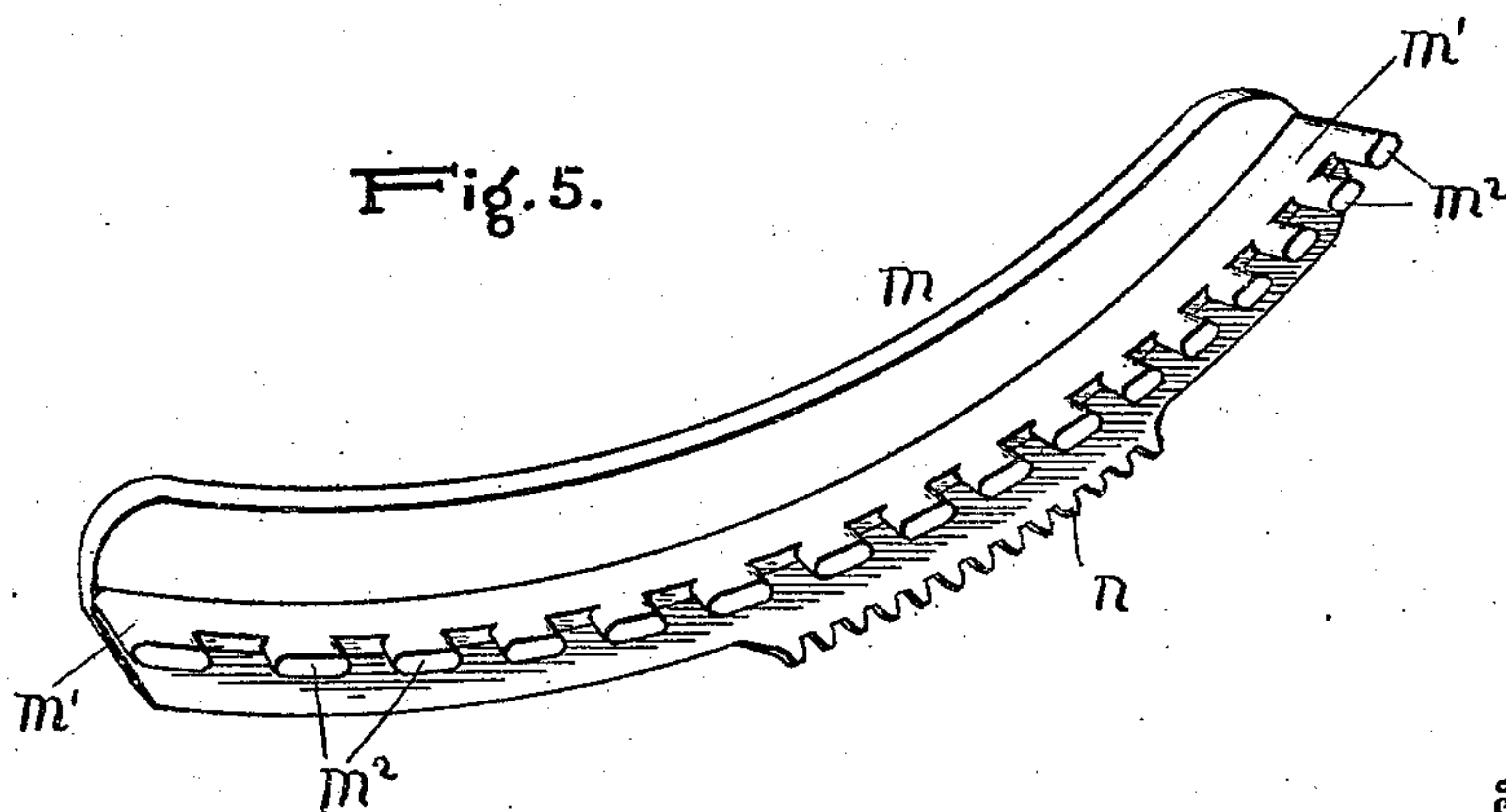
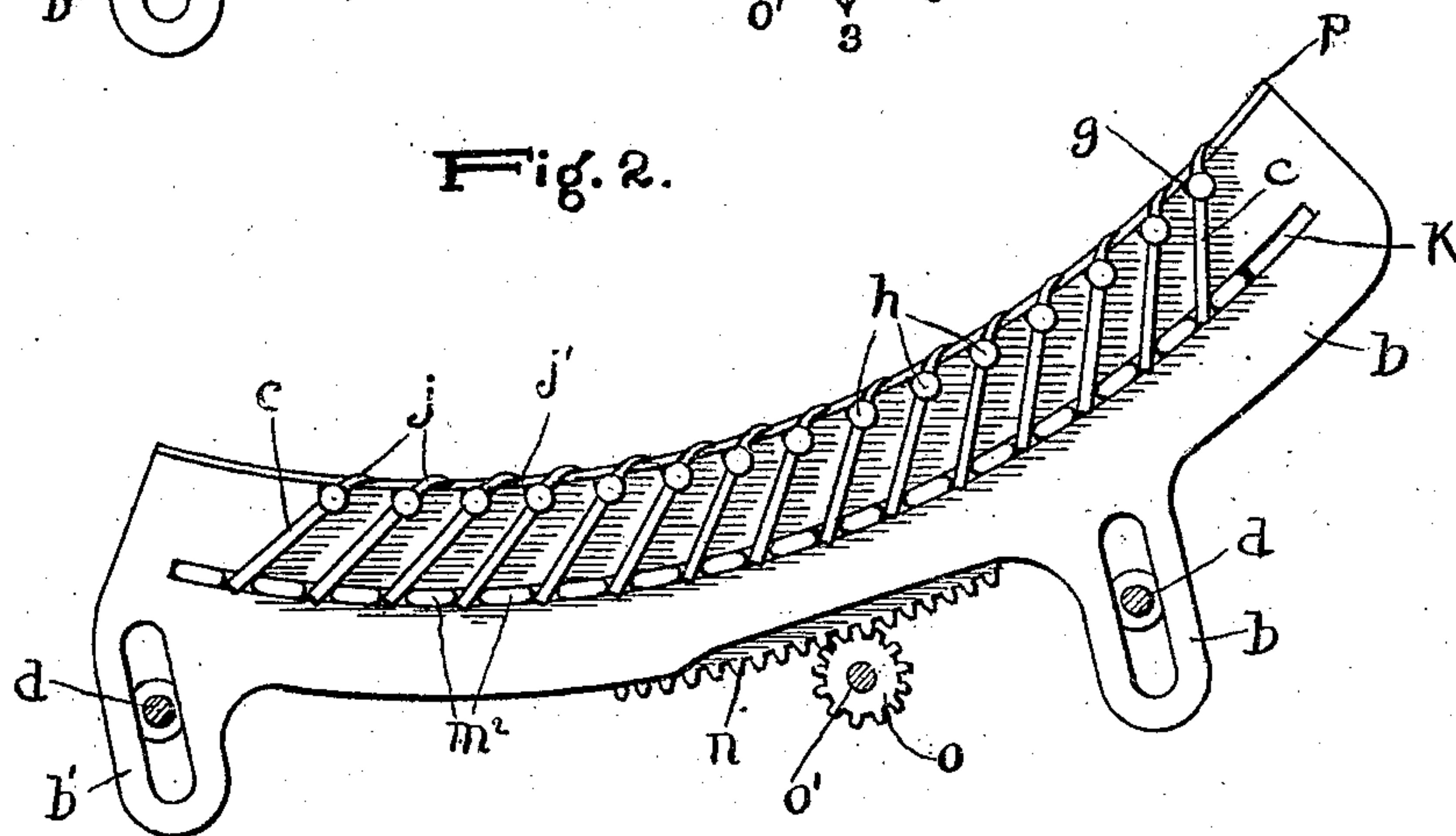
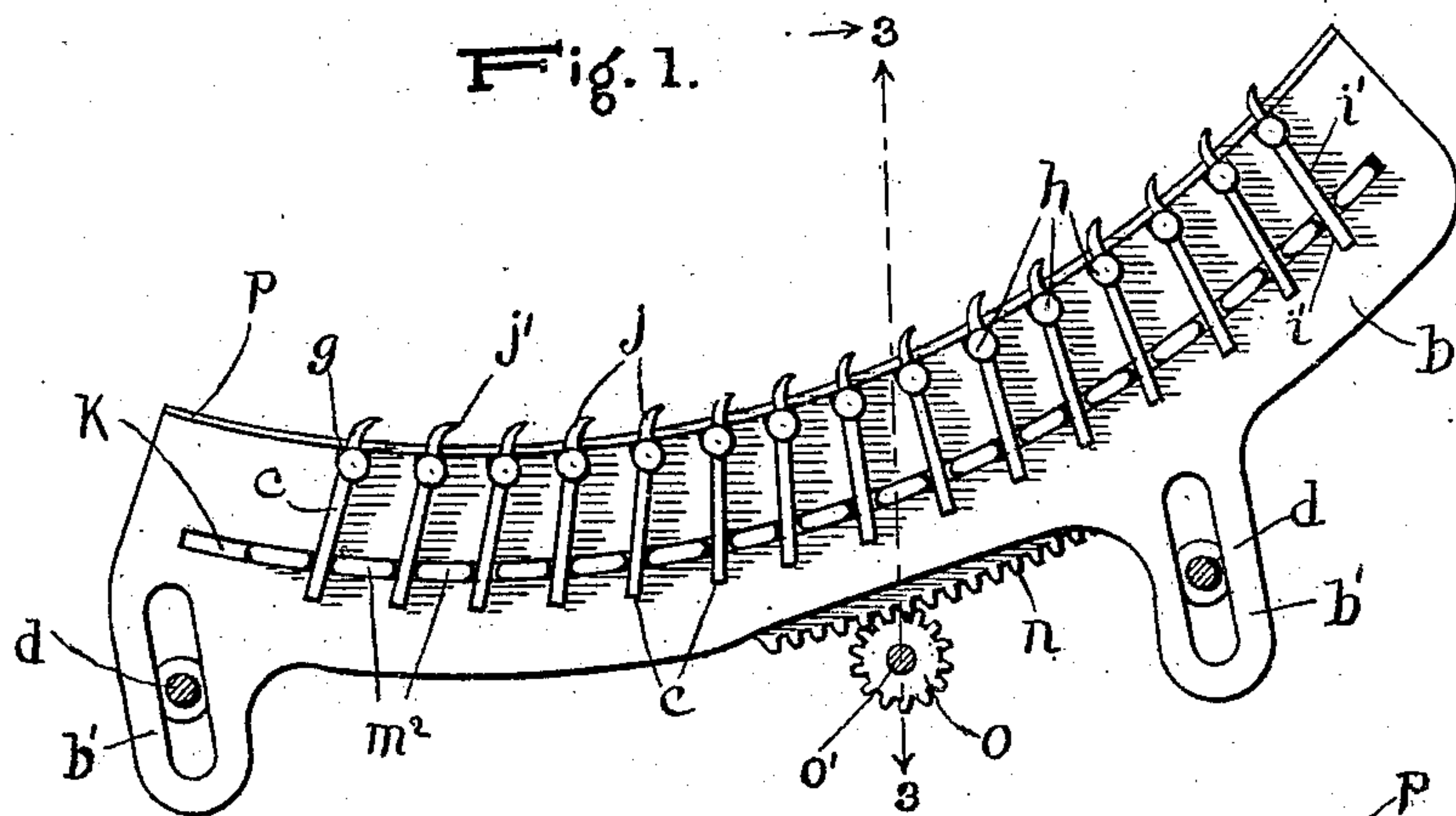


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Patented July 27, 1909.

2 SHEETS—SHEET 1.



Inventor

Alfred Arnfield.

Witnesses

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E. W. Anderson

his

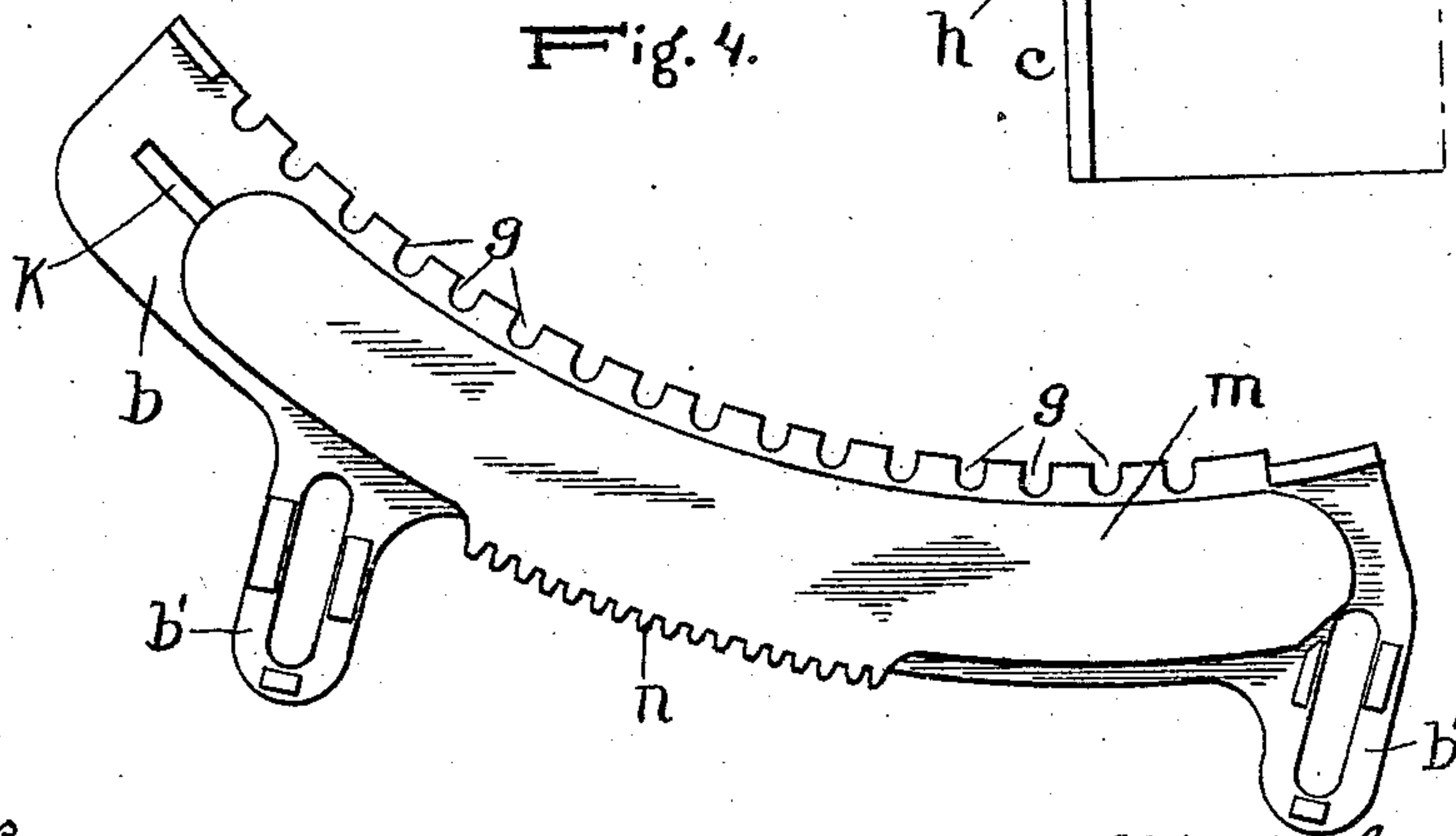
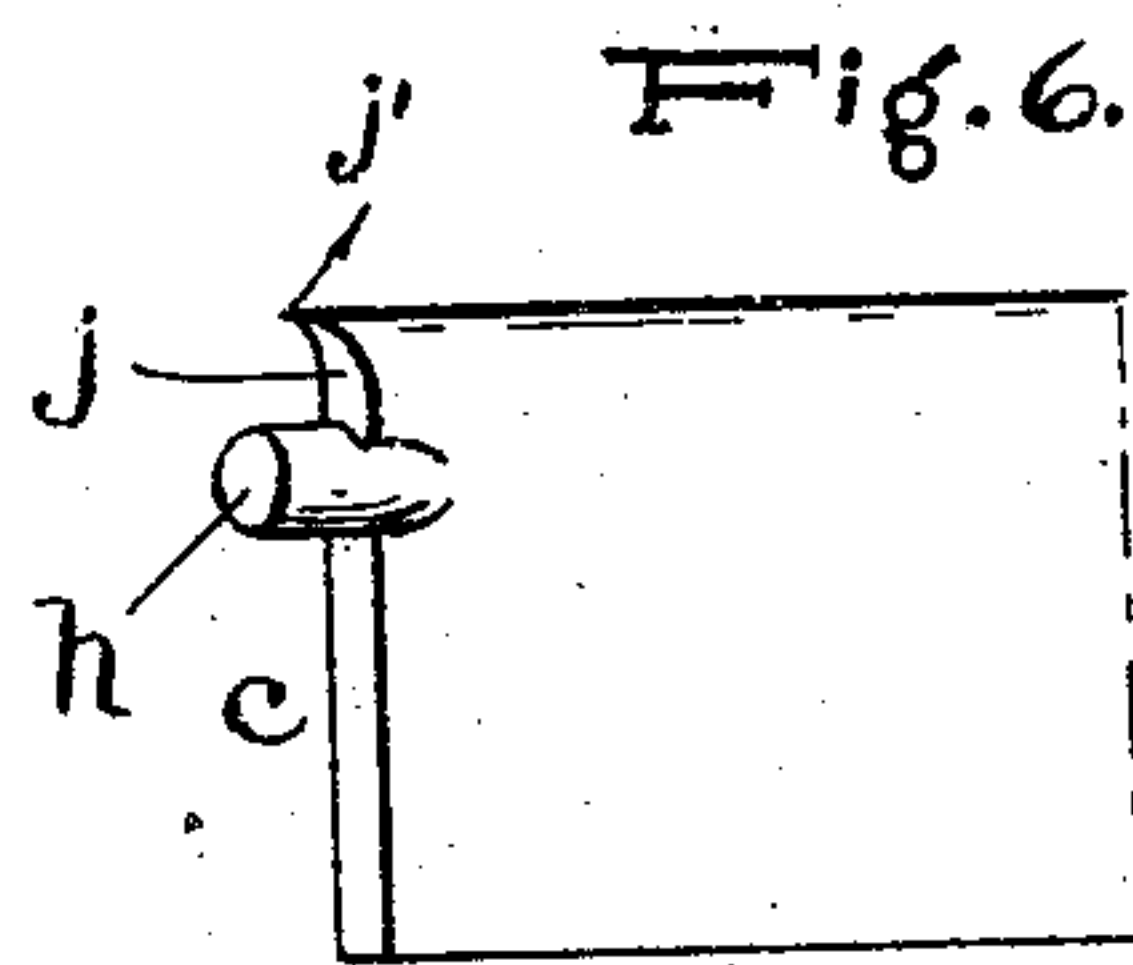
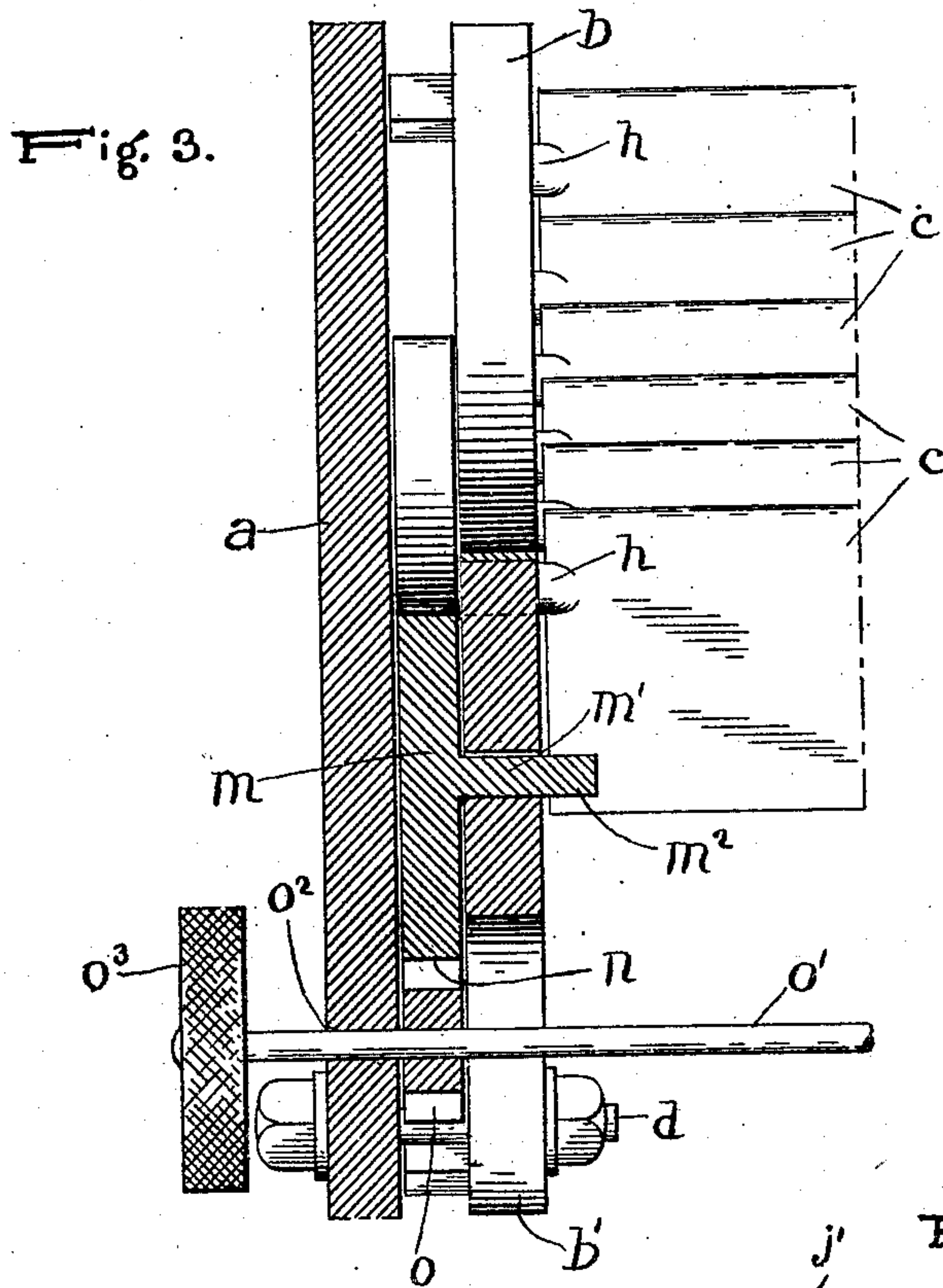
Attorney

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Witnesses

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# UNITED STATES PATENT OFFICE.

ALFRED ARNFELD, OF LAWRENCE, MASSACHUSETTS.

## GRATE FOR COTTON-LAPPERS.

No. 929,533.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed December 13, 1907. Serial No. 406,260.

*To all whom it may concern:*

Be it known that I, ALFRED ARNFELD, a citizen of the United States, resident of Lawrence, in the county of Essex and State of Massachusetts, have made a certain new and useful Invention in Grates for Cotton-Lappers; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of the invention with one of the side frame bars removed. Fig. 2 is a similar view showing the grate bars adjusted to partially close the openings therebetween and to change the angle of the bars. Fig. 3 is a section of the invention on a larger scale upon the line 3—3 Fig. 1. Fig. 4 is a side view of one of the side frame bars with the rack device in engagement with the slot thereof. Fig. 5 is a detail perspective view of the rack device. Fig. 6 is a detail perspective view of one end portion of one of the grate bars.

The invention relates to grates for cotton lapping machines, having for its object certain improvements upon the device of my Patent Number 561,853, dated June 9, 1896, with the object of increased efficiency, and simplification of the general structure, and it consists in the novel construction and combination of parts, as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a*, designates the frame or casing of the machine, *b, b*, the arcuate cheek pieces or side frame bars of the grate or grid, and *c, c*, the grate bars. The side pieces *b, b*, have downward extending slotted lugs *b', b'*, at their upper and lower end portions, securing bolts *d, d*, engaging the slots of such lugs and the frame or casing *a*. Each side piece *b*, is provided with a series of open notches *g, g*, at the upper edge thereof, wherein the lateral journal extensions *h, h*, of the grate bars *c, c*, have bearings, said journal extensions being located at the upper portions of said bars. These bars are of flat or plate character, the two sides *i, i'* thereof being parallel. The upper end portions of the grate bars are bent forward in a curved manner as shown at *j, j*, and sharpened or thinned to an edge *j'*, the lateral sur-

faces of such forward bent portions being convex at the top or rear and concave at the bottom or front. One of the side pieces *b*, has an arcuate slot *k*, extending longitudinally thereof throughout the major part of its length and parallel to its upper edge.

*m*, is an arcuate rack device having a lateral extension *m'*, at right angles thereto, provided with a series of teeth *m²*, such rack device having a second series of teeth *n*, at its lower edge. The rack device is located upon the outside of the side piece *b*, having the slot *k*, with the right angle extension *m'*, fitting in such slot, said extension having such length that the teeth *m²*, thereof will project beyond the side piece at the inside thereof in position to receive the lower end portions of the grate bars *c, c*. The teeth *m²* are of elongated form, having rounded ends whereby upon endwise adjustment of the rack device the grate bars will be moved to enlarge or lessen the spaces between the same through which fall seeds, dirt, etc. from the cotton, and to change the angles of the bars.

The adjustment of the rack device is effected by means of a pinion *o*, having engagement with the teeth *n* at the lower edge of the rack, the shaft *o'* of such pinion having bearings in the casing *a* at *o²*, and being provided with a hand wheel *o³* at its outer end.

Removable top strips *p, p*, are employed to close the open upper ends of the notches *g, g*, and secure the grate bars in position.

Owing to the location of the journal extensions *h, h*, just below the curved upper end portions of the grate bars, and the action of the adjustment rack *m*, upon the lower end portions of the grate bars, a fine adjustment of the curved upper ends of the grate bars is provided for, the movement of such curved upper ends being slight compared to the movement of the rack.

Having described the invention, what I claim and desire to secure by Letters Patent is:

1. A grate for cotton lapping machines, having side pieces, a series of grate bars provided with parallel sides and forward extending curved upper end portions having convex tops and concave bottoms, said bars having lateral journal extensions provided with bearings in said side pieces, and means engaging said bars for varying the angle thereof and the distances between the same.
2. A grate for cotton lapping machines, having side pieces, a series of grate bars pro-



vided with parallel sides and forward extending curved upper end portions, having convex tops and concave bottoms, said bars having lateral journal extensions just below said  
5 curved end portions and provided with bearings in said side pieces, and means engaging the lower end portions of said bars for varying the angle thereof and the distances between the same.

10 3. A grate for cotton lapping machines, having curved side pieces one of which is provided with a curved longitudinal slot, said side pieces having each a series of notches at its upper edge, a rack device having an angular  
15 extension adjustably fitting in said longitudinal slot and provided with a series of teeth at its outer edge, grate bars having lateral journal extensions fitting in the notches of the side pieces and at their lower end portions fitting between the teeth of said angular  
20 extension, and means for adjusting said rack device, including a pinion engaging the teeth at the lower edge of the rack device.

4. A grate for cotton lapping machines, having curved side pieces one of which is provided with a curved longitudinal slot, said  
25 side pieces having each a series of notches in its upper edge, a rack device having a series of teeth at its lower edge and a right angle extension adjustably fitting in said longitudinal  
30 slot and provided at its outer edge with a series of teeth, having rounded ends, grate bars provided with parallel sides and having bent upper ends, said bars having lateral  
35 journal extensions fitting in the notches of the side pieces and at their lower ends fitting between the teeth of said right angle extension, and means for adjusting said rack device, including a pinion engaging the teeth  
40 at the lower edge of the rack device.

In testimony whereof I affix my signature, in presence of two witnesses.

ALFRED ARNFIELD.

Witnesses:

JOHN ARNFIELD,

HERBERT ASHWORTH.