

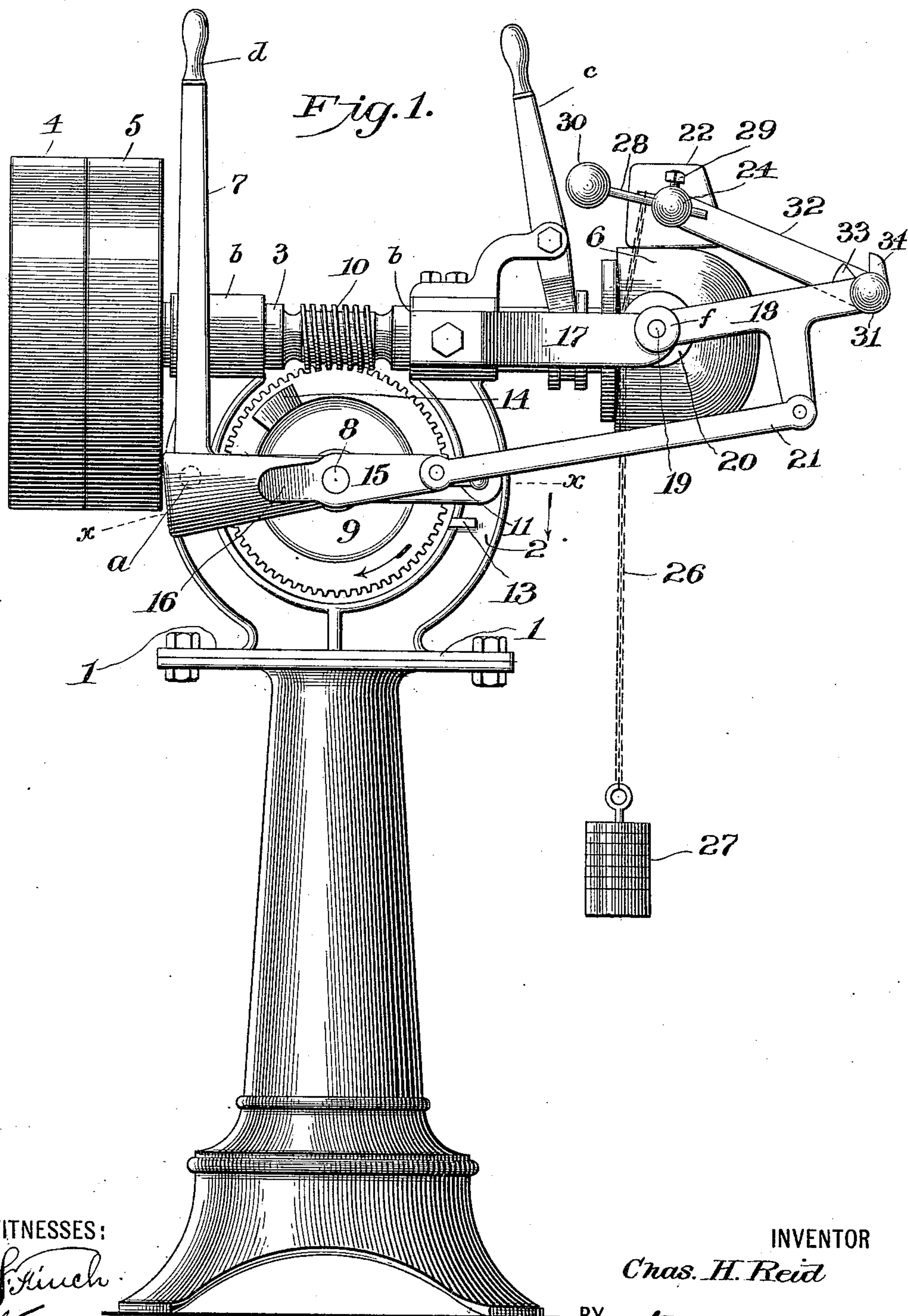
(No Model.)

3 Sheets—Sheet 1.

C. H. REID.
HAT IRONING MACHINE.

No. 547,131.

Patented Oct. 1, 1895.



WITNESSES:

J. H. Smith Jr.
A. J. Tanner

INVENTOR

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BY

J. H. Smith Jr.
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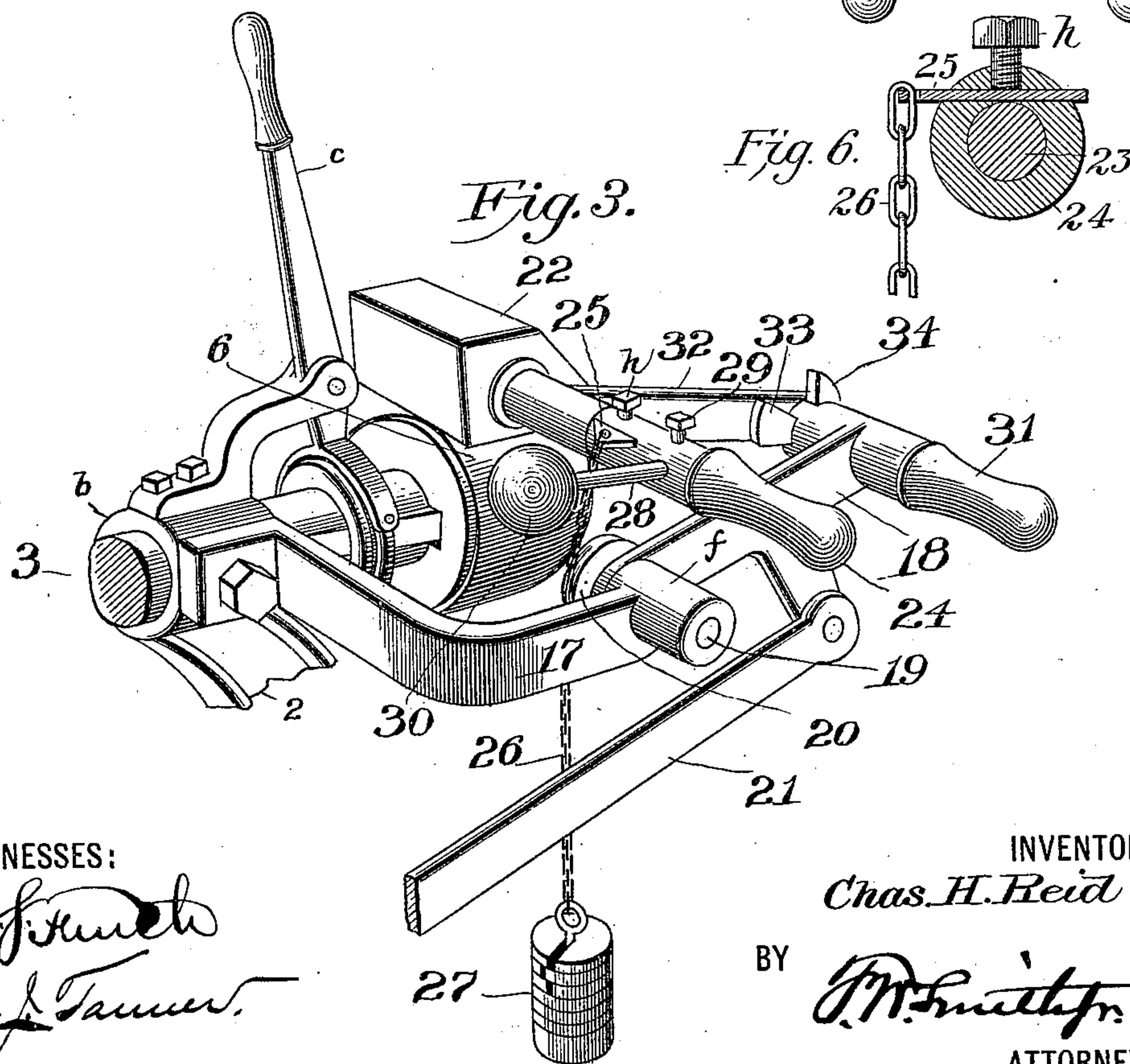
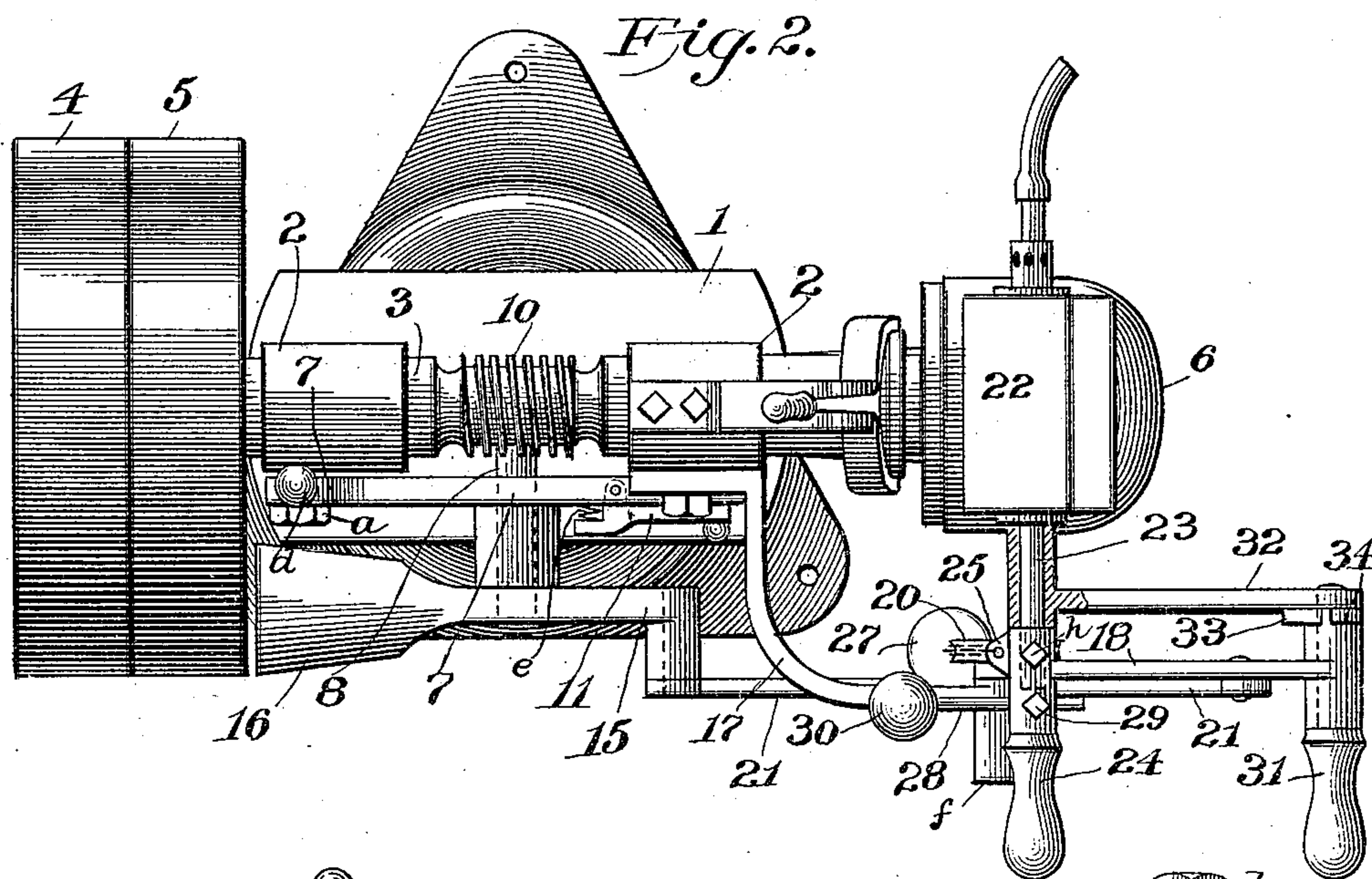
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WITNESSES:

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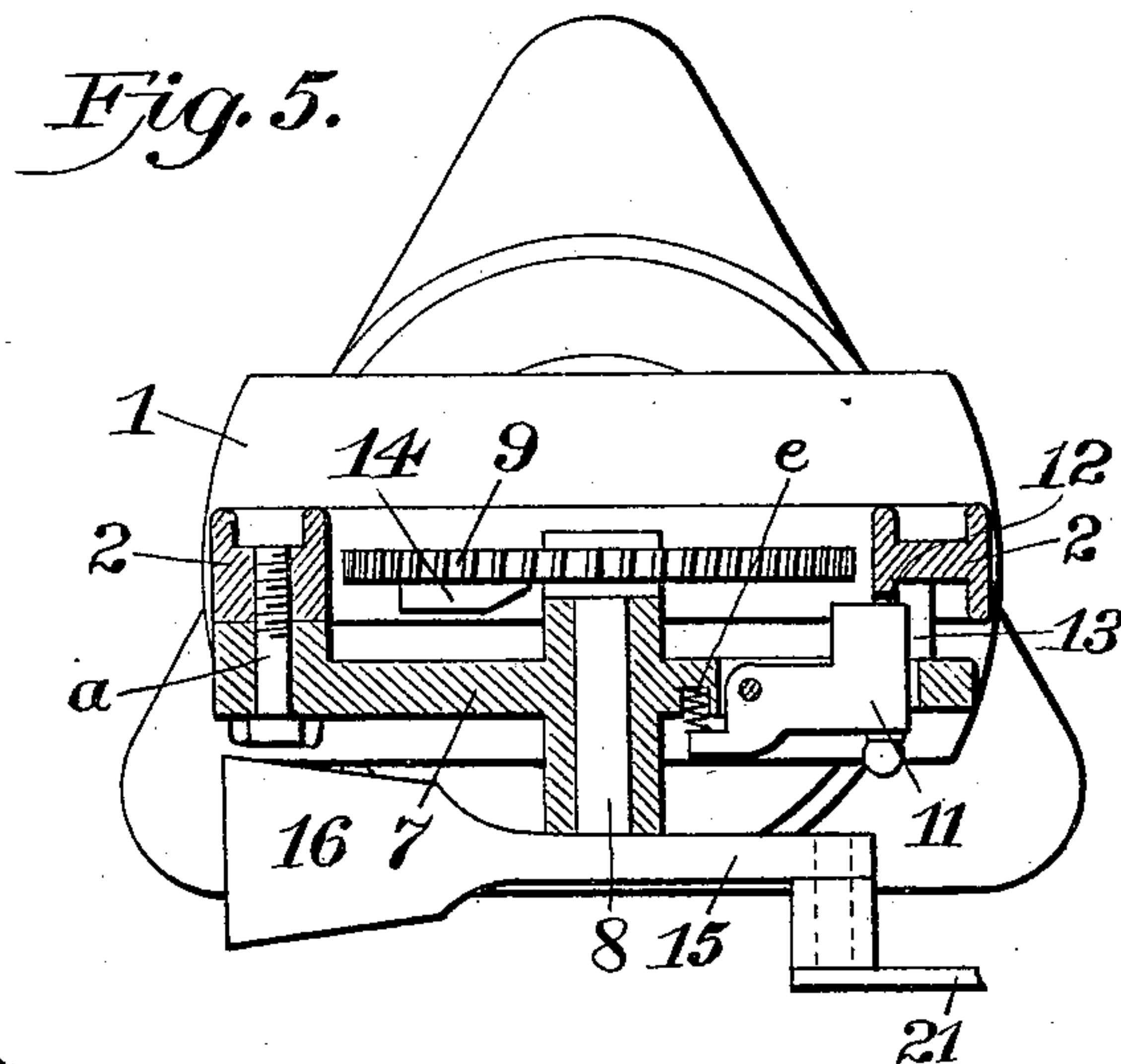
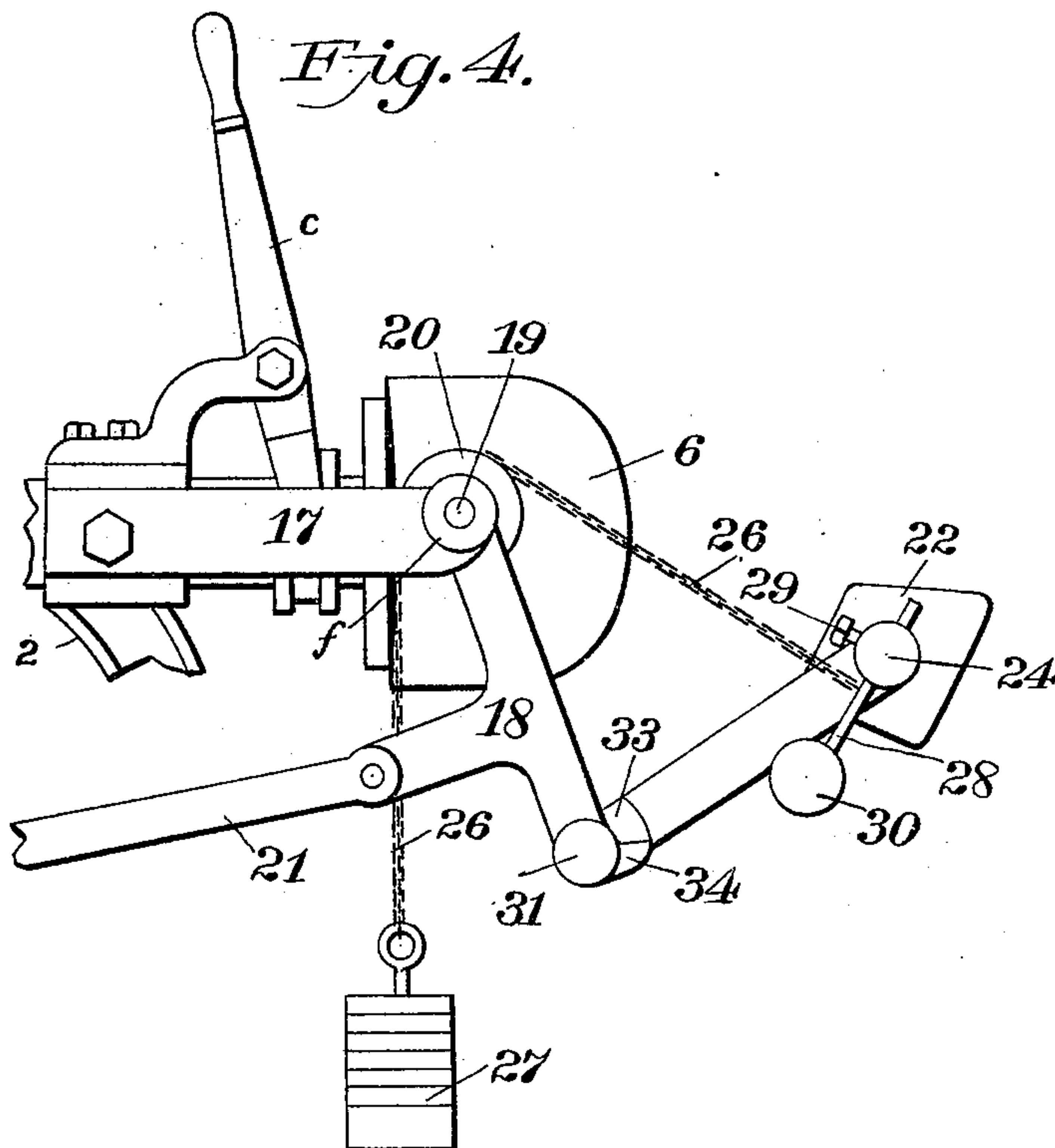
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3 Sheets—Sheet 3.

C. H. REID.
HAT IRONING MACHINE.

No. 547,131.

Patented Oct. 1, 1895.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES H. REID, OF DANBURY, CONNECTICUT.

HAT-IRONING MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,131, dated October 1, 1895.

Application filed September 21, 1894. Serial No. 523,730. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. REID, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Hat-Ironing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for ironing hats, and has for its objects to vary the pressure of the iron against the tip, without altering the ironing pressure on the side of the hat, and to operate the iron with great facility.

With these ends in view my invention consists in certain details of construction and combination of elements, such as will be hereinafter fully set forth and then specifically designated by the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine; Fig. 2, a plan view; Fig. 3, a detail perspective of the hat-block, the iron, and the system of levers by which the movements of the iron are effected and controlled; Fig. 4, a side elevation of the parts shown at Fig. 3, but showing them in their proper relative positions when the iron has finished operating against the tip of the hat and has dropped away therefrom; Fig. 5, a section at the line *x x* of Fig. 1, and Fig. 6 is a detail transverse sectional elevation of the handle.

Similar numbers and letters of reference denote like parts in the several figures of the drawings.

My present invention is an improvement upon the construction shown and described in Letters Patent of the United States, No. 420,961, issued to me February 11, 1890, and I have herein shown a machine constructed in the main in accordance with said patent.

For the sake of clearness and a better understanding of my present invention, I will describe my patented construction, as far as it herein appears, but I of course do not wish to be understood as claiming anything save the specific arrangement of levers and weights

whereby the hat-iron is operated and the pressure thereof against the hat regulated.

1 is a bed, and 2 a framework projecting upward therefrom. *b* are boxes at the top of said frame, within which is journaled the shaft 3. On the outer end of this shaft are the usual loose and tight pulleys 4 5. 6 is the hat-block, which is secured to the inner end of said shaft. This block is secured in position on the shaft by means of any suitable or ordinary chuck, operated by a hand-lever *c*, and it is not deemed necessary to describe this chuck, and I will merely state that the hat-block is secured to the shaft so as to revolve therewith.

7 is an L-lever, pivoted at the heel to the frame, as seen at *a*, the upper end of said lever being provided with any suitable handle *d*.

8 is a short shaft journaled within the lower arm of the lever 7.

9 is a worm-wheel tightly mounted on the inner end of the shaft 8, and 15 is a crank rigid with the outer end of this shaft. This crank extends at its rear end beyond the shaft 8 and is weighted, as seen at 16, for the purpose presently to be explained.

13 is a small pin extending from the frame, and which acts as a support for the lower arm of the lever 7 when the latter is dropped.

11 is a dog pivoted within the lower arm of the lever 7, and *e* is a coil-spring between the tail of said dog and the said arm, whereby the nose of the dog is normally depressed. When the lever 7 is operated to lift the lower arm thereof, this dog will when said arm is in its highest position spring into a recess or notch 12 in the frame after the manner of an ordinary spring-catch.

14 is a beveled trip secured on the side of the wheel 9, and adapted when said wheel revolves to lift said dog out of the notch 12, thereby causing the lower arm of the lever 7 to drop and rest against the pin 13.

17 is a bracket extending from the frame 2 and having on its extremity a box *f*, within which latter is journaled a rock-shaft 19. 18 is a T-lever pivoted at one end to said shaft, and 20 is a pulley around the latter, for the purpose presently explained.

21 is a connecting-lever whose ends are piv-

oted to the crank 15 and to the lower leg of of the T-lever, whereby motion from said crank as it revolves will be imparted to the T-lever, causing the latter to rock up and
5 down on its pivotal point.

22 is the hat-iron, of any suitable or ordinary shape, and 23 is a pin which extends rigidly from the side of said iron and has secured to its outer end a handle 24. 25 is a
10 projection from the shank of this handle, and 26 is a chain secured to this projection and maintained against the pulley 20 by means of a weight 27, secured to the lower end of said chain. This projection 25 I prefer to
15 pass freely through the shank of the handle 24, so that the same may be secured in any desired lateral adjustment by means of the set-screw *h*.

28 is a pin passed freely through the shank
20 of the handle 24 from side to side and at right angles thereto and secured in any adjustment by means of a set-screw 29, and 30 is a weight secured on the inner end of said pin.

The outer end of the T-lever 18 has extend-
25 ing therefrom a handle 31, and to the shank of this handle and around the pin 23 is pivoted a connecting-bar 32.

The hat-iron rests by gravity upon the block 6 and has a free rocking movement,
30 owing to the pivotal connection between the pin 23 and bar 32. The iron is hollow and is heated in any suitable manner. The heating agents which I prefer to use are hydrogen and oxygen, the principle involved being that of
35 the blowpipe. The function of the weight 27 is to preserve a firm pressure of the iron against the body of the hat and to overcome any tendency of the iron to fall away from the hat when operating against the tip of the
40 latter, while at the same time said weight causes the iron to exert a limited pressure against the tip.

It will be obvious that the pressure of the iron against the tip may be increased by add-
45 ing to the weight 27; but this will so increase the pressure of the iron when operating on the sides of the hat that the latter will become scorched.

While the chain and weight are serviceable
50 in that they serve to overcome the tendency of the iron to fall away from the hat at the tip end, I prefer not to rely upon these parts as a means for effecting and controlling the pressure of the iron against the tip. I have
55 therefore provided devices which not only contribute to give to the iron the desired pressure against the sides of the hat, but also are capable of such adjustment as will cause the pressure of the iron against the tip of the
60 hat to vary, according to the demands of the occasion, without in any way altering or affecting the pressure of the iron against the sides of the hat.

The means which I employ for accomplish-
65 ing the result last referred to are the pin 28, set-screw 29, and weight 30. By adjusting the pin 28, so as to bring the weight 30 in-

ward or away from the tip, the pressure of the iron against the latter will be increased, while the reverse follows when the weight is
70 brought outward or toward the tip.

In practice I first ascertain the pressure with which the iron must bear against the side of the hat without scorching the latter and make the combined weight of the parts
75 27 30 accordingly. It will be readily understood, therefore, that when the iron is in the position shown at Fig. 1 the pressure brought to bear on the hat is that of the iron itself plus the weight of the parts 27 30; but when
80 the tip is being ironed and the position of the iron is at right angles to that shown in Fig. 1, or substantially as is shown in Fig. 4, the hat will be entirely relieved of the weight of the iron, and the pressure of the latter
85 against the tip will be effected partly by the weight 27 and mainly by the weight 30; also, when operating against the tip the iron has longer contact therewith than it has with the body of the hat, and if the pressure of the
90 iron were the same in all instances the tip would undoubtedly be scorched. By relieving the tip of the weight of the iron and effecting the pressure against such tip by devices that are adjustable, so that such press-
95 ure may be varied to suit the occasion, I obtain the best results.

During the swing of the crank 15 it will be obvious from the foregoing description that the T-lever will be swung on its pivotal point,
100 thereby causing the iron 22 to travel across the hat. When the iron has completed its operations against the tip of the hat, the continued movement of the crank 15 will cause the connecting-bar 32 to be thrown into such
105 a position that the iron will topple backward away from the hat. In order that this bar 32 and the iron carried thereby may drop backward only to a limited extent, I provide dogs 33 34, rigid, respectively, with said bar and
110 with the shank of the handle 31. When the bar 32 drops back the dog 33 will strike against the dog 34, and thereby arrest the further movement of this bar, thus holding the iron 22 in convenient position with re-
115 spect to the hat-block.

In restoring the parts from the position shown at Fig. 4 to the position shown at Fig. 1, the operator simply grasps the handle 31 and raises the parts, and this is accomplished
120 with very little effort, owing to the fact that the weight 16 on the crank 15 very materially assists the operator.

10 is a worm on the shaft 3 and meshing with the wheel 9, whereby motion is imparted
125 to the latter.

The operation of my improvement is as follows: It is not deemed necessary to show a hat on the block, since the superficial contour of the latter will answer the purposes of a hat-
130 body in this connection. The lever 7 having been operated to raise the wheel 9 into engagement with the worm 10 and to thereby cause the dog 11 to latch within the notch 12,

said wheel will revolve in the direction indicated thereon by the arrow. The crank 15, revolving with said wheel, will, through the medium of the connecting-rod 21, rock the T-lever up and down, thereby causing the iron to travel along the hat from tip to side or from side to tip, as the case may be, the iron meanwhile rocking on its pivot so as to preserve a constant tangential position with respect to the contour of the hat. The timing of the crank 15 is such that when the T-lever has been drawn downward, so that the hat-iron occupies a position in a vertical plane, the ironing of the tip will have been completed and the final movement of said crank will carry the T-lever downward to the extent that will throw the bar 32 outward and cause the iron to topple backward until the movement of said bar is arrested by the abutment of the dog 33 against the dog 34. Synchronously with the abutment of said dogs the trip 14 will in its circuit lift the dog 11, as hereinbefore set forth, and the lower arm of the lever 7 will then drop and rest against the pin 13, thus disengaging the wheel 9 from the worm 10.

Ordinarily, in ironing a hat, the initial position of the iron and the operative parts of the machine are as is shown at Fig. 1; but should it become necessary to iron twice over a hat, I commence at the tip and work upward over the body and thence down over the tip again.

It will be readily understood that in ironing a hat twice, as above set forth, the initial position of the crank 15 will be at the side of the wheel 9 substantially opposite to that shown at Fig. 1, while the trip 14 will be a

slight distance below the dog 11, so that said trip will complete nearly an entire circuit before operating to cast off the hat-iron.

By means of the handle 24 the iron may be manipulated at all times by hand either to alter the pressure or to cast off said iron from the hat.

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

1. The combination of the frame of the machine, the T-lever pivoted to said frame and carrying the dog 34, the hat iron having extending laterally therefrom the pin 23 to the outer end of which is secured a handle 24, the connecting lever 32 whose ends are respectively pivoted around said pin and to the outer end of said T-lever and carrying the dog 33, the pin 28 adjustable transversely through the shank of the handle 24 and carrying on its inner end a weight, the rotatory weighted crank, and the lever 21 whose ends are pivoted to said crank and to the lower leg of said T-lever, substantially as set forth.

2. In a hat ironing machine, the combination of the hat iron having extending laterally therefrom a pin, and the pin 28 at right angles to the first mentioned pin and rigid therewith but capable of an adjustment transversely thereto and having secured on its inner end a weight, substantially as set forth.

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

CHARLES H. REID.

Witnesses:

URBANE B. DUNAWAY,
JOHN R. BOOTH.