

No. 675,026.

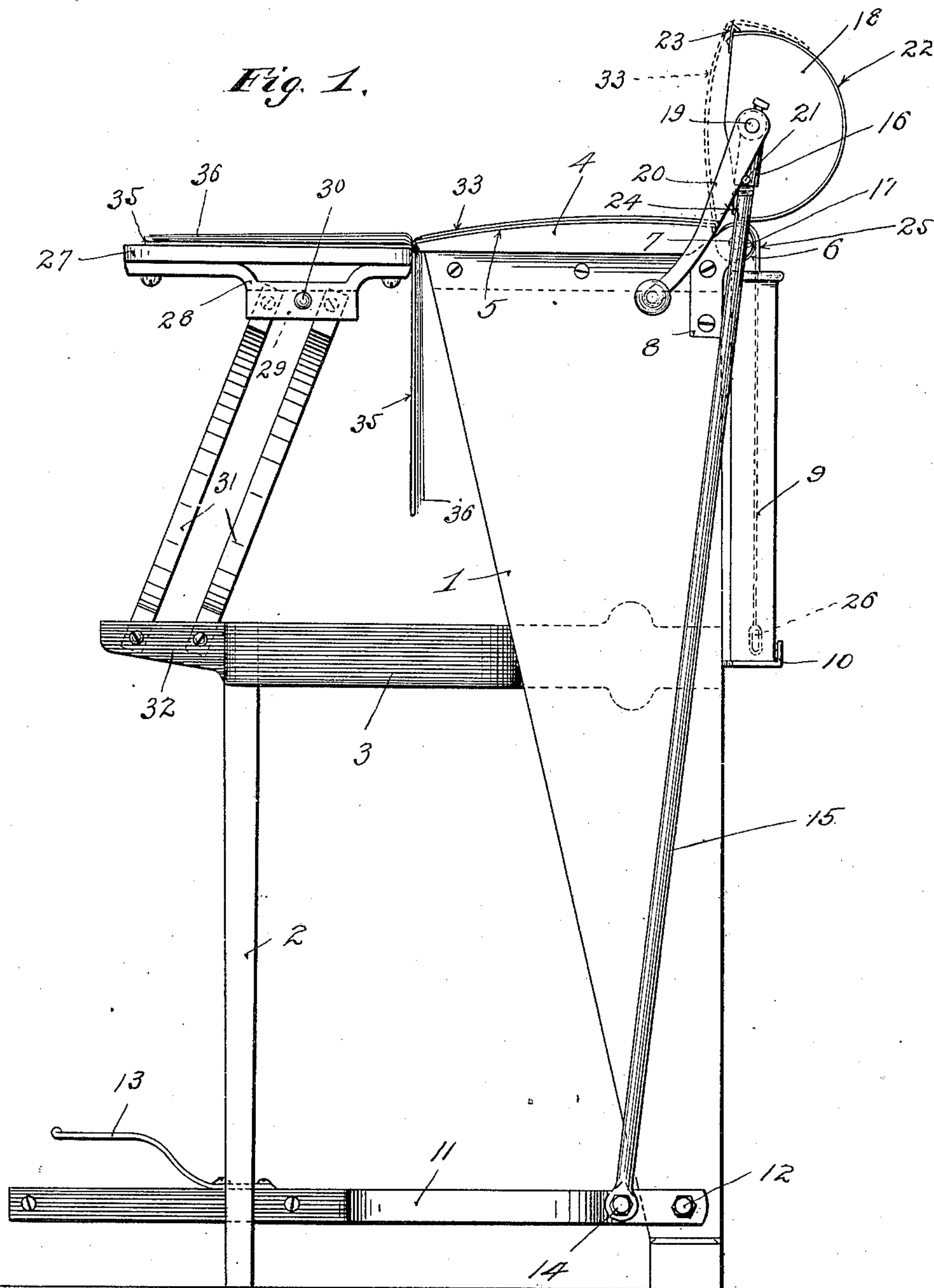
Patented May 28, 1901.

W. THEXTON.
COPYING PRESS.

(Application filed Oct. 2, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses.

Harry Kilgore.
Mabel M. M. Gray

Inventor.

Walter Thexton.

By his Attorneys.

William M. Merdand

No. 675,026.

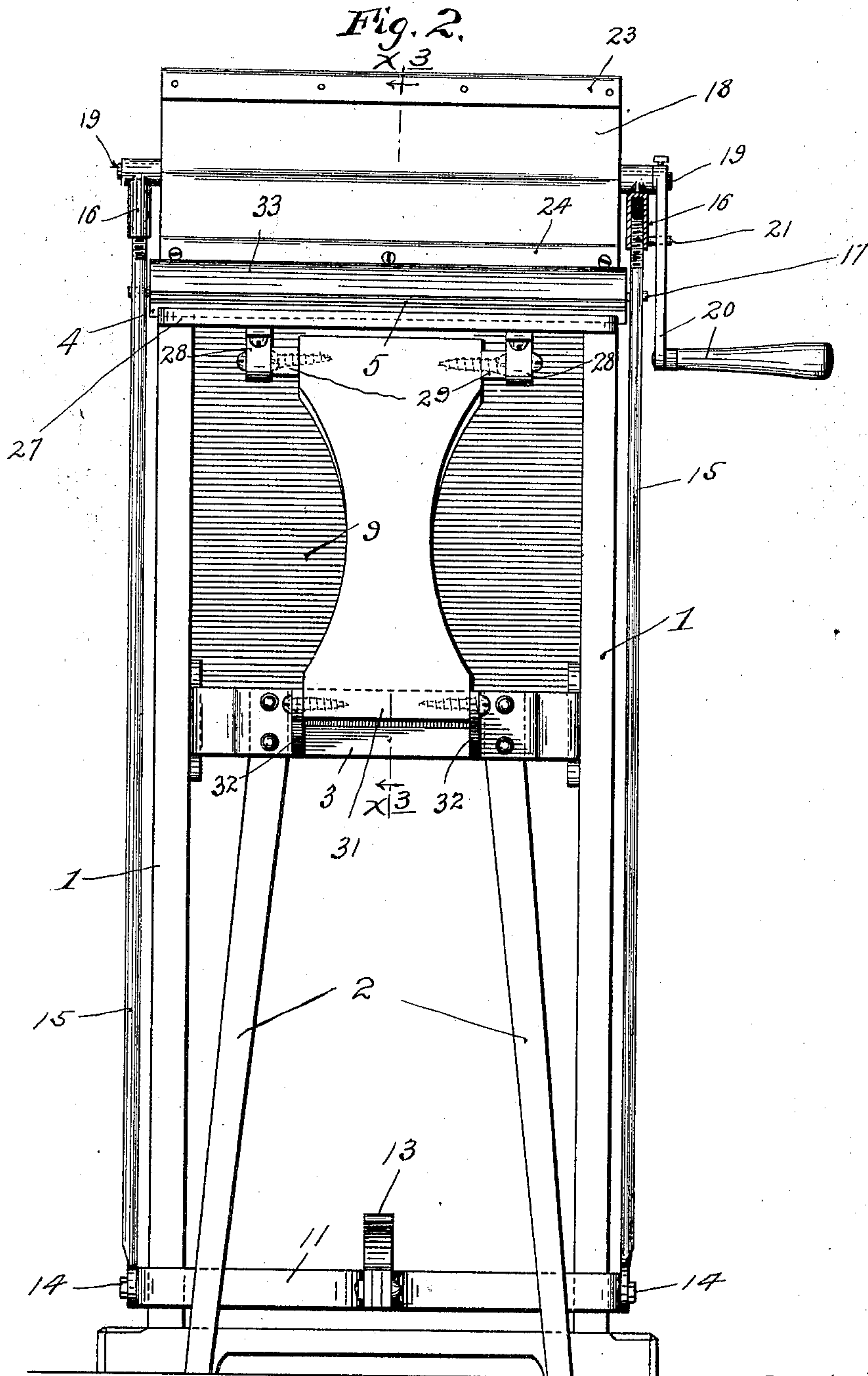
Patented May 28, 1901.

W. THEXTON.
COPYING PRESS.

(Application filed Oct. 2, 1900.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses.

Harry Kilgore.
Mabel M. M. Gray

Inventor.

Walter Thexton
By his Attorneys
William M. Merchant

No. 675,026.

Patented May 28, 1901.

W. THEXTON.
COPYING PRESS.

(Application filed Oct. 2, 1900.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 3.

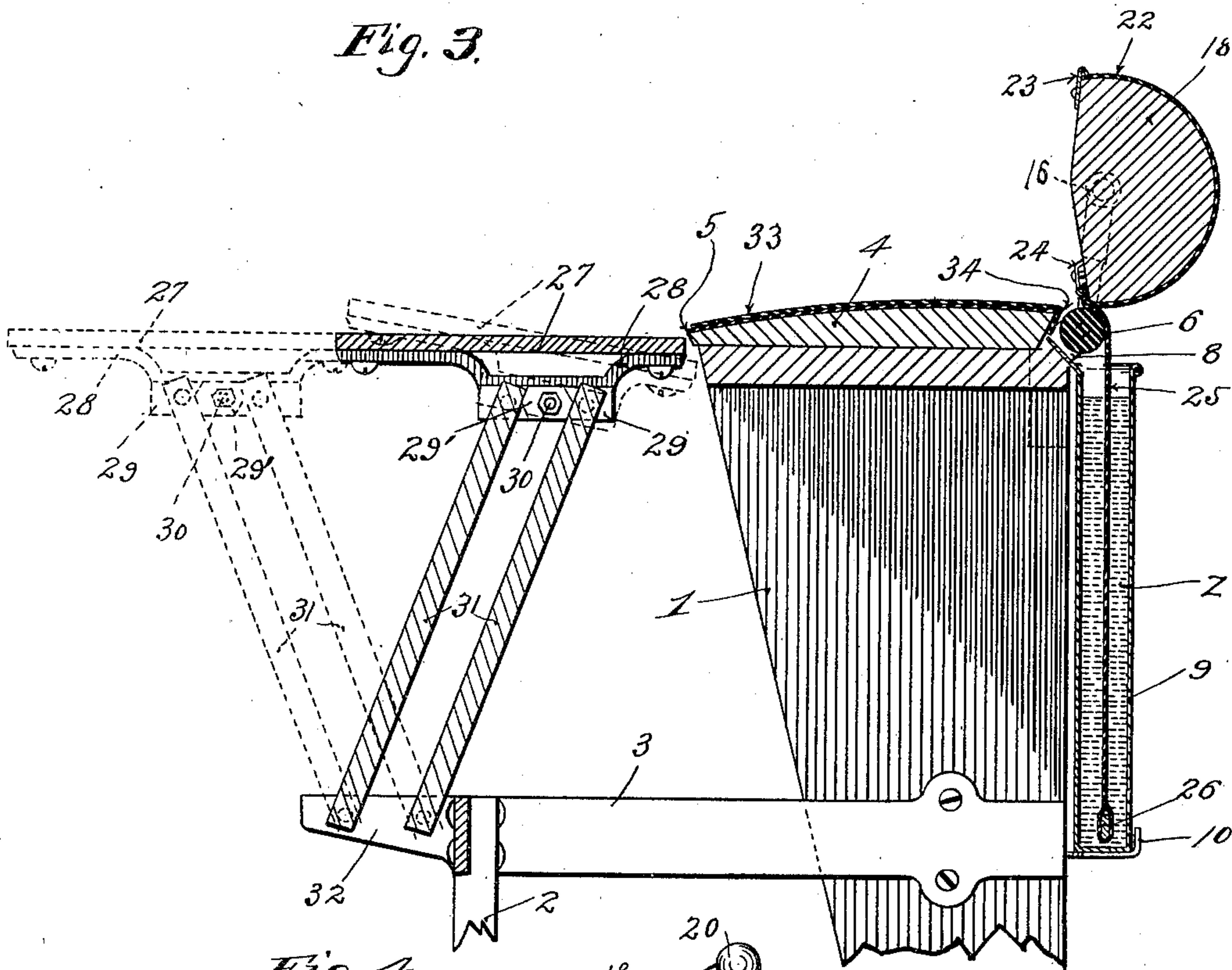


Fig. 4.

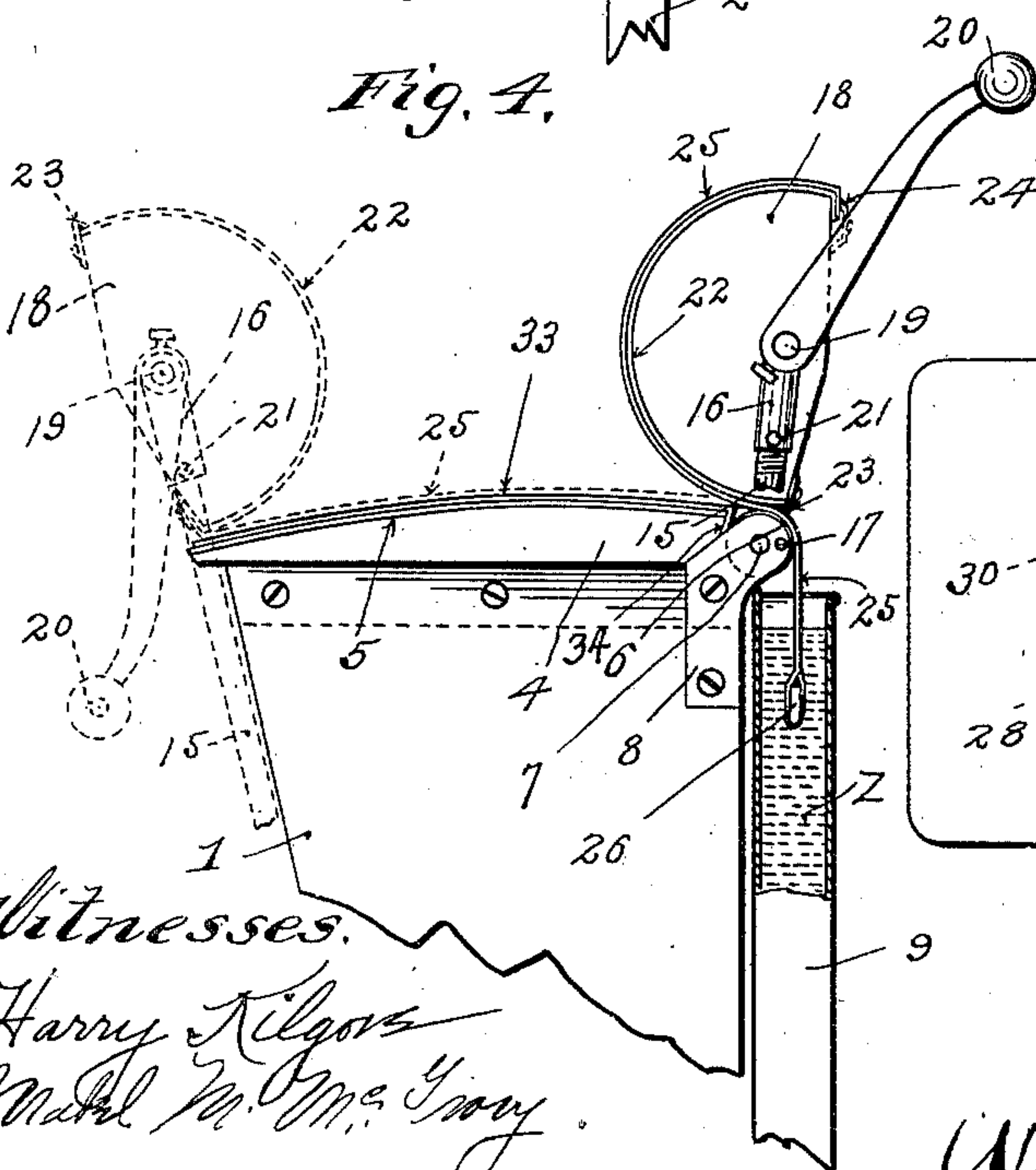
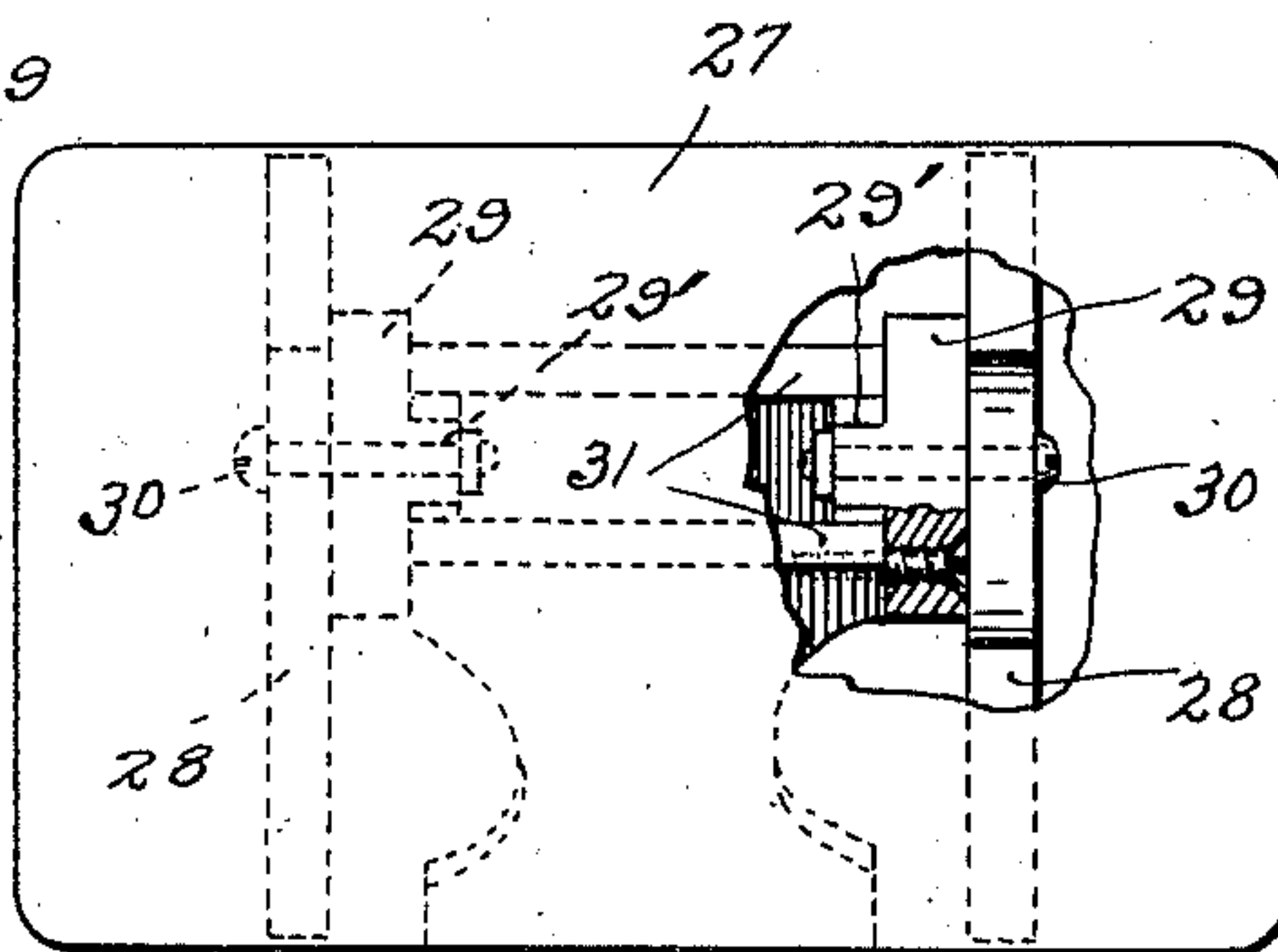


Fig. 5.



Witnesses.

Harry Kilgus
Mabel M. M. Gray

Inventor.

Walter Thexton.

By his Attorneys.

Williamson & Merchant.

UNITED STATES PATENT OFFICE.

WALTER THEXTON, OF MINNEAPOLIS, MINNESOTA.

COPYING-PRESS.

SPECIFICATION forming part of Letters Patent No. 675,026, dated May 28, 1901.

Application filed October 2, 1900. Serial No. 31,744. (No model.)

To all whom it may concern:

Be it known that I, WALTER THEXTON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Copying-Presses; 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 present invention relates to copying-presses of the general character shown, described, and claimed in my prior patent, No. 638,608, issued of date December 5, 1899; and it has for its object to improve the construction and operation of such presses in the several particulars hereinafter noted.

The invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

In the class of copying-presses to which this invention relates copies of letters or other documents written or printed in copying-ink are transferred either onto the leaves of a record-book or onto independent sheets by the action of a dampened apron or sheet; and one of the important objects of my present invention is to improve the means for manipulating such dampening-apron in the copying action.

Another feature relates to the improvement of the book table or support.

Minor novel features will hereinafter appear in the following description.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 shows my improved copying-press in right-side elevation. Fig. 2 shows the press in front elevation. Fig. 3 is a vertical section taken from front and rear of the press on the line $x^3 x^3$ of Fig. 2, some parts being broken away. Fig. 4 is a detail view in right-side elevation, showing a portion of the press illustrated in Fig. 1, some parts being broken away and others sectioned; and Fig. 5 is a plan view of the book-table, some parts being broken away.

The framework of the machine is shown as made up principally of a pair of upright

standards 1, a pair of legs 2, and a bracket 3, connecting the standards 1 to the upper ends of the legs 2.

Rigidly secured to and between the upper ends of the standards 1 is a bed-plate or platen 4, formed with a convex cylindrical upper surface and preferably having secured to its upper surface a pad or facing 5 of rubber or other suitable yielding material.

Extended transversely of the press, just to the rear of the platen 4, is a roller 6, preferably of rubber, but having a metal spindle 7, the projecting ends of which are journaled in bearing-brackets 8, secured on the upper ends of the uprights 1.

Extending transversely of the press and depending below the roller 6 is an attenuated water tank or receptacle 9, open at its upper end and shown as supported at its lower end by brackets 10, projected from the uprights 1.

A foot-treadle 11 is pivoted to the standard 1 at 12, and, as shown, it is provided at its free end with a raised strap or guard 13, under which the foot may be placed and by means of which the lever may be positively raised by the foot. Extending just outward of each upright 1 and pivoted at its lower end, as shown, by a bolt 14 to the foot-treadle 11 a short distance from its pivotal center 12 is one of a pair of long connecting-rods 15. At their upper ends the connecting-rods 15 are provided with bearing-heads 16, into which the screw-threaded upper ends of said rods work adjustably. The rearward-swinging movements of the rods 15 are limited to the normal position indicated in Fig. 1. This is shown being accomplished by stop-pins 17, projected from the bearing-brackets 8.

In my present invention I employ a pressing-roll of large diameter, which, while it might be a complete cylinder so far as the broad idea of my invention is concerned, is for important reasons made segmental. This pressing-roll 18, which may be either of wood or iron or other suitable rigid material, or even of rubber for that matter, has rigidly secured with it a spindle or shaft 19, the ends of which project and are journaled in the bearing-heads 16 of the connecting-rods 15. One end of the spindle or shaft 19 projects through its bearing-head 16 and is provided with a

crank 20, by means of which the said roll may be manipulated. As shown, a stop-pin 21, projected from the adjacent bearing-head 16, limits the movement of the crank 20 in one direction to the normal position indicated in Fig. 1.

When the pressing-roll 18 is constructed of unyielding material, it is preferably provided with a facing 22 of rubber or other suitable material, which facing may be held in position by clamping-strips 23 and 24, secured on the roll 18 by screw or other device at the extremities of the segmental cylindrical surface. As shown, the clamping-strip 23 projects radially and forms a stop, which, acting against the roller 6, prevents the pressing-roll 18 from being turned beyond the position indicated in Fig. 4.

The dampening-apron 25, which is in the form of a long and wide sheet of cloth or other material having the desired flexibility and water-absorbing capacity, is attached to the pressing-roll 18 at its upper end. This attachment is shown afforded by the clamping-strip 24, heretofore noted. The said dampening-apron 25 runs over the roller 6, depends into the water 2, which is contained within the tank 9, and is provided at its lower end with a transversely extended metal weighting-bar 26, which keeps the apron stretched taut and smooth and draws the same downward into the water as far as permitted by the pressing-roll.

The book table or support 27 is shown as provided at its ends and under side with a pair of brackets 28, to each of which a horizontally extended block 29 is pivoted, as shown, by nutted bolts 30. Both blocks 29 are pivotally connected to the upper end of a pair of parallel supporting-brackets 31 of equal length, the lower ends of which are pivoted to projections 32 of the frame-bracket 3. Stops 29' on the blocks 29 engage the oscillating supports 31 to limit the movements of the table 27.

The numeral 33 indicates a flexible sheet of rubber or other non-absorbent material, which is secured at its rear edge, as indicated at 34, to the platen 4 adjacent to the roller 6. This sheet 33 is adapted to be raised and thrown up over the pressing-roll 18, as indicated by dotted lines in Fig. 1.

In Fig. 1 the numeral 35 indicates the cover, and the numeral 36 the leaves, of a record-book.

The use of the press in copying onto the leaves of the record-book is advisably as follows: The normal positions of the parts of the press are shown by full lines in Figs. 1 and 2, and in the normal position of the pressing-roll 18 it will be noted the dampening-apron 25 is almost entirely submerged in the water of the tank 9. The record-book is placed in position on the table 27 with one cover-leaf and, with the impression-leaves, which have already received the impression, dropped down between said table and the platen 4, as

indicated in Fig. 1. This press is designed to take instantaneous copies, and hence in starting the press into action it is necessary as a preliminary step to dampen the first leaf without taking an impression. This is done by placing the said leaf on top of the rubber sheet 33, which sheet at this time is spread smoothly upon the platen. Then by taking hold of the hand-crank 20 the pressing-roll 18 is turned from its normal position (indicated in Figs. 1, 2, and 3) into the position indicated by full lines in Fig. 4, in which position such a section of the dampening-apron 25 as is required to run across the platen is drawn upward onto the said pressing-roll. Next the pressing-roll 18 is rolled over the platen and over the leaf placed on the sheet 33 until it reaches the extreme position (indicated by dotted lines in Fig. 4) and is then rolled back into the position indicated by full lines in said Fig. 4, under which return movement pressure is put upon the pressing-roller 18 by stepping onto the treadle 11. The flexible rubber sheet 33 is next raised, the dampened record-leaf is spread upon the platen-facing 5, the letter or other document to be copied is placed face downward on the dampened leaf, and the said sheet 33 is then dropped over the letter and dampened sheet. Then to always keep one record-sheet of the book dampened ahead of the impression the next leaf of the book is turned down over the sheet 33. Finally, to produce the impression or copy and to dampen the second leaf of the book the manipulation of the pressing-roll above described is repeated.

The application of pressure to the pressing-roll not only insures the instantaneous taking of the copy, but serves also to insure even distribution of the moisture to the impression-leaf which is being dampened.

It is of course evident that the damping-apron 25 may be redampened at any time simply by turning the pressing-roll back to its normal position. In fact, whenever the moving parts of the press are released gravity acting on the weighting-bar 26 will draw the dampening-apron 25 downward into the water of the tank and turn the pressing-roll back to its normal position.

The segmental form of the so-called "dampening-roll" is important. In virtue of this form the pressing-roll may be run over the leaf of the record-book to its very inner or secured edge. A complete cylindrical roller if moved to the position indicated by dotted lines, Fig. 4, would engage the blank leaves of the record-book, and if these blank leaves be considerable in number it would, in fact, be impossible to move such a roller to the said position. It is also important that the segmental roller or pressing-roll have such diameter as permits its cylindrical surface being extended over approximately the same surface, lineally measured, as has the cooperating platen or bed-plate. This construction, as is obvious, affords a press which may be operated with

great rapidity and requires but very few manipulations.

The attached edges of the book-leaves should be located close to the forward upper edge of the platen in order that the copy may be properly located thereon. To make this always possible regardless of the thickness of the book and regardless of which leaf of the book is to receive the copy, the book-supporting table is made pivotally adjustable on its support, which in the illustration given is the pair of blocks 29. By means of the nutted bolts (indicated at 30) the brackets 28 of the said table 27 are frictionally clamped to the said blocks 29, so that the said table may be forced into different adjustments with respect to a horizontal position, thereby raising or lowering the forward edge of the table with respect to the forward edge of the platen, as indicated by the full and dotted lines in Fig. 3. When the leaves of the book are to be turned, as is necessary in copying onto a series of the book-leaves, the table may be moved backward into the position indicated by dotted lines in Fig. 3. Attention is here called to the fact that with the parallel pivoted supports 31 the table 27 in its movements toward and from the platen will remain always in that particular position with respect to horizontal that it occupies when in its operative position. For instance, if it be set in a horizontal position it will remain horizontal throughout its forward and rearward movements. Attention is also called to the fact that the pivotal supports for the table 27 are so arranged that gravity will act to hold the table in its operative position, thereby rendering springs unnecessary.

It will be further understood that the device above illustrated and described is capable of many modifications within the scope of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a platen, of a pivoted traveling pressing-roll, a water-tank, and a dampening-apron attached at one end to said pressing-roll, and provided at its free edge with a weight yieldingly drawing it downward into the water of said tank, substantially as described.

2. The combination with a platen, of a pivoted traveling pressing-roll, having the form of a segment of a cylinder, and provided with a hand-crank, a water-tank, and a dampening-apron attached at its upper end to one extremity of the cylindrical surface of said pressing-roll, a guide-roll directing said dampening-apron into said water-tank, and a weighting-bar secured to the free edge of said dampening-apron, for yieldingly drawing the same downward into the water of said tank, substantially as described.

3. The combination with the convex platen,

of the foot-treadle, the pair of oscillating connecting-rods pivoted to said treadle, the segmental pressing-roll mounted in the upper ends of said oscillating rods and provided with a hand-crank the vertically-extended water-tank, the guide-roller above said tank, and the dampening-apron attached at its upper end to said pressing-roll, and provided at its lower end with a weighting-bar, yieldingly drawing the same over said guide-roller and into the water of the said tank, substantially as described.

4. The combination with a platen, provided with the non-absorbent flap secured thereto at one edge, of a pivoted traveling pressing-roll, a water-tank, and a dampening-apron attached at its upper end to said pressing-roll and yieldingly drawn at its lower end into the water of said tank, substantially as described.

5. In a copying-press the combination with a platen, of a book-supporting table, and an oscillating support for said table, which table is connected to its support with freedom for angular adjustment, to raise and lower its forward edge, substantially as, and for the purposes set forth.

6. In a copying-press, the combination with a platen, of a pair of parallel oscillating table-supports pivoted at their upper ends to blocks or heads, and a book-supporting table pivoted to and frictionally connected with said blocks or heads, the said parts operating substantially as, and for the purposes set forth.

7. In a copying-press, the combination with a platen and a water-tank, of a segmental pressing-roll movable over said platen, and a dampening-apron secured at its upper edge to said pressing-roll, and yieldingly drawn at its lower edge into the water of said tank, substantially as described.

8. In a copying-press, the combination with a platen and a water-tank, of a segmental pressing-roll movable over said platen, the cylindrical surface of said pressing-roll being in extent sufficient to roll across said platen, and a dampening-apron secured at its upper edge to said pressing-roll, and yieldingly drawn at its lower edge into the water of said tank, substantially as described.

9. In a copying-press, the combination with a platen, of a book-supporting table, and pivoted parallel supports for moving said table to and from said platen, which supports are adapted to be thrown toward said platen beyond their dead-center, whereby said table is gravity-held in an operative position, substantially as described.

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

WALTER THEXTON.

Witnesses:

ANNE S. READ,
F. D. MERCHANT.