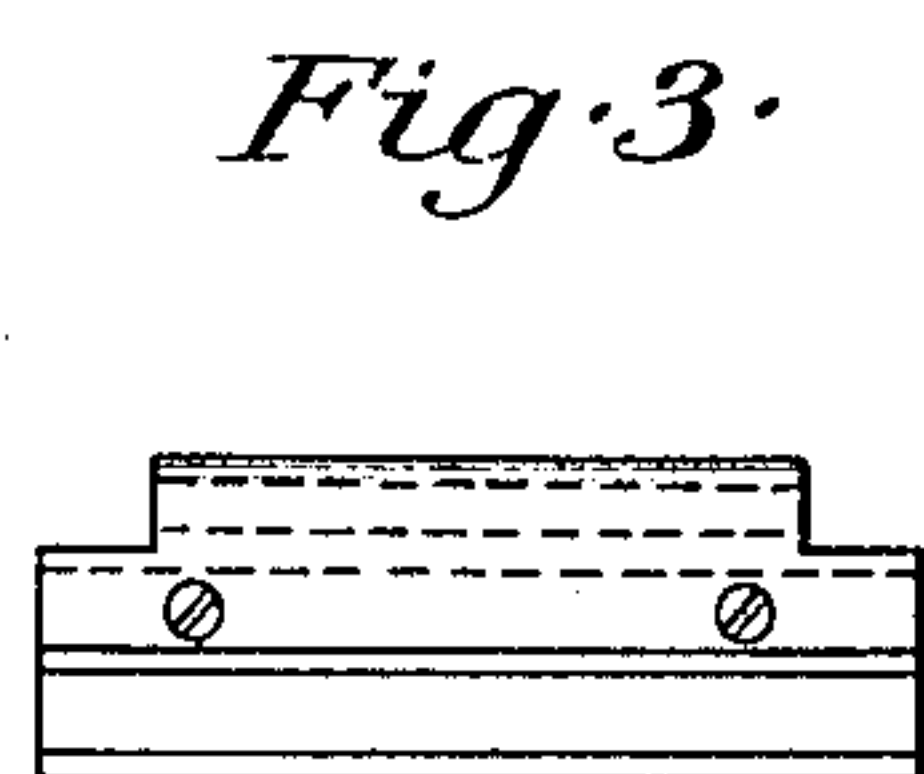
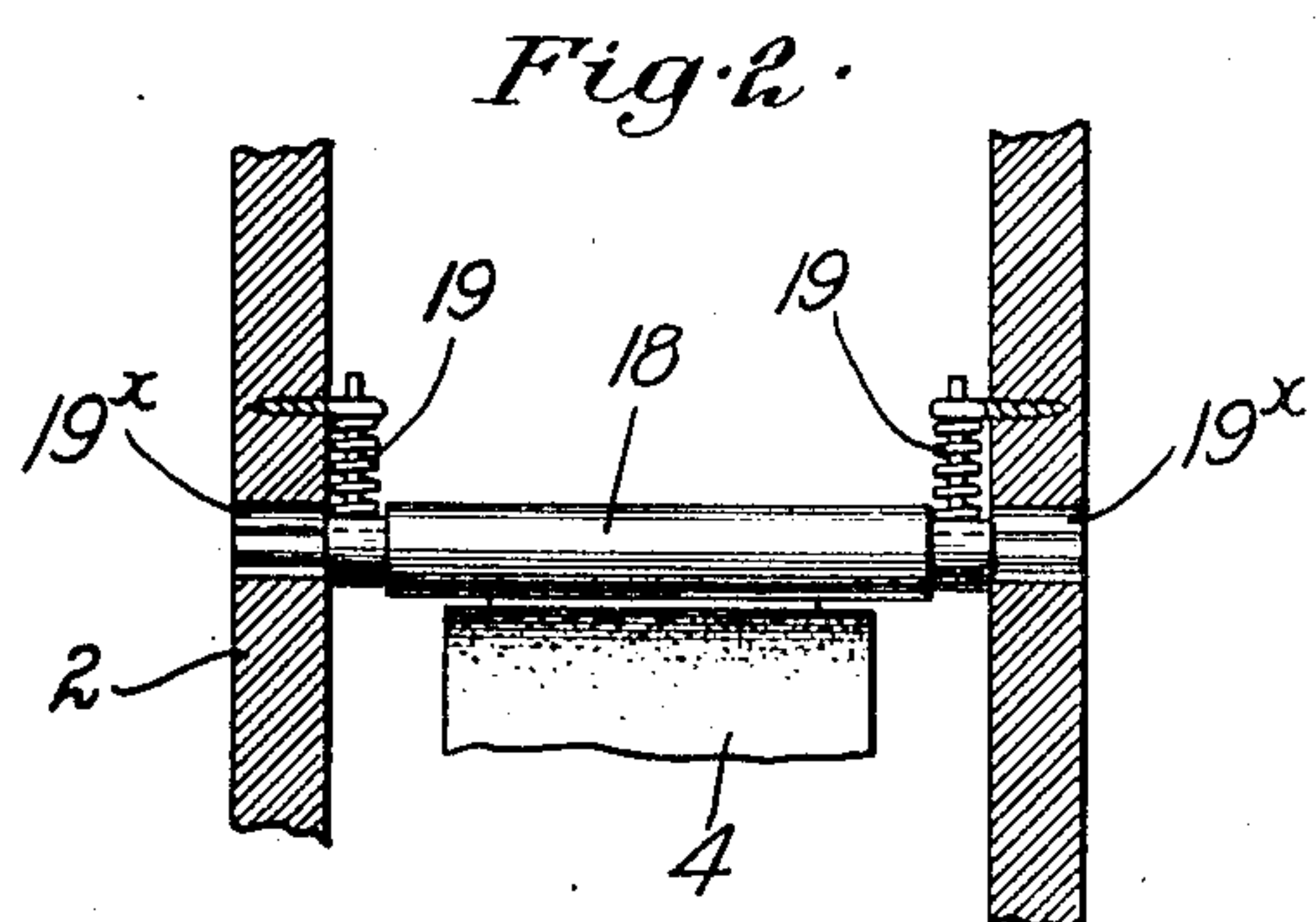
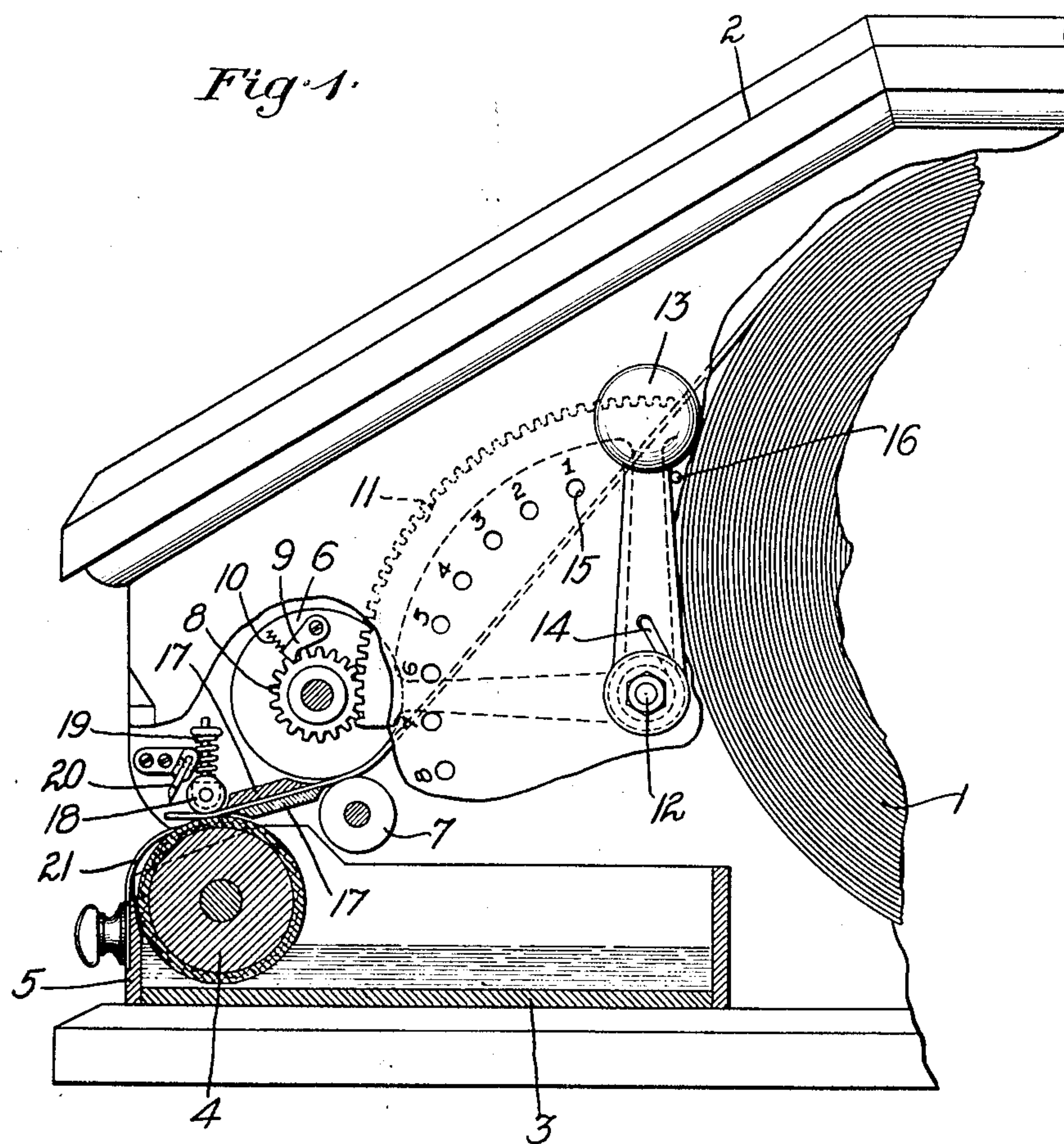


E. L. BROWNSON.
STRIP SERVING APPARATUS.
APPLICATION FILED DEC. 14, 1908.

913,614.

Patented Feb. 23, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

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

STRIP-SERVING APPARATUS.

No. 913,614.

Specification of Letters Patent.

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Serial No. 467,346.

To all whom it may concern:

Be it known that I, EARL L. BROWNSON, a citizen of the United States, residing at Allston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Strip-Serving Apparatus, 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, and is a division of my co-pending application, Serial No. 370,194.

The invention has particular reference to that type of apparatus employing a support for a coil or roll of paper 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gummed upon one side and then dried and having means for moistening the gummed side of the strip as the latter is withdrawn from its coil.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 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 drawing, wherein—

Figure 1 is a view, partially in side elevation and vertical section, of a portion of a strip serving device illustrating one embodiment of my invention; Fig. 2 is a vertical sectional view showing the relation of the moistener and the strip presser during the serving and severing operations; and Fig. 3 is a side elevation of a form of severing blade that may be employed in the practice of my invention.

The paper or other material, preferably in the form of a coil or 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 in this embodiment of my invention also receives between its upright walls the tank or reservoir 3, which may be withdrawn through the open front face of the casing. Mounted within the tank or reservoir 3 is any suitable moisture conveying device, herein represented as a roll 4 having an absorbent covering 5. The strip may be

delivered to the moistener in any suitable manner. I have in this embodiment of my invention represented means for feeding the strip thereto and herein comprising feeding rolls 6, 7, mounted in the casing and between which the strip is delivered, the roll 6 being provided with a pinion 8 loose upon the spindle thereof, but adapted to be clutched to said roll by a pivoted pawl 9 normally pressed by a spring 10 into engagement with the teeth of the pinion. Meshing with the pinion 8 is a segmental gear 11 pivoted upon the spindle 12 in the casing and having connected thereto and exterior to the casing an operating handle 13. A spring 14 coiled about the spindle and connected to the handle 13 tends normally to return the handle to the upright position indicated, the pawl 9 permitting the rearward rotation of the pinion 16 without similar movement of the roll 6.

Preferably I provide means to permit the feeding of different lengths of strip. For that purpose, I have here shown the casing as provided with a series of holes 15, any one of which may receive a pin which when positioned limits the forward or feeding movement of the handle 13. A pin 16 limits the return or non-feeding movement of the handle. Between the feeding rolls and the moistener, I may provide a guide, here shown as plates 17, between which the strip is fed toward the moistener.

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. Such means in this type of my invention is shown as a roller 18 closely adjacent the moistener and mounted to move vertically in slots 19^x in the casing, said roller being held by springs 19 in the described relation to the strip and moistener, but any other suitable device may be employed so long as it is arranged to hold the strip down onto the upper surface, preferably of limited extent, of the moistener at all times; that is, during the periods of rest as well as during the serving and the severing operations, so that the strip is never normally free from the moistener.

After the desired length of strip has been suitably served, the free end is grasped by the operator and is led forward the desired length and is then deflected to one side, here-

in upward, against the edge of a blade or knife 20 suitably mounted in the casing and fixed; that is to say, requiring deflection of the strip to effect the cutting or severing of the strip. The knife 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 after the severing action springs down from the blade and stands projecting into space with its leading edge free from the blade and the moistener, so as to be readily engaged by the operator when the device is to be next used.

Although I herein show the severing blade in front of the moistener, and base such disclosure upon the following statement in my parent application, Ser. No. 370,194: "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 preferably in certain types of the invention;" yet, I do not in this present application, claim specifically the severing blade as positioned in front of the moistener, as such specific structure is the subject matter of a separate application.

The presser is positioned slightly in advance of the moistening point, so as to cause the strip to be deflected at all times downward from the highest point of the moistener and between the strip support and the presser, thus insuring effective contact with the latter. A shield 21 in advance of the moistening point may be employed, if desired, to prevent the strip end from following down around the moistening roll.

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 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 between 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 machine here illustrated provided means, as the presser 18 located somewhat forward of the median line of the moistener and so as to cause the strip to lead down over the moistener somewhat from the highest point of the latter before it leaves the same, 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 stand-

ing 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.

In operating the machine, it is customary for the operative either to start the feed of the strip by means of the handle 13 engaged by one hand and seizing the strip end between the fingers of the other hand to guide or lay it upon a package or article to be sealed, finishing the draft wholly by drawing upon the strip end, or conjointly by so drawing upon it and continuing the movement by the handle, or by the handle alone, although where no definite length is required it is usually found more convenient to draw the strip by and between the fingers which direct it, so that my invention is not limited in this respect, the advantage of leaving the strip end projecting into space and free from contact with any surface or roller to impair the moistened, adhesive face thereof being present irrespective of the particular manner of drawing the strip from the machine.

Having thus described one 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 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 comprising a tank or reservoir, a moistener operatively related to the tank, means to support a strip roll from which the strip may be served toward the moistener and fixed strip severing means positioned for operation directly over the moistener and downwardly directed to reduce the strip deflection required for severance.

2. A strip serving device comprising a tank or reservoir, a moistener operatively related to the tank, means to support a strip roll from which the strip may be served toward and normally in contact with the moistener, and fixed severing means for the strip located directly over the moistener to reduce the strip deflection required for severance.

3. 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 and removable therewith, a fixed strip severing blade mounted on said casing above the service path of the strip, and a guide for the strip disposed transversely thereof and in close proximity to said moistener, and serving to hold the body of the strip at all times without deflection in its true service path.

4. 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 said moistener, and means for directing the free end of the strip into contact with the moistener and holding it in contact therewith during the serving operation.

5. A strip serving device comprising a strip roll support, a casing, a tank or reservoir received therein and removable through an open face thereof, a moistener in the service path of the strip and operatively related to said tank or reservoir and removable therewith from the casing, a guide between the moistener and the strip roll support, a fixed severing blade above the service path of the strip and carried by said casing, 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 the serving operation, the construction and arrangement of parts preventing deflection of the body of the strip from the true service path.

6. A strip serving device comprising, in combination, a support for the paper strip, a strip moistener in juxtaposition thereto, a strip presser above and opposed to said moistener for holding said strip without deflection, in the true service path, thereby to

eliminate waste or loss of movement and strip when serving the latter, and a fixed strip severing device to act upon the strip and offset from the service path of the strip, thereby to require deflection of the strip for severing.

7. A strip serving device comprising, in combination, a paper strip support, a strip moistener in juxtaposition thereto, means above said moistener to press said strip into effective contact with said moistener, thereby to eliminate waste or loss of movement and strip when serving the latter and a fixed strip severing device to act upon the strip and offset from the service path of the strip, thereby to require deflection of the strip for severing.

8. 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 serving in effective contact with said moistener, thereby to eliminate waste or loss of movement and strip when serving the latter, and a fixed strip severing device con-

structed and arranged relative to the service path of the strip to compel upward deflection of the strip for severing.

9. A strip serving device comprising in combination a support for the paper strip, a strip moistener in juxtaposition thereto, a strip presser opposed to said moistener and closely adjacent the most elevated portion of the moistener and in substantially the horizontal plane passing therethrough, said presser serving to hold the strip in effective moistening contact therewith at such point, whereby the body of the strip is maintained without deflection in the true service path, and a fixed strip severing device offset from the service path of the strip, thereby to require 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,
ARTHUR E. CARSON.