connecting them: the top bar, M, passes

over the plate I, and is provided with openings to engage with the projections N on the barrel L, after the manner of a rack and pinion; the bar P, which passes through downward-projecting flanges on the plate I and serves for a guide, and the bar Q. I do not confine myself to this construction of the slide, as many others may equally well answer the purpose of causing the barrel to turn half round and back again. The back end of the barrel L is constructed with a taper point, and, although not shown in the drawings, a mechanism is provided for feeding forward the nail-plate placed in the barrel L. This said mechanism is of similar construction to that at present in use, and I would state that all that has been hereinbefore mentioned or partly described is old and similar to what has heretofore been in use.

On the side of the plumber-blocks B are secured two bearings, a, carrying a shaft, b, provided with a gear-wheel, c, so arranged with a gear on the main shaft carried in the blocks B that the shaft b makes one revolution to two revolutions of said main shaft.

On the extremity of the shaft b, as shown, a crank, d, is secured. To a crank-pin on said crank is attached a connecting-rod, e, to the other extremity of which is attached a rack, f, carried in a guiding-block, g, so that as the crank d revolves the rack f moves backward and forward. In the guiding-block g is also held a pinion, (not shown in the drawings because it is contained within the guiding-block g, having axle h, which h will be understood to include said pinion,) arranged to make half a revolution at each stroke of the rack f.

To the axle h, passing up through the upper side of the block g, and upon said axle, is attached a crank, i. To this crank is attached a connecting-rod, k, connecting with the bar Q, so that by the revolution of the crank d, operating through the medium of connecting-rod e, rack f, pinion and axle h, crank i, and connecting-rod k, with slide on I, the barrel L is caused to turn over twice at each revolution of the crank d. This may, in so far as I have now described it, be considered very similar to what has heretofore been in use, and therefore I wish to call particular attention to what I am now about to describe, as the gist of the first part of my invention is contained in it. By



setting the parts  $d$ ,  $e$ ,  $f$ ,  $h$ ,  $i$ , and  $k$  so that the crank  $d$  shall be on the dead-center with regard to the rack  $f$  when the crank  $i$  is on the dead-center with regard to the slide  $M$ , and inas-  
 5 much as in all the moving parts of all ordinary machines there must be an amount of slack or lost motion, therefore, by reason of said slack or lost motion, conjointly with the fact of setting the two cranks  $d$  and  $i$  on their dead-centers at the same time, a considerable pause in  
 10 the motion of the barrel  $L$  is caused each time it turns over, and these pauses are arranged or timed by the setting of the parts of the machine to occur when the cutting off of the nail  
 15 takes place.

The second part of my invention consists in the construction and arrangement of the guiding-jaws. (Shown more fully in Figs. 3, 4, 5, and 6.)  
 20 Fig. 4 shows a plan of the upper inclined surface of the rear part of the barrel  $L$ . Two arms,  $m$ , are attached to it by pivots  $n$ . These arms extend forward and engage with projections  $q$  of the slide  $r$ . The slide  $r$  consists of  
 25 a slotted link, so arranged with the said projections  $q$ , and acting upon the arms  $m$ , having the configuration shown, that they cause the rear ends of the arms to be adjusted in distance apart or from each other to agree with the width  
 30 of plate from which the nails are to be cut by the setting of the slide  $r$ , which is secured by means of any suitable set-screw or similar

device,  $S$ . As shown in Figs. 4 and 6, (Fig. 6 is a section on line  $xx$ , Fig. 4,) the arms  $m$  are provided with side flanges,  $t$ . 35

On the incline under that upon which the arms  $m$  are situated is secured a plate,  $a^2$ . The lower side of this plate is shown in plan in Fig. 3, and the upper side in plan in Fig. 5, by which it will be seen that two projections,  $b^2$ , are pro- 40  
 vided, and by looking at Fig. 6 the object of these projections becomes at once apparent.

What I claim, and wish to secure by Letters Patent, is as follows:

1. In combination with the barrel  $L$ , a rack 45  
 or similar device for revolving said barrel, operated by a crank,  $i$ , which is, in turn, operated by a crank,  $d$ , arranged to have the dead-centers of said cranks set substantially as described, for the purposes set forth. 50

2. The combination of the crank  $d$ , connecting-rod  $e$ , rack  $f$ , pinion and axle  $h$ , crank  $i$ , connecting-rod  $k$ , and barrel  $L$ , substantially as and for the purposes set forth.

3. The combination of the barrel  $L$  with jaws 55  
 $m$ , constructed and arranged substantially as described, and provided with plate  $a^2$ , constructed and arranged substantially as described, for the purposes set forth.

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Witnesses:

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