

No. 710,294.

Patented Sept. 30, 1902.

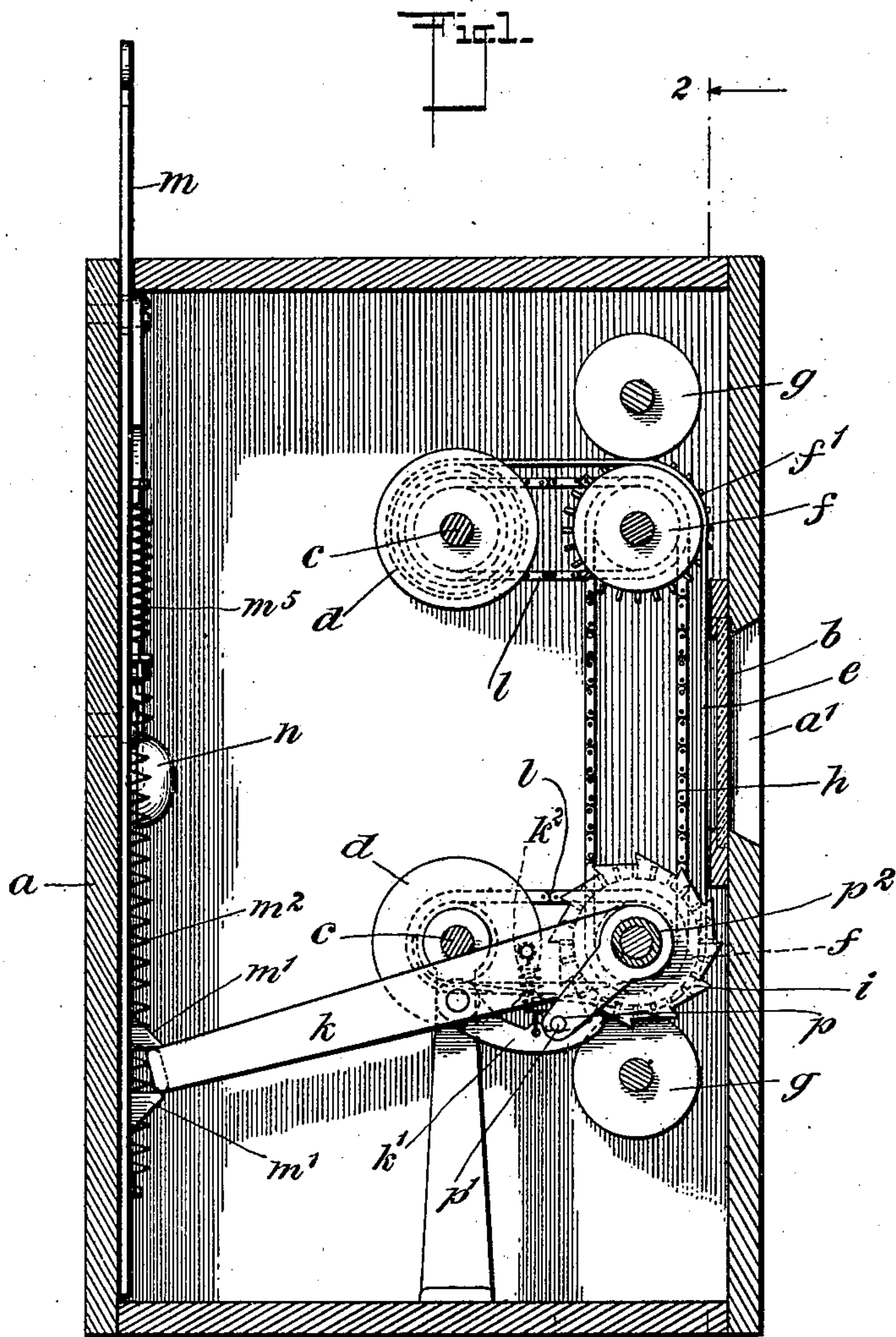
T. F. McCULLOUGH.

INDICATOR.

(Application filed Jan. 27, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

*A. Russell Bond*  
*J. H. Williams*

INVENTOR

*Thomas F. McCullough*

BY

*Mumford*  
ATTORNEYS

No. 710,294.

T. F. McCULLOUGH.

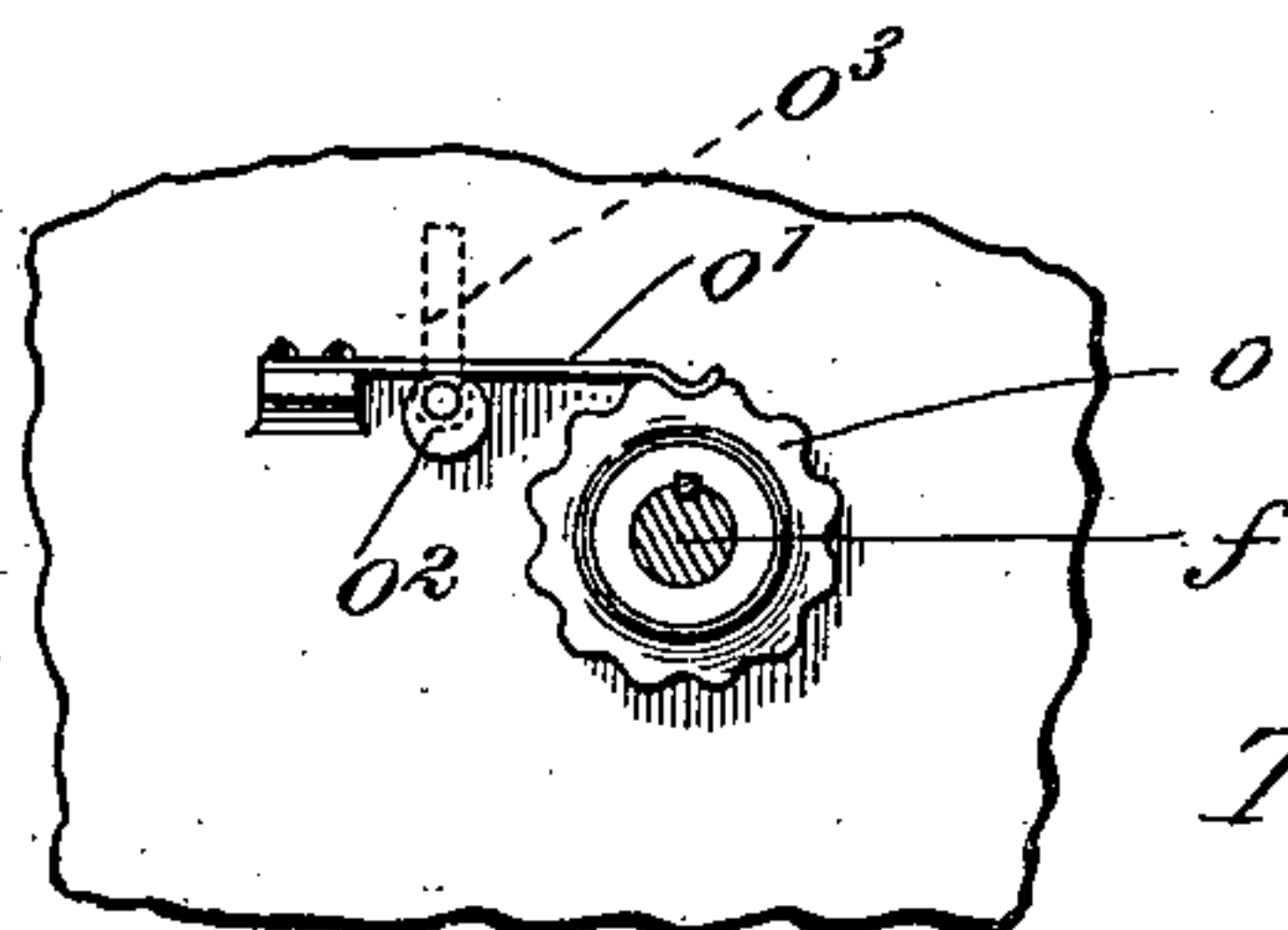
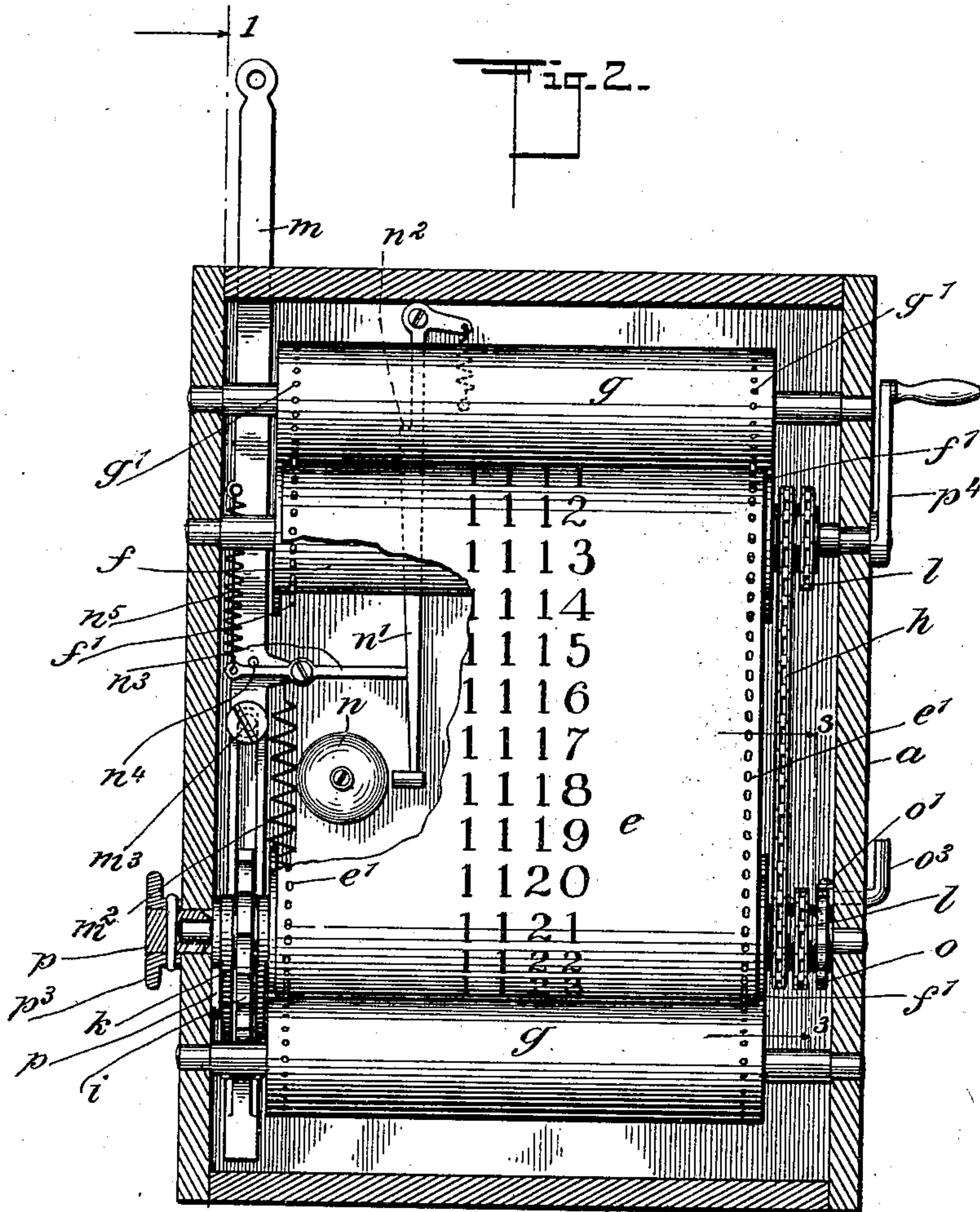
Patented Sept. 30, 1902.

INDICATOR.

(Application filed Jan. 27, 1902.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

*A. Russell Bond.*

*J. B. Owens.*

Fig. 3.

INVENTOR

*Thomas F. McCullough*

BY

*W. W. M. C.*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

THOMAS FRANCES McCULLOUGH, OF MEMPHIS, TENNESSEE.

## INDICATOR.

SPECIFICATION forming part of Letters Patent No. 710,294, dated September 30, 1902.

Application filed January 27, 1902. Serial No. 91,412. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS FRANCES McCULLOUGH, a citizen of the United States, and a resident of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Indicator, of which the following is a full, clear, and exact description.

This invention relates to an indicating apparatus for displaying successive numbers or other characters. It is especially adapted for use in barbers' shops and like places where persons wait for service in their turn, and when so placed it may with advantage be used in connection with a check-box such as is disclosed in my prior patent, No. 688,874, dated December 17, 1901, the customers or other persons receiving numbered checks from the check-box and the numbers of these checks being subsequently indicated in their successive order by the apparatus forming the subject-matter of the present application.

This specification is a specific description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional view on the line 1 1 of Fig. 2. Fig. 2 is a sectional view on the line 2 2 of Fig. 1, and Fig. 3 is a sectional view on the line 3 3 of Fig. 2.

The apparatus is provided with a casing *a*, having an observation-opening *a'* in its front side and covered by the glass plate *b*. (Shown in Fig. 1.)

*c* indicates two transverse shafts mounted in the casing, and these shafts carry drums *d*, over which are wound the ends of an apron *e*. This apron passes over drive-rollers *f*, located above and below the observation-opening *a'* and directly adjacent to the front wall of the casing *a*, by which means the apron is caused to move directly in front of the observation-opening, so that the numbers or other characters on the apron may be directly visible. The drums *f* are provided with peripheral pins *f''*, which engage perforations *e'* in the edges of the apron *e*, thus insuring that the apron runs true on the drums *f*. The rollers or drums *f* have located directly adjacent thereto idler-rollers *g*, which run parallel

therewith and press the apron against the rollers *f*. These rollers *g* have openings *g'* in their end portions, such openings receiving the pins *f'* of the drums or rollers *f*.

It will be noticed from the foregoing that the rollers *g* have individual openings *g'* to receive the pins on the drive-rollers or rather to receive the protruding ends of said pins, which project beyond the apron. This is important where the apron is carried from the drive-rollers and wound on separate drums, as it prevents any possibility of the apron becoming slack between the drive-rollers or dropping or otherwise becoming disengaged from the drive-pins of the rollers, and thereby prevents any damage to the apron which would result from its becoming disengaged with the drive-rollers.

The rollers *f* have sprocket-wheels on their journals, and these sprocket-wheels are connected by a chain *h*, running over the wheels, as shown, and serving to drive the drums or rollers *f* both in the same direction.

*l* indicates two sprocket-chains which run from sprocket-wheels on the journals of the respective drums *f* to like wheels on the journals of the drums *d*, thus driving the drums *d* in unison with the drums *f*.

*i* indicates a ratchet-wheel fastened to the journal of one of the rollers *f*, and this ratchet-wheel is engaged by a pawl *k'*, pivotally carried on a lever *k* and held normally engaged with the ratchet-wheel *i* by means of a spring *k<sup>2</sup>*. The lever *k* extends rearward and is engaged between lugs *m'* on a vertically-disposed slide *m*, mounted on the back wall of the casing *a* and extending upward out of the same, so that some suitable device may be connected with the slide to raise it.

*m<sup>2</sup>* indicates a spring for normally holding the slide downward. As the slide is moved upward the lever *k* is caused to swing and the parts are operated to advance the apron one step. Each movement of the slide results, therefore, in a short movement of the apron, thus showing the numbers or characters successively through the observation-opening *a'*.

*n* indicates a bell and *n'* a spring-pressed clapper-arm. This clapper-arm has a shoulder *n<sup>2</sup>* thereon, (see the dotted lines in Fig. 2,) and a lever *n<sup>3</sup>* on the slide *m* works with



the clapper-arm to cause it to sound the gong each time that the slide *m* is raised. This lever *n*<sup>3</sup> bears against a stop-pin *n*<sup>4</sup> on the slide *m* and is pressed into active position by a spring *n*<sup>5</sup>.

*m*<sup>3</sup> indicates a pin fastened to the casing and working in a slot in the slide *m* to limit the movement of the slide.

Now it will be observed that by means of suitable bell-crank or other connection with the slide *m* this slide may be moved up whenever desired, the spring *m*<sup>2</sup> acting to assist the force of gravity in returning the slide. Each movement of the slide effects a corresponding movement of the lever *k*, and thus the characters on the apron are successively advanced. As shown best in Fig. 3, the journal of the drum or roller *f* is provided with a notched wheel *o*, on which bears a spring-finger *o'*, and this tends to hold the parts in the position in which they are placed.

*o*<sup>2</sup> indicates a cam carried on a cranked spindle *o*<sup>3</sup>, and by throwing this cam from one position to another the spring-finger *o'* may be moved into and out of engagement with the wheel *o*. When the apron is to be reset, it is preferred to throw the spring-finger or dog *o'* out of action.

For the purpose of facilitating resetting the apparatus I provide means for momentarily disengaging the pawl *k'*, which means will now be described. *p* indicates an arm mounted to turn with a tubular shaft *p*<sup>2</sup> around the axis of the lower drum. This arm *p* carries a pin *p'*, which engages the pawl *k'*, and the shaft *p*<sup>2</sup> is provided with a hand-wheel *p*<sup>3</sup> to permit turning the shaft. By throwing the arm *p* down the pawl is disengaged from the ratchet, and the apparatus may be reset by turning a hand-crank *p*<sup>4</sup>, connected with the upper drum *f*.

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

1. In an indicator substantially as de-

scribed, the combination with the apron and the drive-rollers therefor, of a ratchet-wheel in connection with one of said rollers, a lever having a pawl engaging the said ratchet-wheel, a tubular shaft fitting around the axle of the roller which carries the ratchet-wheel, and provided at its outer end with means whereby the said tubular shaft can be turned, and an arm on said shaft provided with means for disengaging the pawl from the ratchet-wheel, substantially as set forth.

2. The combination of the roller or drum having a ratchet-wheel, and the apron for operation by said roller or drum, the axle or shaft of said drum, the tubular shaft encircling said axle and provided at its outer end with a handle and at its inner end with an arm extending adjacent to the ratchet-wheel and provided with a pin for releasing the operating-pawl, and the lever having a pawl arranged to engage the ratchet-wheel and to be released therefrom by the pin on the projecting arm of the tubular shaft, substantially as set forth.

3. The combination of the casing, the drum therefor, having a series of projecting pins and having axles at its ends, the apron having a series of openings receiving the pins of the drum, the tubular shaft fitting around the axle of the drum and provided at its outer end with a handle and at its inner end with a projecting arm having a pin or stud for releasing the operating-pawl, the ratchet-wheel on the drum, and the lever having a pawl engaging said ratchet-wheel, and arranged to be released therefrom by the arm of the tubular shaft, substantially as and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS FRANCES McCULLOUGH.

Witnesses:

ABRAHAM HALLE,  
ERNEST KIRKLAND MARTIN.