(No Model.)

F. MEISEL.

COIN OPERATED MACHINE FOR FURNISHING TOILET PAPER.

No. 459,252. Patented Sept. 8, 1891.

Fig. 1.

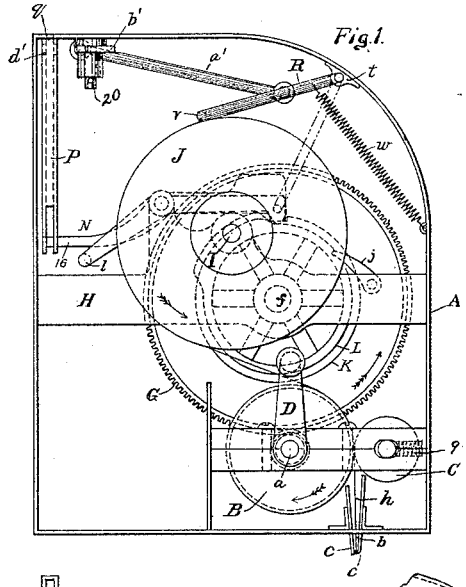


Fig. 2.

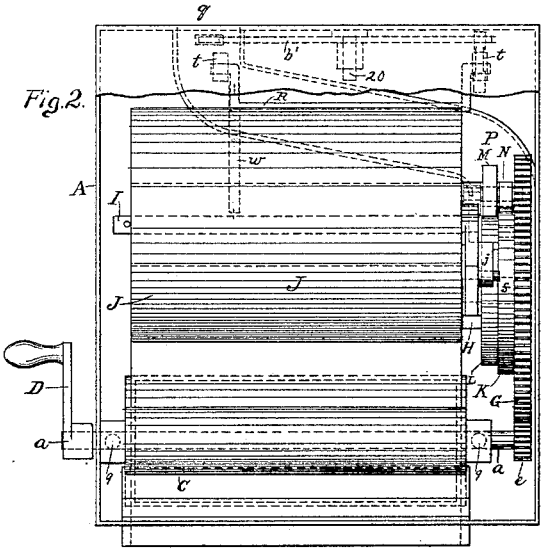


Fig. 3.

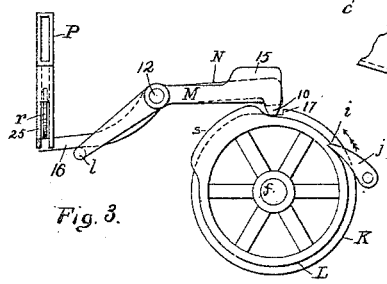


Fig. 4.

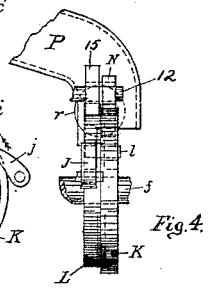


Fig. 5.

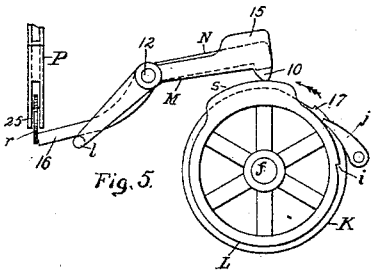


Fig. 6.

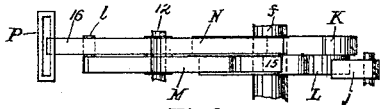
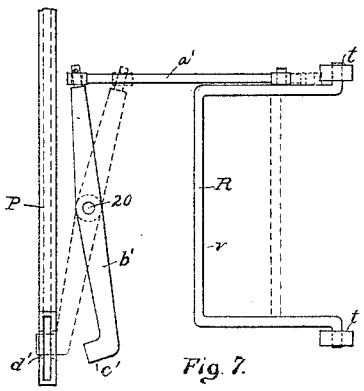


Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANCIS MEISEL, OF BOSTON, MASSACHUSETTS.

COIN-OPERATED MACHINE FOR FURNISHING TOILET-PAPER.

SPECIFICATION forming part of Letters Patent No. 459,252, dated September 8, 1891.

Application filed April 22, 1891. Serial No. 390,039. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS MEISEL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Coin-Operated Machines for Furnishing Toilet-Paper, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an end elevation of my improved coin-operated machine for furnishing toilet-paper, a portion of the casing being removed to show the interior construction. Fig. 2 is a side elevation of the same with the casing broken away to show the parts within and with the roll of toilet-paper in place. Figs. 3 and 4 are details of the coin-operated mechanism for locking and releasing the delivery-rolls, Fig. 3 being a side elevation and Fig. 4 an end elevation; Figs. 5 and 6, details of the same with the parts in the positions which they occupy when the coin is being discharged from the chute, Fig. 5 being a side elevation and Fig. 6 a plan. Fig. 7 is a detail showing in plan view the device whereby the coin-slot is closed when the supply of paper is exhausted, or nearly so.

My invention relates to coin-operated machines for furnishing toilet-paper; and it consists in certain novel combinations of parts and details of construction, as hereinafter set forth and specifically claimed.

In the said drawings, A represents the outer metallic casing of the machine, within the lower portion of which are mounted a pair of delivery or feed rolls B C of different diameters, the smaller roll C, which is pressed up to the larger one by a horizontal spring 9, Fig. 1, being composed of rubber or other suitable elastic substance, and being driven by the friction of the larger roll B, the shaft *a* of which is provided outside the casing with a crank D, whereby said rolls, when unlocked, may be rotated by the hand to deliver a strip of toilet-paper of predetermined length, which is passed out by said rolls through a narrow slot or opening *b*, formed between two plates *c c*, the lower ends of which form cutting-edges, against which the strip of paper may, if desired, be torn off squarely after the delivery-rolls have been locked, as hereinafter described.

To the inner end of the shaft *a* of the delivery-roll B is secured a pinion *e*, which meshes with a large gear G, mounted upon a horizontal stud *f*, projecting from a supporting frame or plate H, which extends across the interior of the casing A, as seen in Fig. 1, and is secured in place in any suitable manner. From the front side of the plate H, opposite to that on which the gear G is located, projects a horizontal shaft I, upon which turns freely a wooden roll or core (seen dotted in Fig. 2) supporting a roll of paper J, the free end *h* of which passes between the delivery-rolls B C and out through the slot *b* in the bottom of the casing, as previously described, said delivery-rolls bearing against the paper with sufficient friction to prevent it from being pulled through when said rolls are locked, thus frustrating any attempt to draw out a larger strip of paper than is intended to be furnished. To the gear G are firmly fixed, so as to revolve therewith upon the stud *f*, a wheel or disk K and a cam-wheel L, the latter provided with a notch *i*, with which engages a retaining-pawl *j*, pivoted to the plate H, whereby the backward rotation of the gear G and mechanism connected therewith is prevented. Upon the periphery of the cam-wheel L rests a tooth 10, formed at the end of a lever M, pivoted on a stud 12, projecting from the plate H, the end of the lever which rests on the cam-wheel being provided with a weight 15 to keep it normally in contact therewith. Upon the stud 12 and side by side with the lever M is also pivoted another lever N, the arm 16 of which is suspended immediately over and slightly above a pin 1, projecting laterally from the lever M, as seen in Fig. 6. The inner end of the lever N is provided with a square tooth or projection, (seen dotted in Figs. 3 and 5,) which is adapted to engage with a notch or shoulder 17 on the wheel K to lock it and prevent it from rotating in the direction of the arrow until withdrawn, as hereinafter explained. The outer end of the lever N extends beneath the open bottom of a narrow channel or coin-chute P, at the upper end of which in the top of the casing A is formed the coin-slot *q*, the

coin, when dropped therein, passing down to the bottom of the chute, and being prevented from passing out therefrom by contact with the end of the lever N, upon which it rests, and which acts as a stop therefor. This lever N is so counterbalanced that the weight of the coin *r*, Fig. 3, introduced through the slot *q* and falling upon the end 16 of the lever, as seen in Fig. 3, will raise the tooth or projection at its opposite end out of the notch 17 of the wheel K, the coin tilting said lever downward until it is arrested by contact with the pin 1 of the lever M. As soon as the lever N is thus raised out of the notch 17 the wheels K L and the gear G are released or unlocked, and the delivery-rolls connected therewith through the medium of the pinion *e* are free to be rotated by means of the crank D to feed out the toilet-paper for use as desired. The number of teeth of the pinion *e* is such that in the present case eight revolutions of the delivery-roll B are required to produce a single revolution of the gear G, disk K, and cam-wheel L; but by varying the relative sizes of the pinion and gear or the diameter of the delivery-roll B the length of the strip of paper delivered for use at a single operation of the machine may be varied as desired. As the cam-wheel L is rotated its projecting portion *s* is brought into contact with the lever M, raising the same and depressing the pin 1 at its opposite end, when the end 16 of the lever N will be tilted down by the weight of the coin as far as permitted by said pin 1 into the position seen in Fig. 5, this movement of the lever enlarging the opening 25 at the front of the coin-chute sufficiently to release the coin, which will then drop into the bottom of the casing A or into a receptacle placed therein to receive it. The end 16 of the lever N, being thus relieved of the weight of the coin, will immediately return to the position seen in Fig. 1, and as soon as the portion *s* of the cam-wheel L has passed from under the end of the lever M it will fall back by its own weight into the position seen in Figs. 1 and 3, immediately after which the end of the lever N will engage with the notch 17 of the disk K, locking it and preventing any further rotation of the gear G and delivery-rolls B C, connected therewith, in the direction of the arrows, while at the same time the pawl *j* will drop into the notch *i* of the wheel L and prevent any rotation of the gear G in the opposite direction, thus securely locking the said gear, which can only be turned a single revolution for each coin introduced into the machine. The parts are now in position for a repetition of the operation on the introduction of another coin into the chute P, when another strip of paper can be fed out for use by turning the crank D.

A suitable tension is placed upon the roll of paper J by means of a bail-shaped follower R, pivoted to the top of the interior of the casing A at *t t* and having secured to it a spiral spring *w*, by means of which its transverse bar *v* is kept constantly in contact with the periphery of the roll J of paper, thereby preventing the same from wrinkling as it is being unwound, the spring *w* causing it to follow the roll and exert a constant pressure thereupon as its diameter diminishes. To one side of the follower R is pivoted a connecting-rod *a'*, the opposite end of which is connected to a horizontal lever *b'*, pivoted upon a stud 20, projecting downward from the top of the casing A. As the diameter of the roll of paper diminishes under use the bail R, resting on its periphery, is gradually drawn down by the spring *w*, and when the roll of paper is exhausted, or nearly so, the bail R will assume the position seen in dotted lines in Figs. 1 and 7, carrying the lever *b'* into the position seen dotted in Fig. 7, when a projection *c'* on its free end will pass through an aperture *d'* into the coin-chute P at its top immediately beneath the coin-slot *q*, thus closing the said slot *q* and preventing the introduction of another coin until the supply of paper has been replenished.

This device I regard as an important and valuable accessory in machines of this description, as it prevents the public from being defrauded in case the person who is authorized to fill the machine with paper neglects to do so at the proper time.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for furnishing toilet-paper, the combination, with a coin-carrying chute or channel and a paper-delivering mechanism provided with an operating-crank, of a notched wheel and a cam-wheel rotating together and connected by gearing with the paper-delivering mechanism, a retaining-pawl for preventing the backward rotation of the mechanism, a counterbalanced lever adapted to receive the coin and to be moved thereby, said lever engaging with said notched wheel to lock the same and prevent the movement of the paper-delivering mechanism, and a weighted lever operated by the cam-wheel and provided with a pin or projection extending laterally beneath the coin-operated lever and forming a stop to limit its descent when actuated by the weight of the coin dropped thereupon, said weighted lever when operated by the cam-wheel permitting the further descent of the coin-operated lever to release and discharge the coin resting thereupon, substantially as set forth.

2. In a machine for furnishing toilet-paper, the combination of the delivery-rolls for the paper operated by a crank, a coin-carrying chute or channel, a notched wheel K, and a cam-wheel L, rotating together and connected by suitable gearing with said delivery-rolls, a retaining-pawl for preventing the backward rotation of the mechanism, a counterbalanced lever N, engaging with a notch in the wheel K and adapted to be disengaged therefrom to release or unlock said wheel by the weight of a coin resting thereupon, and a

weighted lever M, operated by the cam-wheel and having a pin 1 extending laterally beneath the lever N, forming a stop to limit the descent of said lever when actuated by the weight of the coin, said lever M, when raised by the cam-wheel, permitting the further descent of the lever N, whereby the coin is discharged from the chute and the lever N permitted to assume its normal position and lock the wheel K, substantially as set forth.

3. In a machine for furnishing toilet-paper, the combination of a pair of feed or delivery rolls, one provided with an operating-crank, a gear G, meshing with a pinion or gear on the shaft of one of said delivery-rolls, a cam-wheel L and a notched wheel K, secured to said gear G and rotated thereby, a retaining-pawl for preventing the backward rotation of the mechanism, a coin-carrying chute, a locking-lever N, engaging with a notch or shoulder on the wheel K and adapted to be actuated by the weight of a coin dropped thereupon to unlock said wheel and held in such position by the weight of said coin to permit the delivery-rolls to be turned by the crank, and the weighted lever M, operated by the cam-wheel and provided with a laterally-extending pin 1, forming a rest or stop for the lever N, said lever M being operated by the cam-wheel to permit the further descent of the lever N, whereby the coin is discharged from the end of the coin-chute and the lever N permitted to assume its normal position and lock the wheel K, substantially as set forth.

4. In a machine for furnishing toilet-paper, the combination, with the coin-chute P and coin-slot q, of a stop-lever b', adapted to close said slot, the spring-actuated bail or follower R, adapted to be kept constantly in contact with the periphery of the roll of toilet-paper, and a suitable connection between said bail or follower and the stop-lever b', whereby the latter is caused to close the coin-slot when the supply of paper becomes exhausted, or nearly so, substantially as described.

Witness my hand this 18th day of April, A. D. 1891.

FRANCIS MEISEL.

In presence of—
P. E. TESCHEMACHER,
HARRY W. AIKEN.