

No. 786,133.

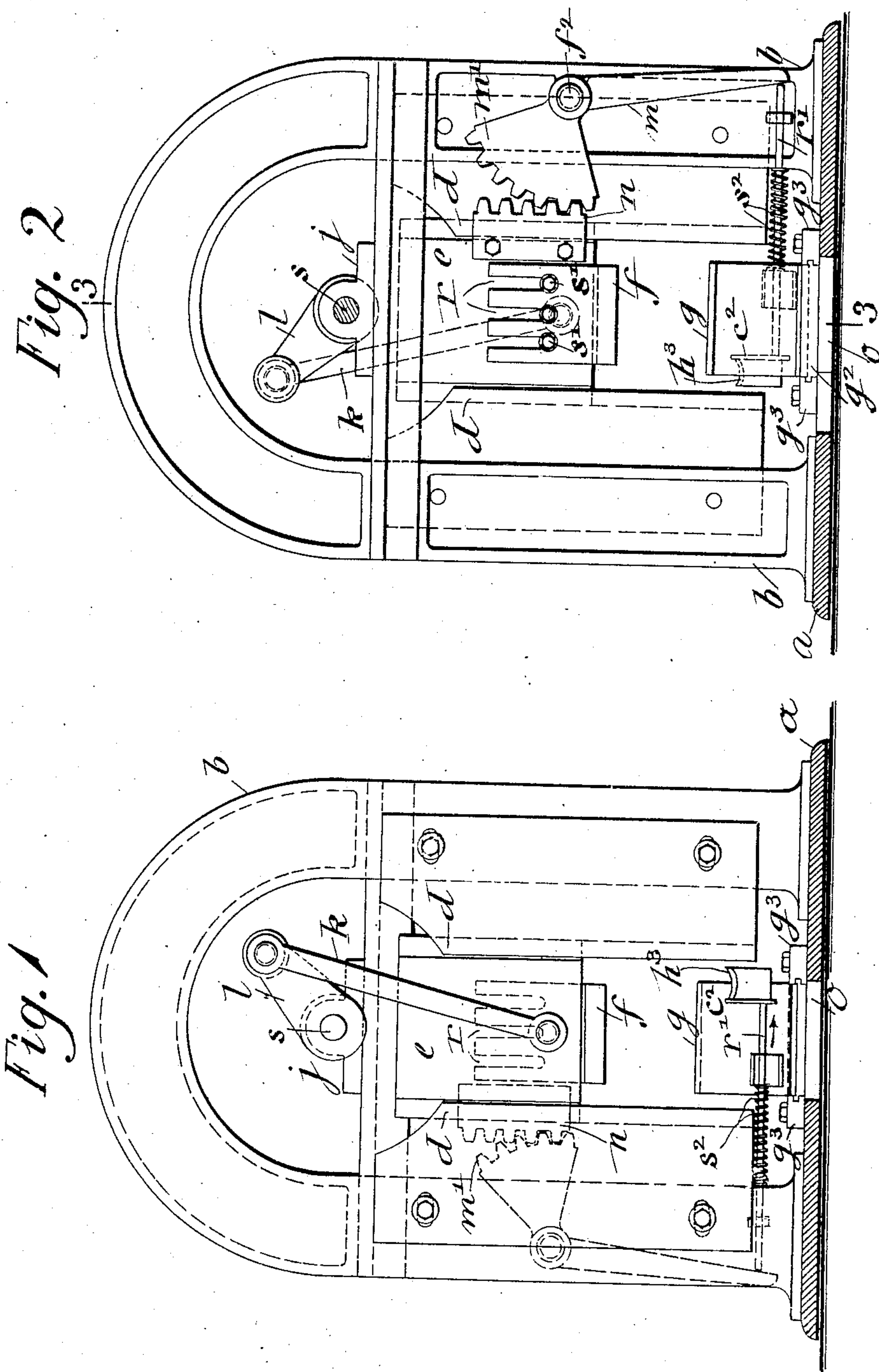
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MACHINE FOR BEVELING SPRING HEELS.

APPLICATION FILED MAR. 8, 1904.

2 SHEETS--SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4

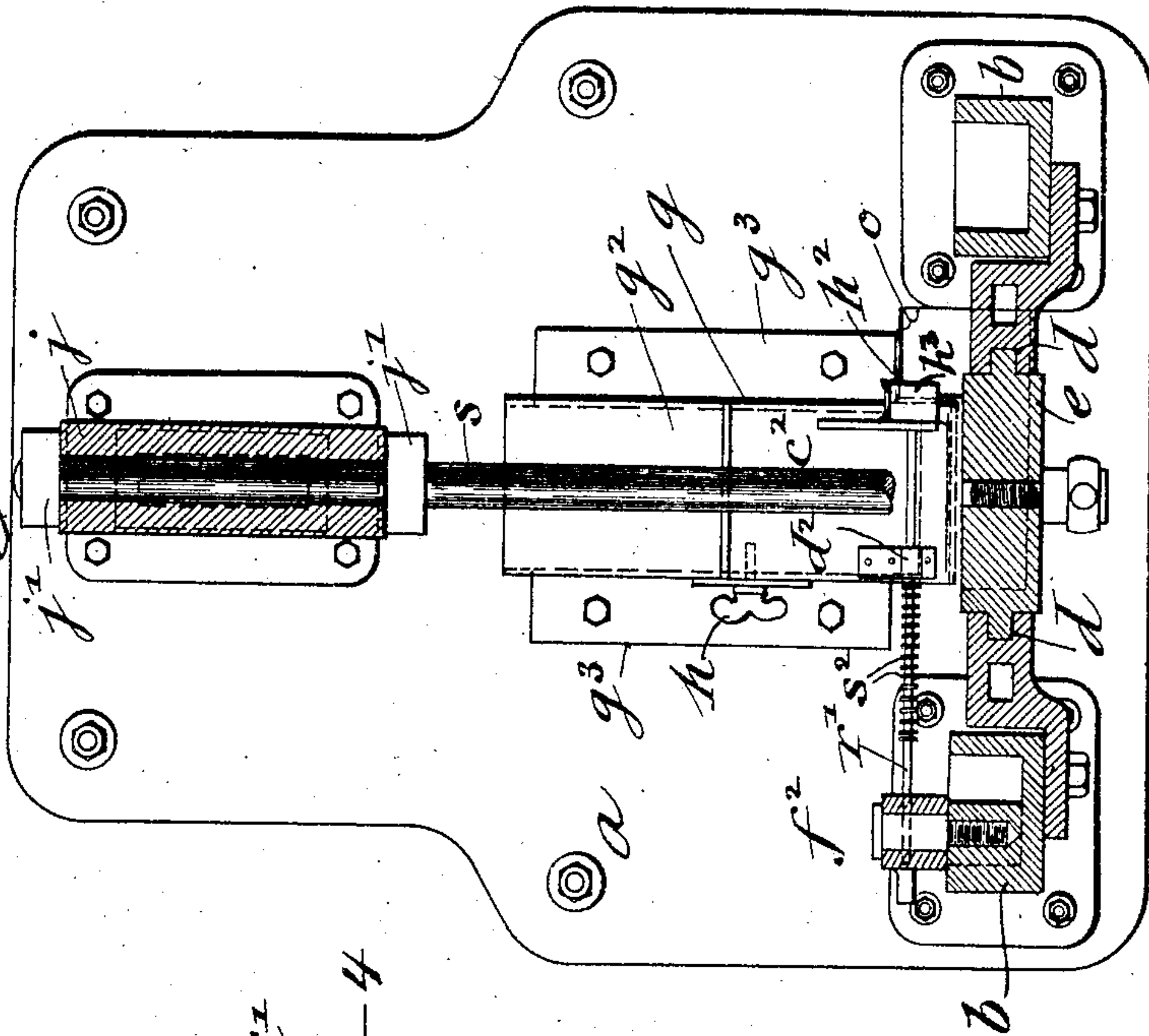
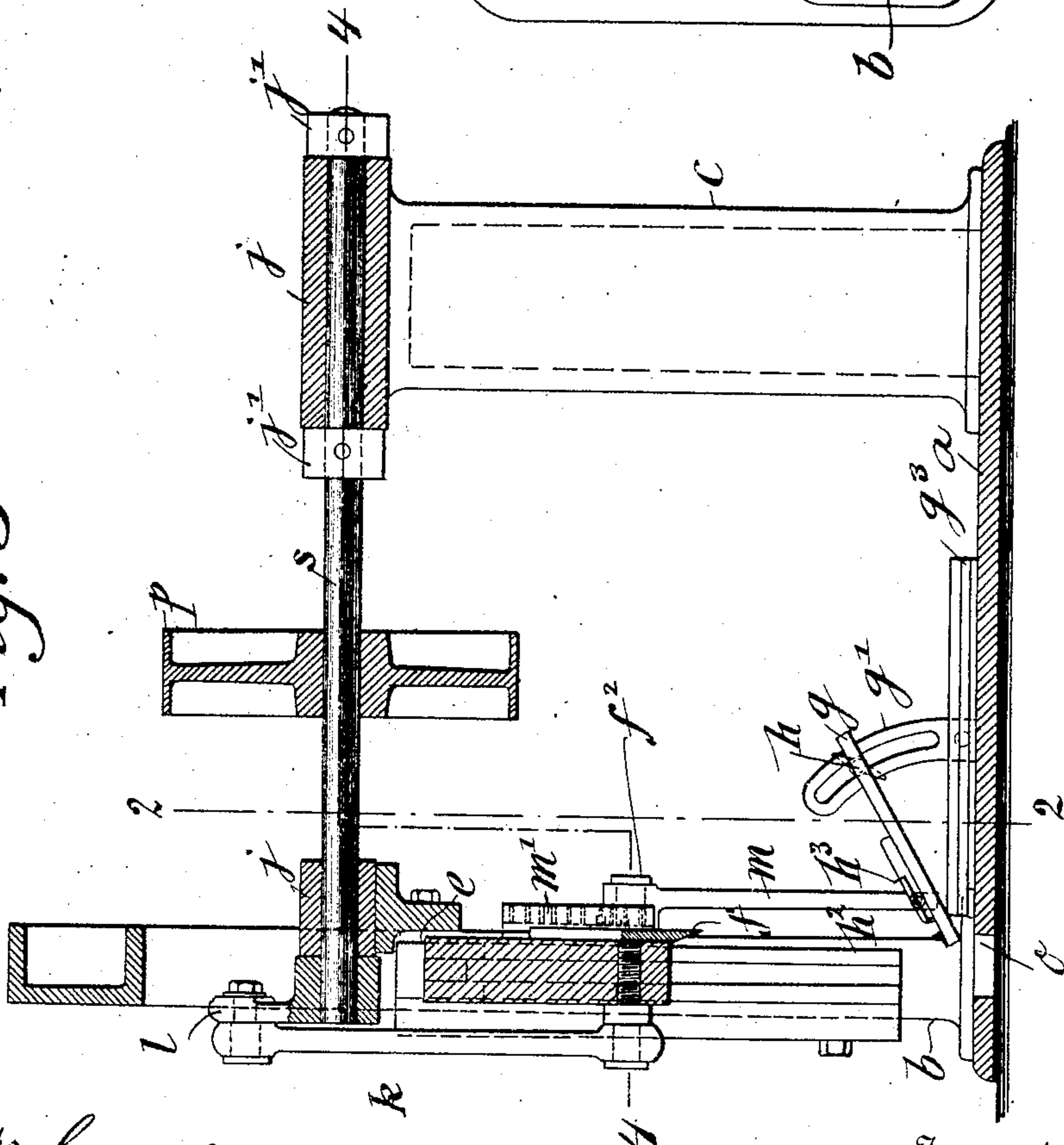


Fig. 3



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MACHINE FOR BEVELING SPRING-HEELS.

SPECIFICATION forming part of Letters Patent No. 786,133, dated March 28, 1905.

Application filed March 8, 1904. Serial No. 197,084.

To all whom it may concern:

Be it known that I, JOHN ARCHER MILLS, a citizen of the United States, residing in New York, borough of Brooklyn, and State of New York, have invented certain new and useful Improvements in Machines for Beveling Spring-Heels, of which the following is a specification.

This invention relates to an improved machine for beveling spring-heels—that is to say, heels such as are used for misses' and children's shoes and composed of two or more layers of leather—said machine being operated by power, so as to accomplish quicker and better work within a given time than the hand-operated machines heretofore in use; and the invention consists of a machine for beveling spring-heels which comprises a vertically-reciprocating cutting-knife guided in ways of upright supporting-standards, means for imparting reciprocating motion to said cutting-knife, an inclined feed-plate, means for adjusting said feed-plate to various degrees of inclination according to the bevel desired to be imparted to the edge of the blank, a gage device arranged on said feed-plate, a reciprocating clearer for pushing the beveled spring-heel clear of the feed-plate, and means for imparting a laterally-reciprocating motion to the clearer-plate with each ascent of the cutting-knife; and the invention consists, further, of certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of my improved machine for beveling spring-heels. Fig. 2 is a rear elevation of the same, partly in section on line 2 2, Fig. 3. Fig. 3 is a vertical transverse section of the machine on line 3 3, Fig. 2; and Fig. 4 is a horizontal section on line 4 4, Fig. 3.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, *a* represents the bed-plate of my improved machine for beveling spring-heels. At the front end of the bed-plate is supported a yoke-shaped frame or standard *b* and at the rear of the same an

upright standard *c*, both of which are provided with journal-bearings *j* for the driving-shaft *s*, to which a power-pulley *p* is applied for transmitting rotary motion to the driving-shaft by an overhead belt-and-pulley transmission in the usual manner. The driving-shaft is retained in journal-bearings of the rear standard *c* by suitable collars *j' j'*, attached to the shaft *s*, so as to prevent any shifting of the driving-shaft in its bearings *j*. The front standard *b* is provided with ways *d*, one at each side of the same, in which is guided a knife-carrying slide-block *e*, to which a knife *f* is attached. The knife is provided with recesses *r*, in which clamping-screws *s' s'* are arranged so as to permit the adjustment of the cutting-knife *f* in a higher or lower position in the slide-block *e*. The slide-block is connected by a pivoted connecting-rod *h* with a crank *l* at the front end of the driving-shaft *s*, so that the rotation of the shaft *s* produces the reciprocating motion of the slide-block and cutting-knife. On the bed-plate *a* adjacent to the cutting-knife *f* is arranged an inclined feed-plate *g*, said feed-plate being supported by means of an arc-shaped and slotted guide-piece *g'* and a set-screw *h* passing through the slot into the upper end of the feed-plate, as shown clearly in Figs. 3 and 4. The inclined feed-plate *g* is hinged at its lower end to an adjustable plate *g²*, which is guided in ways *g³* of the bed-plate *a* so as to be adjusted in forward and backward direction from the plane of the vertically-reciprocating cutting-knife *f*. In front of the inclined feed-plate *g* is arranged in the bed-plate an L-shaped opening *o*, through the transversely-disposed portion of which the cut-off chips of leather are dropped, so as to be conducted away in a suitable manner, while the spring-heels after being beveled are dropped into the portion of said L-shaped opening which is arranged longitudinally of the bed-plate, as shown in Fig. 4. For this purpose the beveled spring-heel has to be moved sidewise clear of the feed-plate, so as to be dropped from the same into the opening *o'* and through the same to a suitable conveyer below the bevel-plate. The moving of the beveled spring-

heel so as to clear the feed-plate is produced by a clearer-plate c^2 , that is arranged at the same inclination on the upper face of the feed-plate g and provided with a guard-plate h^3 , having a flanged edge located at the end of a spring-actuated rod r' , which is guided in a suitable keeper d^2 , attached to one side of the feed-plate g , the outer end of the stem or rod r' of the clearer-plate being suitably supported on the standard b and engaged by the lower end of an elbow-shaped lever-arm m , which is fulcrumed at f^2 to the inner side of the upright front standard b , the shorter arm of said elbow-shaped lever being made in the shape of a toothed segment m' , that intermeshes with a rack n , attached to the side of the slide-block e , as shown in dotted lines in Fig. 1 and in full lines in Fig. 2. The rack n reciprocates with the slide-block e and produces the actuation of the elbow-lever m , so as to push the stem r' of the clearer-plate c^2 against the tension of its spring s^2 in the direction of the arrow shown in Fig. 1 and move thereby the spring-heel, which has been beveled by the descent of the cutting-knife f , clear of the feed-plate g , so as to permit the dropping of the spring-heel into and through the opening o' .

After the feed-plate is adjusted to the required degree of inclination the spring-heels, which are supplied in sufficient quantity to the operator, are placed by him one by one in proper position on said plate, the operator's fingers being protected from cutting by the guard-plate h^3 . The spring-heel is retained on the feed-plate g by a suitable gage h^2 at its lower end. Each rotation of the driving-shaft s produces the descent of the cutting-knife f and the beveling of the front edge of the spring-heel, while the clearing of the beveled spring-heel after the edge of the same has been cut off is accomplished during the upward motion of the cutting-knife. The next spring-heel is supplied by the operator, beveled by the next descent of the cutting-knife, and cleared away by the clearer-plate, and so on, each rotation of the driving-shaft and descent of the cutting-knife producing the beveling of one spring-heel.

The machine can be run at a speed corresponding to the speed by which the spring-heels can be fed along the feed-plate, so that the beveling of the spring-heels is accomplished in a quicker and more uniform manner than by the various hand or treadle oper-

ated machines heretofore in use for this purpose.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a machine for beveling spring-heels, the combination of a bed-plate, guideways upon said bed-plate, a reciprocating slide-block in said guideways, a knife on said slide-block, a feed-plate in proximity to said knife, a clearer-plate guided on said feed-plate, a slide-block-actuating means, and means operated by said slide-block for actuating said clearer-plate.

2. In a machine for beveling spring-heels, the combination of a bed-plate, guideways supported on said bed-plate, a reciprocating slide-block in said guideways, a knife on said slide-block, a feed-plate in proximity to said knife, a clearer-plate on said feed-plate, a slide-block-actuating means, means operated by the slide-block for actuating said clearer-plate to remove the spring-heel after the descent of the knife, and means for returning said clearer-plate to its first position.

3. In a machine for beveling spring-heels, the combination of a bed-plate, vertical guideways on said bed-plate, a reciprocating slide-block in said guideways, a knife on said slide-block, a feed-plate in proximity to said knife, a clearer-plate guided on the feed-plate, a guard-plate attached to the end of said clearer-plate, means for operating said slide-block, and means actuated by said slide-block for actuating the clearer-plate simultaneously with the upward movement of said slide-block.

4. In a machine for beveling spring-heels, the combination of a bed-plate, guideways on said bed-plate, a reciprocating slide-block in said guideways, a rack on said slide-block, a knife on said slide-block, a feed-plate in proximity to said knife, a clearer-plate guided on said feed-plate, means for actuating said slide-block, a lever pivoted to one of said guideways and engaging said clearer-plate at one end, and a toothed segment at the other end of said lever for engagement with the rack on said slide-block, whereby said clearer-plate is actuated by said slide-block.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN ARCHER MILLS.

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