

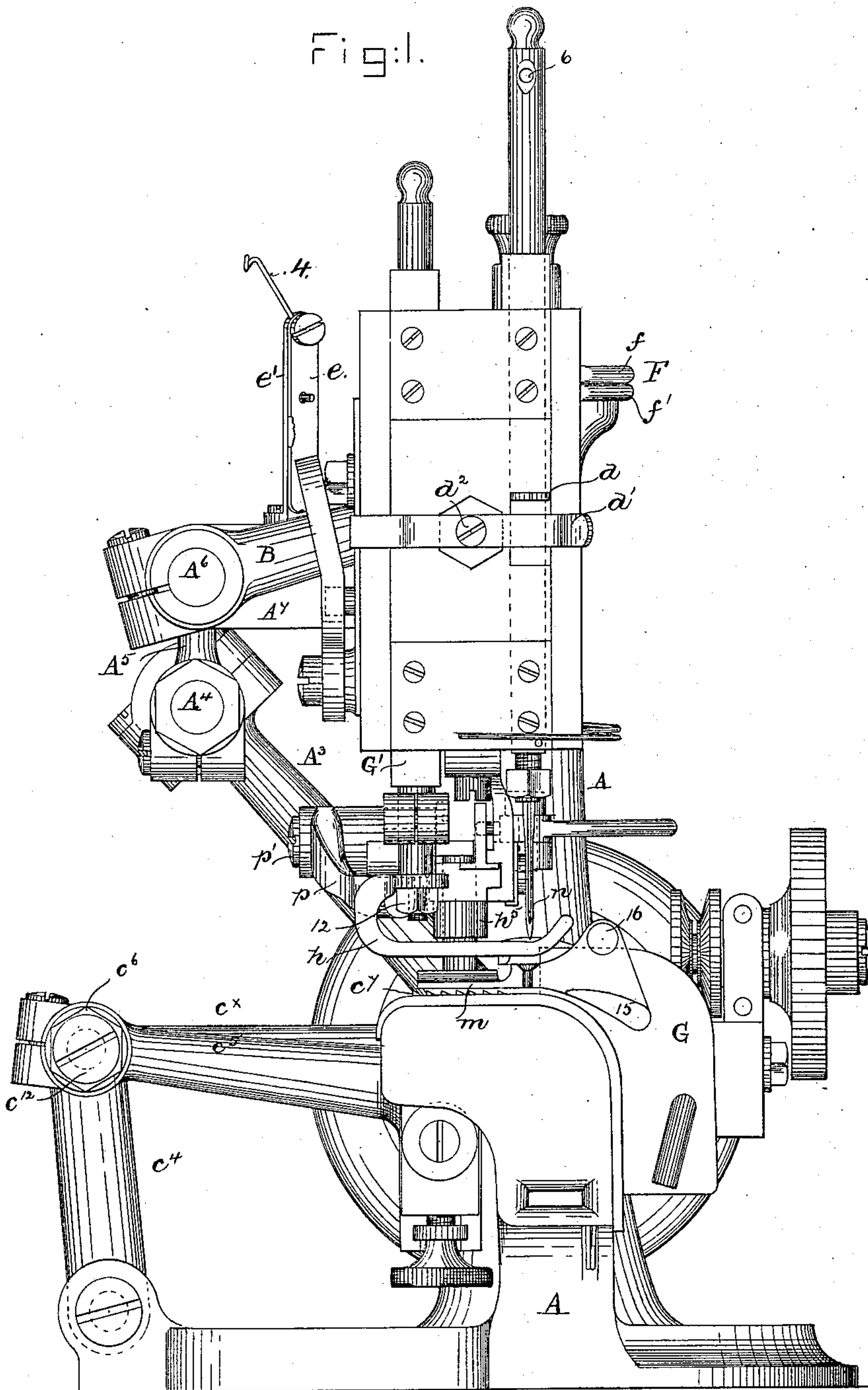
(No Model.)

3 Sheets—Sheet 1.

M. MARCIL.  
STRAW BRAID SEWING MACHINE.

No. 407,297.

Patented July 16, 1889.



Witnesses:  
Edgar A. Godwin.  
John F. C. Pinkert

Inventor.  
Michel Marcil.  
by Leroy & Gregory  
attys.

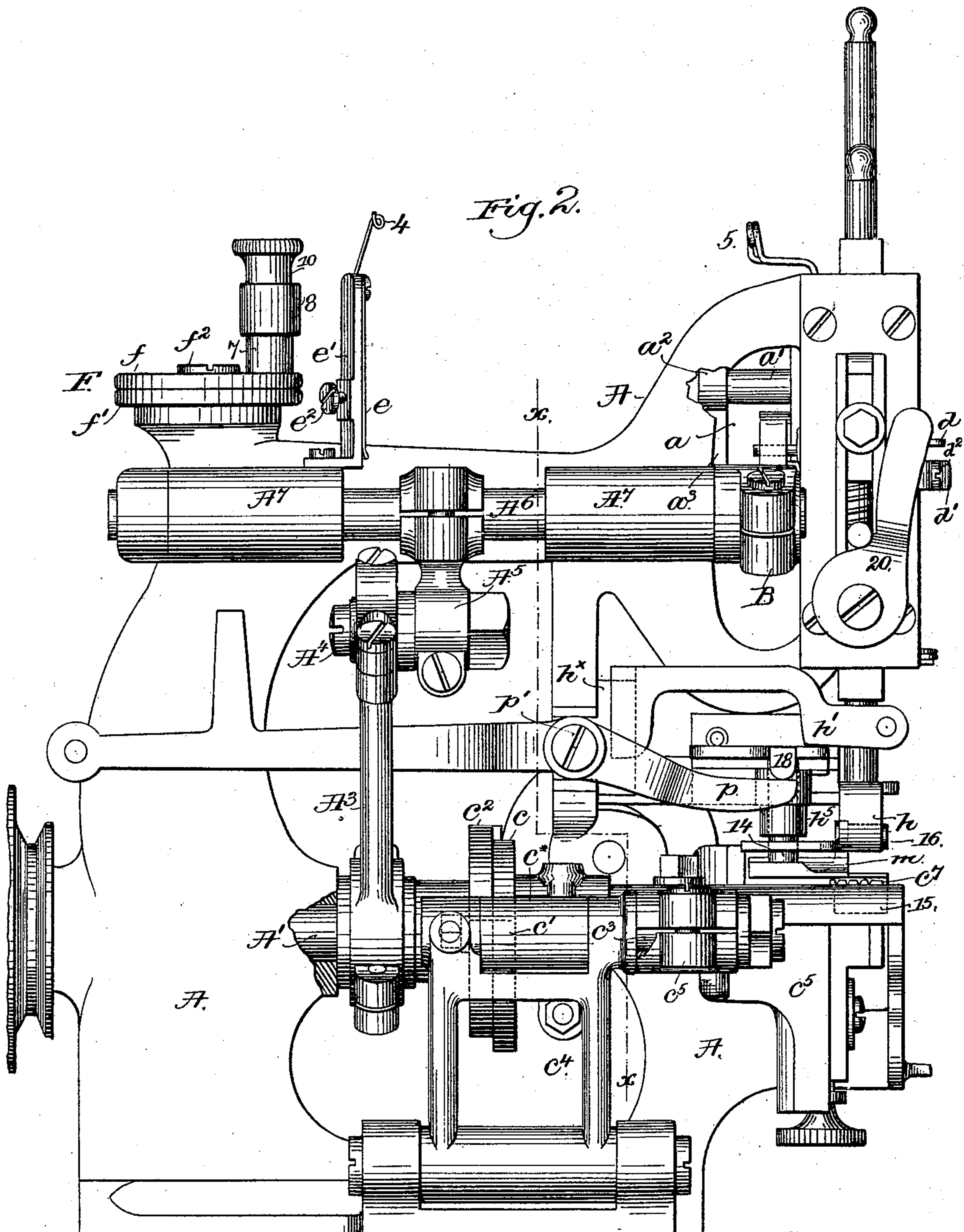
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3 Sheets—Sheet 2.

M. MARCIL.  
STRAW BRAID SEWING MACHINE.

No. 407,297.

Patented July 16, 1889.



Witnesses.  
John F. L. Pringle  
Frederick L. Emery

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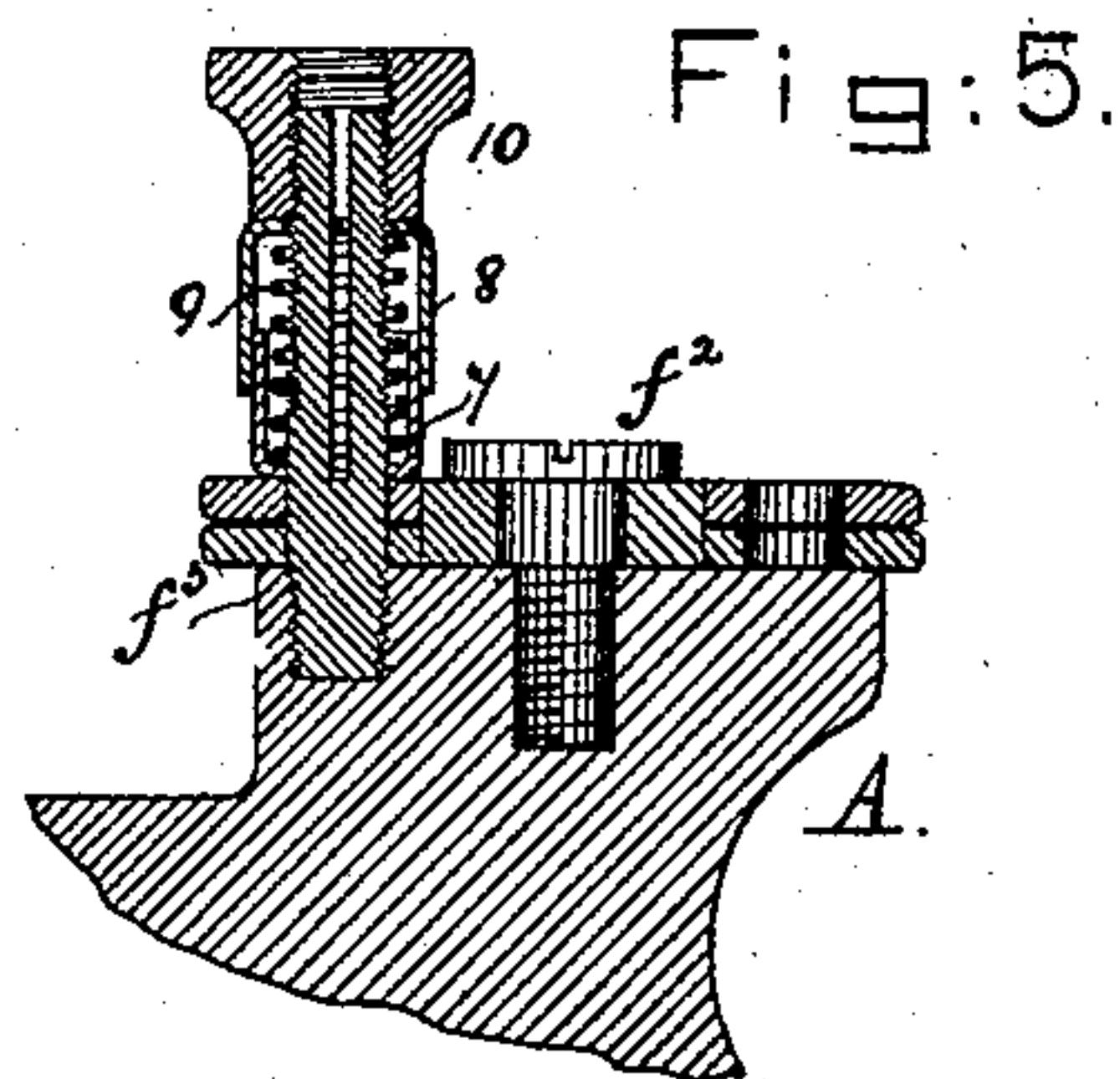
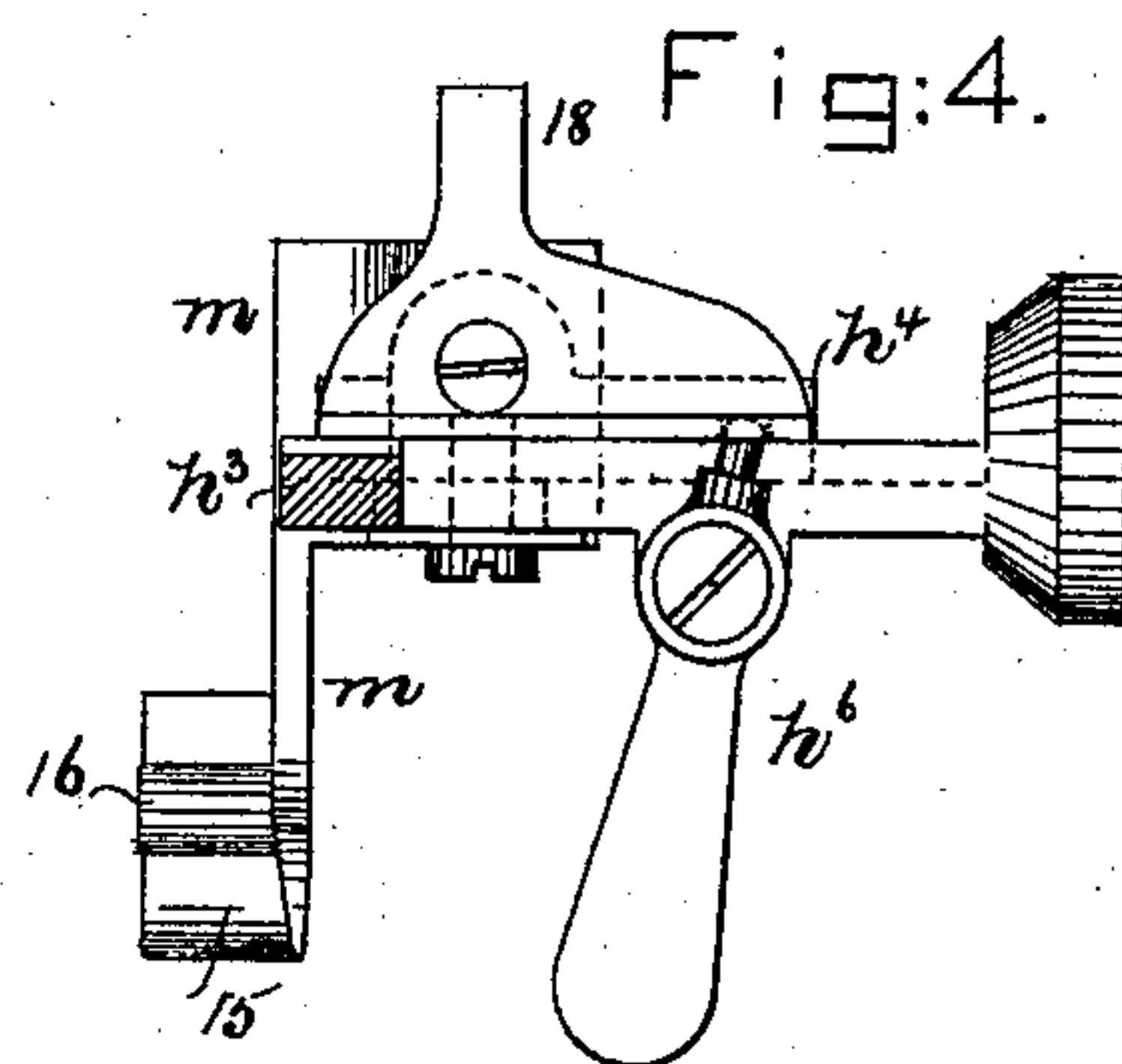
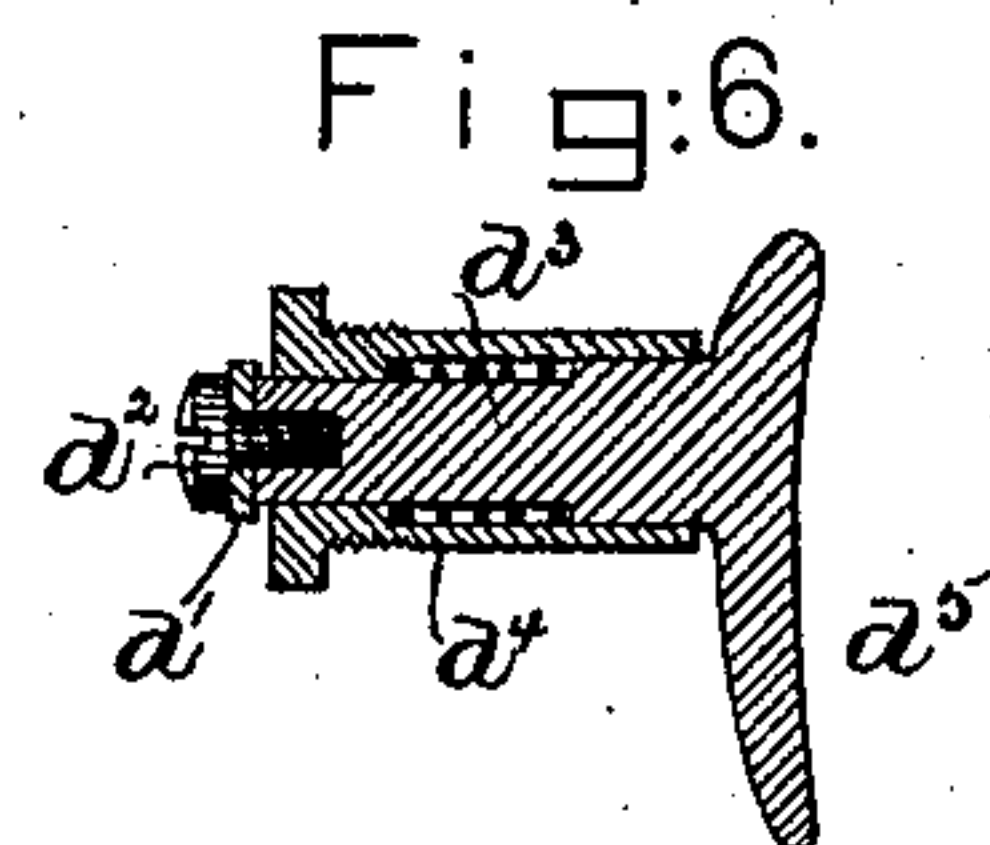
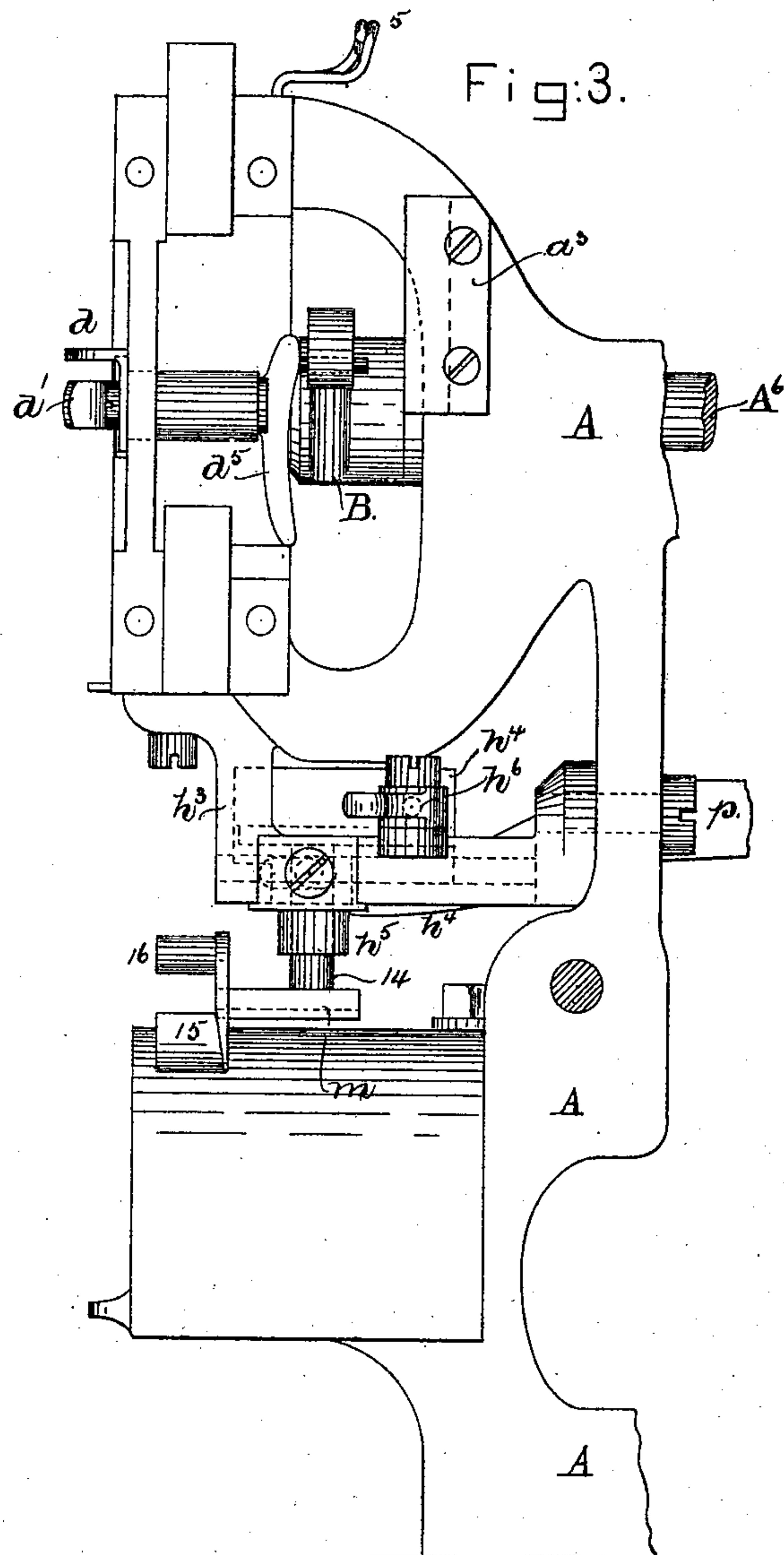
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3 Sheets—Sheet 3.

M. MARCIL.  
STRAW BRAID SEWING MACHINE.

No. 407,297.

Patented July 16, 1889.



Witnesses:

Edgar A. Goddard

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# UNITED STATES PATENT OFFICE.

MICHEL MARCIL, OF AMHERST, MASSACHUSETTS, ASSIGNOR TO THE HILLS COMPANY, OF SAME PLACE.

## STRAW-BRAID-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 407,297, dated July 16, 1889.

Application filed May 14, 1888. Serial No. 273,779. (No model.)

*To all whom it may concern:*

Be it known that I, MICHEL MARCIL, of Amherst, county of Hampshire, State of Massachusetts, have invented an Improvement in  
5 Straw-Braid-Sewing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object to improve that class of sewing-machine for sewing braids, as in the manufacture of hats and head-ware, my invention being an improvement on that described in United States Patent No. 292,124,  
15 granted to me on the 15th day of January, 1884.

My present invention consists, in the combination, with a presser-foot, a bed-plate, and an edge-guide adjustable just above it to guide  
20 the edge of the body of the article, of a braid-gage supported by a lever and made movable independently of the presser-foot, the said braid-gage guiding the edge of that braid which is being stitched to the body part of  
25 the article.

My improved braid-gage, as herein shown, is provided with a stud extended upwardly through a sleeve depending from an adjustable carriage, the stud at a point above the  
30 said sleeve having a lug which is acted upon by a gage-lifting lever, by which the said gage may be raised after lifting the usual presser-foot by its usual cam-lever pivoted upon the head of the machine.

35 Figure 1 is an end elevation of a sewing-machine embodying my invention, the presser-foot being lifted, the braid-gage being left down. Fig. 2 is a left-hand elevation of the machine shown in Fig. 1. Fig. 3 is a partial  
40 right-hand elevation of Fig. 1, with its presser-foot and its bar and the main gage and the needle-bar omitted, the head of the machine being broken out to show the thread-clamping mechanism, no part of the machine back  
45 of the dotted line *x*, Fig. 2, being shown; Fig. 4, a detail of the braid-gage and the sleeve and carriage with which it co-operates. Fig. 5 shows the tension in detail, and Fig. 6 is a detail of the clamping mechanism for the  
50 thread.

The frame-work A of the machine, of suit-

able shape to sustain the working parts, has in its bearings for the main hook shaft A', provided at its front end with a hook of the Willcox & Gibbs pattern. (Not shown.) The  
55 main shaft carries an eccentric, which, by an eccentric-strap A<sup>3</sup>, is joined to a stud A<sup>4</sup> of an arm A<sup>5</sup>, clamped to the needle-bar actuating rock-shaft A<sup>6</sup>, the said shaft supported in suitable bearings A<sup>7</sup>, having at its front end an  
60 arm B, which at its outer end is attached to a short link *a*, jointed or pivoted to a long stud *a'*, attached to and extended backwardly from the needle-bar in usual manner and provided with a loose shoe *a*<sup>2</sup>, which travels in a guide-  
65 way at the rear side of a plate *a*<sup>3</sup>.

Referring to the thread-clamping mechanism, the head of the machine has fixed to it a thread-guide *d*, between which and a bar *d'*  
70 is passed the needle-thread. This bar *d'* is secured by a screw *d*<sup>2</sup> to a rod *d*<sup>3</sup>, extended through the head or a bushing therein and through a spiral spring, as *d*<sup>4</sup>, the said rod having an arm *d*<sup>5</sup>, having a cam-shaped edge which is struck by the arm B at its lowest  
75 and highest points, so as to leave the needle-thread slack just as the point of the usual hook is to enter the loop of needle-thread, and again as the needle-bar is completing its  
80 ascent to finish the stitch. The thread led from a spool (not shown) is passed first into an eye 4, and thence between a spring *e* and a stand *e'*, the said spring and stand constituting an auxiliary tension, the force of  
85 which is regulated by a screw *e*<sup>2</sup>, the said force being not greater than the minimum tension to be put upon the thread, the said auxiliary tension completely obviating the kinking of the needle-thread between it and the main  
90 tension device F.

The main tension device is composed, essentially, of two disks *f f'*, having a central hole and fitted loosely over a fixed stud *f*<sup>2</sup>, about and against which the needle-thread  
95 passes on its way to the guide 5 and the hole 6 in the needle-bar. The two disks *f f'* are slipped loosely over a fixed stud *f*<sup>3</sup>, on which is placed two cup-like washers 7 8, which receive between them a spiral spring 9, a nut 10 being  
100 screwed upon the said rod to vary the tension on the needle-thread, as desired.

The edge-guide G, for determining the po-



sition of the edge of the body of the article being stitched, is the same in construction and operation as that designated by the letter *p* in United States Patent No. 331,207, and as shown therein has a rearwardly-extended shank, made, preferably,  $\Lambda$ -shaped, to enter between two beveled friction-plates, (not herein shown, as they form no part of this invention,) by means of which the guide may be adjusted.

The presser-bar *G'* has at its lower end a presser-foot *h*, attached to the said bar by a nut 12. To steady the presser-bar, I have fixed to it a clamping-bar *h'*, which is extended backwardly and made to embrace a V-shaped guide *h<sup>x</sup>*. The head of the machine has a bracket *h<sup>3</sup>*, in which is placed a carriage *h<sup>4</sup>*, having a depending sleeve *h<sup>5</sup>*, the said carriage being longitudinally adjustable by a lever or other equivalent device *h<sup>6</sup>*. This sleeve *h<sup>5</sup>* receives through it and forms a guide for the rod 14, attached to the braid-gage *m*, the latter at its front end having a lip 15 and an overhanging stud or projection 16, the said lip 15 entering between the body portion of the material, and the under side of the braid being stitched to the same, the projection 16 crossing the said braid and preventing the same from curling up in front of the needle *n*. This braid-gage is best shown in Fig. 4. The upper end of the rod 14, above the sleeve and carriage referred to, has a lug 18, which is acted upon by the forward end of a lever *p*, pivoted at *p'*, the opposite end of the said lever in practice having joined to it a suitable treadle-rod.

The presser-foot is lifted in usual manner by a cam-lever 20, and when lifted the braid-gage does not follow it, for the braid-gage can be lifted only by the lever.

The braid-gage *m* can be adjusted longitudinally to place its face in proper position by or through the carriage *h* and the lever *h<sup>6</sup>*.

The feed mechanism herein shown forms the subject-matter of another application, Serial No. 285,398, filed September 14, 1888.

I claim—

1. In a machine for sewing straw braid, the presser-foot, the bed-plate, an edge-guide *G*, adjustable just above the bed-plate to guide the edge of the body of the article, and the guide *h<sup>5</sup>*, located above and independent of the presser-foot, combined with the braid-gage *m*, unattached to and independent of the presser-foot, and having a rod 14 extended into the said guide *h<sup>5</sup>* loosely, and with a lever to lift the said rod 14 and its attached braid-gage, substantially as described.

2. The presser-foot, the lever 20, to lift it and not lift the braid-gage, the bed-plate, the adjustable edge-guide *G*, and the braid-gage *m*, having the vertical rod 14, and the guide *h<sup>5</sup>*, detached from the presser-foot and guiding the said rod, combined with a second lever *p*, to engage the said rod 14 and lift the said braid-gage, substantially as described.

3. The bed-plate and the presser-foot, combined with an independent detached braid-gage *m*, having a vertical rod 14 and a lip 15, and with the longitudinally-adjustable carriage having a sleeve or guide *h<sup>5</sup>* for the said rod 14, and the support for the said carriage entirely above the said bed-plate and independent of the said presser-foot, substantially as described.

4. The bed-plate and the presser-foot, combined with an independent detached braid-gage *m*, having a vertical rod 14 and a lip 15, and with the longitudinally-adjustable carriage having a sleeve or guide *h<sup>5</sup>* for the said rod 14, and the support for the said carriage entirely above the said bed-plate and independent of the said presser-foot and with a lever to adjust the said carriage horizontally and with it the said braid-gage, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MICHEL MARCIL.

Witnesses:

GEO. F. ALEXANDER,  
W. A. DICKINSON.