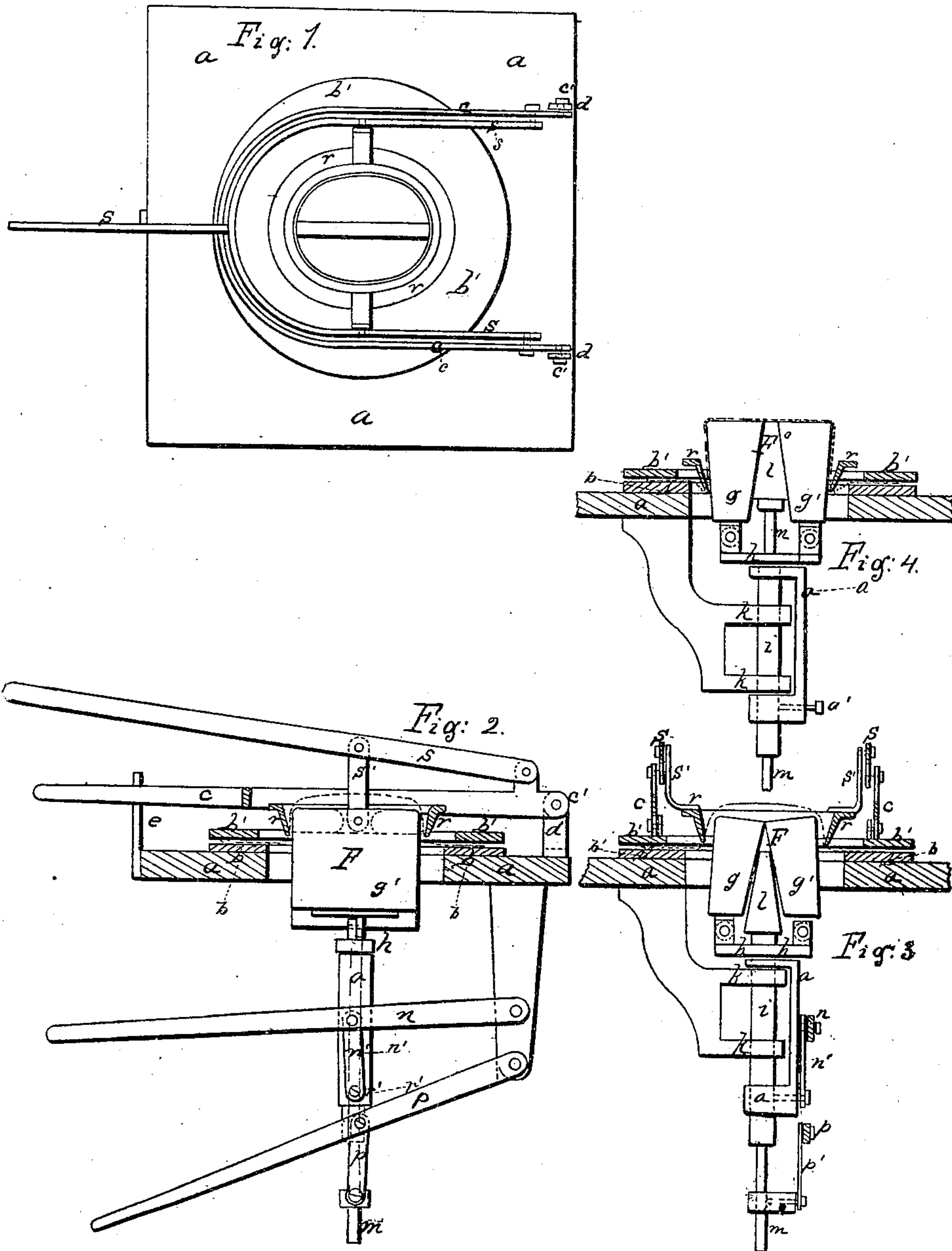


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N<sup>o</sup> 81364

Patented Aug. 25, 1868.



Witnesses  
 William A. Jones  
 John N. Whigley

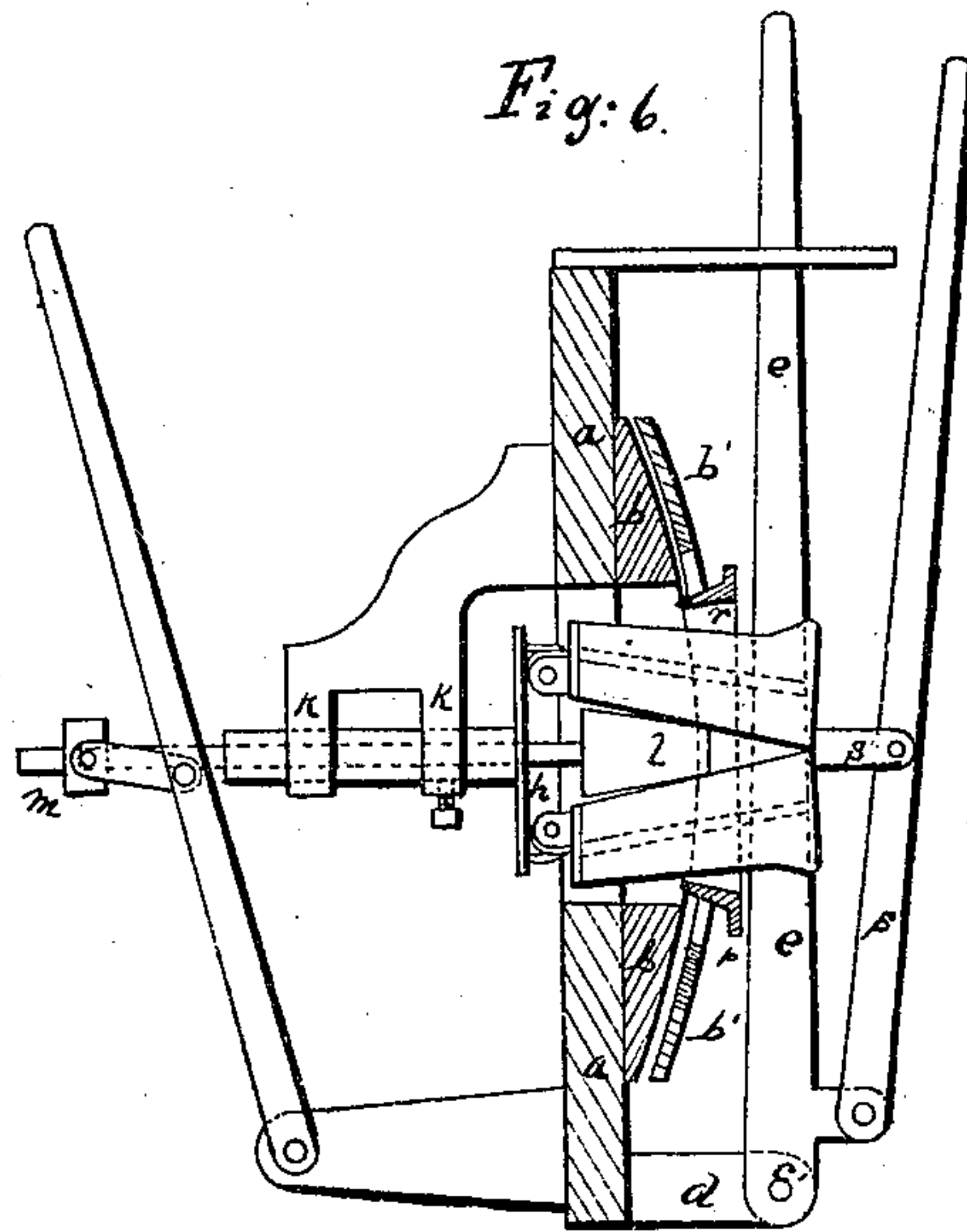
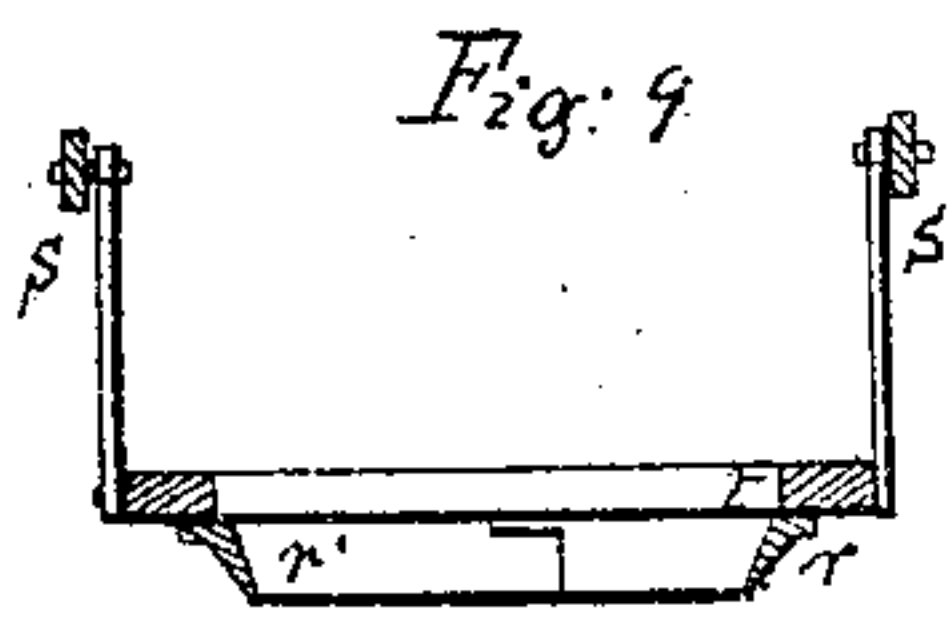
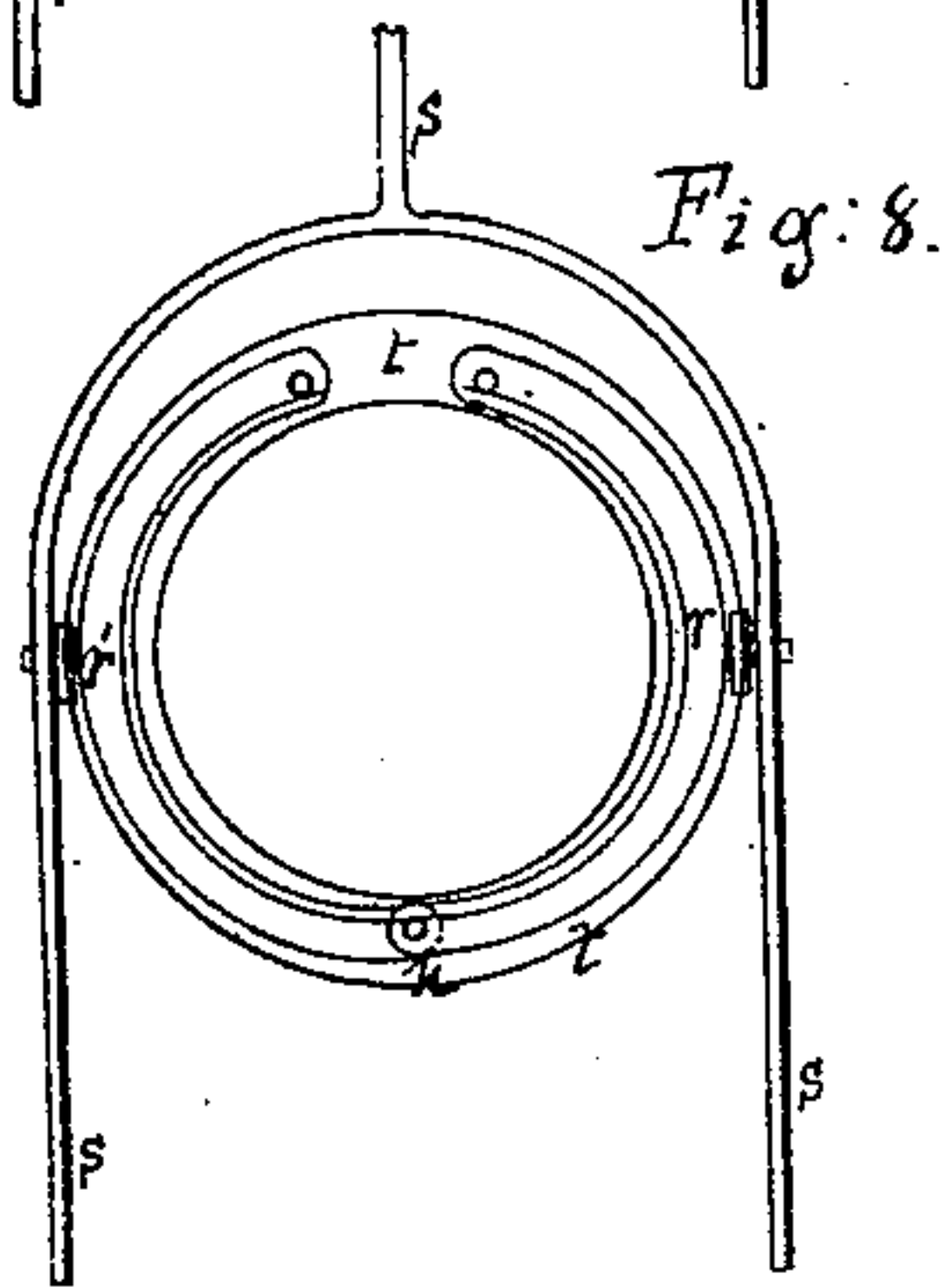
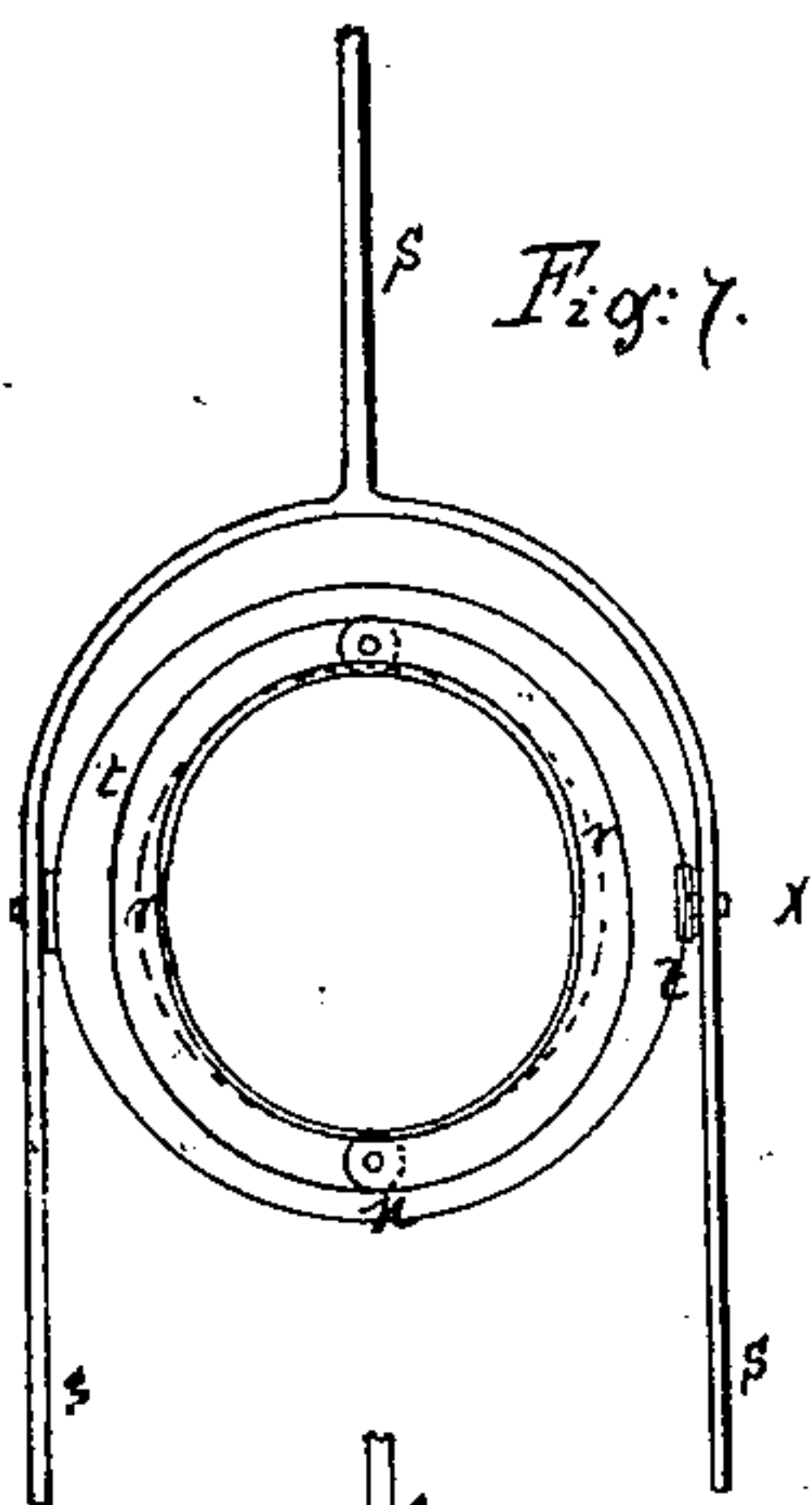
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# United States Patent Office.

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*Letters Patent No. 81,364, dated August 25, 1868.*

## IMPROVEMENT IN MACHINES FOR BLOCKING HATS.

*The Schedule referred to in these Letters Patent and making part of the same.*

Be it known that we, WILLIAM C. GRISWOLD, of Brooklyn, Kings county, New York, AUGUSTUS PELISSE, of Newark, Essex county, New Jersey, and ALBERT H. HOOK, of city and county of New York, have invented a new and useful Machine for Blocking Hats; and do hereby declare the following to be a full and exact description of the same, reference being had to the annexed drawings, in which—

Figure 1 represents a plan view of the machine.

Figure 2, a vertical longitudinal section.

Figures 3 and 4, transverse section of the machine, showing the mechanism in various positions and modifications.

Figure 6 shows a vertical section of the machine, as arranged for stiff hats, plates *b b'* being curved.

Figures 7 and 8 are bottom views of a modified band-ring.

Figure 9, a vertical cross-section in line *x x* of fig. 7.

Our machine is intended to block or shape hats, after the hat-bodies have been thoroughly stretched, tips as well as brims, by a previous operation, and it consists of the following parts:

First, a table, *a*, to which are attached all the operating parts of the machine. In the centre of this table there is a round hole, through which the block of the machine can ascend, the hole being somewhat larger in diameter than the largest block to be used in the machine.

Second, two annular plates, *b* and *b'*. The lower one, *b*, is firmly secured to the table *a*, and the upper one is hung on a swinging forked lever, *c*, having its fulcrum at *c' c'*, in two upright posts, *d*, attached to the top of the table *a*. By means of this lever the plate *b'* can be swung up and removed out of the way, when a hat is to be placed on the machine, and when the same is swung down to a horizontal position, in which it is shown in all the figures of the drawings, it serves to take a firm hold of the brim of the hat, the felt being pinched between the two plates *b* and *b'*. In this horizontal position, the lever *c* is held by a spring-catch, *e*.

Third, an expansible block, *F*, which is either capable of an ascending motion, as shown in figs. 2, 3, and 4, or remains stationary in height, and is merely made to expand, as shown in figs. 5 and 6. In most cases the block must be capable of expansion and contraction; it must be contracted in order to place the band-ring over it, as will be explained hereafter, and also to remove the hat from it when blocked, and it must be expanded in order to block or shape the crown and side crown of the hat. This expansible block, *F*, consists of two side pieces, as shown in figs. 2, 3, and 4, *g* and *g'*, which are hinged to a cross-head, *h*, attached to the upper end of a hollow vertical rod, *i*, which is capable of sliding up and down in bearings *k*, fixed to the lower side of the table *a*, and of a centre wedge-piece, *l*, fastened to the upper end of a rod, *m*, which plays up and down through the centre of the hollow rod *i*, so arranged as to expand the two side parts *g* and *g'*, to the full size of the required block, when the same is forced up so as to be level with the two side parts, *g* and *g'*, and this wedge-piece *l* is also so shaped as to fill up the vacant space between the two side pieces *g* and *g'*, when the same is elevated, as shown in fig. 4, and form a solid and regular hatter's block, leaving no empty spaces for the felt to draw into. In adopting this plan of an expansible block, the ascending motion of the whole block is obtained by a lever, *n*, and a connecting-link, *n'*. A brace, *o*, plainly shown in figs. 3 and 4, serves to limit the extent of the motion up and down, and also to regulate the block to the required depth of the hat, as it can be adjusted on the rod *i* by means of the set-screw *o'*. The up-and-down motion of the wedge is obtained by a lever, *p*, and a connecting-link, *p'*. An expansible block can also be made by having the centre wedge, *l*, in two parts, and also capable of expanding and contracting, or by having each of the side pieces *g* and *g'* again divided, and wedges between the divisions, which, when elevated, shall fill up the vacant spaces.

Fourth, a band-ring, *r*, suspended from a forked lever, *s*, by two short connecting-links, *s'*, so as to be capable of swivelling and finding its level. This ring is made with a sharp edge at its bottom, and can be worked up and down, and forced below the surfaces of the two brim-holding plates, *b* and *b'*, as shown in fig. 4, to break the band of the hat, by overstretching the felt in that part of the hat. This up-and-down motion is given to the said band-ring *r* by the lever *s*, which is hinged to the lever *c* at some convenient point.

This band-ring may be formed of a continuous circular strip or casting, or it may be made as shown in figs. 7, 8, 9, in halves  $r'$   $r$ , hinged together at  $u$ , and to a flat supporting-ring,  $t$ , which is suspended by the forked lever  $s$ . The object of arranging the band-ring in halves is to enable the operator of the machine to open the said band-ring, as shown in fig. 8, in order to place it over the block, which is desirable when the machine is to block very deep hats.

The operation of the machine is as follows:

Levers  $c$  and  $s$  are raised, thereby removing plate  $b'$  and band-ring  $r$ . After the hat-body is previously stretched, the operator places it upon the lower plate,  $b$ , as nearly as possible concentric with the block, and then brings down the upper brim-plate,  $b'$ , and the band-ring  $r$ , and by forcing down the lever  $c$ , so as to catch in the spring-catch  $e$ , plates  $b$  and  $b'$  will hold the brim of the hat firmly, while the operator performs the blocking. In this position the machine is shown in figs. 2 and 3.

Now, the block is to be raised and expanded, and by means of levers  $p$  and  $n$ , and at last the band-ring  $r$  is forced down, thereby stretching the side crown of the hat, and breaking the band.

Having now fully described our invention, what we claim therein, and desire to secure by Letters Patent, is—

1. An expansible block, in combination with the brim-plates  $b$  and  $b'$ , constructed, arranged, and operating substantially as herein specified.
2. The combination of the band-ring  $r$ , holding-plates  $b$   $b'$ , and expansible block, substantially as and for the purposes herein specified.

Witnesses:

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