B. M. SNAPP.

COUPON COUNTING MACHINE.

APPLICATION FILED SEPT. 28, 1918.

1,311,849.

Patented July 29, 1919.

2 SHEETS—SHEET 1.

Fig. 1,

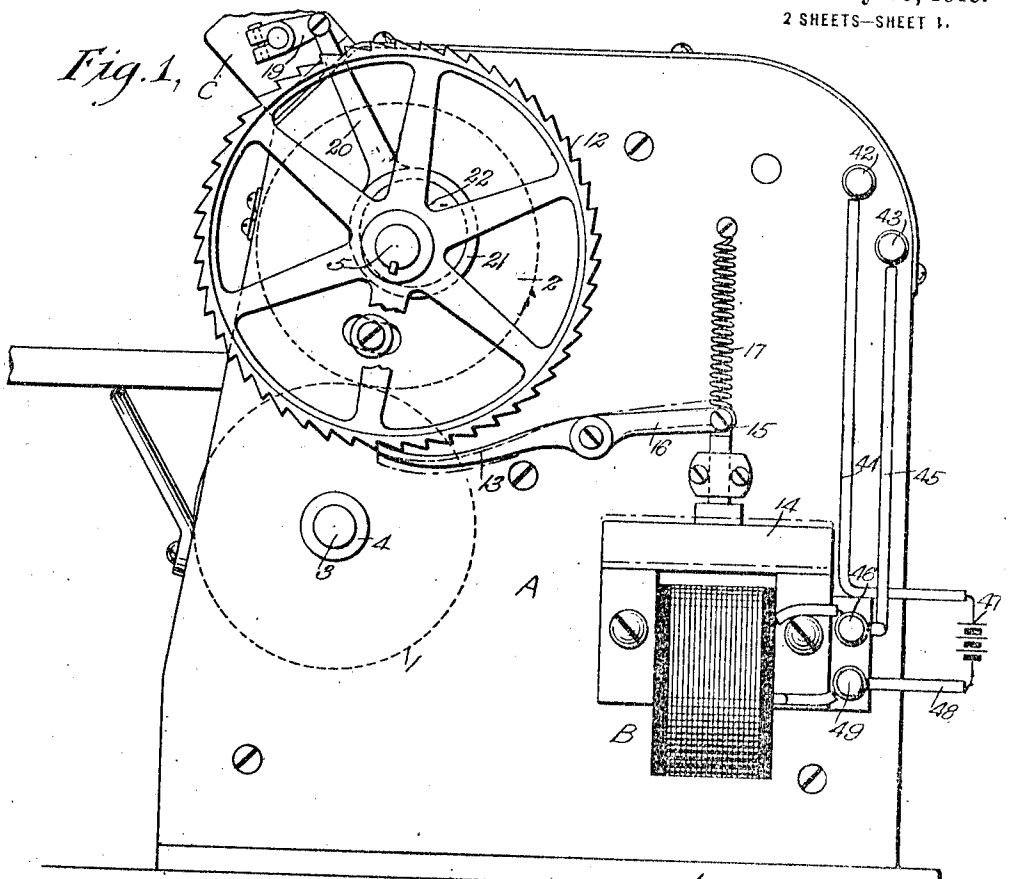
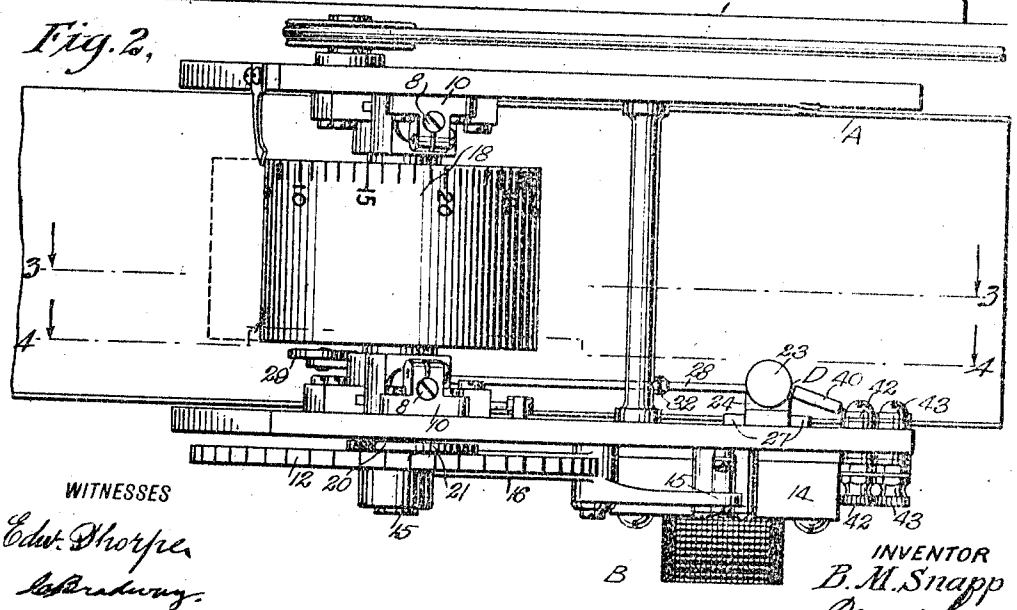


Fig. 2,



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3,

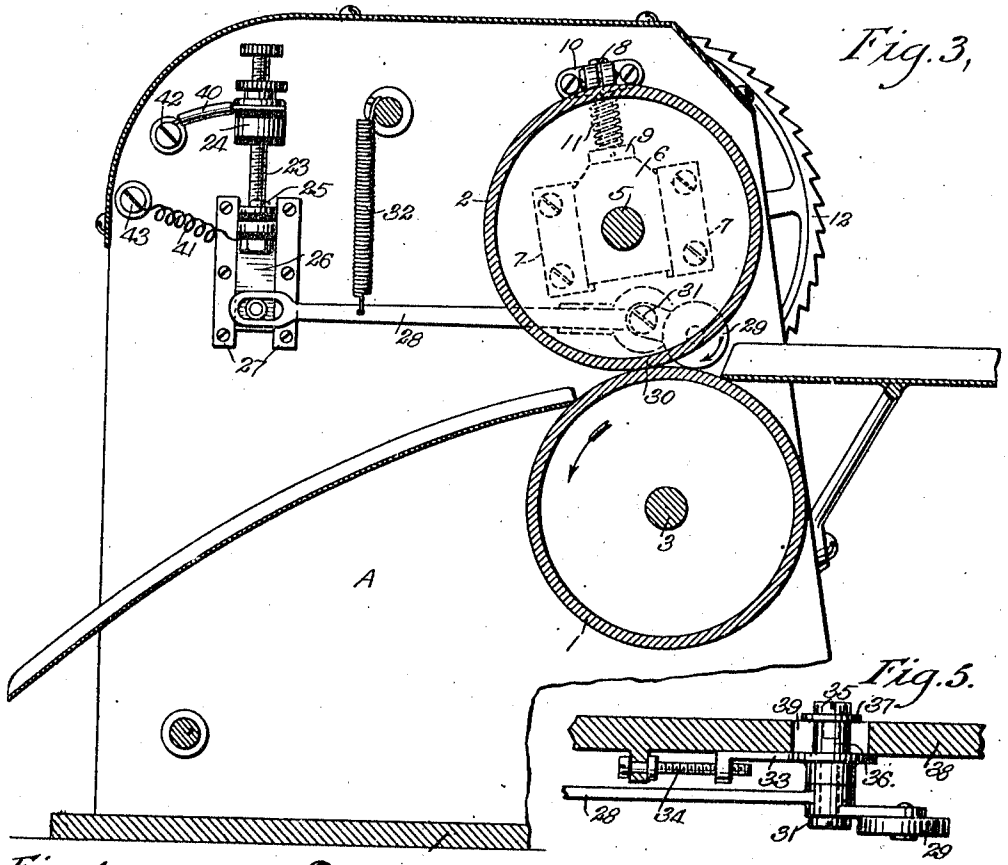
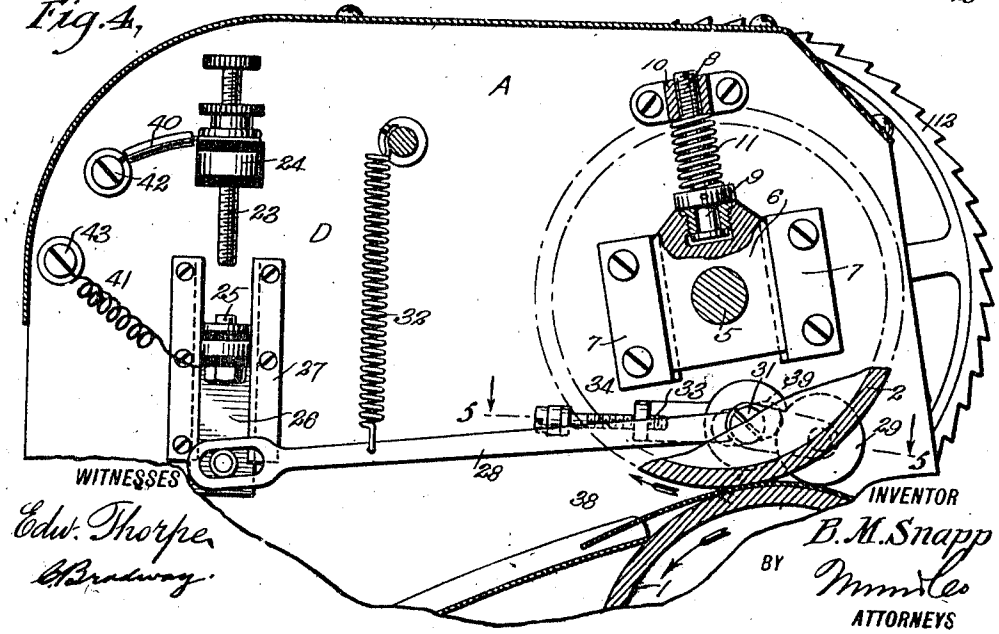


Fig. 5.

Fig. 4,



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UNITED STATES PATENT OFFICE.

BERT MORTON SNAPP, OF BALBOA, CANAL ZONE.

COUPON-COUNTING MACHINE.

1,311,849. Specification of Letters Patent. Patented July 29, 1919.

Application filed September 28, 1918. Serial No. 256,041.

To all whom it may concern:

Be it known that I, BERT M. SNAPP, a citizen of the United States, and a resident of Balboa, Canal Zone, Panama, have invented a new and Improved Coupon-Counting Machine, of which the following is a full, clear, and exact description.

This invention relates to a machine for counting coupons, tickets and the like in strip form, and the invention has for its general objects to improve the construction and operation of machines of this character so as to be reliable and accurate in use, capable of counting at a high speed, and adapted to automatically start and stop by the insertion of the ticket or coupon strip and the discharge thereof.

A more specific object of the invention is the provision of a measuring roll or cylinder which is driven from a continuously rotating driving roll or cylinder only when the coupon, ticket or other strip to be counted or measured in coupon, ticket or other units feeds between the cylinders, there being an automatic switch which is opened upon the insertion of the strip and closed upon the discharge thereof, so as to control a magnet circuit, the magnet of which operates a pawl which in turn controls the starting and stopping of the counting roll.

With such and other objects in view, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention and wherein similar characters of reference indicate corresponding parts in all the views,

Figure 1 is a side view of the machine;

Fig. 2 is a plan view with the top of the casing removed;

Figs. 3 and 4 are vertical sections on the lines 3—3 and 4—4, respectively, Fig. 2; and Fig. 5 is a detail view of the means for adjusting the switch-controlling roll.

Referring to the drawings, A designates a casing of any approved construction in which are arranged two rolls or cylinders 1 and 2 serving respectively for driving and counting. The roll 1 is adapted to be continuously driven by an electric motor (not shown) or any other suitable means, and the counting cylinder 2 is in such relation thereto that it does not rotate until it is released, and there is a coupon, ticket or other strip passing between the rolls. The shaft 3 of the driving roll 1 is mounted in fixed bearings 4, whereas the shaft 5 for the counting roll is mounted in bearing boxes 6 slidable in guides 7 on the inner face of the side walls of the casing, there being an adjusting screw 8 having a swivel connection at 9 with the adjustable bearing box 6 and threaded in a bracket 10, and on the screw is a spring 11 normally under tension and serving to permit of upward yielding of the counting roll away from the driving roll so as to accommodate the coupon or ticket strip between the rolls, and also to maintain the counting roll in frictional engagement with such strip.

On the shaft 5, which extends out of the casing, is a ratchet wheel 12 with which cooperates a pawl 13 to prevent turning of the counting wheel, except when a coupon strip or the like is inserted between the rolls. This pawl is normally held in holding relation, as shown by full lines in Fig. 1, by an electromagnet B, the armature 14 of which is connected at 15 with the arm 16 of the pawl, and a spring 17 also connected with the arm 16 serves to release the pawl. The electromagnet is energized as long as there is no coupon or ticket strip between the rolls, and consequently the pawl 13 prevents the counting roll from turning. By this means a Veeder or other register C, Fig. 1, will always indicate accurately the number of coupons, tickets or the like counted by the turning of the roll 2, this latter having a scale 18, as shown in Fig. 2, divided into such units as to correspond with the coupons or tickets on a strip. The registering mechanism C has a crank arm 19 connected with an eccentric 20 which is provided with a strip 21 encircling the eccentric 22 on the shaft 5.

The electromagnet B is controlled by a switch D constructed as shown in Figs. 3 and 4. This switch is arranged within the casing and comprises an adjustable contact 23 in the form of a screw mounted in a bracket 24, and a movable contact 25, carried by and insulated from a slide 26 movable between guides 27 fastened to the casing. The slide 26 is connected with a lever 28 which carries a strip-engaging roll 29 located at a slight distance from and on the receiving side of the contact point 30 of the rolls 1 and 2, as clearly shown in Fig. 3, and

consequently by the insertion of a ticket or coupon strip the switch-controlling roll 29 is raised so that the lever 28 will swing on the fulcrum 31 as a center and open the switch D so that the magnet B will be de-energized, which will permit the spring 17 to release the pawl 12 and allow the counting wheel to turn. The lever 28 is acted on by a spring 32 which tends to hold the switch B in closed circuit condition. In order to adjust the switch-controlling roll 29 to operate at the proper time the fulcrum 31 for the lever 28 is carried by a slide plate 33, as shown in Fig. 5, which plate is capable of adjustment by means of a screw 34, and when properly adjusted the fulcrum 31 is clamped in position by a clamping screw 35 which screws into the fulcrum post 36 and binds the washer 37 into frictional contact with the side wall 38 of the casing, said side wall having a slot 39 to permit of the fulcrum post 36 being adjusted.

The switch contacts 23 and 25 are connected by wires 40 and 41 with binding posts 42 and 43, to which are connected wires 44 and 45 that lead respectively to the terminals 46 of the magnet B, and the battery or other source of current 47, which latter is in turn connected by a wire 48 with the other terminal 49 of the magnet.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the principle of operation, together with the machine which I now consider to be the best embodiment thereof, I desire to have it understood that the machine shown is merely illustrative and that such changes may be made when desired as fall within the scope of the appended claims.

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

1. A counting machine of the class described comprising a driving roll, a counting roll adapted to be driven by the first roll by the interposition of a strip-like element, a ratchet wheel connected with the counting roll, a pawl for engaging the ratchet wheel to prevent the ratchet wheel from turning, a spring for disengaging the pawl from the ratchet wheel, an electromagnet having its armature connected with the pawl and normally holding the pawl in engagement with the ratchet wheel, and means operated by the strip-element for controlling the electromagnet.

2. A counting machine of the class described comprising a driving roll, a counting roll adapted to be driven by the first roll by the interposition of a strip-like element, a ratchet wheel connected with the counting roll, a spring pressed pawl for engaging the ratchet wheel, electrical means for normally holding the pawl in engagement with the ratchet wheel, a normally closed switch, a circuit including the switch and electrical means, and a device engaged by the strip-like element to open the switch when the element is inserted between the rolls and to close the switch when the element passes from between the rolls.

3. A counting machine of the class described comprising a driving roll, a counting roll adapted to be driven by the first-mentioned roll when a strip-like element is inserted between them, a brake device for normally preventing releasing of the counting roll, a normally energized electromagnet for releasing the brake device, a normally closed switch for maintaining the electromagnet energized, an adjustable lever connected with the movable element of the switch, and means on the lever for engagement with the strip-like element to open the switch as soon as the element is inserted between the rolls and to permit the switch to close as soon as the element passes from between the rolls.

4. In a counting machine of the class described, a driving roll, a counting roll driven from the first roll by the interposition of a strip-like element, a ratchet wheel connected with the counting roll, a spring pressed pawl engaging the ratchet wheel, a normally energized electromagnet for holding the pawl in engagement with the ratchet wheel, an electric circuit, a normally closed switch in the circuit for maintaining the electromagnet energized, a lever connected with the movable member of the switch, and a roller on the lever in front of said rolls and adapted to be engaged by the strip-like element to open the switch and thereby deënergize the electromagnet.

5. In a counting machine of the class described, a driven roll, a counting roll driven from the first roll by the interposition of a strip-like element, a ratchet wheel connected with the counting wheel, a pawl engaging the ratchet wheel, a normally energized electromagnet for holding the pawl in engagement with the ratchet wheel, a spring for disengaging the pawl when the electromagnet is deënergized, an electric circuit, contacts one of which is fixed and the other slidable, a pivoted lever having one end loosely connected with the slidable contact, a spring acting on the lever for holding the contacts in engagement, and a roller on the other end of the lever and adapted to be engaged by the strip-like element to operate the lever and thereby disengage the contacts.

BERT MORTON SNAPP.