

No. 640,656.

Patented Jan. 2, 1900.

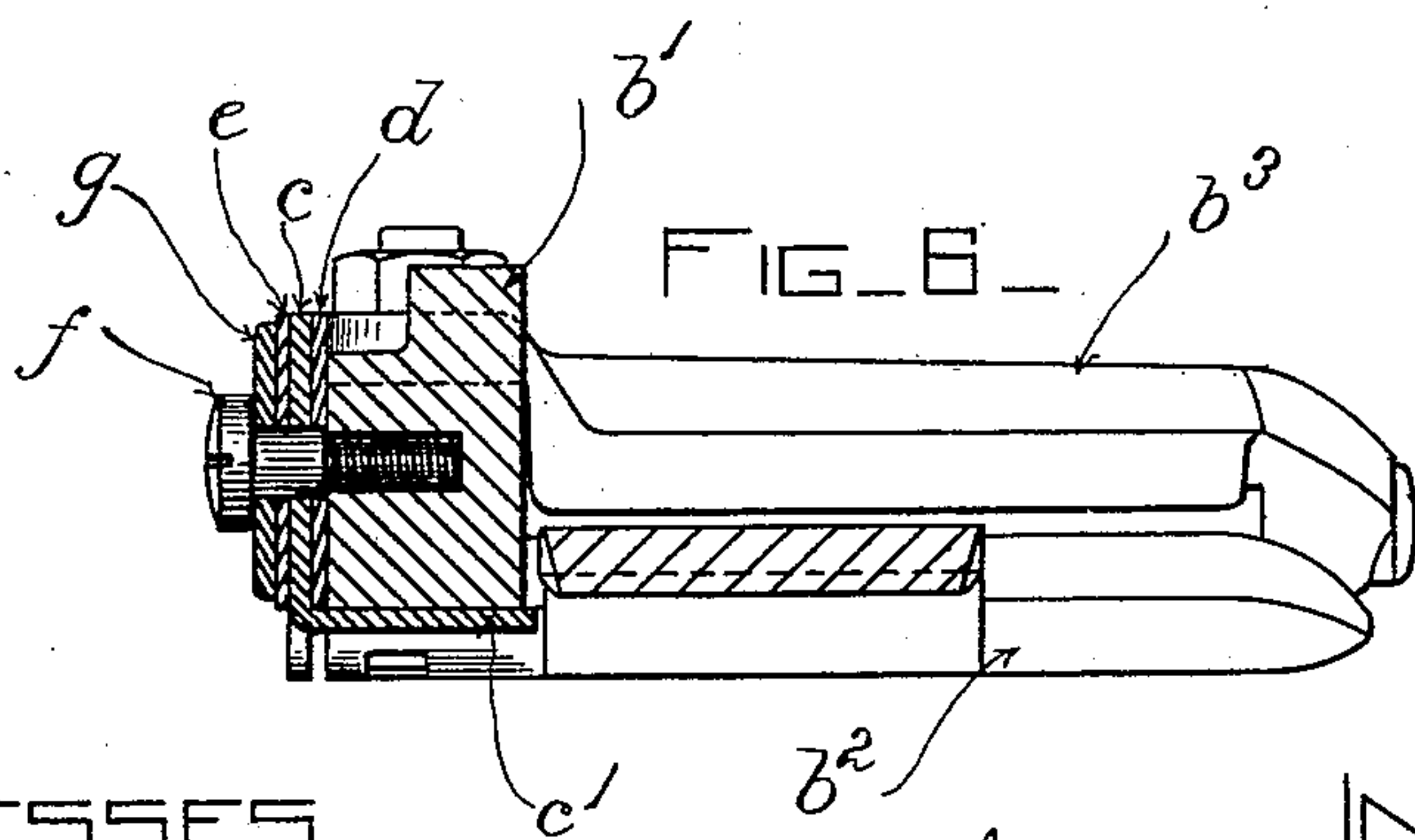
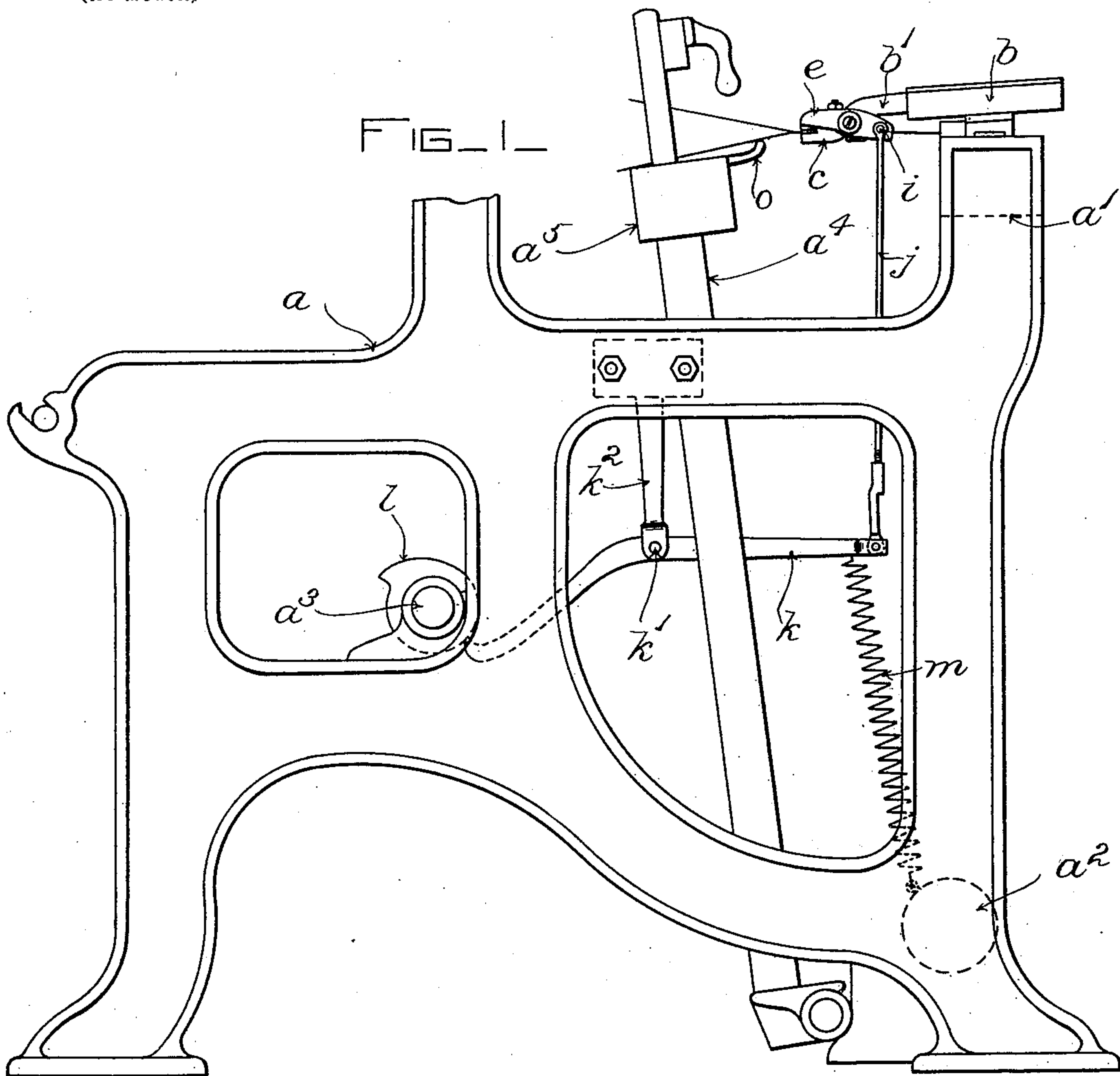
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(Application filed June 26, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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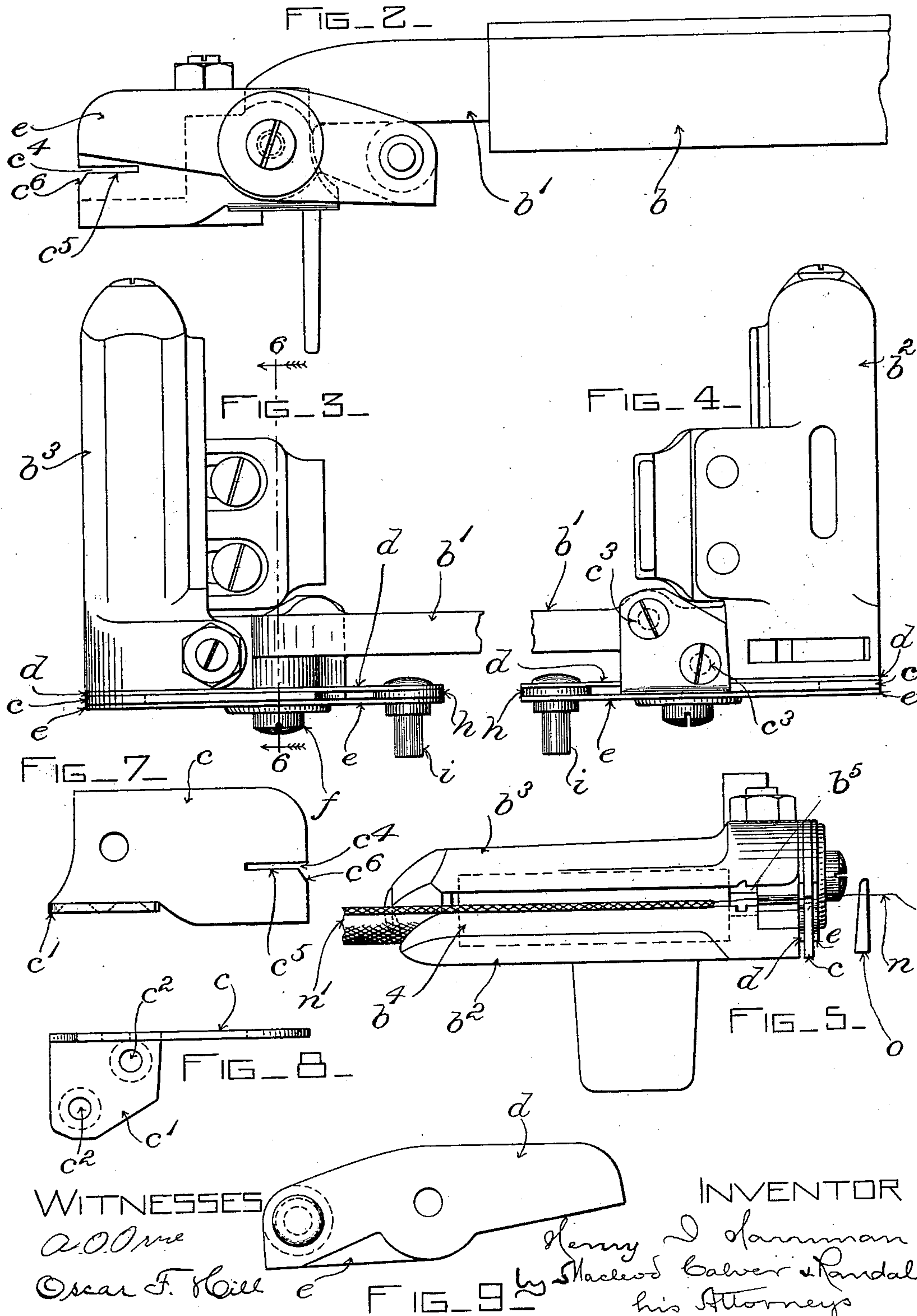
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UNITED STATES PATENT OFFICE.

HENRY I. HARRIMAN, OF NEW YORK, N. Y.

WEFT-PARTER FOR AUTOMATIC WEFT-REPLENISHING LOOMS.

SPECIFICATION forming part of Letters Patent No. 640,656, dated January 2, 1900.

Application filed June 26, 1899. Serial No. 721,851. (No model.)

To all whom it may concern:

Be it known that I, HENRY I. HARRIMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Weft-Parters for Automatic Weft-Replenishing Looms, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention is intended chiefly for use in connection with looms of that class in which replenishment of the working weft-supply is effected automatically, whenever ascertained to be necessary, by the weft-indicating devices which are employed in such looms. A loom of this character is presented in United States Letters Patent No. 626,834, granted to me June 13, 1899.

20 The present invention is designed for the purpose of parting and trimming off ends of weft or filling extending at the change end or supply end of the loom beyond the selvage of the cloth being woven.

25 In the practical embodiment of the invention I apply to the outer end of the temple-head, at the change end of the loom, a fixed blade, which is slotted or recessed to receive an end of weft or filling extending outward from the adjacent selvage of the cloth and to provide an edge by which the said end of weft or filling may be supported. A notch is formed across the said outer end of the temple-head also for the reception of the said end of weft or filling as it finds its way into position to be severed or parted. At opposite sides of the said fixed blade are located movable blades. These latter blades are arranged to move in unison with each other relatively to the fixed blade and to coact with the latter in severing or parting the said end of weft or filling. A projecting end of weft or filling having been carried by either the beat-up of the lay or the take-up of the woven cloth into position in the notch of the temple-head and also in the slot or recess of the fixed blade, the movable blades in being vibrated engage with the said end of weft or filling on opposite sides of the supporting edge of the said fixed blade and strain the same over the said edge. The movable blades may be arranged either to part the weft or filling, in consequence of straining the same over the supporting edge of the

fixed blade, or to sever the same after the fashion of shears, one or both of the said movable blades in the latter case coacting in cutting with the said supporting edge.

35 In practice I usually set up the outer movable blade sufficiently close to the fixed blade to clamp the weft or filling against the latter without cutting the weft or filling, while the inner movable blade is set up so close to the fixed blade as to cut the yarn, the cutting being facilitated in consequence of the fact that the yarn is held under tension by being clamped between the outer movable blade and the fixed blade.

40 For the convenient actuation of the moving blades I utilize a rotating cam and suitable intermediate operating connections.

45 It is the practice in the employment of looms effecting weft replenishment automatically to draw off by hand a portion of the reserve supply from the container thereof while the said container is in the customary holder, hopper, magazine, or the like and to apply the free end of such drawn-off portion to a convenient place of attachment or retainer near the adjoining selvage of the cloth being woven. This place of attachment or retainer will so support the said portion as that after the transfer of the said reserve supply to the lay and the flight of the shuttle from the change end of the loom to the opposite end thereof the portion of weft or filling extending beyond the selvage to the place of attachment or retainer will pass without aid into the proper position in the weft-parter.

50 In some cases the weft-replenishing instrumentalities may act either in accordance with the predetermined design of the same or, in consequence of some improper working of the weft-indicating mechanism or for some other reason, to replenish the working weft-supply before breakage or failure of the latter occurs. In this event a length of weft or filling will extend from the selvage of the cloth down to the weft or filling container which has been ejected in effecting the replenishment. With the object in view of causing the said length in such cases to be severed or parted close to the said selvage I provide a device which is caused to engage therewith and to present it in proper position to be acted upon by the weft-parter. To this

end I apply to the lay-beam a forwardly-projecting pin or the like support for the said length of weft or filling, the same being located adjacent the selvage of the cloth, so that the descent of the ejected weft or filling container will lay the weft or filling thereof over such pin or support. Thereby the said weft or filling will be upheld in position to pass forward into the notch of the outer end of the temple-head and the slot or recess of the fixed blade of the weft-parter.

In the accompanying drawings, Figure 1 shows in side elevation certain portions of a loom with the invention applied thereto, only so much of the loom being shown as will assist in making clear the nature and relations of the invention. Fig. 2 is a view showing in side elevation the temple and weft-parter detached from the loom. Fig. 3 is a plan of the temple-head and weft-parter. Fig. 4 is a view showing the same in inverted position. Fig. 5 is a view of the same in rear elevation. Fig. 6 is a view in section on line 6-6 of Fig. 3 looking in the direction that is indicated by the arrows near the ends of such line. Fig. 7 is a side elevation of the fixed blade. Fig. 8 is a plan thereof. Fig. 9 is a side elevation of the movable blades.

In the drawings, the loom-frame is designated *a*; the breast-beam, *a'*; front cross-girth, *a''*; the cam-shaft, *a'''*; the lay, *a''''*, and the lay-beam, *a'''''*. A temple-stand *b* of usual character is shown mounted on breast-beam *a'* in Fig. 1. The temple-arm is designated *b'*; the temple-pod, *b''*; the temple-cap, *b'''*, and the usual bur-roller, *b''''*.

The notch across the outer end of the temple-head, into which the portion of weft or filling extending outwardly beyond the selvage finds its way for the purpose of being severed or parted, is designated *b''''*.

The fixed blade of the weft-parter is designated *c*. It is located close to the outer end of the temple-head and is formed or provided with the lateral ear or lug *c'*, projecting beneath the temple-arm, Fig. 6, and having the holes *c''* *c'''*, Fig. 8, for the screws *c''''* *c'''''*, Fig. 4, which bind the said ear or lug against the under side of the temple-arm *b'*. The slot or recess in the rear end of the blade *c* is shown at *c''''*, and the edge on which the weft or filling is supported in being severed or parted is designated *c'''''*. The end of the blade *c* is cut off obliquely at *c''''''* below the slot or recess *c''''* to facilitate the movement of the weft or filling into the latter.

The movable blades of the weft-parter are designated *d* and *e*, respectively. The blade *d* is interposed between the inner side of the blade *c* and the outer end of the temple-head, while the blade *e* is at the outer side of the fixed blade *c*.

A bolt *f* passes through the three blades *d*, *c*, and *e*, the portion thereof on which the said blades fit and which constitutes a pivot for the movable blades *d* *e* being plain, while

the inner extremity thereof is threaded and fits a correspondingly-threaded hole in the outer end of the temple-head. (See Fig. 6.) A washer *g* is placed on the said plain stem between the head of the bolt and the outer movable blade *e*. The said bolt serves to hold the blades *d*, *c*, and *e* in proper working relations, and by adjusting the said bolt the blades may be compressed more or less tightly together.

The movable blades *d* *e* are connected together at their forward ends, a suitable spacing-piece *h* being interposed between such ends, and from these ends projects a pin, as *i*. To the pin *i* is applied the power by means of which the movable blades *d* *e* are actuated, the said power being transmitted through a connecting-rod *j* and lever *k*, the said connecting-rod having its upper end applied to the said pin *i* and its lower end joined to the lever *k*. Lever *k* is pivoted at *k'* to a stand *k''*, affixed to the loom-frame *a*. Its rear end is arranged in the path of a cam *l* on the cam-shaft *a'''*. Thereby the lever is moved, and through the connections described the movable or rocking blades *d* *e* are moved to close them with reference to the fixed blade *c*. A spring *m* is connected with lever *k* and acts in opposition to cam *l*, it serving to open the blades *d* *e* with reference to fixed blade *c*.

From the foregoing it will be apparent that an end of weft, as *n*, Fig. 5, extending outward from the selvage of the cloth *n'* to the usual place of attachment of the starting ends of the reserve supply of weft or filling will be caused to pass into the notch *b''''* in the outer end of the temple-head, and also into the slot or recess *c''''* of the fixed blade *c*, by either the action of the lay in beating up or the take-up of the cloth. An ensuing closing movement of the movable blades *d* and *e*, they rocking upon their pivot constituted by bolt *f*, will operate to sever or part the said end of weft close to the said selvage.

The device which is provided for holding up in position to enter the weft-parter an end of weft or filling leading from the selvage of the cloth to an ejected weft or filling container is shown at *o*, Figs. 1 and 5. In the form shown it consists of simply a pin or wire secured in the front of the lay-beam, at or near the upper surface of the lay-beam, and projecting forwardly close to the selvage of the cloth. As the weft or filling container is ejected by the action of the replenishing devices and falls from the shuttle-box the weft or filling leading from the said shuttle or filling carrier to the selvage of the cloth catches on the pin *o* and is upheld thereby. To prevent undesired escape of the said weft or filling from the said pin *o*, the forward end of the latter is upturned, as shown in Fig. 1. The weft or filling which is upheld by the pin *o* finds its way into the weft-parter and is severed or parted thereby, substantially as in the case of an end extending outward

from the selvage to a fixed point of attachment or retainer for the starting ends of the reserve supply.

It will be perceived that the movable blades are actuated to occasion a definite rocking movement thereof through positive application of power, which latter is transmitted through the mechanical devices that have been described.

I claim as my invention—

1. In a weft-parter, in combination, the loom-temple having the notch across the outer end of the temple-head to receive an end of weft or filling extending beyond the selvage of the cloth being woven, cooperating parting or severing members having a rocking blade or blades, and power-transmitting means to occasion a definite rocking movement of the said blade or blades to part the said end of weft or filling.

2. In a weft-parter for looms, in combination, the loom-temple having the notch across the outer end of the temple-head to receive an end of weft or filling extending beyond the selvage of the cloth being woven, the fixed blade located at the said outer end of the temple-head and having the slot or recess and the supporting edge for the weft or filling, and a rocking blade cooperating with said fixed blade to part an end of weft or filling lying across the said supporting edge, substantially as described.

3. In a weft-parter for looms, in combination, the loom-temple having the notch across the outer end of the temple-head to receive an end of weft or filling extending beyond the selvage of the cloth being woven, the fixed blade located at the said outer end of the temple-head and having the slot or recess and the supporting edge for the weft or filling, and the rocking blades working on opposite sides of the said fixed blade and cooperating there-

with to sever or part an end of weft or filling lying across the said supporting edge, substantially as described.

4. In a weft-parter for looms, in combination, a loom-temple, a fixed blade at the outer end of the temple-head, a rocking blade working at one side of said fixed blade and operating to compress and clamp the weft or filling thereagainst, and a rocking blade working at the other side of said fixed blade and operating to part the weft or filling thus held, substantially as described.

5. In a loom, in combination, the loom-temple, fixed and movable parting or severing members applied to the loom-temple, and actuating mechanism for the movable portion of such members comprising a cam and operating connections therefrom to the said movable portion, substantially as described.

6. In a loom, in combination, a weft-parter, the lay, and a weft-support applied to the lay-beam beyond the selvage of the cloth and operating to hold weft or filling in position to be acted upon by the weft-parter.

7. In a loom, in combination, a weft-parter, the lay, and the weft-supporting pin applied to the lay-beam beyond the selvage of the cloth and operating to hold weft or filling in position to be acted upon by the weft-parter.

8. In a loom, in combination, a weft-parter comprising cooperating blades and mounted on a support carried by the breast-beam, the lay, and the weft-supporting pin applied to the lay-beam and operating to hold weft or filling in position to enter between the said blades.

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

HENRY I. HARRIMAN.

Witnesses:

CHAS. F. RANDALL,
LEPINE HALL RICE.