May 20, 1924. 1,494,756

R. O. NITSCHE

DISPENSING APPARATUS

Filed May 26, 1923 3 Sheets-Sheet 1

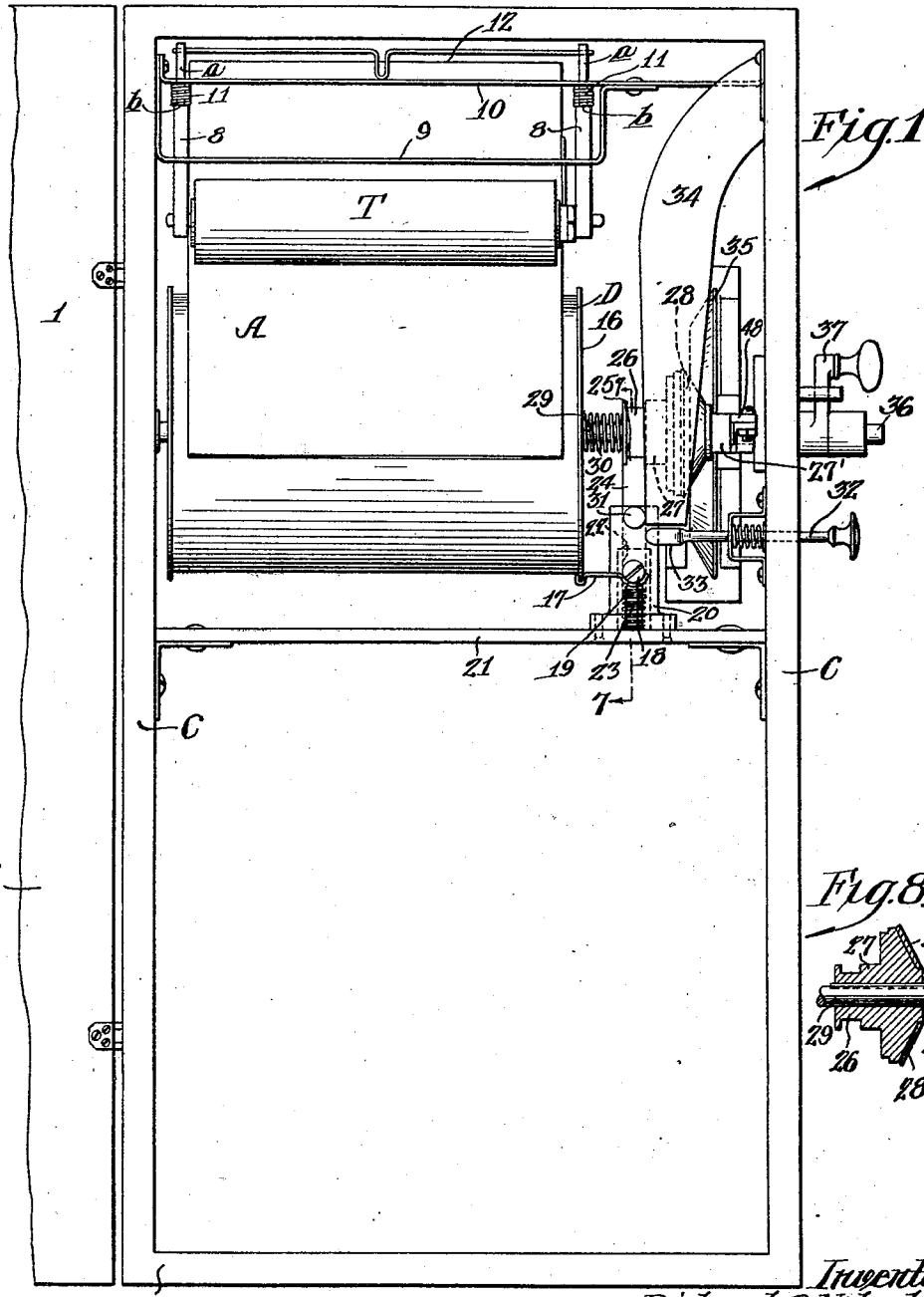



Fig. 1.




Fig. 8.

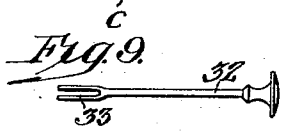



Fig. 9.

Inventor
Richard O. Nitsche
by Watson E. Coleman
Atty.

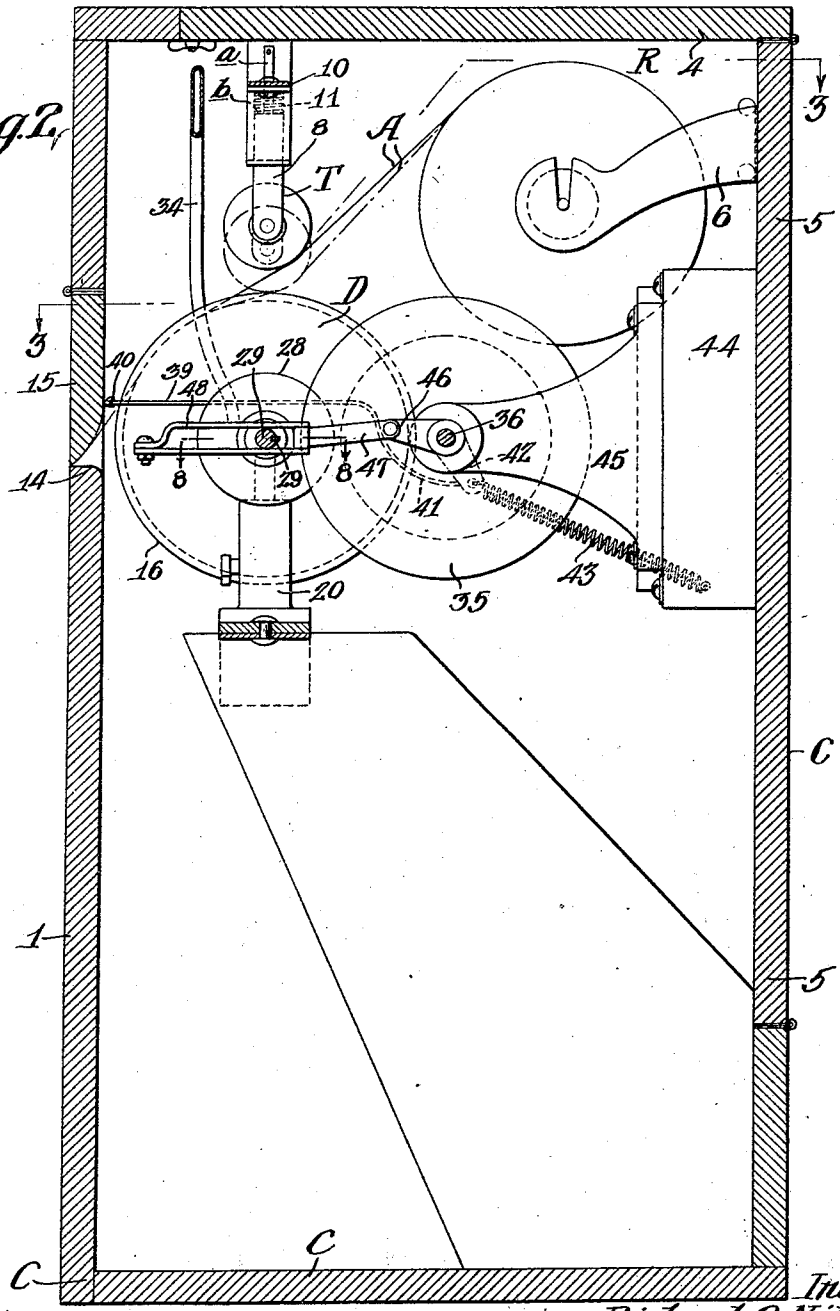
May 20, 1924. 1,494,756

R. O. NITSCHE

DISPENSING APPARATUS

Filed May 26, 1923 3 Sheets-Sheet 2

Fig. 2.




Inventor.
Richard O. Nitsche
by Watson E. Coleman
Atty.

May 20, 1924. 1,494,756

R. O. NITSCHE

DISPENSING APPARATUS

Filed May 26, 1923 3 Sheets-Sheet 3

Fig. 3.

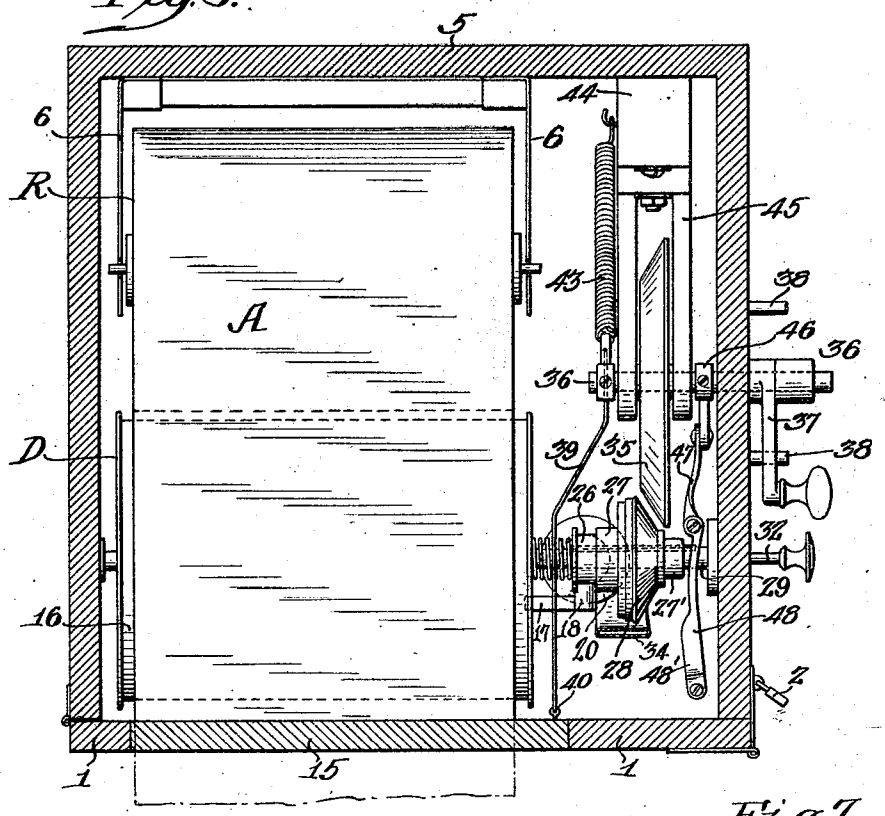



Fig. 4.

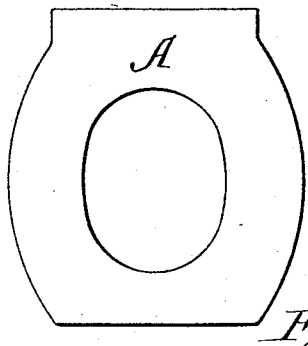



Fig. 5.

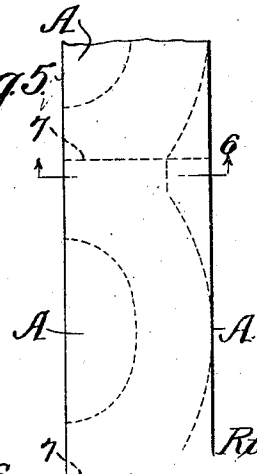



Fig. 7.

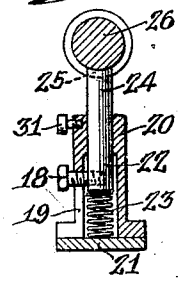



Fig. 6.

A

Inventor
Richard O. Nitsche
By Watson E. Coleman
Atty.

Patented May 20, 1924. 1,494,756

# UNITED STATES PATENT OFFICE.

RICHARD O. NITSCHE, OF PHILADELPHIA, PENNSYLVANIA.

## DISPENSING APPARATUS.

Application filed May 26, 1923. Serial No. 641,711.

*To all whom it may concern:*

Be it known that I, RICHARD O. NITSCHE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Dispensing Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in dispensing apparatus and more particularly to an apparatus of this general character under check control and it is an object of the invention to provide a novel and improved apparatus especially designed and adapted for use in connection with sanitary sheets for closet seats and the like.

It is also an object of the invention to provide a novel and improved device of this general character embodying a normally closed delivery opening and a normally inoperative feeding means together with a mechanism under check control for opening the discharging opening and render the feeding means operative.

An additional object of the invention is to provide a machine of this general character comprising a rotatable feeding member having associated therewith a brake for normally holding said member against rotation and a driving means for the member comprising two normally separated wheels together with means under check control for releasing the brake and bringing the wheels into working engagement one with the other, said brake and wheels returning to their normal positions upon predetermined rotation of the member.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved dispensing apparatus whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is a front elevational view of the apparatus as herein disclosed, the front door for the casing or housing being shown in fragment and in open position;

Figure 2 is a view partly in vertical section and partly in side elevation of the structure as illustrated in Figure 1;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2, looking in the direction of the arrow;

Figure 4 is a view in plan of a sheet of a character delivered by the apparatus as herein disclosed;

Figure 5 is a fragmentary view in plan of a strip of sheets;

Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 5;

Figure 7 is an enlarged fragmentary view partly in section and partly in elevation illustrating the plunger and the parts concomitant thereto;

Figure 8 is an enlarged fragmentary sectional view illustrating in detail the mounting of the cone;

Figure 9 is a view in top plan of the check plunger unapplied.

As disclosed in the accompanying drawings, C denotes a cabinet of desired configuration and dimensions and which is provided with a swinging front door 1 adapted to be held in closed position in any suitable manner as indicated at 2 in Figure 3. The top of the cabinet C is also provided with a swinging door 4. The rear wall 5 of the cabinet C is provided with the spaced brackets 6 which provide a mounting for a roll R, said roll in the present instance consisting of a strip of sanitary sheets for covering closet seats, said strip being divided at regular intervals by the perforations 7 whereby a single sheet, preferably of the design shown in Figure 4 may be detached for use. As comprised in the roll, the strip is folded transversely substantially at its longitudinal center as indicated in Figures 5 and 6 of the accompanying drawings. The strip A is continued from the roll and passes over a drum D rotatably supported within the cabinet C. The strip A also passes under a tensioning roller T whereby normally the strip A is effectively clamped to the drum D and in a manner resulting in the desired feeding movement of the strip A upon requisite rotation of the drum D.

The tensioning roller T is rotatably sup-

ported by the arms 8 having sliding engagement with the bracket 9 and bar 10. The bar 10 is secured to the opposite side walls of the cabinet C to the top of the cabinet while one end of the bracket 9 is secured to said bar 10 and at its opposite end portion to a side of the cabinet C as is clearly illustrated in Figure 1 of the accompanying drawings.

The upper end portions *a* of the arms 8 are reduced and are slidably disposed through the bar 10 and interposed between the bar 10 and the shoulders *b*, provided by the reduced portions *a*, are the expansible members 11 herein disclosed as coiled springs encircling said reduced portions *a*. These members or springs 11 serve to constantly urge the tensioning roller T toward the drum D yet permit the same to readily move in a direction therefrom and particularly when pull is imposed upon the strip A.

The upper extremities of the arms 8 or more particularly the reduced portions *a* thereof are connected by the rod 12 affording a handle member whereby the roller T may be manually moved away from the drum D when required and particularly when initially assembling the strip A.

The strip A as moved or fed forwardly of the drum D is adapted to pass out through an opening 14 provided with the door 1 and which opening is normally closed by the flat door 15 herein disclosed as having swinging movement in a vertical direction.

Each end portion of the drum D and more particularly the inner end portion thereof is defined by an outstanding continuous annular flange 16 and associated with the inner flange 16 is a brake arm 17, said arm being carried by an outstanding pin 18 disposed through a slot 19 provided in a wall of a vertically disposed sleeve or cylinder 20. The cylinder 20 as herein disclosed is mounted upon a cross member 21 substantially bridging the space and supported by the side walls of the cabinet C.

The inner end portion of the pin 18 is connected to a block 22 freely moving within the sleeve or cylinder 20 and which block is constantly urged upwardly by the expansible member 23 interposed between the inner end of the block 22 and the sleeve or cylinder 20. This expansible member 23 is herein disclosed as a coiled spring and serves to constantly urge the brake arm 17 in working engagement with the coacting flange 16 and maintain such engagement whereby the drum D is normally held against rotation. The block 22 is provided with an upstanding plunger 24 which extends above the cylinder or sleeve 20 and which is provided with a reduced extremity 25 normally engaging within an annular flange 26 produced in the periphery of the hub 27 of a friction cone 28. This friction cone 28 is keyed to the shaft 29 of the drum D for rotation therewith but free to move longitudinally of said shaft 29. When the reduced extremity 25 of the plunger 24 is engaged within the annular groove 26, the friction cone 28 is held against independent movement lengthwise of the shaft.

Interposed between the outer or free end of the hub 27 and the adjacent end of the drum D is an expansible member 30 herein disclosed as a coiled spring encircling the shaft 29, said member or spring 30 serving, when the plunger 24 is free of the hub 27, to force the cone 28 outwardly but when the reduced extremity of the plunger 24 is engaged within the annular groove 26, the cone 28 is held against such movement.

The upper portion of the sleeve or cylinder 20 at a desired point directly above the pin 18 is provided with an outstanding stationary pin 31. Slidably disposed through the side wall of the cabinet C immediately adjacent to the sleeve or cylinder 20 is a check plunger 32 having its inner end provided with a bifurcated head 33 the kerf of which normally underlies the lower or discharge end of a coin chute 34. The coin chute 34 extends from the upper portion of the cabinet C and leads from a stop slot produced in a wall of said cabinet. The rod 32 or more particularly the head 33 thereof occupies a position between the pins 18 and 31 so that when a check such as a penny or other coin of desired denomination is received within the kerf of the head 33 passing through the chute 34, inward movement of the plunger 32 will force said check or coin between the pins 31 and 18. Normally the pins 18 and 31 are spaced apart a distance less than the diameter of the check so that as the check is passed between said pins, the lower pin 18 will be forced downwardly resulting in the brake arm 17 being released from the drum D and the plunger 24 being released from the hub 27.

Immediately upon release of the plunger 24 from the hub 27 the expansible member or spring 30 will force the cone 28 outwardly with the inner portion of the hub resting upon the outer end of the plunger 24 whereby the plunger 24 is held against return within the groove 26 until the disc 28 is again moved inwardly whereby the disc 28 is free to rotate to impart the requisite feeding rotation to the drum D.

When the disc 28 is forced outwardly of the member or spring 30 it is brought into driven engagement with the driving friction gear 35 carried by a shaft 36 extending exteriorly of the cabinet C through the adjacent side wall. The extended portion of the shaft 36 has engaged therewith an operating crank or handle 37 whereby the gear 35 is manually operated, the extent

of movement of the gear 35 being regulated or controlled by the stop pins 38 with which the handle member or crank 37 contacts.

The extent of movement or rotation of the gear 35 is sufficient to advance the strip A sufficiently to effect the desired delivery or discharge of a single sheet of the strip A.

As before stated the strip A is delivered through the opening 14 and in order to effect the desired opening movement of the door 15 a rod 39 is operatively engaged therewith as at 40, said rod 39 extending over the shaft 29 and terminating in a downwardly offset portion 41 operatively engaged with a rock arm 42 carried by the inner end portion of the shaft 36 so that upon movement of the shaft 36 in one direction the door 15 is moved into open position while upon reverse movement of said shaft 36 the door is closed. The door 15 is normally maintained closed by a retractible spring 43 secured at one end portion to the rock arm 42 and its opposite end portion is operatively engaged with the rear wall 5 of the cabinet C or more particularly to a block 44 secured to said wall 5. The block 44 provides a mounting for a bracket 45 providing a bearing for the inserted portion of the shaft 36, said bracket 45 comprising spaced parallel arms between which is positioned the driving disc wheel 35.

Carried by the shaft 36 between the bracket 45 and the adjacent side wall of the cabinet C is a second rock arm 46 in desired angular relation to the rock arm 42. Operatively engaged with the rock arm 46 is a link 47 also operatively engaged with an actuating member 48. This actuating member 48 comprises spaced parallel arms of desired length arranged above and below the shaft 29, the rear portions 48′ of said arms being of sufficient width to contact with the adjacent end portion of the outer hub extension 27′ of the disc 28 upon movement of the shaft 36 in one direction to force the disc 28 out of engagement with the wheel 35 and also to position the groove 26 of the hub 27 to receive the plunger 24 whereby the brake arm 17 will return into working engagement with its coacting flange 16 and the disc 28 will be held in an inoperative position until a second check is forced between the pins 18 and 31. It is to be understood that the portions 48′ of the actuator 48 are not brought into action until after the strip A has been fed or moved to the desired extent.

From the foregoing description it is thought to be obvious that a dispensing apparatus constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. An apparatus of the class described comprising a feeding drum, a shaft therefor, a driven member mounted upon the shaft for rotation therewith but having independent movement lengthwise of the shaft, a driving member, means for constantly urging the driven member toward the driving member, said driven member being provided with a hub having a peripheral groove, a spring pressed plunger engaging within the groove of the hub of the driven member when said driven member is in an inoperative position, and check controlled means for releasing said plunger from the hub.

2. An apparatus of the class described comprising a feeding drum, a shaft therefor, a driven member mounted upon the shaft for rotation therewith but having independent movement lengthwise of the shaft, a driving member, means for constantly urging the driven member toward the driving member, said driven member being provided with a hub having a peripheral groove, a spring pressed plunger engaging within the groove of the hub of the driven member when said driven member is in an inoperative position, check controlled means for releasing said plunger from the hub, and means for constantly urging the plunger toward the hub.

3. An apparatus of the class described comprising a feeding drum, a shaft therefor, a driven member mounted upon the shaft for rotation therewith but having independent movement lengthwise of the shaft, a driving member, means for constantly urging the driven member toward the driving member, said driven member being provided with a hub having a peripheral groove, a spring pressed plunger engaging within the groove of the hub of the driven member when said driven member is in an inoperative position, check controlled means for releasing said plunger from the hub, means for constantly urging the plunger toward the hub, and means operating automatically upon predetermined rotation of the driving member for moving the driven member out of engagement with the driving member a distance to permit the plunger to turn within the groove of the hub of the driven member.

4. An apparatus of the class described comprising a feeding drum, a shaft therefor, a driven member mounted on said shaft for rotation therewith but having independent

movement lengthwise of the shaft, a driving member, means for constantly urging the driven member toward the driving member, means for holding the driven member free of the driving member, means under check control for releasing the driven member, manual means for moving the driving member in one direction, and automatic means for moving the same in the opposite direction.

5. An apparatus of the class described comprising a cabinet having a delivery opening, a door normally closing said opening, a feed drum positioned within the cabinet adjacent to said opening and operating to discharge the article to be delivered through said opening, and check controlled means for operating the drum and moving the door into open position.

6. An apparatus of the class described comprising a cabinet having a delivery opening, a door normally closing said opening, a feed drum positioned within the cabinet adjacent to said opening and operating to discharge the article to be delivered through said opening, check controlled means for operating the drum and moving the door into open position, and automatic means for closing the door upon predetermined movement of the drum.

In testimony whereof I hereunto affix my signature.

RICHARD O. NITSCHE.