(Model.)

H. M. ALDRICH.

COUNTER FOR PRESSES OR OTHER MACHINES.

No. 452,687. Patented May 19, 1891.

Fig. 1.

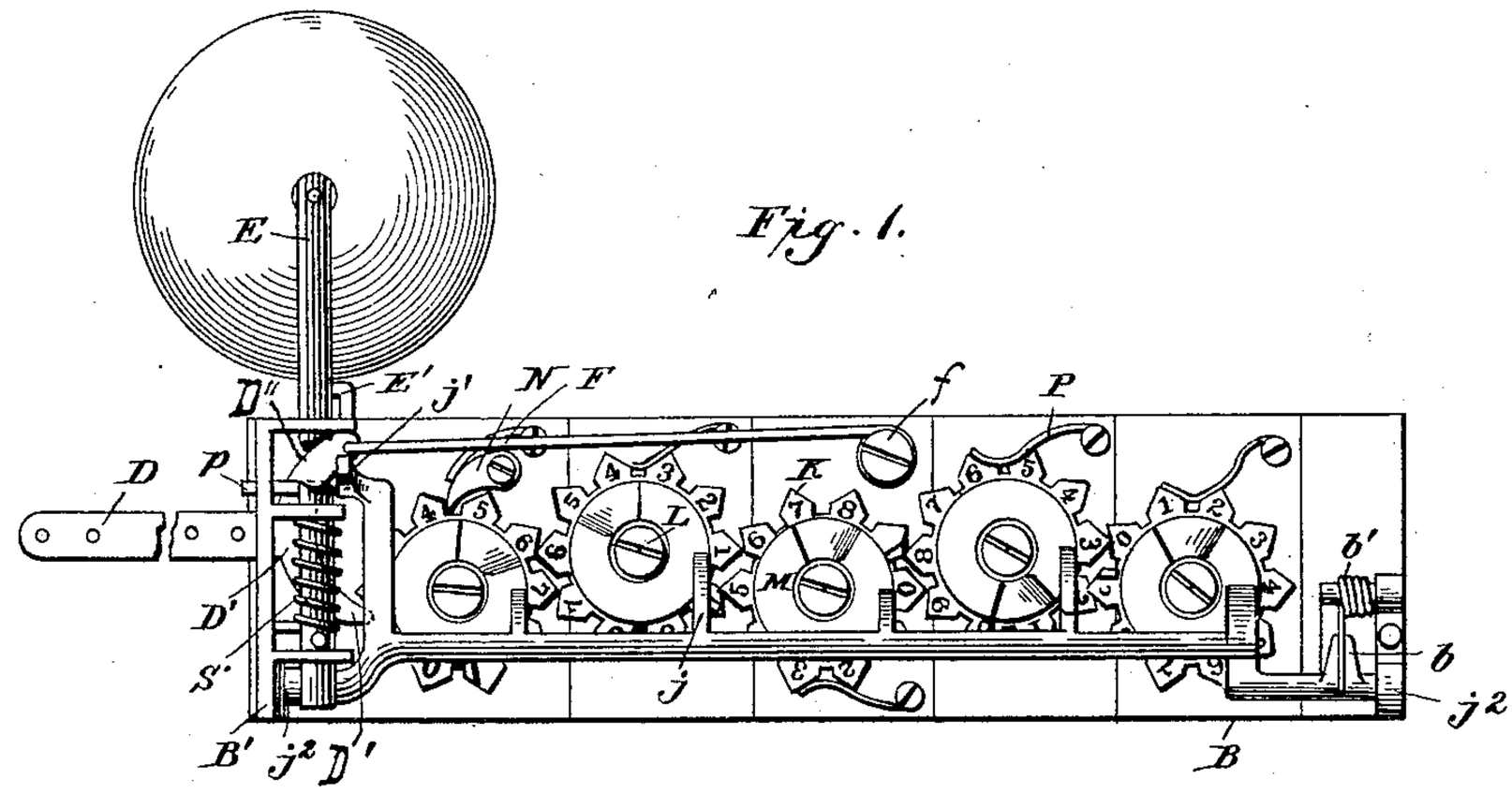


Fig. 2.

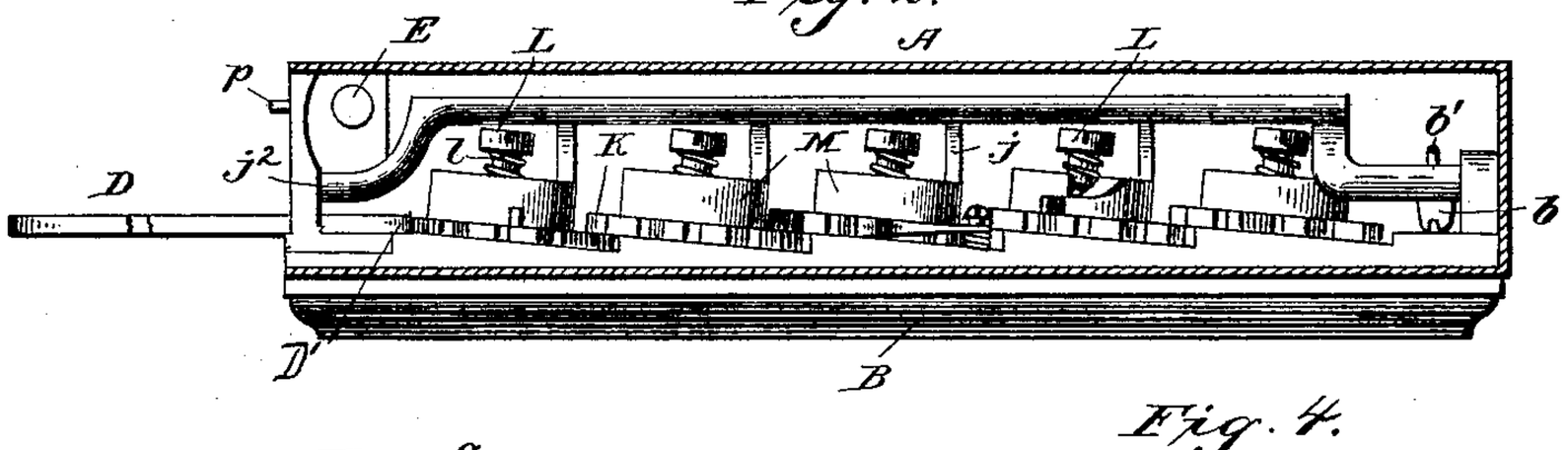


Fig. 3.

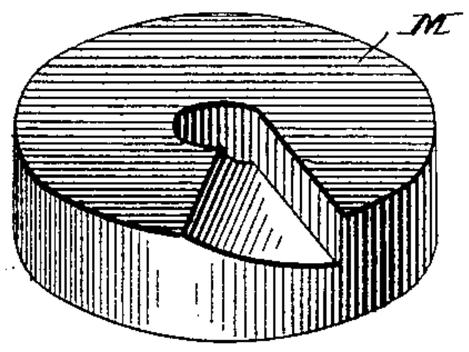


Fig. 4.

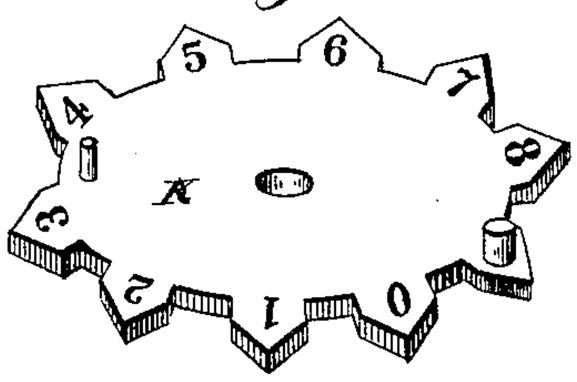


Fig. 5.

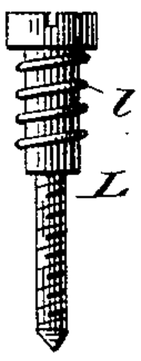


Fig. 6.

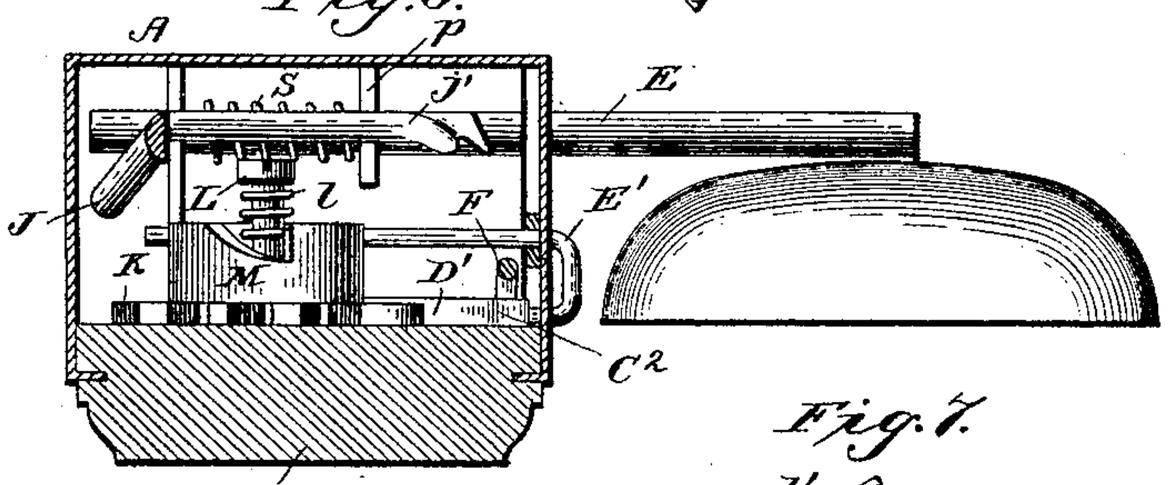
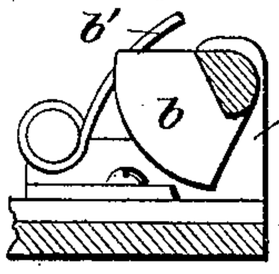


Fig. 7.



Witnesses:
F. P. Cornwall,
A. E. Metcalf.

Inventor
Homer M. Aldrich
By Martin Metcalf
Attorney

UNITED STATES PATENT OFFICE.

HOMER M. ALDRICH, OF BATTLE CREEK, MICHIGAN.

COUNTER FOR PRESSES OR OTHER MACHINES.

SPECIFICATION forming part of Letters Patent No. 452,687, dated May 19, 1891.

Application filed June 25, 1890. Serial No. 356,725. (Model.)

To all whom it may concern:

Be it known that I, HOMER M. ALDRICH, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Counting Apparatus Applicable to Printing-Presses and other Mechanism of Analogous Character, of which the following is a specification.

My present invention relates to that class of counting-machines employing a signaling device, whereby an alarm is sounded when the requisite number to which the machine is set is reached; and it consists in a combination of devices and novel arrangement illustrated in the accompanying drawings, in which similar letters of reference designate like parts in all the views.

Figure 1 is a rear side view with the case removed. Fig. 2 is a longitudinal section showing parts in elevation. Fig. 3 represents a view of the toothed wheel detached. Fig. 4 is a like view of the tumbler. Fig. 5 is a detached view of the upright post or screw upon which the wheels are journaled. Fig. 6 is a detail view of one of the toothed wheels. Fig. 7 is a view of one end of the arm J, showing the quadrant thereon.

The object of my present invention is to provide the counting apparatus with means for sounding a continuous alarm until recognized by the operator, and it is designed for especial adaptability to and as an improvement upon my invention in counters filed January 3, 1890, and serially numbered 335,746, and patented June 24, 1890, numbered 430,910.

A designates the case; B, the removable plate having orifices through which the numbers on the rotatable toothed wheels K are visible; D, the arm, which is connected in any suitable manner with a moving part of the mechanism to which the device is applied, and at its inner end formed or provided with oppositely-extending arms D′ D″, one of which D′ acts as a pawl and engages the teeth of one of said wheels, so as to rotate the same, and the other D″ of which engages the bell-hammer E′, hereinafter described.

F designates the spring for holding the arms D′ D″ in place and for automatically retracting them after each throw, so as to cause the pawl D′ to engage the next tooth of the wheels K and the arm D″ to strike the bell-hammer E′. One end of this spring is wound around or otherwise suitably secured to the shank of a headed stud, screw, or other device *f*, and its other end is pivotally secured to the free extremity of the arm D″.

L designates the shafts, and *l* the springs thereon, which pass through said toothed wheels and upon which the same rotate.

M designates the tumblers, having vertical and rotatable movement on said shafts.

N designates the dog engaging the first toothed wheel; O, the spring pressing upon said dog, and P the spring bearing upon the other toothed wheel, said dog and springs being designed to prevent the inadvertent turning of the wheels in the wrong direction.

J designates the releasing-bar, having the fingers *j* arranged to bear upon the adjacent faces of the tumblers.

Thus far my present invention is substantially identical in construction with that above referred to, and the parts enumerated need not therefore be more particularly described herein.

I will now proceed to describe my improvements.

In my present invention the rod J is eccentrically pivoted, as at j^2, so as to fold over out of the way of the operator when manipulating the tumblers, and in addition to the fingers *j* it is provided with an arm or stop *j′*, projecting parallel with said fingers and near the top and parallel with the upright end piece B′ of the plate B and having its extremity turned slightly toward and almost in contact with a bell-supporting sliding post E, which passes through openings formed in lugs *d′*, extending inwardly from said end piece B′. A coil-spring *s* may be wound around the sliding post to aid the gravity thereof in retracting or returning the said post and alarm-bell to its normal position for sounding the alarm.

The top of the arm *j′* of the rod J is cut away on an inclined plane from the back to

the face side thereof, while its under side is beveled in a similar manner, so as to allow the post E to be lifted up for its engagement with said arm after the counting-machine has sounded the signal. The opposite end of the bar J, I provide with a quadrant *b*, (shown best in Fig. 7,) engaging a retaining-spring *b'*, whose office is to hold the bar in any convenient position while the operator is engaged in adjusting the tumblers and wheels, and also to press the fingers down upon the face of the tumblers when the machine is in operation and to trip the stop or latch *j* from the pin *p* of the sliding post when the fingers are all brought into line and registering with the recesses of the tumblers, whereby the sliding post is left free to drop down to its normal position, and the signal is sounded so long as the arm D is actuated, or until the operator lifts up the bell to its position above the reach of the hammer, when the counting is continued, as before, until the tumblers again register with the fingers, when the latter drop into the said recesses of said tumblers and the alarm is repeated. The trip-pin *p* passes entirely through said sliding post E and its outer end engages in the vertical slot *p''* of the end piece B' and its inner end engages the under beveled side of the arm *j'* of the arm J, whereby the sliding post is guided and the throw thereof is determined. The bell-hammer E' has a slight sliding movement in the lugs *d d'* of the upright end piece B', and its recurved top forms the face of the hammer, with a parallel spur bent downward, which comes in contact with the uppermost extremity of the arm D'' immediately above the pivotal engagement of the longitudinal pawl-spring F.

By means of this novel arrangement of the various devices constituting this counter, a continuous signal-alarm is sounded when the number to which the machine is set shall be reached, or until the bell-post is lifted up and the bell is again locked beyond the reach of the hammer, and until the fingers shall again register and fall into the recesses of the tumblers, when the signal is repeated, as before.

I have shown the bell fixed to a sliding post; but it is evident that the bell may have a fixed position upon or adjacent to the sounding-hammer, while the latter may be arranged to slide instead, and, disengaging from a trip of an arm of the bar J, shall sound the continuous-alarm signal in substantially the same way.

Having thus fully illustrated and described my invention and described its mode of operation, whereby its advantages are manifest to those skilled in the arts to which it appertains, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a counting mechanism consisting of a series of wheels and recessed tumblers and means for setting and operating the same, a sliding post supporting a signal-bell and a trip device whereby the releasing-bar carrying a series of fingers, when brought into line with a series of recesses of the tumblers, is disengaged from the sliding post, whereby the signal is continuously sounded by the hammer striking the bell carried by said post so long as the counting-machine is in operation, or until the operator shall reset the post or the various counting devices, substantially as and for the purposes set forth.

2. In a counting mechanism of the class designated, consisting of a series of wheels and recessed tumblers interchangeably locked together and means for operating the same, a sliding post carrying a trip and a bell, a releasing-bar provided with a series of fingers arranged to register with the series of recesses of the tumblers when the same are brought into line so as to engage therewith, and a hammer arranged to strike the bell and sound a signal at every pulsation of the actuating-pawl and until the operator responds to the signal-call, substantially as set forth.

3. In a counting mechanism, a series of wheels and recessed tumblers, means for operating the same, a releasing-bar provided with a series of fingers, and means for holding the said bar away from the face of the tumblers in any desired position while manipulating the tumblers and wheels and for holding the fingers to the faces of the tumblers while the counter is running, in combination with a sliding post carrying a trip and a bell, a bell-hammer, and means connected with a moving part of the mechanism with which the counter is used for operating said hammer.

4. In a counting-machine of the class described, the combination of a series of wheels and recessed tumblers and means for operating the same, a releasing-bar provided with an eccentric and spring engaging therewith, a series of fingers arranged to register and fall into the recesses of said tumblers, a sliding post having a trip and carrying a bell, a bell-hammer, and means connected with a moving part of the machine with which the counter is used for operating said hammer.

5. In a counting-machine, the combination of the sounding mechanism, a series of wheels and recessed tumblers, means for operating the same, an eccentrically-pivoted releasing-bar having a series of fingers arranged to register with and fall into the recesses of the tumblers, and also having a quadrant, as described, at or near one end, and a spring engaging said quadrant, substantially as described, and for the purposes specified.

6. In a counting-machine, the combination, with the counting and releasing mech-

anism, of a signaling mechanism consisting of a sliding post having a trip and carrying a bell, a bell-hammer, and means connected with a moving part of the machine with which the counter is being used for operating said hammer and sounding an alarm, substantially as described, and for the purposes specified.

In witness whereof I hereunto affix my hand and signature.

HOMER M. ALDRICH.

Witnesses:
PAUL C. RAHN,
W. O. PALMER.