April 30, 1940. L. L. WALDEN, JR 2,198,926

PAPER DISPENSER

Filed Dec. 19, 1939 2 Sheets-Sheet 1

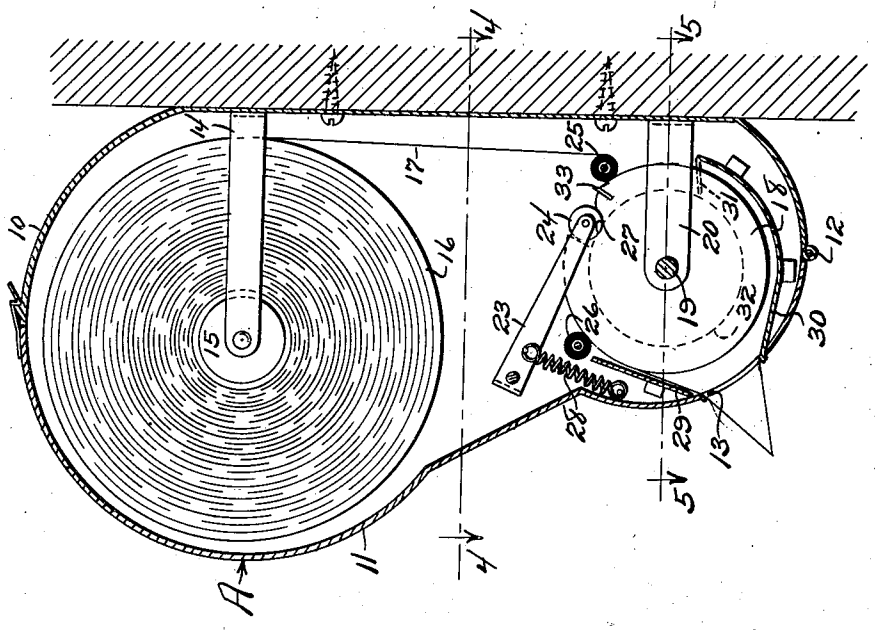


Fig. 2.

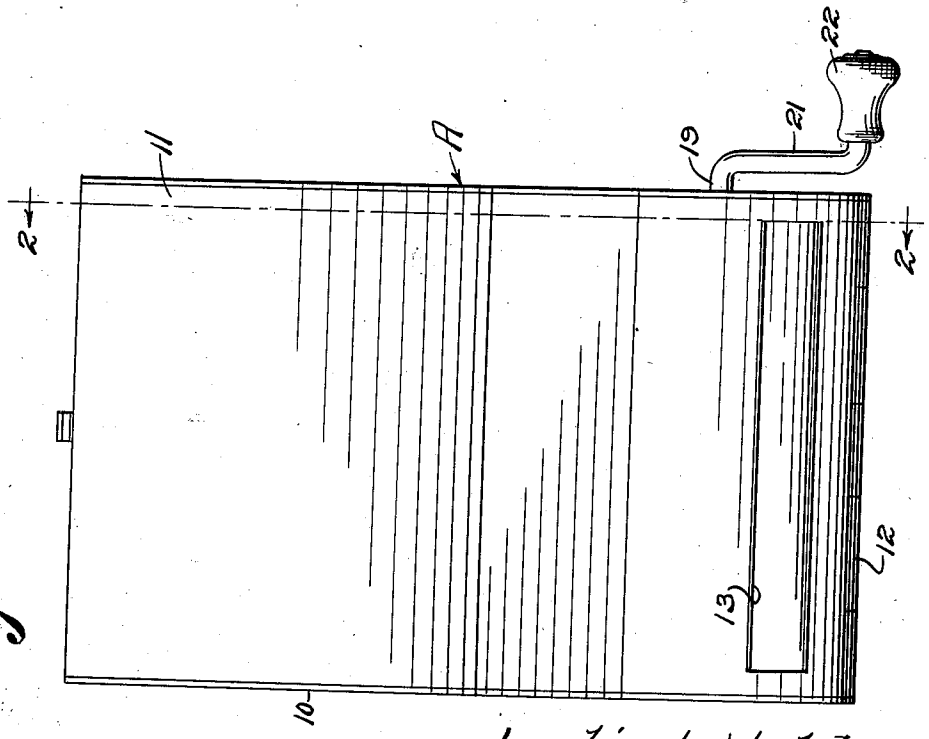


Fig. 1.

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Fig. 4.

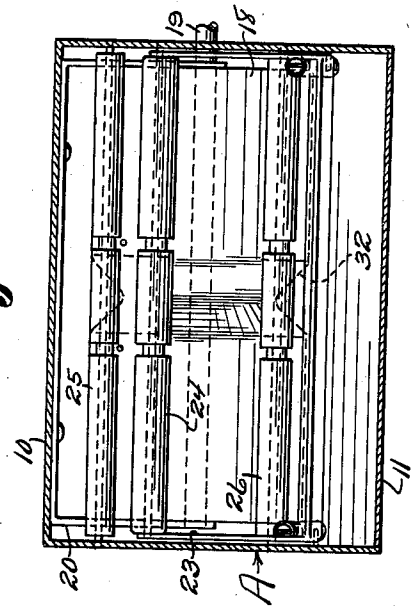


Fig. 5.

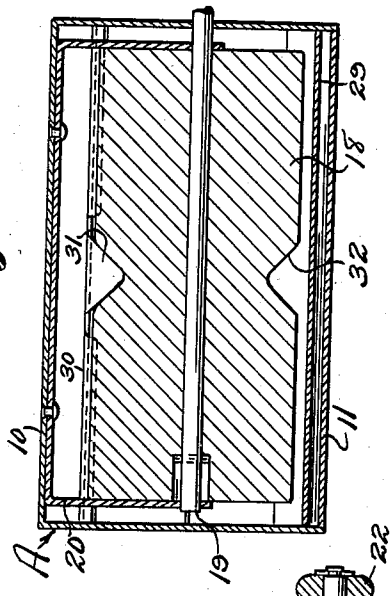
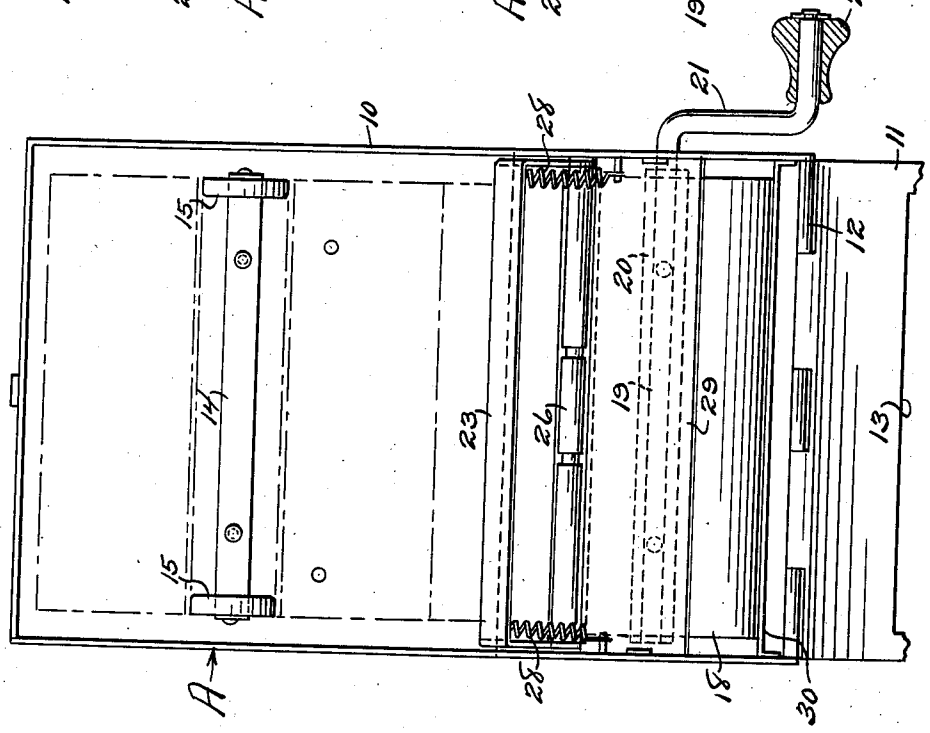


Fig. 3.



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UNITED STATES PATENT OFFICE

2,198,926

PAPER DISPENSER

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Application December 19, 1939, Serial No. 310,043

7 Claims. (Cl. 164—84.5)

The invention relates to a paper dispenser and more especially to a roll paper folding and dispensing device.

The primary object of the invention is the provision of a device of this character wherein roll paper for domestic use can be conveniently supported and dispensed from the container therefor in determined size, being severed from the roll of the particular size and folded in a single operation of the device.

Another object of the invention is the provision of a device of this character wherein the roll of paper will be severed into sheets, each sheet being folded and delivered from the device, the severed sheets being of uniform sizes with respect to each other and in this way eliminating waste of the roll of paper by dispensing more of the same than is required for use and at the same time relieving the user of the folding operation in that the latter is automatically effected on severing and ejecting a single sheet from the device.

A further object of the invention is the provision of a device of this character wherein the construction of the same is novel in its entirety and assures the positive dispensing of a sheet, the folding thereof and the severance from the roll of paper in a single operation of the device.

A further object of the invention is the provision of a device of this character, which is comparatively simple in its construction, thoroughly reliable and efficient in operation, hand operated, compact, susceptible of fastening to a support, more particularly the vertical wall of an enclosure, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings, which discloses the preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a front elevation of the device constructed in accordance with the invention.

Figure 2 is a sectional view on the line 2—2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a rear elevation with the frontal door or closure in a dropped or open position.

Figure 4 is a sectional view on the line 4—4 of Figure 2 looking in the direction of the arrows.

Figure 5 is a sectional view on the line 5—5 of Figure 2 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A denotes generally the device constructed in accordance with the invention and comprises a casing 10, preferably made from sheet metal having an open front closed by a vertically swingable door or closure 11, the hinge for the latter being indicated at 12. This door or closure 11 in the lower portion thereof is formed with a dispensing slot or mouth opening 13 through which is delivered paper when folded and severed from a roll thereof.

Arranged interiorly of the casing 10 at the upper portion thereof is a roll supporting bracket 14 equipped with stud arbors 15 separably engageable with a roll of paper 16 for supporting the same and permitting the dispensing of the paper 17 thereof, the folding and severing of the same in a manner presently described. The bracket 14 has its side arms carrying the arbors 15 inherently resilient so that these can be spread apart for the placing of the roll 16 in the said bracket or the removal of such roll therefrom as the occasion may require.

Within the casing 10 to be beneath the roll 16 when placed therein is a feeder cylinder 18, its central turning shaft 19 being journaled in a fixture 20 built within the casing 10. The shaft 19 is carried exteriorly of the casing 10 at one end where it has therewith a turning crank 21 provided with a grip 22 so that the cylinder 18 can be rotated manually. The cylinder 18 is in confronting relation to the mouth opening or slot 13 and is adapted on rotation to project folded sheets of the paper 17 making up the roll 16.

Pivoted above the cylinder 18 within the casing 10 is a vertically swingable hanger 23 in which is journaled a severing or cutting roller 24 for cooperation with the cylinder 18 and the severance of the paper 17 fed by the latter at determined intervals in a manner presently described.

Correlated to the cylinder 18 and arranged at opposite sides with respect to the roller 24 are pressure rollers 25 and 26, respectively, which are arranged in extremely close relation to the periphery of the cylinder 18 and are adapted for contact with the paper 17 on the unwinding

thereof from the roll 16 so as to maintain the said paper 17 tight against the cylinder 18 and in taut condition where bridging a channel or groove 27 in the said cylinder 18 whereby when the roller 24 meets the channel or groove the paper 17 taut over the latter will be broken or cut for severance of a sheet from the paper 17 of the roll 16. The hanger 23 carrying the roller 24 is tensioned by coiled springs 28 connected thereto for a forced entry of the roller 24 in the channel or groove 27 against the resistance of the taut condition of the paper 17 stretched over this channel or groove and peripherally about the cylinder 18 for a positive cutting action of the roller 24 upon the paper 17 for its severance into sheet form.

Adjacent to and at opposite sides of the slot or mouth opening 13 within the casing 10 are upper and lower guide pieces 29 and 30, respectively, for directing the paper 17 of the roll peripherally of the cylinder 18 during the turning of the latter, the rollers 25 and 26 being effected for close retention of the paper 17 about the cylinder 18. The piece 30 is formed with a releasing lip or tongue 31 which protrudes into an annular clearance 32 provided in the cylinder 18 and is adapted to release the paper 17 from being tacked to the cylinder 18 by the tacking prongs or spurs 33 thereon so that the said paper 17 when severed in sheet form from the roll 16 thereof will become automatically folded on itself in the severed sheet form of the same. This automatic folding of the severed sheets takes place by the abutment of one end of the severed sheet with the lip or tongue 31 during the time that the cylinder 18 in association of the latter with the roller 26 is feeding the sheet in confronting relation to the slot or mouth opening 13 with the result that the severed sheet crowding between the piece 30 and the cylinder 18 will become buckled or folded on itself in the condition as indicated at *a* in Figure 2 of the drawings and this severed, folded sheet will be dispensed from the casing 10 through the said slot or mouth opening 13.

In the operation of the device the paper 17 of the roll 16 is trained over the roller 25 between it and the cylinder 18 to become tacked to the latter by the prongs or spurs 33. Now on rotating the cylinder 18 the paper 17 is carried peripherally of the cylinder 18 beneath the roller 26 until the tacked end of the said paper 17 engages the lip or tongue 31 whence the latter causes the release of the paper from the prongs or spurs 33 which frees the paper 17 from the cylinder 18 whereupon the cylinder 18 continues to rotate and when the channel or groove 27 registers with the cutting roller 24, the latter under the tension of the springs 28 acts upon the paper held taut over this channel or groove for the severance of said paper. Just prior to the severance of the paper 17, the prongs or spurs 33 again tack the paper 17 of the roll 16 to the cylinder 18. The severed paper through rotation of the cylinder 18 becomes folded by the abutment of the severed sheet with the lip or tongue 31 and in this folded condition, as at *a* in Figure 2 of the drawings, is projected through the slot or opening 13 for the dispensing of the folded sheet from the casing 10 of the device A. This sequence of operation is repeated when the cylinder 18 is turned a full cycle of rotation. The cylinder 18 is manually rotated by the crank 21 at the grip 22 thereof.

From the foregoing and as exhibited by the drawings it will be apparent that paper sheets are severed or cut from a roll 16 of paper 17, each sheet being folded on itself and dispensed from the device in successive single order.

What is claimed is:

1. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, and means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening.

2. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening, and means correlated to the last-named means for freeing the tacked paper from the cylinder.

3. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening, means correlated to the last-named means for freeing the tacked paper from the cylinder, and means for imparting movement to the said cylinder.

4. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening, means correlated to the last-named means for freeing the tacked paper from the cylinder, means for imparting movement to the said cylinder, and means for tensioning the severing means.

5. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a

rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening, means correlated to the last-named means for freeing the tacked paper from the cylinder, means for imparting movement to the said cylinder, means for tensioning the severing means, and a swinging hanger having a cutting roller forming the severing means.

6. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening, means correlated to the last-named means for freeing the tacked paper from the cylinder, means for imparting movement to the said cylinder, means for tensioning the severing means, a swinging hanger having a cutting roller forming the severing means, and arbors included in said roll holder for rotatably supporting a paper roll.

7. A device of the character described comprising a casing having a dispensing opening, a paper roll holder interiorly of said casing, a rotatable feeding cylinder within said casing and having a depression in its periphery, means for tacking paper of a roll in the holder to said cylinder for the feeding of the paper in the direction of the dispensing opening, means for holding the paper taut and in overlying relation to said depression, means within the casing and active at the depression in the cylinder for the severing of the paper, means within the casing for effecting the folding of the severed paper and the projecting thereof through the dispensing opening, means correlated to the last-named means for freeing the tacked paper from the cylinder, means for imparting movement to the said cylinder, means for tensioning the severing means, a swinging hanger having a cutting roller forming the severing means, arbors included in said roll holder for rotatably supporting a paper roll, and spurs fitting the cylinder and forming the tacking means.

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