

1,002,958.

Patented Sept. 12, 1911.

2 SHEETS—SHEET 1.

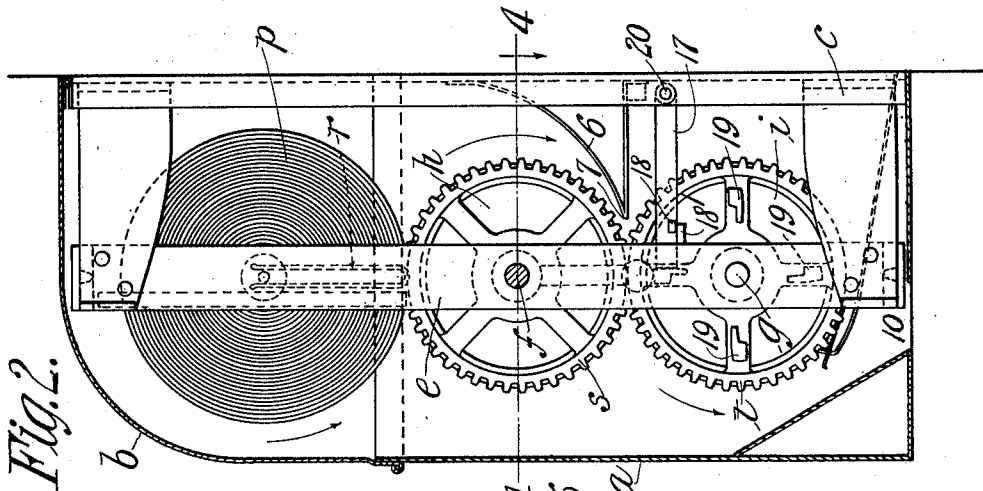


Fig. 2.

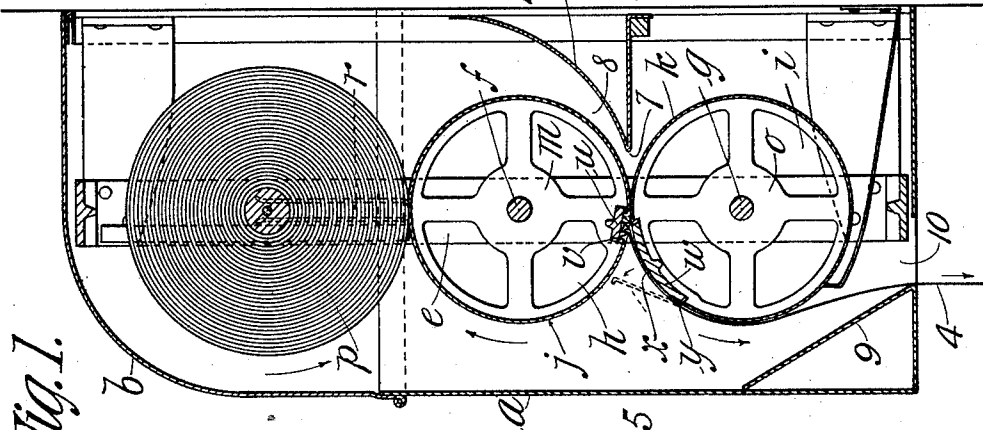


Fig. 1.

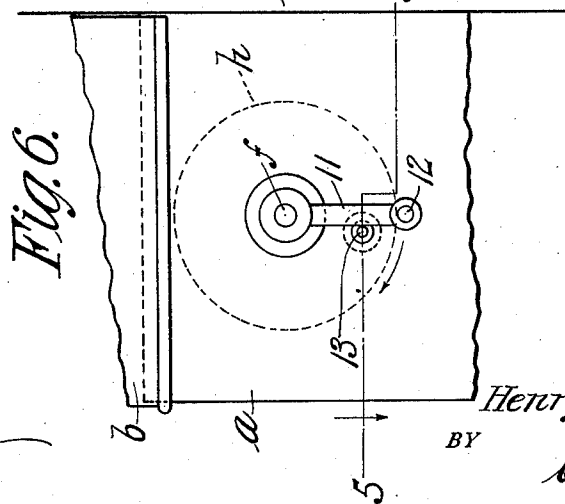


Fig. 6.

WITNESSES:

H. L. Sprague
Harry W. Bowen

INVENTOR,
Henry C. Avery,
BY
Chapin Co.
ATTORNEYS,

H. C. AVERY.
TOWEL CABINET.

APPLICATION FILED APR. 14, 1911.

1,002,958.

Patented Sept. 12, 1911.

2 SHEETS—SHEET 2.

Fig. 3.

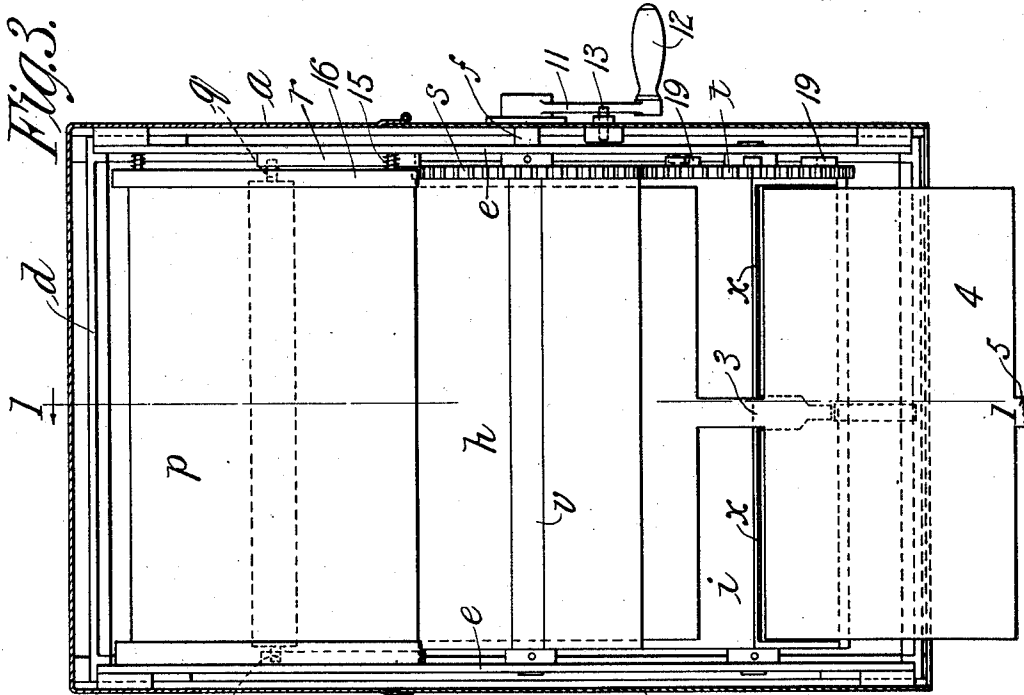
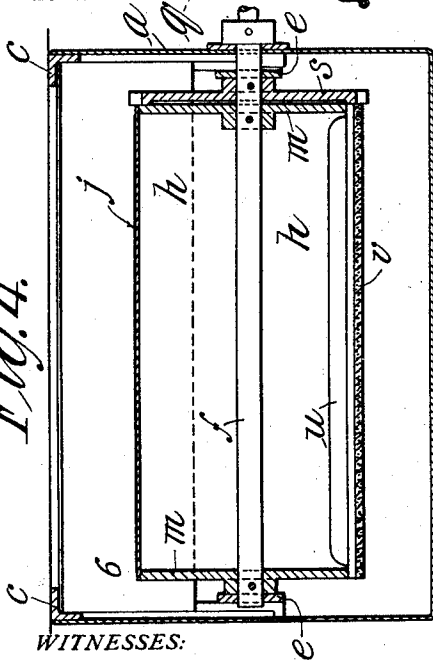


Fig. 4.

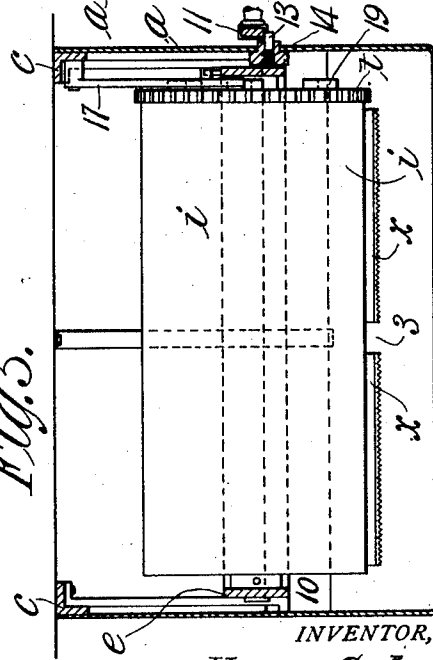


WITNESSES:

H. L. Sprague

Harry W. Bowen

Fig. 5.



UNITED STATES PATENT OFFICE.

HENRY C. AVERY, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR TO MT. HOLYOKE TISSUE MILLS, OF HOLYOKE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

TOWEL-CABINET.

1,002,958.

Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed April 14, 1911. Serial No. 621,037.

To all whom it may concern:

Be it known that I, HENRY C. AVERY, a citizen of the United States of America, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Towel-Cabinets, of which the following is a specification.

This invention relates to improvements in serving apparatus and is especially designed for delivering a definite length of paper so as to furnish, for instance, a paper towel of suitable length upon the operation of the mechanism which will draw from the supply of paper and sever the same when the operative parts of the machine are rotated through one revolution.

The invention broadly consists in mounting a roll of paper, or other material, in a suitable casing, the same engaging a measuring roll to which the operating handle is applied and a severing roll which engages the measuring roll on its periphery so that the two rolls will rotate at the same speed, the severing device being of such construction that after the measuring roll has made one revolution the paper will be severed and drawn away from the supply. Means are provided for preventing the paper on the source of supply from unrolling faster than the operating mechanism moves, or in other words, a brake device is employed as a check on the rotative movements of the roll of paper. Means is also provided for throwing or forcing away the loose end of the paper, should it, for any reason, stick to the severing roll. Means is also provided for permitting the apparatus to be continuously rotated in one direction, but blocked, should the operating means be rotated in a reverse direction.

In the drawings forming part of this application,—Figure 1 is a vertical, sectional view through the central part of the machine showing in detail the cutting or severing mechanism and the means for forcing the free end of the paper away from the cutting roll. Fig. 2 is a view similar to Fig. 1 looking at the end of the measuring and severing roll and the end of the roll of paper, and showing the gearing construction between the measuring and severing roll. Fig. 3 is a vertical, sectional view with the front part of the casing removed. Fig. 4 is a transverse, sectional view on the line 4—4,

Fig. 2, looking downward, which illustrates the construction of the measuring roll. Fig. 5 is a sectional view through the casing showing the cutting roll in plan view; also illustrating the stop device for the operating handle, and the latch device for preventing the reverse movement of the handle. Fig. 6 is a view of the operating handle and the stop-piece.

Referring to the drawings in detail, *a* designates a suitable casing, preferably made of sheet metal, for inclosing the operative parts of the machine. The upper portion of this casing is provided with a hinged cover designated by *b*, for permitting the insertion of the roll of material therein. The casing is secured to, and supported by, the angle irons *c* which are arranged in a vertical position, the upper ends of which are connected together by means of the cross-bar *d*.

Vertically arranged within the casing and secured thereto are the bars *e* which are provided with openings for receiving the shafts *f* and *g* of the measuring roll *h*, and the severing roll *i*. These rolls are provided with metal peripheries, indicated at *j* and *k*, and normally are in engagement with each other, as shown in Fig. 1. These peripheries are preferably made of sheet iron in order to reduce the weight and lessen the inertia of the moving parts when in use. They are therefore mounted at their ends on skeleton wheels *m* and *o*, to which the shafts *f* and *g* are rigidly secured.

The roll of paper is indicated by *p* and in order to permit it, as a whole, to descend as the diameter of the same lessens, the supporting pintles *q* are mounted in vertical guide-ways *r*, which are secured to the upright bars *e*. The periphery of this roll of paper *p* bears at all times upon the periphery of the measuring roll *h*, as clearly illustrated in Fig. 1.

In order that the measuring roll *h* and cutting roll *i* shall move at the same peripheral speed, each of these rolls is provided with spur gears *s* and *t* that mesh with each other, as shown in Fig. 2. The measuring roll *h* is provided in a portion of its periphery with a bar *u* that extends parallel with the axis *f*, and this bar has secured to it a rubber facing *v* against which a severing knife presses in order to sever a definite length of paper as it passes the cutter.

Referring to the severing roll *i*, it will be

noticed that the skeleton wheel *o* is provided with a recess in which is mounted a bar *w* which extends parallel to the axis of the shaft *g* and serves the double purpose of securing the ends *k* of the metal periphery to this roll and the cutter *x*. The cutter is made of spring metal and secured at the point *y* to the cutting roll, and after the severing operation it flies out into the position shown in Fig. 1, whereby the paper is severed and at the same time moved away from contact with the measuring roll *h*. It will be noticed in Fig. 5 that this cutter is provided with a space 3 in order that the free pendant end of the severed end of the strip of paper, as shown at 4 in Fig. 1, may be readily detached by pulling downward on this end, thus tearing the narrow connecting strip 5 (see Fig. 3) which temporarily connects the severed strip to the supply.

Located within the casing is a deflecting plate or guide-piece 6 which terminates adjacent the meeting surfaces of the measuring and cutting rolls, as shown at 7, thus providing a narrow throat or passage-way 8 through which the paper must pass and be directed between the rolls without any danger of its falling outside of these rolls where they come in contact with each other. Also arranged within the casing at the lower part thereof is another deflecting or inclined plate 9 for directing the severed end of the paper downward through the opening 10 in the lower part of the casing.

In order to operate the machine, the shaft *f* is provided with a crank 11 and the handle 12. Located in the path of the crank is a projecting pin 13 which is normally pressed outward by means of a spring 14 so that in order to operate the machine it is necessary for the operator to press this pin inward to permit the crank to be rotated through one revolution, when it will strike this pin at the end of that revolution and come to rest. It will be clear that if the operator desires to sever more than one sheet or towel, the pin may be pressed a second or a third time and the handle rotated.

In order to prevent the roll of paper *p* from unwinding faster than the peripheral speed of the severing and cutting roll, a brake device is provided which consists of a spring-pressed pin 15 that bears against the disk or end-plate 16 of the roll of paper.

17 designates a locking latch to prevent the machine from being rotated in a reverse direction, and this latch is provided with a projection 18 that lies on a supporting pin 18¹ in the path of the projections 19 which are arranged on the spokes of the skeleton roll. The latch is pivoted to the frame at 20 so that when the machine is rotated in the proper direction it simply rises and falls. But should the operator attempt to reverse the direction of rotation the end of the latch

will engage the projections 19 and hold the machine locked.

21 designates a spring arm that engages the cutter-roll *i* and is for the purpose of forcing or moving the paper 4 away from the roll, should it happen to stick thereto. It is thus positively directed downward through the opening 10.

What I claim, is:—

1. In a paper serving apparatus, the combination with a roll of paper, a measuring roll which supports the roll of paper, a severing roll in engagement with the measuring roll, a spring cutter thereon provided with a space therein at its cutting edge, whereby when the cutter engages the paper a supporting strip will connect the severed end with the roll and permit of its ready detachment by the user.

2. In a serving apparatus for delivering a definite length of the material from a roll of the same, a measuring roll which normally supports the roll, a cushion device in the periphery of the measuring roll against which a cutter presses during the severing operation of the material, said cutter comprising a spring member which has a tendency to move outward away from the measuring roll after the severing operation to force the pendant end away from the severing roll, and means to operate the two rolls in unison.

3. In a serving apparatus for delivering a definite length of the material from a roll of the same, a measuring roll which normally supports the roll, a cushion device in the periphery of the measuring roll against which a cutter presses during the severing operation of the material, said cutter comprising a spring member which has a tendency to move outward away from the measuring roll after the severing operation to force the pendant end away from the severing roll, means to operate the rolls in unison, and means to bring the rolls to rest after each severing operation.

4. In a serving apparatus for delivering a definite length of the material from a roll of the same, a measuring roll which normally supports the roll, a cushion device in the periphery of the measuring roll against which a cutter presses during the severing operation of the material, said cutter comprising a spring member which has a tendency to move outward away from the measuring roll after the severing operation to force the pendant end away from the measuring roll, means to operate the rolls in unison, and means to permit the severed or pendant end to remain attached to the roll.

5. In a serving apparatus for delivering a definite length of the material from a roll of the same, a measuring roll which normally supports the roll, a cushion device in the periphery of the measuring roll against

which a cutter presses during the severing operation of the material, said cutter comprising a spring member which has a tendency to move outward away from the measuring roll after the severing operation to force the pendant end away from the severing roll, means to operate the rolls in unison, and means to prevent the roll from moving faster than the severing and measuring rolls.

6. A paper serving apparatus comprising a measuring roll which supports the roll of paper from which a definite length is to be severed, a severing roll in engagement with the measuring roll, a cutter secured thereto and adapted to engage the measuring roll to sever the paper when the two rolls are rotated, said cutter serving to force the pendant end away from the supply after the cutting, and a spring arm in engagement with the severing roll to move the paper

away from the same to direct the severed end through an opening in the casing.

7. In a serving apparatus for delivering a definite length of the material from a roll of the same, a measuring roll which normally supports the roll, a cutter-roll, a cutter thereon, a cushion device in the periphery of the measuring roll against which the cutter presses during the severing operation of the material, said cutter comprising a spring member which has a tendency to move outward away from the measuring roll after the severing operation to force the pendant end away from the severing roll, means to operate the three rolls in unison, and means to prevent the operating means from reverse movements.

HENRY C. AVERY.

Witnesses:

F. P. CLEVELAND,
WM. O. BOND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."