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F. S. ANABLE.

STRIP SERVING DEVICE.

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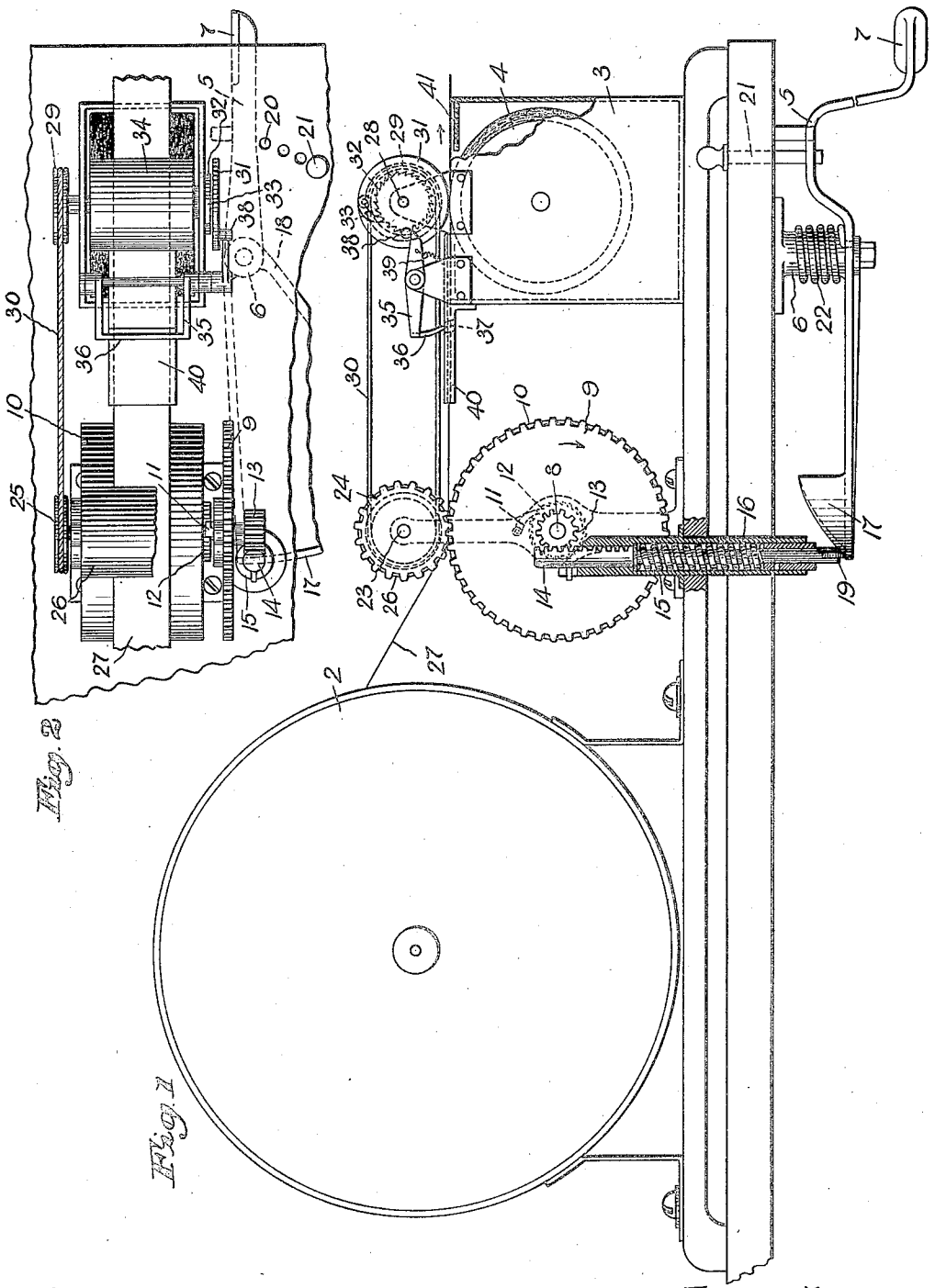


Fig. 2

Fig. 1

Witnesses:
Horace A. Eggleston
Irving U. Parmenter

Inventor:
Frederick S. Anable
by Emery and Booth. Attys

UNITED STATES PATENT OFFICE.

FREDERICK S. ANABLE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO NATIONAL BINDING MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

STRIP-SERVING DEVICE.

No. 897,509. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed October 19, 1907. Serial No. 398,244.

To all whom it may concern:

Be it known that I, FREDERICK S. ANABLE, a citizen of the United States, residing at Boston, in the county of Suffolk, State of Massachusetts, have invented an Improvement in Strip-Serving Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to devices or apparatus for supplying strips of paper or the like employed for wrapping or binding packages, or for use as labels of any desired length, and has particular reference to that type of apparatus employing a support for a coil of paper or the like that has previously been gummed upon one side and then dried and having means for moistening a gummed side of the strip when the latter is drawn from its coil. It is apparent, however, that an ungummed strip may be employed, in which case the moistening device for the strip suitably positioned with respect thereto would contain an adhesive instead of water.

In order that the principles of my invention may be readily understood, I have disclosed a single type or embodiment thereof in the accompanying drawings, wherein

Figure 1 is a side elevation, partially in section, of a form of apparatus embodying my invention; and Fig. 2 is a plan view of a portion of the apparatus represented in Fig. 1.

Having reference to that single type or embodiment of my invention here selected for illustration, the framing for the strip serving apparatus is indicated at 1, it being of any suitable material and construction and comprising preferably a base and side uprights. Suitably mounted upon the base is a casing 2 or the like to support a supply of paper or other suitable material, preferably in the form of a roll or coil, to which adjustable tension may be imparted in any suitable manner well known to the art. Suitably mounted upon the base is a moistening device, herein represented as a tank 3 having therein a roll 4 loosely mounted upon its bearings and peripherally covered with a suitable absorbent, such as flannel or wicking. If a strip having an adhesive be employed, the tank 3 should contain water. If desired, an adhesive may be contained within the tank 3 and be applied by the roller 4 or other suitable device.

In the use of strip serving devices, it is highly desirable that the operative have both hands free, so as to quickly manipulate the strip and the article to which it is to be applied. I am aware that it has been heretofore proposed to provide a strip serving apparatus which may be operated by the hand of the attendant. Such an apparatus, however, leaves but one hand of the attendant free and therefore prevents rapid application of the strip to the article. A strip serving device, such as that herein represented, may be mounted upon a table facing the operator, who by suitable bodily pressure may operate the feeding mechanism while having both hands free to manipulate the strip and article to which it is to be applied. It is apparent that I may employ a suitable treadle or the like, but preferably I employ a member to be operated by the pressure of the knee of the operator. As illustrative of my invention, I have herein represented a lever 5 mounted upon a stud 6 depending from the base of the framing and having an end 7 adapted to be pressed upon in the manner described by the operator. Any suitable connection may be employed to feed the strip. Herein for the purpose, I have mounted upon the framing a shaft 8 having fast thereon a gear 9 and loose thereon a roll 10, the periphery of the latter being preferably suitably roughened or coated to facilitate feeding of the strip. Mounted upon the inner face of the gear 9 is a pawl 11 and upon the adjacent face of the roll 10 is a ratchet 12 so disposed with respect to each other that, when a movement of rotation in the direction of the arrow thereon is imparted to the gear 9, the roll 10 is moved in the same direction, movement of the gear 9 contra-clockwise, however, imparting no movement of rotation to the roll 10. Fast upon the shaft 6 is also mounted a pinion 13 meshing with which is a vertically disposed rack 14 mounted in any suitable manner in the framing 1, as, for instance, in a removable guide way 15, a coil spring 16 being connected at one end to the rack and at its other end to said guide way and tending normally to depress the rack and rotate the gear 9 contra-clockwise. The lever 5 is provided with a suitable cam formation 17, which (see Fig. 2) is preferably formed as an arc struck from the pivotal point of said lever, a web 18 being, if desired, employed to aid in supporting the cam formation. If desired, a

roller 19 may be mounted upon the lower end of the rack 14 to engage said cam formation 17. It will be apparent that when movement is imparted to the lever 5 in the direction of the arrow in Fig. 2, the cam 17 rides under the rack 14 and elevates the same, thereby rotating the gear 9 in the direction of the arrow thereon. Preferably, I provide means whereby a movement of a predetermined extent may be imparted to the lever 5 and also whereby the extent of movement may be varied. While this may be accomplished in any suitable manner, herein I have provided a series of holes 20 in the base of the framing 1, in any one of which the pin 21 may be placed to limit the movement of the lever 5. A spring 22 suitably connected to the lever 5 and to the stud 6 may be employed to return the lever to its normal position, a fixed stop being employed if desired to determine such position. Movement of the lever 5 to the pin 21 when positioned in any one of the holes 20 will be sufficient to elevate the rack far enough to feed and sever a length of strip.

Any suitable means may be provided positively to feed and to sever the strip by the described movement of the lever 5. For the purpose, I have suitably mounted upon the framing 1 a shaft 23 having fast thereon at one end a pinion 24 meshing with the gear 9 and fast upon the other end thereof a pulley 25. Intermediate the pinion and pawl is loosely mounted a roll 26, the surface whereof is preferably suitably roughened or coated and is adapted to bear with sufficient pressure upon the roll 10 so that a strip 27 of paper or the like issuing from the casing 2 may be positively fed toward the moistener. It is apparent that when movement is imparted in the described manner to the gear 9 in the direction of the arrow thereon, the strip 27 is fed by the rolls 9 and 10 toward the moistener 4. Any suitable means may be employed to sever a length of strip corresponding to that fed by actuation of the lever 5. Herein, for the purpose, I have mounted in the casing 1 above the moistener 4 a shaft 28 having thereon a pulley 29, about which and the pulley 25 passes an endless belt 30. Also fast upon the shaft 28, and preferably at its opposite end, is mounted a disk 31, upon the inner face whereof is provided a pawl 32, which engages a ratchet 33 carried upon a sleeve extending from the adjacent face of a roll 34 loose on the shaft, the construction being such that when the strip is fed toward the moistener, the disk 31 and roll 34 are positively rotated contra-clockwise, the roll 34 remaining stationary when the disk 31 is rotated in the opposite direction.

Suitably pivoted upon the framing 1 is a lever 35 having upon one end thereof a blade 36 adapted to coöperate with suitable knife edges 37 formed upon the framing. Projecting from the face of the disk 31 is a pin 38 which, when the disk is rotated contra-clockwise, moves past the adjacent end of the lever 35, which is preferably beveled upon its under side. Upon movement of the disk 31 in the opposite direction, however, the pin 38, impinging upon the lever 35 from the under side, elevates the same against the stress of the spring 39, thereby depressing the blade 36 and severing the strip 27. Immediately thereafter, and upon further movement of the disk 31, the spring 39 again elevates the blade 36 to permit further forward feeding of the strip 27.

The lever 5 having been operated in the manner described, the strip 27 is fed forwardly by the forward rotation of the rolls 10 and 26, the disk 31, roll 34 and moistener 4 being also forwardly rotated. As soon, however, as the knee of the operator is withdrawn from the lever 5, the coil spring 16 depresses the rack 14, thereby rearwardly rotating the gears 9 and 24 and the disk 31. The parts are so constructed and relatively proportioned and the pin 38 is so located upon the disk 31 that movement of the lever 5 to the pin 21, when positioned in one of the holes 20, is sufficient to move the pin 38 to a point beneath the lever 35, so that upon the movement of the disk 31 in the reverse direction the blade 36 is operated to sever the strip. If desired, a suitable guide way 40 is provided upon the framing for the strip 27, and if desired a ledge 41 may be provided at the forward portion of the upper face of the tank 3 to support the severed strip issuing from the moistener.

Having thus described a single type or embodiment of my invention, I desire it to be understood that although specific terms are employed, they are used in a generic and described sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

Claims.

1. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to feed the strip from the support toward the moistener.

2. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by a lower limb of the operator to feed the strip toward the moistener.

3. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to feed a predetermined length of strip from the support toward the moistener.

4. A strip serving apparatus comprising a strip support, a moistener mounted in oper-

ative relation thereto, means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to feed a predetermined length of strip from the support toward the moistener, and means to vary such predetermined length.

5. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to sever the strip delivered from said support.

6. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to sever a predetermined length of strip.

7. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to feed and sever the strip.

8. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and means adapted to be operated by bodily pressure of the operator, while leaving the hands free, to feed the strip from the support and to sever the strip when such pressure is released.

9. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, strip feeding means, means operated by bodily pressure of the operator, while leaving the hands free, to operate said strip feeding means, and means operatively connected to said strip feeding means to sever the strip.

10. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, strip feeding means engaging the moistener, means operated by bodily pressure of the operator, while leaving the hands free, to operate said strip feeding means, and means operatively connected to said strip feeding means to sever the strip.

11. A strip serving apparatus comprising a strip support, a moistener mounted in operative relation thereto, and a unitary means, adapted to be operated by a lower limb of the operator, to feed the strip and sever a portion thereof.

12. A strip serving apparatus comprising a strip support from which a strip may be served for separate use, a moistener in operative relation to said support, strip severing means in the rear of said moistener, strip feeding means in the rear of said strip severing means, and means in advance of the severing means to feed the severed strip.

13. A strip serving apparatus comprising a strip support from which a strip may be served for separate use, combined moistening and feeding means operatively related to said strip support, strip severing means in the rear of said combined moistening and feeding means, and strip feeding means in the rear of said severing means.

14. A strip serving apparatus comprising a strip support from which the strip may be served for separate use, strip moistening means operatively related to the strip support, strip severing means to sever the leading end of the strip, and means to deliver the severed, moistened portion of the strip.

15. A strip serving apparatus comprising a strip support from which the strip may be served for separate use, a strip moistener adapted to present successive portions thereof to the strip, strip severing means to sever the leading end of the strip, and means cooperating with the moistener to deliver the severed, moistened portion of the strip.

16. A strip serving apparatus comprising a strip support from which the strip may be served for separate use, strip severing means to sever the leading end of the strip, a moistener operatively related to the strip support, and means to rotate the moistener, thereby to serve the severed, moistened portion of the strip.

17. A strip serving apparatus comprising a strip support from which a strip may be served for separate use, a moistener in operative relation to said support, strip-severing means in the rear of the moistening point, means to feed the strip toward the moistening point, and means to feed the severed strip.

In testimony whereof, I have signed my name to this specification, in the presen of two subscribing witnesses.

FREDERICK S. ANABLE.

Witnesses:
IRVING U. TOWNSEND,
ROBERT H. KAMMLER.