

No. 607,041.

Patented July 12, 1898.

A. A. HUDSON.

FEED FOR HEEL CUTTING MACHINES.

(Application filed Aug. 4, 1897.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 6.

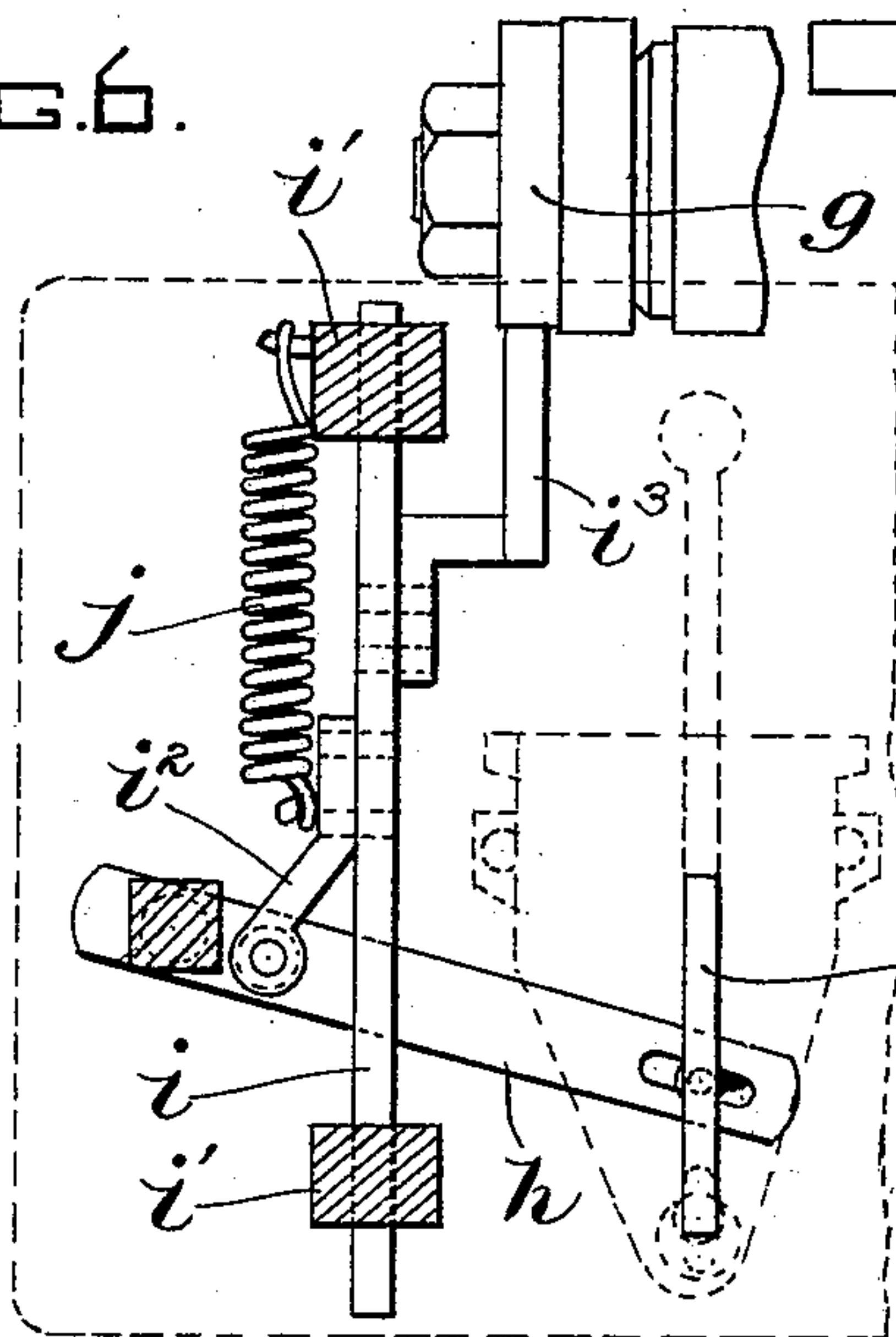


FIG. 8.

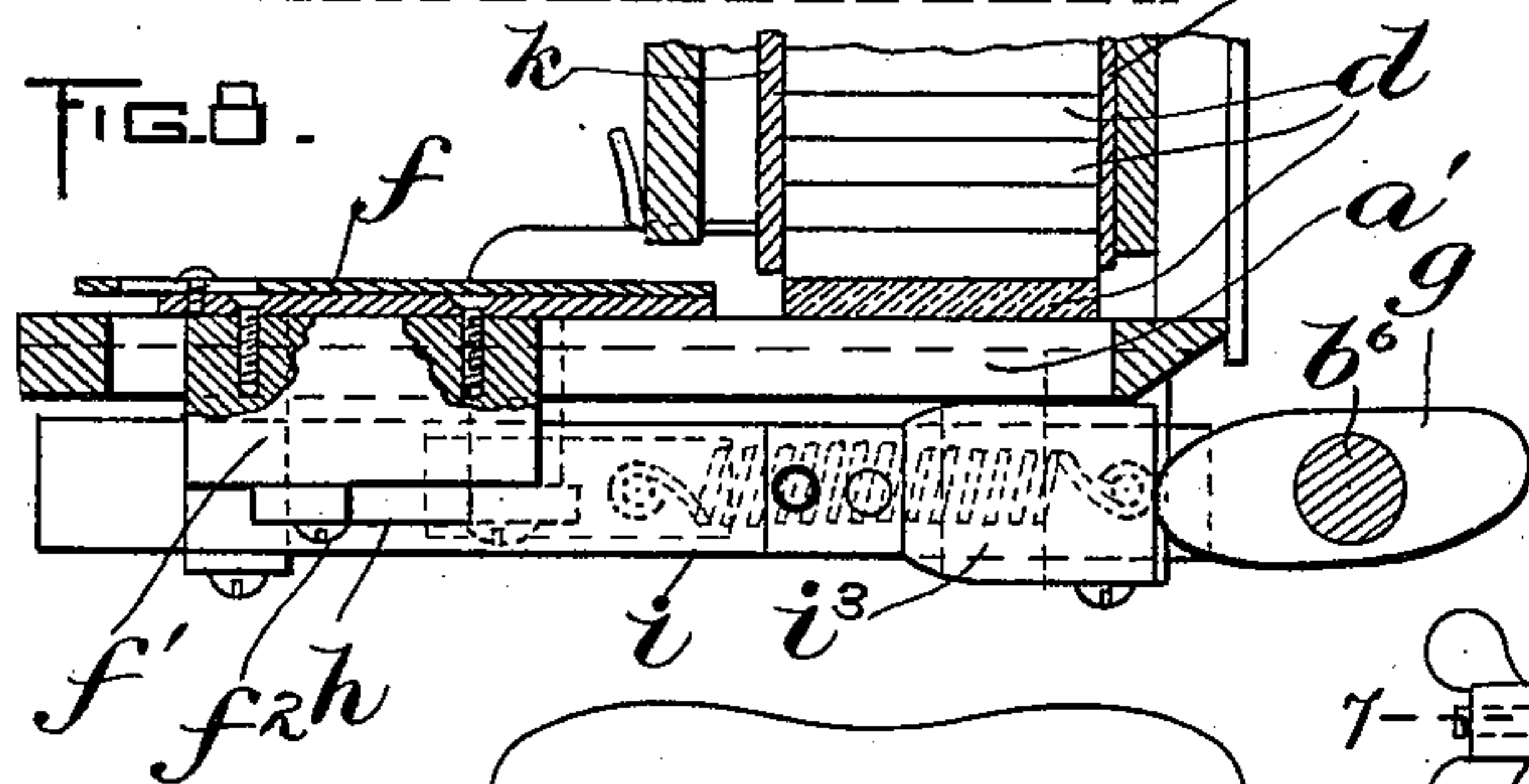
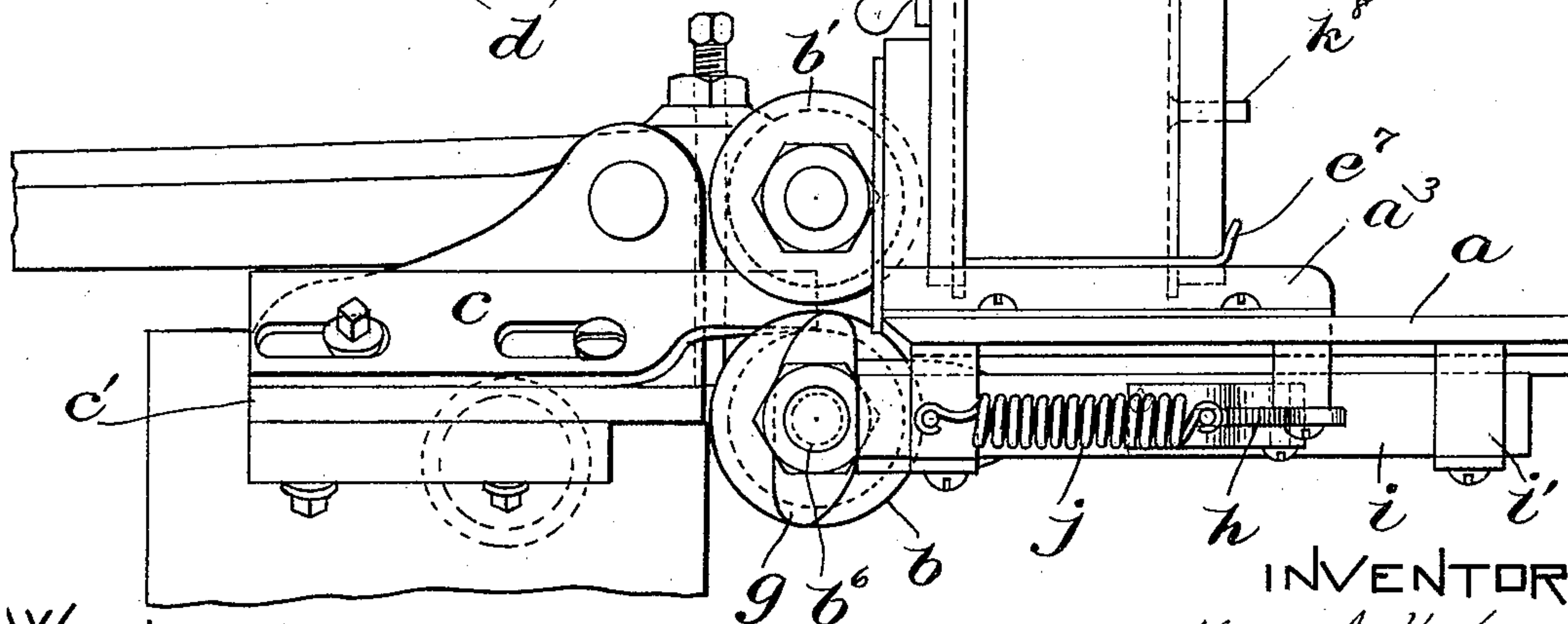
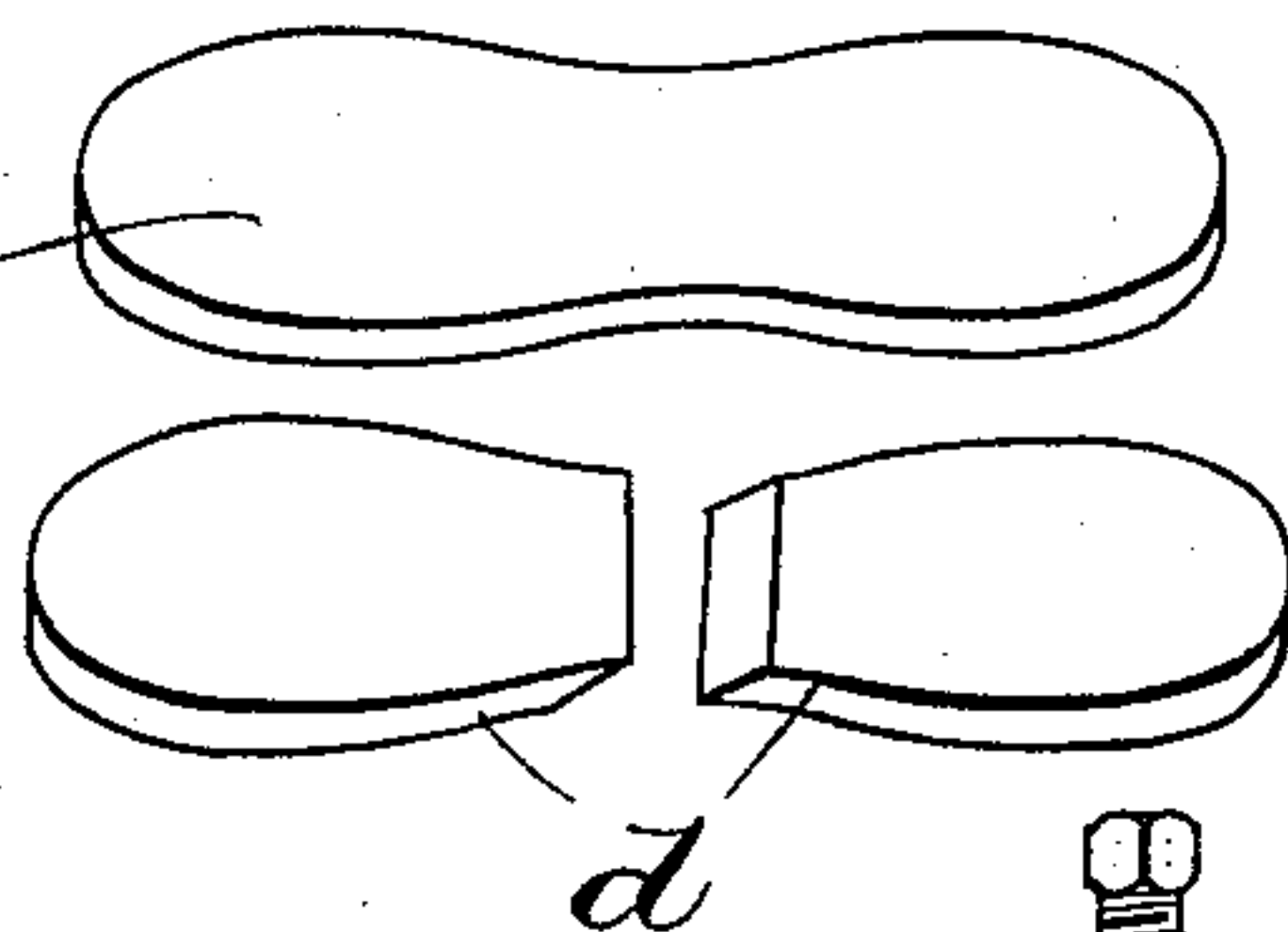


FIG. 9.



INVENTOR.

WITNESSES.

A. J. Harrison  
E. Baughman

Alex. A. Hudson  
by Wright, Brown & Lundy  
Attys.

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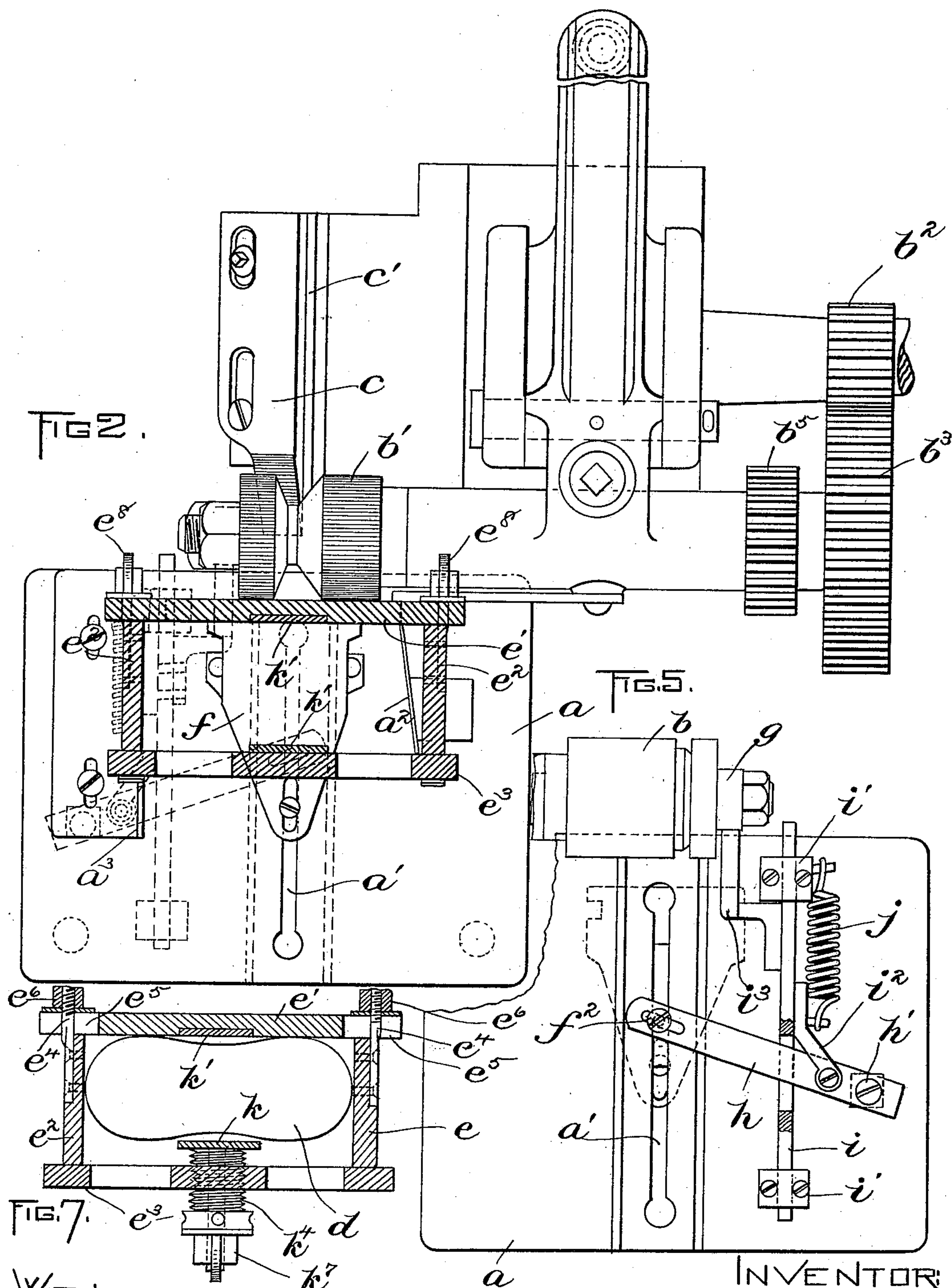
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**3 Sheets—Sheet 2.**



WITNESSES:  
A. J. Harrison  
E. Balchelder



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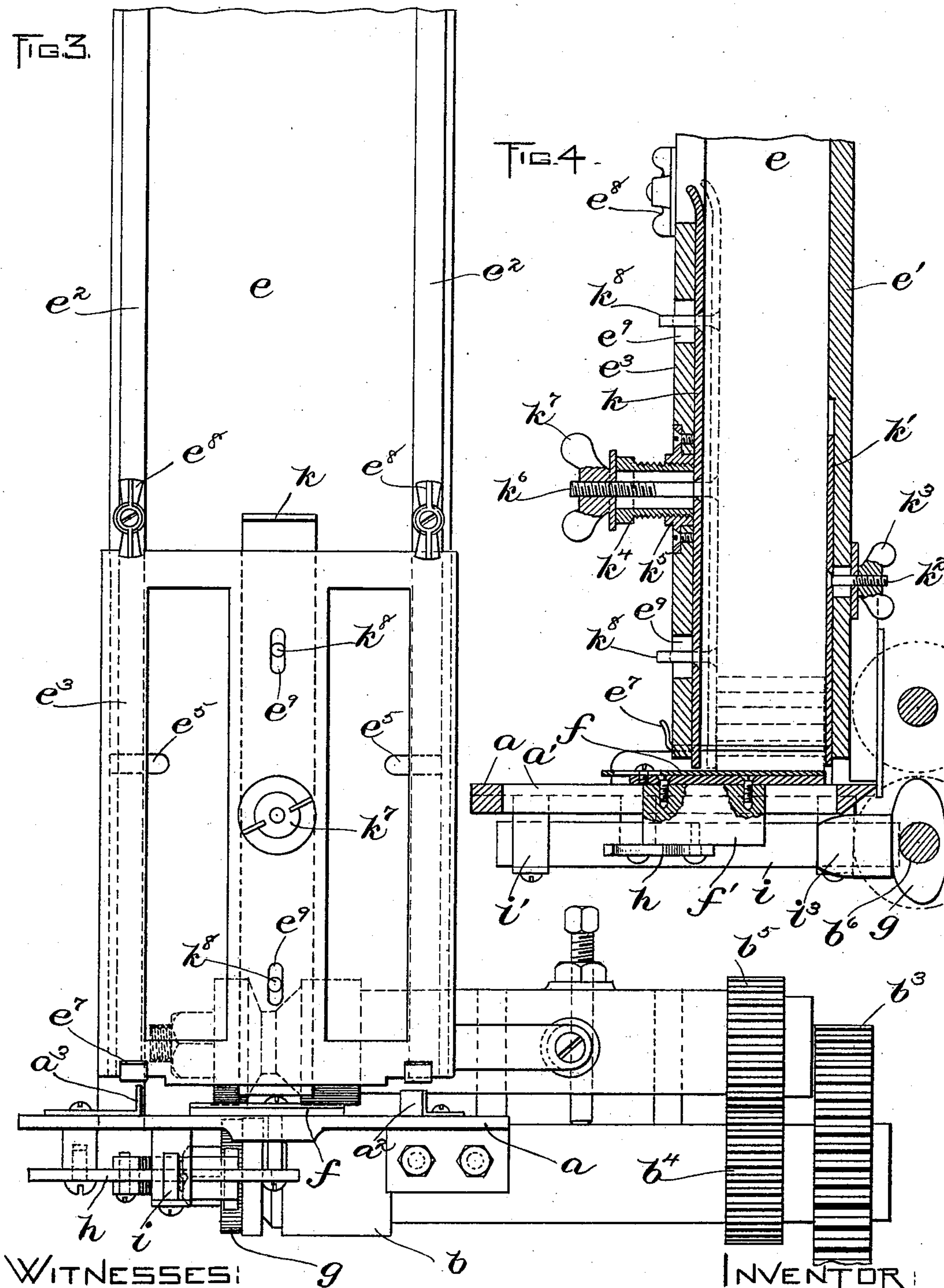
**A. A. HUDSON.**

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(Application filed Aug. 4, 1897.)

(No Model.)

**3 Sheets—Sheet 3.**



WITNESSES:

A. J. Harrison,  
E. Barchelder

INVENTOR:

Alex. A. Hudson  
13 Wright. Brown & Lundy  
Sty.



# UNITED STATES PATENT OFFICE.

ALEXANDER A. HUDSON, OF HAVERHILL, MASSACHUSETTS.

## FEED FOR HEEL-CUTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 607,041, dated July 12, 1898.

Application filed August 4, 1897, Serial No. 647,032. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER A. HUDSON, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Spring-Heel Scarfers, of which the following is a specification.

This invention relates to machines for cutting spring-heels from blanks whereby the blanks are passed one at a time between rollers and are advanced thereby against a knife which cuts each blank in halves to form two spring-heels.

The invention has for its object to dispense with the present method of feeding the heel-blanks to the rollers by hand, involving as it does the necessity of constant and skilful attendance as well as a lack of rapidity in turning out work; and to this end the invention consists in an improved automatic feeding attachment for heel-cutting machines wherein is employed a hopper or magazine in which a large number of heel-blanks may be placed and from the end of which the blanks are delivered one at a time to a reciprocating feed device which advances them to the rollers and the cutting-knife.

Reference is to be had to the accompanying drawings and to the letters marked thereon, the same letters indicating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 represents a side elevation of my improved feeding attachment as applied to a heel-cutting machine. Fig. 2 represents a top plan view of the same with the magazine in section. Fig. 3 represents a rear view of the same. Fig. 4 represents the magazine and adjacent parts in vertical section and side elevation. Fig. 5 represents a reverse plan view of the table and mechanism for operating the reciprocating slide. Fig. 6 represents a top plan view of said mechanism with parts in section. Fig. 7 represents a section on the line 7-7 of Fig. 1. Fig. 8 represents a partial section similar to Fig. 4 with the parts in a different position. Fig. 9 represents a perspective view of a heel-blank cut in two to form two spring-heels.

Referring to the drawings, *a* designates a table or bed-plate, at one end of which are two rollers *b b'*, mounted on suitable shafts

and driven by gearing *b<sup>2</sup> b<sup>3</sup> b<sup>4</sup> b<sup>5</sup>*. These rollers receive the heel-blanks from the feeding mechanism, hereinafter to be described, and force them one at a time against the knife *c*. The upper roller *b'* is mounted so as to be capable of a slight movement toward and away from the lower roller *b* to allow for different thicknesses of the blanks. The two rollers are grooved, the upper one *b'* deeply, as shown in Fig. 2, to admit between them the cutting edge of the knife *c*, said knife being adjustably mounted on an inclined bed-plate *c'* in such a position as to give the heel-blank *d* an inclined cut, and thereby form bevel edges on the spring-heels, Fig. 9.

*e* designates a magazine or hopper in which the heel-blanks are placed in a vertical column, one above another, and from the lower end of which they are successively fed between the rollers *b b'*. Between said lower end of the hopper and the table *a* a reciprocating slide *f* operates under the influence of a cam *g* on the shaft *b<sup>6</sup>* of the roller *b*. The said slide is confined to a rectilinear path by means of a tongue *f'*, fastened to its lower side and working in a guide-slot *a'* in the table *a*, the said tongue having a pin *f<sup>2</sup>*, which is engaged by the slotted end of a lever *h*, pivoted at *h'* to the under side of the table. Said lever is oscillated on its pivot by means of a sliding rod *i*, mounted in guide-blocks *i'* on the under side of the table and having a pivotal connection with the lever by means of an arm *i<sup>2</sup>*, the rod being reciprocated by the cam *g* through the medium of an offset arm *i<sup>3</sup>*, secured to the rod and against which the cam operates. A spring *j* exerts a pulling tension on the rod *i*, which tends to draw the slide *f* in the direction of the rollers and the cutter.

Both the front and back sides of the magazine *e* are fitted on the inside with sliding panels *k k'*, which may be adjusted vertically to regulate the distance of their lower edges from the table. This distance will depend upon the thickness of the heel-blanks which are being fed, being, as shown in Fig. 8, greater than the thickness of one and less than the thickness of two, so as to allow the lowermost blank in the pile to be pushed out from underneath the magazine by the slide *f*. Said slide is shown in its two extreme posi-



tions in Figs. 4 and 8, respectively. In Fig. 8 the bottom of the column of blanks rests on the surface of the table, and the slide *f* is withdrawn from beneath the magazine by the  
 5 action of the cam *g*. As said cam revolves its long axis becomes vertical, Fig. 4, and the spring *j* draws the slide toward the opening between the rollers *b b'*. During this action the forward edge of said slide engages the  
 10 lowermost heel-blank and pushes it forward between the rollers, which further advance it to the cutting-knife. When the lowermost blank has been thus displaced and fed forward, the column in the magazine sinks and  
 15 the next succeeding blank rests on the upper surface of the slide, and finally upon the table, as in Fig. 8, when said slide has been again retracted by the cam *g*.

The hopper or magazine *e* consists of a suit-  
 20 ably-supported back *e'*, two adjustable side pieces *e<sup>2</sup> e<sup>3</sup>*, and a front piece *e<sup>3</sup>*, removably secured to the side pieces. The side pieces *e<sup>2</sup>* are secured to the back by means of strap-  
 25 bolts *e<sup>4</sup> e<sup>4</sup>*, fastened to the said side pieces and occupying slots *e<sup>5</sup> e<sup>5</sup>* in the back *e'*, the shanks of said bolts being provided with thumb-nuts *e<sup>6</sup> e<sup>6</sup>*. This construction, it will be observed, enables the side pieces to be adjusted to corre-  
 30 spond to the lengths of the different sizes of heel-blanks. The panel *k'* in the back of the magazine is let into a recess therein and is provided with adjusting means consisting of a bolt *k<sup>2</sup>* and thumb-nut *k<sup>3</sup>*. The front piece *e<sup>3</sup>* rests on hooks *e<sup>7</sup> e<sup>7</sup>*, projecting from the back  
 35 piece *e'*, and is held in place against the side pieces by buttons *e<sup>8</sup> e<sup>8</sup>* at its upper end.

Means are provided for adjusting the rear panel *k* back and forth in the magazine, as well as up and down, by attachments consist-  
 40 ing of a sleeve *k<sup>4</sup>*, screwing in a bushing *k<sup>5</sup>*, which is secured to the front piece *e<sup>3</sup>*, and a bolt *k<sup>6</sup>*, affixed to the panel and having a thumb-nut *k<sup>7</sup>* on its outer end which binds against the outer end of the sleeve. By screw-  
 45 ing the sleeve *k<sup>4</sup>* out or in through the bushing *k<sup>5</sup>* the panel may be adjusted to fit different widths of heel-blanks, as indicated by the broken-line position of said panel. (Shown in Fig. 4.)

50 The aperture in the sleeve *k<sup>4</sup>* is made considerably wider than the thickness of the bolt *k<sup>6</sup>*, so that vertical adjustment of the panel may be secured by moving said bolt up or down in the sleeve. *k<sup>8</sup> k<sup>8</sup>* designate guide-  
 55 pins fastened to the panel *k* and occupying vertical slots *e<sup>9</sup> e<sup>9</sup>* in the back piece *e<sup>3</sup>*. Guide-strips *a<sup>2</sup> a<sup>3</sup>* are secured to the table *a* below

the magazine to guide the heel-blanks toward the rollers.

By means of my invention I am enabled to 60 effect a great saving of time and labor in the class of work performed by machines of the kind described, the filling of the magazine from time to time being the only attendance required when the machines are running. 65

Various details of the construction above set forth may of course be changed without departing from the spirit of my invention.

I am aware that it is not new in leather-working machinery to employ a reciprocatory 70 slide which removes the lowermost piece from a pile of superposed pieces and feeds it to a cutter, and I do not claim such a device broadly. The novelty of my invention as re- 75 gards the moving parts lies in the yielding feeding action produced by the coöperation, with the reciprocating slide, of the cam *g* and the spring *j*. It will readily be seen that should any undue obstruction be encountered by the slide in its forward stroke, caused by 80 an unusually thick blank or by a blank becoming wedged or stuck, no damage will result either to the blanks themselves or to the apparatus, which would not be the case with a positive forward feed. The force of the 85 forward stroke of the slide may be varied for different sizes of blanks by using springs of different strength.

I claim—

1. In a mechanism for feeding heel-blanks 90 to a cutter, a reciprocatory slide and a magazine located above said slide and adapted to contain a plurality of superposed blanks, the said magazine having panels in its walls with provisions for adjusting said panels toward 95 and away from the reciprocatory slide to correspond to the thickness of the blanks.

2. In a mechanism for feeding blanks to a cutter, a reciprocatory slide and a magazine 100 located above said slide, and adapted to contain a plurality of superposed blanks, the said magazine having sides adjustable toward each other to accommodate different lengths of blanks and having a panel in one of its walls adjustable toward the opposite wall to 105 accommodate different widths of blanks.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 30th day of July, A. D. 1897.

ALEXANDER A. HUDSON.

Witnesses:

A. D. HARRISON,  
 E. BATCHELDER.