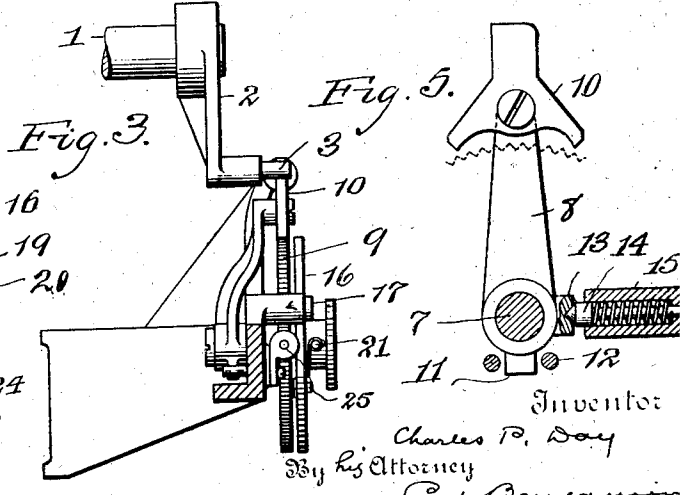
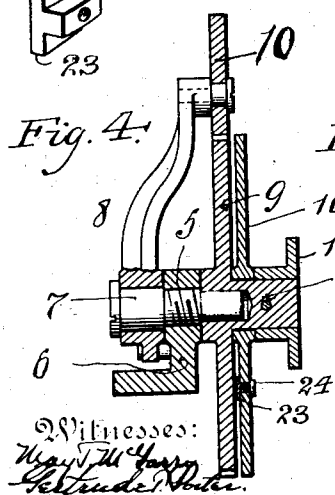
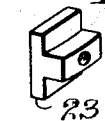
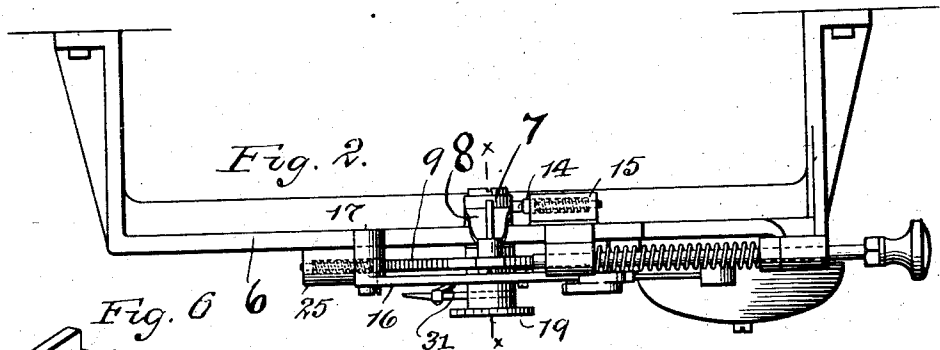
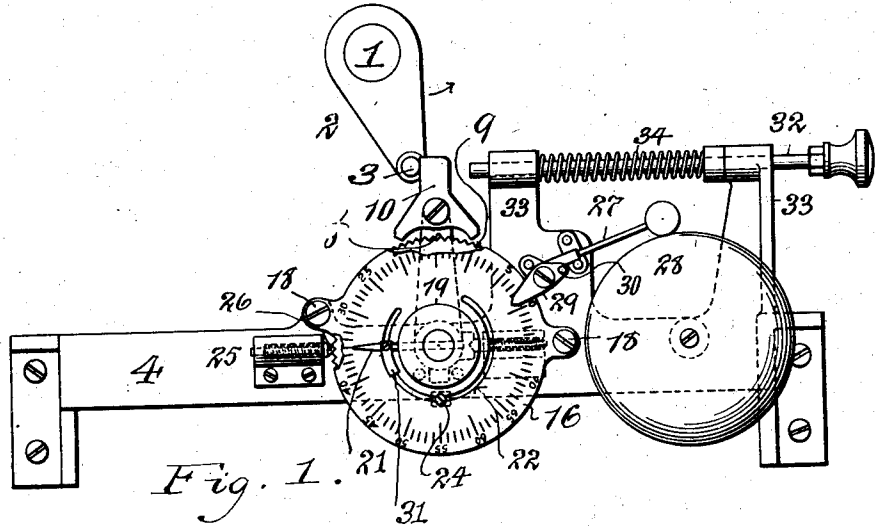


C. P. DAY.
 REVOLUTION COUNTER.
 APPLICATION FILED MAR. 28, 1912.

1,046,992.

Patented Dec. 10, 1912.



Witnesses:
 May 11, 1912
 G. L. H. H. H.

Inventor
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 By His Attorney
 L. B. Benjamin

UNITED STATES PATENT OFFICE.

CHARLES P. DAY, OF NEWARK, NEW JERSEY, ASSIGNOR TO UNIVERSAL TOBACCO MACHINE COMPANY, A CORPORATION OF NEW YORK.

REVOLUTION-COUNTER.

1,046,992.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed March 28, 1912. Serial No. 686,743.

To all whom it may concern:

Be it known that I, CHARLES P. DAY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Revolution-Counters, of which the following is a specification.

The invention is a revolution counter, and is more especially intended to indicate the number of leaves fed to the rotary booking drum of the tobacco stripping and booking machine set forth in U. S. Letters Patent No. 985,984, dated March 7, 1911, and granted to Martin and Eugene M. Deiller. In booking machines of this type, the tobacco leaves as they are cut from the stem are received upon a rotary drum, and are there retained by suitable belts. The motion of the drum is stopped at a predetermined point during each revolution, so as to allow the operator to introduce a leaf, with the result that the successive leaves become superimposed on the drum, thus forming a "book," which, when the number of leaves reaches a certain limit, is removed.

My present device is so constructed that when the predetermined number of leaves has been reached, an alarm is given, thus warning the operator that the book is ready for removal, and obviating the need of the operator counting the leaves as they are fed into the machine. The construction is also such that the device may be easily re-set, and also such that in event of the operator skipping the feeding in of a leaf for one or more revolutions of the drum, the device may be adjusted to prevent an erroneous signal being given.

In the accompanying drawings—Figure 1 is a side elevation, Fig. 2 is a top view, and Fig. 3 an end elevation of my device. Fig. 4 is a vertical section on the line *x, x* of Fig. 2. Fig. 5 shows separately the operating lever and spring latch therefor, and Fig. 6 shows separately the block for the stop screw.

Similar numbers of reference indicate like parts.

1 is the actuating shaft, the revolutions of which the device indicates. This may be the shaft 14 of the booking drum shown in the drawings of the aforesaid patent. On the end of said shaft (left hand end, as shown in Figs. 3 and 4 of said patent) I secure an arm 2, which carries a pin 3, so

that through the revolution of said shaft the pin 3 may meet and operate the counter mechanism now to be described, which is mounted on the supporting frame 4, secured to the main frame of the machine.

The shouldered screw 5, which is received in a flange 6 of frame 4, has on one end a cylindrical extension 7 which forms a pivot for the vibrating arm 8, and at the other end a similar extension which enters the hub of ratchet wheel 9, Fig. 4. The arm 8 carries a double pawl 10, suitably placed to engage with the teeth of wheel 9, and has at its lower extremity a projection 11 which comes between the fixed stops 12. On the side of the hub of arm 8 is a boss 13, having a conical recess to receive the conical end of a spring actuated latch rod 14, the said rod and spring operating in a cylindrical casing 15, secured in any suitable way to frame 4.

On the hub of wheel 9 is an indicator plate 16, having on its face a suitable scale marking and secured to standards 17 on flange 6 by screws 18. Also on the hub of wheel 9, outside of plate 16, is a sleeve 19, secured to said hub by the shank 20 of the radial pointer 21. In the plate 16, and concentric therewith, is a slot 22, in which is disposed the shouldered block 23, Fig. 6, which receives the headed stop screw 24.

On flange 6 is a cylindrical case 25, similar to casing 15 and containing a spring actuated bevel ended latch rod 26 which engages with the teeth of ratchet wheel 9. Pivoted on flange 6 is a lever 27, which carries the hammer of a gong 28. Pivoted on said lever is an arm 29, one end of which is in the path of revolution of pointer 21, and the other end carries a pin 30 which extends under lever 27.

The operation of the device is as follows, assuming it to be applied to a tobacco stripping machine to indicate when a predetermined number of leaves have been made into a book: The stop screw 24 being loosened, the pointer 21 and with it the ratchet wheel 9, are turned by means of sleeve 19 until the pointer indicates said predetermined number on the scale. The stop screw 24 is then moved into contact with the end of the leaf spring 31 carried by said pointer and clamped, thus setting the device to indicate the desired number of shaft revolutions. The machine being started, a leaf is fed in

at each revolution of the booking drum. Coincidentally with each revolution of said drum, the arm 2 makes one revolution in the direction of the arrow, Fig. 1, and in so doing first actuates the pawl 10 to engage with one of the teeth of wheel 9, and then swings the arm 8 against one of its limiting stops 12, thus moving wheel 9 ahead one tooth and pointer 21 ahead one scale division. This is repeated until the pointer 21 reaches arm 29 of lever 27, which arm is located just in advance of the zero point of the scale. The pointer then strikes said arm and causes it, by means of its pin 30, first to raise and then to release lever 27, thus causing the gong 28 to sound.

The function of the spring latch 14 is to bring the arm 8 back to upright position after it has been operated by arm 2, and to hold it there. The function of the spring 26 is to prevent any overrunning of the ratchet wheel 9 beyond the movement impressed on it by pawl 10.

At 32 is a headed rod which extends through sleeves on the standards 33, and is provided with a fixed collar, bearing on a helical retracting spring 34. When said rod is pushed inward (the pin 3 being out of the way) its end actuates pawl 10 to move ratchet wheel 9 in the reverse direction to that in which said wheel is moved by the revolution of arm 2. Each inward movement of rod 32 sets the pointer 21 back one scale division. This means serves to prevent an erroneous indication as to the number of leaves in a book. If the operator fails to insert a leaf during a revolution of the drum, he pushes rod 32, and the pointer is set back one space. In order to bring the leaf spring 31 into contact with screw stop 24, the ratchet wheel 9 and pointer 21 may be turned backward by means of the sleeve 19, which may, for convenience, be provided with a suitable milled head.

It will, of course, be obvious, that the scale marking may here indicate number of revolutions of shaft 1.

I claim:

1. A device of the character described comprising an arm pivoted for back and forth movement, a double pawl carried by and pivoted upon said arm, a toothed wheel with which said pawl engages, a moving part contacting with said pawl and actuating it in one direction the distance of one tooth at each contact, a signal member,

means for actuating said signal member when said toothed wheel has moved a predetermined distance, and a manually operable member arranged to engage the double pawl and impart a reverse movement to said toothed wheel the distance of one tooth, when actuated.

2. A device of the character described comprising an arm pivoted for back and forth movement, a double pawl carried by and pivoted upon said arm, a toothed wheel with which said pawl engages, a moving part contacting with said pawl and actuating it in one direction the distance of one tooth at each contact, a signal member, means for actuating said signal member when said toothed wheel has moved a predetermined distance, and a manually operable member arranged to engage the double pawl and impart a reverse movement to said toothed wheel the distance of one tooth, when actuated, a scale plate fixed in front of said toothed wheel a pointer movable with said wheel and traveling over said plate and means for returning the pawl carrying arm to a central position after each actuation.

3. A device of the character described comprising an arm pivoted for back and forth movement, a double pawl carried by and pivoted upon said arm, a toothed wheel with which said pawl engages, a moving part contacting with said pawl and actuating it in one direction the distance of one tooth at each contact, a signal member, means for actuating said signal member when said toothed wheel has moved a predetermined distance, and a manually operable member arranged to engage the double pawl and impart a reverse movement to said toothed wheel the distance of one tooth, when actuated, a scale plate fixed in front of said toothed wheel a pointer movable with said wheel and traveling over said plate and means for returning the pawl carrying arm to a central position after each actuation, said means comprising a spring pressed plunger engaging a recess formed in said arm.

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

CHARLES P. DAY.

Witnesses:

GERTRUDE T. PORTER,
MAY T. MCGARRY.