E. L. BROWNSON.

STRIP SERVING DEVICE.

APPLICATION FILED FEB. 6, 1909.

919,286. Patented Apr. 20, 1909.

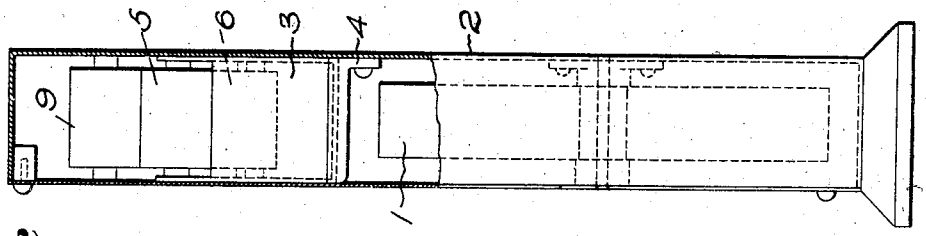


Fig. 2

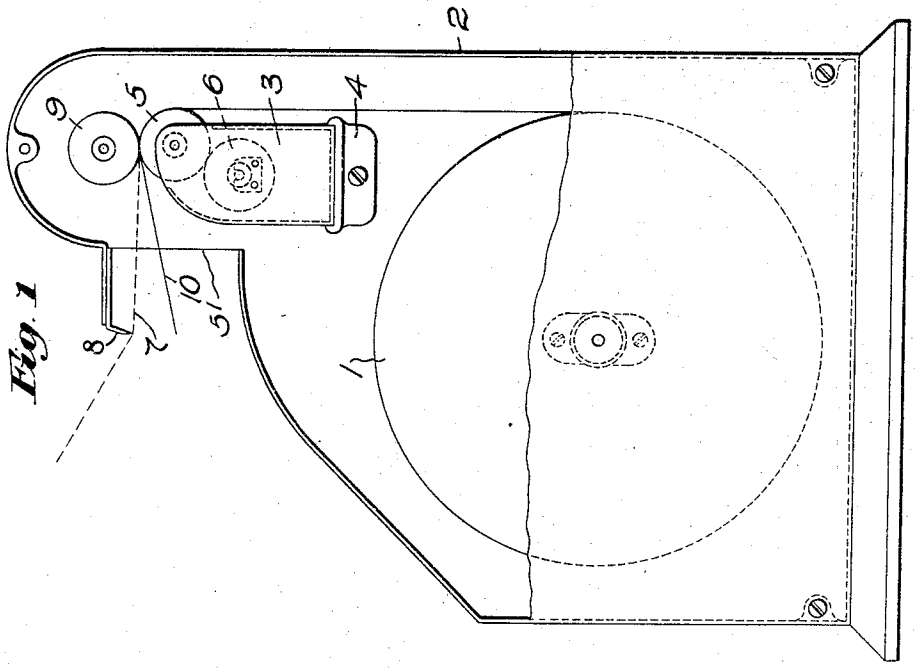


Fig. 1

Witnesses:
Horace A. Crossman
Francis H. Bishop.

Inventor:
Earl L. Brownson.
by Emery and Booth Attys.

UNITED STATES PATENT OFFICE.

EARL L. BROWNSON, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR TO NATIONAL BINDING MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

STRIP-SERVING DEVICE.

No. 919,286. Specification of Letters Patent. Patented April 20, 1909.

Application filed February 6, 1909. Serial No. 476,413.

To all whom it may concern:

Be it known that I, EARL L. BROWNSON, a citizen of the United States, and a resident of Haverhill, in the county of Essex and 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 numerals on the drawings representing like parts.

This invention relates to devices for supplying strips of paper or the like for wrapping or binding purposes or for use as a label. The subject-matter of the said invention is substantially disclosed in the following language in my application Serial No. 370,194; "It will be observed that herein the strip is severed by movement of the severing device toward the strip, although it will be apparent that the strip may be moved toward the severing device, if desired." "In the type of the invention shown, it will be observed that the severing mechanism is located in the rear of the moistener. While I am not to be limited to such location, I find this construction preferable in certain types of the invention."

This invention has particular reference to that type of apparatus employing a support for a roll of paper or other strip previously gummed upon one side and then dried and having means for moistening the gummed side of the strip as the latter is withdrawn from its coil. It is apparent, however, that an ungummed strip of paper or other suitable material may be employed, in which case a moistening device for the strip suitably positioned with respect thereto would contain an adhesive instead of water.

In order that the principles of the invention may be readily understood, I have disclosed an illustrative embodiment thereof in the accompanying drawing, wherein—

Figure 1 is a side elevation of a strip serving apparatus presenting one embodiment of my invention; and Fig. 2 is a front elevation of the device shown in Fig. 1.

The paper or other material, preferably in the form of a roll and preferably previously gummed upon one side, is indicated at 1, it being mounted and suitably tensioned in any suitable manner, as, for example, within a casing 2, which may be if desired open at one side as indicated for renewal of the strip roll and manipulation of the tank or reservoir. In this embodiment of my invention the casing receives between its upright walls the tank or reservoir 3 mounted upon a suitable cross piece 4 and preferably removable laterally or if desired removable through the opening 5′ in the front of the casing.

Mounted within the tank or reservoir 3 is any suitable moisture containing device, herein represented as a roll 5 provided with an absorbent covering and receiving moisture in any suitable manner, as for example, from the absorbent roll 6 likewise mounted in said tank or reservoir below and in contact with the roll 5. In advance of the moistener 6 and preferably above and if desired offset from the service path of the strip 7 is a severing blade 8 preferably fixed and suitably secured to the casing 2.

My invention comprehends means to hold the strip in moisture receiving relation to the moistener; *i. e.* to hold the strip down onto the upper face of the moistener 5. Such means, in this type of my invention, is shown as a roller 9 above and closely adjacent the moistener and of any suitable diameter. Any other suitable device may be employed so long as it is arranged to hold the strip down onto the upper surface of the moistener at all times with preferably a limited contact, that is, during the periods of rest as well as during the serving and severing operations, so that the strip is never normally free from the moistener. If desired, the presser may be a non-rotary bar or other member serving to press the strip into effective moistening engagement with the moistener 5. Said presser acts also to guide the strip in its service path. After the desired length of strip has been suitably served, and herein by draft by the operator, the strip is deflected to one side of the service path and herein upward against the edge of the blade or knife 8. While the severing blade is shown as rigid with the casing upon which it is mounted, a blade having capacity for movement upon the casing may be employed, but preferably a rigid blade is used.

The blade 8 is here shown in advance and above the moistener, and thus is spaced from the service path of the strip so as to require deflection of the strip for severing. The free

protruding end of the strip after the severing action springs down from the blade 8 and stands projecting into space with its leading edge free from the blade and free from the casing, as indicated at 10, so as to be readily engaged by the operator when the device is to be next used. The presser 9 serves to maintain the strip in effective but preferably limited contact with the moistener 5, inasmuch as a too extended peripheral contact therewith may serve to impair the adhesive.

Devices of this general character are quite commonly used in stores and the like for occasional sealing of packages (meaning by occasional use, such use as is not constant and where the device is permitted to stand for considerable intervals of time in disuse), and they are also employed commonly in establishments where the use is substantially constant, one length after another being drawn from the machine and severed, as, for example, in the sealing or securing of wrappers about packages of paper in paper mills where the devices are in continual use throughout the day with few, if any, substantial intervals of disuse intervening.

In devices of the general character such as first above mentioned, it has been considered desirable to maintain the free end of the paper roll or coil free from contact with the moistener during the intervals when the device is not in use, in order that the coating of adhesive upon that side of the paper next to the moistener should not be impaired or lost by continued contact with the moistener, and also to prevent the permeation of the strip itself by the moisture, which would weaken it and render it liable to breakage when next drawn upon for use. In devices for such use, it has therefore been common to provide a spring actuated or equivalent lifter or means for normally lifting the strip from contact with the moistener, the construction and arrangement being such that when the strip is seized and is led forward for use, the spring lifter or means will yield to permit the strip to be first drawn down upon the moistener, whereby in the further travel of the strip its adhesive surface will be moistened by contact with said moistener. An objection to a machine of this type when in constant use has been that the movement or travel of the strip necessary to draw it forward and downward into contact with the moistener and which precedes the effective moistening of the strip involves a waste of time and also of strip length, which, when considered alone or when added to the usual dried length of strip which was left from the previous use projecting beyond the moistener, has involved such waste as to make it undesirable to use in such manner.

For the second of the above mentioned uses, namely, where the device is employed without substantial interruption, there is not sufficient interval betwe the use of one strip and the next for the protruding end left upon the machine and moistened by the preceding draft upon the strip to become dried, one use following another in rapid succession, and I have found that when so continuously used, it is unnecessary to remove the strip end normally from contact with the moistener; in fact, I have found that the adhesive quality and strength of the strip are not in the least impaired if permitted to remain constantly in contact with the moistener. When so used continuously, it is important that the machine be so constructed as to leave the strip end in position for ready seizure for guidance and draft, and this is best accomplished by leaving the strip end projecting into space and free from any adjacent surface which would either interfere with ready seizure of the strip end, or which by contact with the moistened adhesive thereon would tend to remove any of the adhesive either during the short intervals of disuse or when the strip is drawn upon for use. I have therefore in the device here illustrated provided means as the presser 9 located above and if desired slightly forward of the median line of the moistener 5, to maintain a most effective, constant and normal contact of the adhesive face of the strip with the moistener. The severing device or cutter, I have arranged at one side of the normal service path of said strip, herein above the same, so as to be entirely free and clear of the strip and leave the projecting end of the latter standing outward in space and free to be seized between the fingers for ready guidance or withdrawal for use, the strip being deflected to one side for engagement with the severing device when the strip is to be severed, the remaining end then springing downward into projecting position for seizure. The distance of the severing device above the service path of the strip will, of course, determine the length of the end which projects forward for seizure and may be adjusted or varied to suit the individual preference. My invention therefore provides a machine especially adapted for frequent or constant use. It is clear that there is absolutely no loss either of time or strip in the use of the machine herein shown, for the projecting end of the strip is already moistened, and each increment of forward draft upon the strip is effective for moistening a corresponding additional length of the strip, which is not the case where the lifter requires first to be depressed by draft upon the strip before the latter is brought into effective engagement with the moistener; and furthermore in the machine here shown the projecting end of the strip is not pressed upon or drawn into contact with any metallic or other surface which would tend to remove any of the moistened adhesive or to cause the

strip to adhere thereto. My invention therefore provides a machine especially adapted for substantially constant use and which by eliminating all waste of time and material possesses many advantages not heretofore found in machines in this art so far as known to me.

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

Claims.

1. A strip serving device having strip supporting means, a casing, a moistening tank or reservoir in said casing and adapted to be inserted in or withdrawn from said casing through an open face thereof, an absorbent moistener in said tank or reservoir, a strip severing blade mounted above the service path of the strip and in advance of the moistener, but adjacent thereto and against which the strip may be deflected for severance and a presser guide for the strip, arranged transversely thereof and in close proximity to said moistener, and serving to hold the body of the strip in contact with the moistener during the serving and severing operations and after severance.

2. A strip serving device comprising a strip roll support, a tank or reservoir, an absorbent moistener operatively related to said tank or reservoir and located in the service path of the strip, a fixed severing blade located above the moistener and in advance thereof, but adjacent thereto and against which the strip may be deflected for severance and a presser for directing the free end of the strip into contact with the moistener and holding it in contact therewith during the serving and the severing operations and after severance.

3. A strip serving device comprising a strip roll support, a tank or reservoir, an absorbent moistener operatively related to said tank or reservoir and located in the service path of the strip, a severing blade located above said moistener and in advance thereof, but adjacent thereto and against which the strip may be deflected for severance and a presser guide above but in close proximity to the moistener and under which the strip passes, said presser guide holding the strip in limited contact with the moistener during both the serving and the severing operations and after severance.

4. A strip serving device comprising in combination a strip support, a strip moistener in juxtaposition thereto, a strip presser above and opposed to said moistener for holding said strip at all times in effective contact with said moistener, thereby to eliminate waste or loss of movement when serving the latter, and a severing device to act upon said strip in advance of said presser, and offset from the service path of the strip, thereby to require deflection of the strip for severing, whereby the remaining end of the strip after severing is left projecting into space.

5. A strip serving device comprising in combination a strip support, a strip moistener in juxtaposition thereto, means above said moistener to cause said strip to rest normally in effective contact therewith, thereby to eliminate waste or loss of movement and strip when serving the latter, and a fixed severing device to act upon the strip in advance of said presser, the free end of the strip after severance being left projecting into space in substantially its service path.

6. A strip serving device comprising in combination a strip support, a strip moistener in juxtaposition thereto, means to cause said strip to rest normally in effective contact with said moistener, thereby to eliminate waste or loss of movement and strip when serving the latter, and a strip severing device in advance of the moistener and constructed and arranged relative to the service path of the strip to cause the strip end after severance to maintain a position with its free end projected into space in substantially its service path.

7. A strip serving device comprising in combination a strip support from which the strip is adapted to be drawn by draft of the operator, a strip moistener in juxtaposition to said support, a transverse strip guide and presser above said moistener but in close proximity thereto and serving to maintain the strip during the serving and severing operations in effective but limited contact with said moistener, thereby to eliminate waste or loss of movement and strip when serving the latter, and a fixed strip severing device in advance of the moistener and above the service path of said strip to cause upward deflection of the strip for severance and to cause the strip end after severance to assume a position with its free end projecting into space.

8. A strip serving device comprising in combination a strip support, a strip moistener in juxtaposition thereto, means to cause said strip to rest normally in effective contact therewith, thereby to eliminate waste or loss of movement and strip when serving the latter, and a severing device to act upon the strip in advance of said means, whereby the free end of the strip after severance is left projecting into space in substantially its service path.

9. A strip serving device comprising in combination a paper strip support, a strip moistener in juxtaposition thereto, a presser above said moistener to maintain said strip during the serving and severing operations

in effective contact with said moistener, thereby to eliminate waste or loss of movement and strip when serving the latter, and a strip severing device in advance of the moistener and constructed and arranged relative to the service path of the strip to compel upward deflection of the strip for severing.

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

EARL L. BROWNSON.

Witnesses:

IRVING U. TOWNSEND,

M. H. LOWRY.