C. H. CROWELL.

MANUALLY OPERATED TAPE MOISTENING MACHINE.

APPLICATION FILED OCT. 9, 1916.

1,288,388.

Patented Dec. 17, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

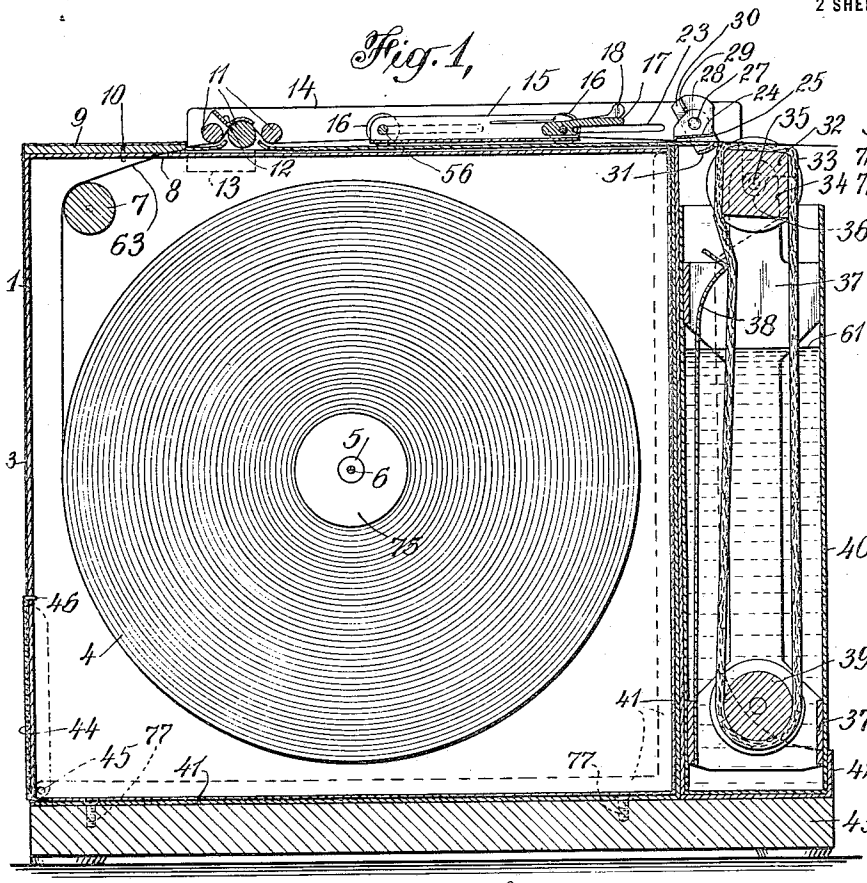


Fig. 2.

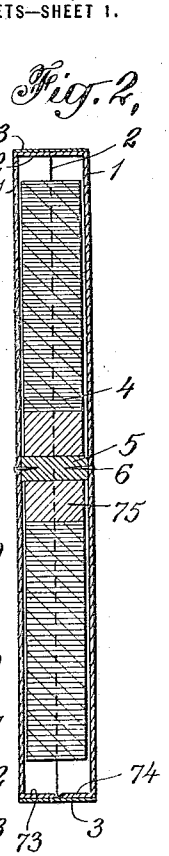


Fig. 3

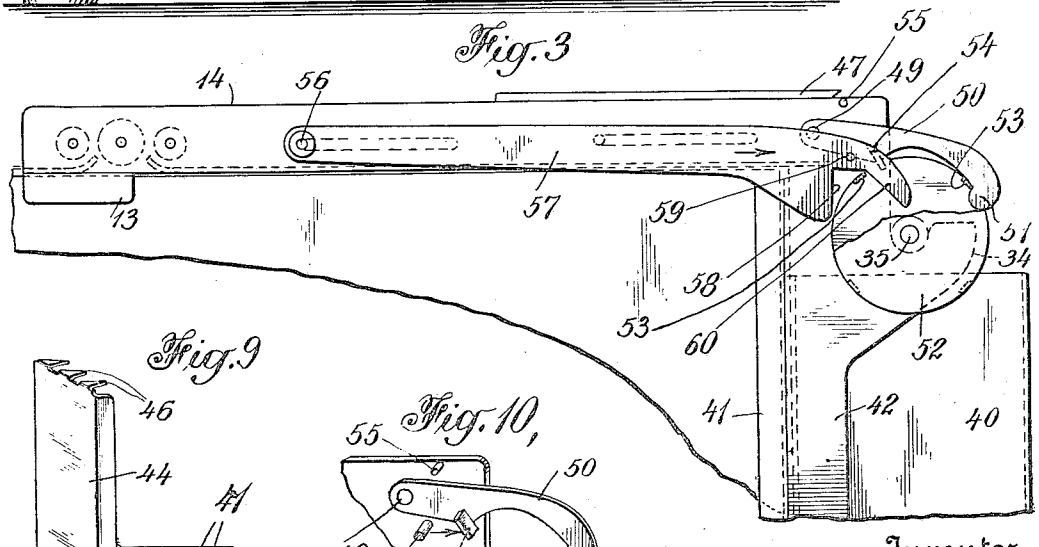


Fig. 9

Fig. 10.

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2 SHEETS—SHEET 2.

Fig. 4.

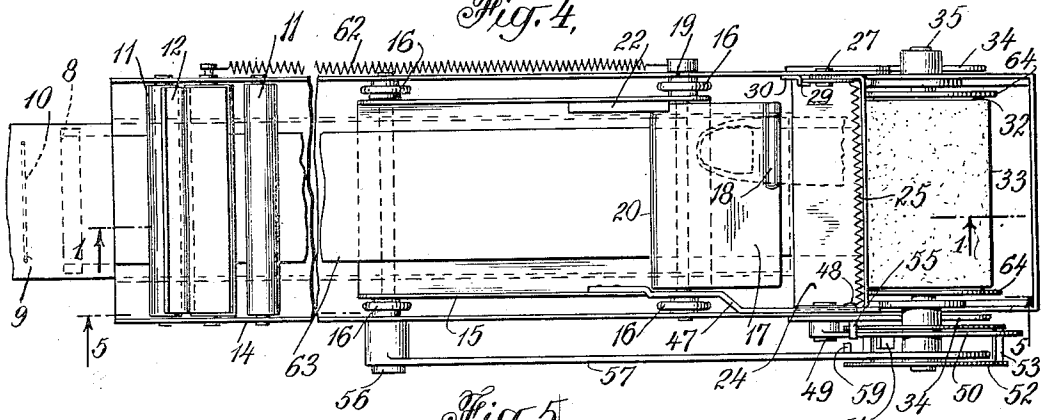


Fig. 5.

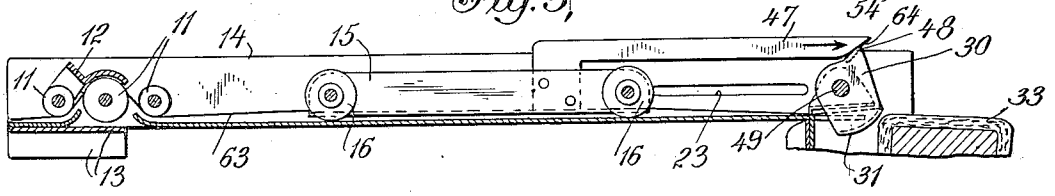


Fig. 6.

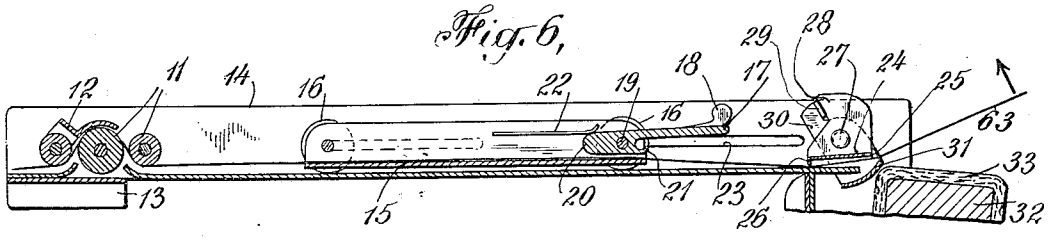


Fig. 7.

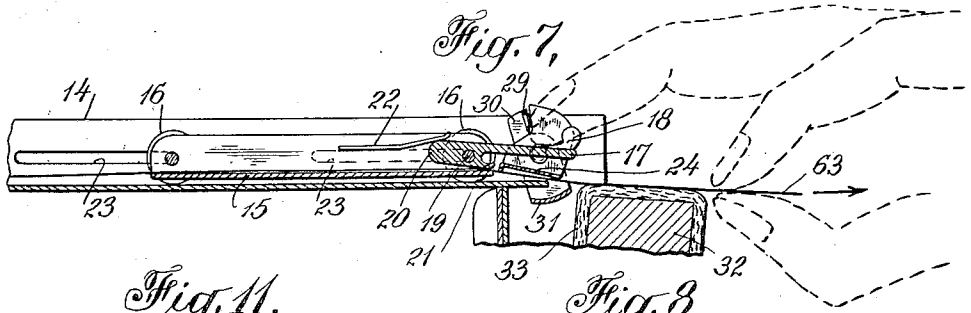


Fig. 11.

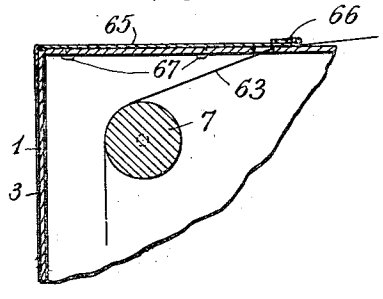
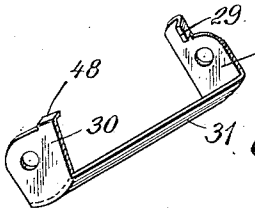


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES H. CROWELL, OF BROOKLYN, NEW YORK.

MANUALLY-OPERATED TAPE-MOISTENING MACHINE.

1,288,388. Specification of Letters Patent. Patented Dec. 17, 1918.

Application filed October 9, 1916. Serial No. 124,442.

To all whom it may concern:

Be it known that I, CHARLES H. CROWELL, a citizen of the United States, and resident of the borough of Brooklyn, county of Kings, city and State of New York, have made a certain new and useful Invention in Relation to Manually-Operated Tape-Moistening Machines, of which the following is a specification, taken in connection with the accompanying drawing, which forms part of the same.

This invention relates especially to tape moistening machines in which the frame of the machine may carry or coöperate with a moistener and with a cutter preferably of the stationary type, that is, one against which the tape is moved to sever the same. The cutter may with advantage be provided with a cutter lock to engage and hold the tape stationary during severance, and if desired a movable tape guard may be arranged to swing between the severed end of the tape and the moistener which preferably has a square or polygonal support so as to present a flat moistening and wiping face of the moistener substantially in line with the tape being withdrawn from the machine. The frame is preferably arranged to accommodate, or coöperate with a substantially sealed tape container which may be in the form of a paper or other box in which the tape roll is mounted, the tape being withdrawn as necessary from this container through a tape aperture substantially closed by a suitable flap or cover. In this way the tape roll may be revolubly mounted in this sealed container by the manufacturer and after being shipped to the user in this condition the roll and container may be mounted in connection with the moistener frame as by being slipped within suitable guides therein so that the frame more or less encircles the container and promotes the compactness and stiffness of the machine.

In the accompanying drawing showing in a somewhat diagrammatic way illustrative embodiments of this machine—

Figure 1 is a vertical section taken substantially along the line 1—1 of Fig. 4.

Fig. 2 is a transverse section through the tape container.

Fig. 3 is an enlarged side view of parts of the machine.

Fig. 4 is a top view on substantially the same scale.

Fig. 5 is a detail section showing the operating devices taken substantially along the line 5—5 of Fig. 4.

Fig. 6 is a somewhat similar view showing the parts in severing position.

Fig. 7 shows still another position of these parts.

Fig. 8 is a detail perspective view of the moistener guard.

Fig. 9 is a perspective view of the container securing clip.

Fig. 10 shows in detail the moistener holding pawl; and

Fig. 11 shows another form of closing flap and aperture for the tape container.

The frame of this machine may, if desired, comprise the frame base 43 of metal, for instance, to which suitable container guides 41 of preferably flanged sheet metal construction may, if desired, be removably secured as by the screws or bolts 77, so that in this way, for example, the machine may accommodate different widths of tape as by replacing the guides with others of the desired width. These guides may extend upward and support the sheet metal or other top member of the frame on which the moistener, cutter and feeder may be mounted or with which they may coöperate. If desired also the top member may be formed with guide clips, such as 13, for the tape container and with a suitable runway 14 in which the feeder may be arranged to reciprocate longitudinally of the machine. The tape container is preferably substantially sealed and provided with a suitable practically closed aperture through which the tape is fed as needed and in this way the tape may be shipped and kept in practically sealed condition so that its deterioration through the action of moisture and similar atmospheric conditions is minimized not only before but during the use of the tape. For this purpose the supply of tape which may be in the form of a tape roll, such as 4, may be revolubly mounted in any suitable way within the tape container of any desired form and construction. The container may be in the form of a paper or cardboard box 1 which as indicated in Figs. 1 and 2 may be formed of a one-piece blank suitably scored and folded so that its

sides 1 and 71 are joined by the integral top piece 72 while the flaps 73, 74, forming the other sides of the box may with advantage be brought substantially into abutting contact and firmly held in this position as by passing one or more layers 3 of adhesive tape around the edge of the container. During the assembly of the container the support pin 5 may be advantageously secured first to one side of the container as by the headed nail or pin 6 and then when the tape roll and its core 75 have been slipped into position the support pin may be similarly secured to the other side of the container so as to firmly support it and revolubly hold the tape roll therein. The tape aperture, such as 8, may be formed in the edge of the container which is to be used as the top under service conditions and this aperture is kept substantially closed under shipping and operating conditions by a suitable closing flap, such as 9, which may, for example, be formed of heavier paper board or other somewhat resilient material firmly held in place as by the staples 10 so that its front end considerably overlaps the tape aperture and maintains a substantially tight closure under all conditions. If desired, a resilient metal closing flap may be used to cover this tape aperture and this arrangement is shown in Fig. 11 as comprising the metal flap 65 held in place on the container as by the prongs or pins 67 passing through the container so as to support in proper position the forward edge 66 of this flap which is preferably doubled back upon itself to form a rounded delivery edge. If desired, a suitable tape guide, such for instance as the roll or round stationary guide 7, may be mounted within the container adjacent the tape aperture so as to more effectively guide the tape 63 during its withdrawal. It is, of course, understood that the tape roll and container are assembled in this way by the manufacturer thereof and shipped in this condition with the tape end slightly protruding under the closing flap adjacent the tape aperture so that the tape may be withdrawn as needed from time to time without opening the container or exposing the tape therein to the deleterious action of moist air which is especially undesirable with the hygroscopic gum coatings which are most desirable on gummed tape where quick and thorough moistening and strong adhesion are desired. The user may slip this sealed container, the sides of which may of course contain suitable advertising matter, within the container guides on the frame so that the container is substantially or largely embraced by the frame as indicated in Fig. 1. The container and roll may be held in this position in the frame by any suitable securing devices, such, for example, as the container securing clip 44 which as indicated in Figs. 1 and 9 may be pivoted by the pins 45 to the lower guides and may have one or more prongs or piercing members 46 to embed themselves in the container and hold it firmly in position until all the tape is withdrawn and it becomes necessary to put in place a new filled container.

The frame member may with advantage be provided with a suitable tension device, since it is advantageous to have the tape roll free running in the container which allows it to overrun more or less and thus gives sufficient slack around the roll to facilitate the starting of the tape during withdrawal, the outer loose coils or turns of the tape being of course guided by the sides of the container so as not to give trouble under these conditions. For this purpose suitable tension roll guides, such as 11, may be arranged adjacent the rear of the runway 14, for instance, so that the tape may run in and out between them to give the desired tension preferably in connection with a suitable tension member, such as 12, which may be pivoted about the rear guide or roll and have sufficient weight to bear lightly on the tape passing over the next tension guide roll, for instance. The feeder may for the manual feeding of the tape advantageously comprise a suitable feed carriage, such as 15, mounted to reciprocate within the runway 14 and accurately guided during its reciprocation by any suitable means. The carriage may, for instance, have the transverse pins 19, 56, extending therethrough and projecting through suitable slots 23 formed in the sides of the runway so as to guide the carriage and simultaneously limit the extent of its movement which may be further facilitated by the use of suitable anti-friction rolls 16 on these pins. The lower plate or bottom of this carriage over which the tape may pass may have in coöperation therewith a suitable feed device or feeder 20 movably mounted in the carriage, as for instance by being pivoted about the forward pin 19 thereof. The feeder grip 21 on this feeder may firmly grip and hold the tape against the carriage plate when the forward end of the feeder is pressed downward into operative position, as indicated in Fig. 7, during the withdrawal of the tape, it being desirable to have a lifter device, such as the spring 22, coöperating with the feeder so as to normally return it to released inoperative position shown in Fig. 6. The feeder preferably has the finger grip or projection 18 formed thereon to be engaged by the operator and for some purposes it is desirable to form a slideway or opening in this projection sufficient to allow the first finger of the operator to readily move off the feeder after the carriage has been moved to its forward position indicated in Fig. 7 so that under these conditions the projecting forward end 63 of the tape may be more readily

and naturally grasped by the operator as by being gripped between his thumb and forefinger as indicated. In this way the operator's fingers when moved along the runway naturally come into engagement with the finger grip 18 of the feeder as the parts are in their normal retracted position shown in Fig. 6 and a simple forward and downward movement of the finger serves to grip the tape and move it forward with the carriage as far as the carriage travel permits and then when the carriage stops the operator can readily grasp the projecting end of the tape and manually withdraw as much of it as is desired while simultaneously moistening the tape on any suitable moistener and then severing the length by the action of any suitable coöperating severing device which may be provided.

The moistener may be advantageously mounted adjacent the end of the runway and may comprise a removable moistening tank, such as 40, which may fit within the pocket or guide 42 in the frame and have the projecting shaft 35 of the moistener drum supported and held in alinement by fitting within suitable sockets in the brackets 34 on this moistener frame or support which stiffens and strengthens the machine frame. The moistener is preferably provided with a suitable polygonal support or moistener drum 32 which may with advantage be substantially square with slightly rounded corners and the coöperating moistener may be a belt moistener 33 of felt or other suitable fibrous capillary material extending over this drum and down within the moistening tank 40 where, if desired its lower end may pass over the lower moistening roll, such as 39. The moistener drum may be intermittently rotated from time to time by any suitable means and is preferably held in such position that its upper or active moistening surface is substantially in the line of withdrawal of the gummed tape which may thus be readily and thoroughly moistened by the moistening and wiping action of this moistener face. It is also desirable to have a suitable scraper or spring doctor, such as 38, arranged to coöperate with the moistener and remove surplus water therefrom as it moves up toward the moistener drum or support and in this way surplus water is removed from the outer face of the moistener while the inner face still contains a relatively large amount of water which is more or less forced up through the porous moistener as it comes in contact with the drum face. The moistener may be automatically revolved by the feeder or carriage and for this purpose the moistener feed pawl, such as 57, shown in Fig. 3, may be mounted on the pin 56 of the carriage and have its feeder cam 58 in such position as to engage one of the teeth 53 on the moistener wheel 52 which as indicated in Fig. 4 may comprise a plurality of plates joined by these teeth at their peripheries. The end 60 of this feeder pawl may project between these two plates of the wheel so as to promote the alinement of the parts and forward movement of the carriage causes a corresponding movement of the feeder pawls indicated in Fig. 3 so that the cam 58 engages and pushes forward one of the teeth 53 to rotate the moistener through practically a quarter turn. It is desirable to hold the moistener in proper alinement under operating conditions and for this purpose a suitable holding lever, such as 50, may have a holding pawl 51 coöperating with the teeth 53 so as to hold the moistener in alinement after it is fed forward. This holding lever may be loosely pivoted about the pin 49 in the front of the runway and have its upward movement limited as by the pin 55. This holding lever is released by suitable devices when the feeding movement takes place and for this purpose a lifting cam, such as 54, may be formed on this lever and the lifting pin 59 on the feeder pawl may coöperate therewith so as to lift the holding pawl free from the teeth just before the feeding action takes place, and of course during the return movement of the carriage as through the action of the return spring 62 this lifting pin may ride up over the lifting cam, the construction of which is shown more in detail in Fig. 10.

The cutter which may with advantage be mounted adjacent the end of the runway 14 may be of the stationary type, that is, it may operate when the tape is moved against the cutter which may have a serrated or other suitable severing edge 25. It is advantageous, however, to have the cutter 24 slightly movable and for this purpose it may be pivotally mounted on the inwardly projecting studs or pins 27 in the runway, so that when swung upward during the severing operation, as is indicated in Fig. 6, the tape when first engaging the severing edge 25 of the cutter tends to swing it about its pivot so as to swing down the cutter lock 26 on the rear edge of this cutter into holding engagement with the tape and thereby prevent any undesirable longitudinal movement thereof during its severance. It is sometimes desirable to interpose a suitable tape guard between the moistener and the severed end of the tape which as indicated is preferably severed sufficiently far back to prevent contact between this tape end and the moistener, and for this purpose a suitable metallic guard, such as 31, may be moved up between the moistener and the tape end during or after severance by any suitable means. The movement of the cutter may be used for this purpose, and for example, the cutter may be provided with an upwardly extending portion or cutter cam 28 to engage the operat-

ing member or lug 29 on this guard end 30 which as indicated may be similarly pivoted about the pins 27. Thus when the cutter is swung upward from its inoperative position shown in Fig. 7 to its locking and severing position shown in Fig. 6 the oscillation of the cutter simultaneously oscillates the tape guard so as to move it into its protective position shown in Fig. 6. These parts may, if desired, be automatically returned to the feeding position shown in Fig. 7 as by suitable devices connected with the feeder and for this purpose a releaser bar, such as 47, may be secured to the feeder or its carriage, as indicated in Figs. 4 and 5, so as to carry the releaser or inclined surface 64 into engagement with the releaser cam 48 on the guard so as to force this guard downward into its released position and simultaneously swing the cutter 24 into its released feeding position shown in Fig. 7. In this way the operation of these parts of the machine is practically automatic and each time a strip of tape is withdrawn and severed a fresh moistener surface is also brought up into moistening position. It is of course understood that the moistener wheel may be manually rotated so as to bring up a freshly moistened section of the moistener from the tank when desired in case the machine has not been in service for some time.

This invention has been described in connection with a number of illustrative embodiments, forms, proportions, materials, parts and arrangements, to the details of which disclosure the invention is not of course to be limited, since what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims.

1. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway and having a retracting spring to normally return the same to rearward position, a feeder pivoted in said carriage and having a feeder grip coöperating with a plate in said carriage to grip and hold the tape when the same is first fed forward, a feeder lifting spring normally holding said feeder grip in inoperative position, a finger grip on said feeder to be engaged by the finger of an operator during feeding, a slideway in said grip to allow another finger of the operator to move forward and engage the free end of the tape when the forward movement of said carriage ceases, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a stationary tape cutter pivotally mounted in the end of said runway to sever tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation, a tape guard pivotally mounted adjacent said cutter to extend between the end of said cutter and said moistener and interlocking projections on said cutter and guard to throw said tape guard into protective position between said moistener and the tape end when said cutter is operated and a releaser on said carriage to move said guard and cutter into inoperative position as said carriage starts forward.

2. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway and having a retracting spring to normally return the same to rearward position, a feeder pivoted in said carriage and having a feeder grip coöperating with a plate in said carriage to grip and hold the tape when the same is first fed forward, a finger grip on said feeder to be engaged by the finger of an operator during feeding, and to allow another finger of the operator to move forward and engage the free end of the tape when the forward movement of said carriage ceases, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a stationary tape cutter pivotally mounted in the end of said runway to sever tape extending under the same, and a cutter lock on said cutter to hold said tape against movement during the severing operation.

3. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway, a feeder pivoted in said carriage and having a feeder grip coöperating with a plate in said carriage to grip and hold the tape when the same is first fed forward, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a stationary tape cutter pivotally mounted adjacent the end of said runway to sever tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation, a tape guard pivotally mounted adjacent said cutter to extend between the end of said cutter and said moistener and interlocking projections on said cutter and guard to throw said tape guard into protective position between said moistener and the tape end when said cutter is operated and a releaser on said carriage to move said guard and cutter into inoperative position as said carriage starts forward.

4. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway, a feeder pivoted in said carriage and having a feeder grip coöperating with a plate in said carriage to grip and hold the tape when the same is first fed forward, a tape moistener mounted adjacent and ahead of said runway to coöperate with

the tape fed forward therethrough, a stationary tape cutter pivotally mounted adjacent the end of said runway to sever tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation.

5. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway, a feeder in said carriage and having a feeder grip to be directly engaged by the hand of an operator to thereupon grip and hold the tape when the same is first fed forward, a tape moistener mounted adjacent and ahead of said runway to cooperate with the tape fed forward therethrough.

6. In tape moisteners, means to support a roll of gummed tape, a feeder having a feeder grip to grip and hold the tape when the same is first fed forward, a finger grip on said feeder to be engaged by the finger of an operator during feeding and allow another finger of the operator to move forward and engage the free end of the tape when the forward movement ceases, a tape moistener mounted to coöperate with the tape fed forward, a stationary type cutter pivotally mounted to sever tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation, a tape guard pivotally mounted adjacent said cutter to extend between the end of said cutter and said moistener and interlocking projections on said cutter and guard to move said tape guard into protective position between said moistener and the tape end when said cutter is operated and a releaser on said feeder to move said guard and cutter into inoperative position as said feeder starts forward.

7. In tape moisteners, means to support a roll of gummed tape, a feeder having a feeder grip to grip and hold the tape when the same is first fed forward, a tape moistener mounted to coöperate with the tape fed forward, a stationary type cutter pivotally mounted to sever tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation, a tape guard pivotally mounted adjacent said cutter to extend between the end of said cutter and said moistener and interlocking projections on said cutter and guard to move said tape guard into protective position between said moistener and the tape end when said cutter is operated and a releaser on said feeder to move said guard and cutter into inoperative position as said feeder starts forward.

8. In tape moisteners, means to support a roll of gummed tape, a feeder, a tape moistener mounted to coöperate with the tape fed forward, a stationary tape cutter mounted adjacent the feeder to sever tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation, a tape guard mounted adjacent said cutter to extend between the end of said cutter and said moistener and means to move said tape guard into protective position between said moistener and the tape end when said cutter is operated and a releaser on said feeder to move said guard and cutter into inoperative position as said feeder starts forward.

9. In tape moisteners, means to support a roll of gummed tape, a feeder, a tape moistener mounted to coöperate with the tape fed forward, a stationary tape cutter mounted adjacent the feeder to sever tape extending under the same, a tape guard mounted adjacent said cutter to extend between the end of said cutter and said moistener and to move said tape guard into protective position between said moistener and the tape end when said cutter is operated.

10. In tape moisteners, means to support a roll of gummed tape, a feeder, a tape moistener mounted to coöperate with the tape fed forward, a stationary tape cutter pivotally mounted to sever the tape extending under the same, a cutter lock on said cutter to hold said tape against movement during the severing operation, a tape guard pivotally mounted adjacent said cutter to extend between the end of said cutter and said moistener and means to move said cutter into protective position between said moistener and the tape end when said cutter is operated and releasing devices to move said guard and cutter into inoperative position as said tape starts forward.

11. In tape moisteners, means to support a roll of gummed tape, a feeder, a tape moistener mounted to coöperate with the tape fed forward, a cutter mounted to sever the tape extending under the same, a cutter lock to hold said tape against movement during the severing operation, a tape guard mounted adjacent said cutter to extend between the end of said cutter and said moistener and means to move said cutter into protective position between said moistener and the tape end when said cutter is operated and releasing devices to move said guard and cutter into inoperative position as said tape starts forward.

12. In tape moisteners, means to support a roll of gummed tape, a feeder, a tape moistener mounted to coöperate with the tape fed forward, a cutter mounted to sever the tape, a cutter lock to hold said tape against movement during the severing operation, a tape guard mounted adjacent said cutter to extend between the end of said cutter and said moistener and means to move said guard into protective position between said moistener and the tape end when said cutter is operated.

13. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway and having a retracting spring to normally return the same to rearward position, a feeder pivoted in said carriage and having a feeder grip coöperating with a plate in said carriage to grip and hold the tape when the same is first fed forward, a feeder lifting spring normally holding said feeder grip in inoperative position, a finger grip on said feeder to be engaged by the finger of an operator during feeding, a slideway in said grip to allow another finger of the operator to move forward and engage the free end of the tape when the forward movement of said carriage ceases, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a stationary tape cutter pivotally mounted adjacent the end of said runway to sever tape extending under the same, and a cutter lock on said cutter to hold said tape against movement during the severing operation.

14. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway and having a retracting device to normally return the same to rearward position, a feeder pivoted in said carriage and having a feeder grip to grip and hold the tape when the same is first fed forward, a finger grip on said feeder to be engaged by the finger of an operator during feeding, a slideway in said grip to allow another finger of the operator to move forward and engage the free end of the tape when the forward movement of said carriage ceases, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a stationary tape cutter pivotally mounted adjacent the end of said runway to sever tape extending under the same and a cutter lock on said cutter to hold said tape against movement during the severing operation.

15. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway, a feeder pivoted in said carriage and having a feeder grip to grip and hold the tape when the same is first fed forward, a finger grip on said feeder to be engaged by the finger of an operator during feeding and allow another finger of the operator to move forward and engage the free end of the tape when the forward movement of said carriage ceases, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a stationary tape cutter mounted adjacent the end of said runway to sever tape.

16. In tape moisteners, means to support a roll of gummed tape, a coöperating runway, a feed carriage mounted to reciprocate in said runway, a feeder pivoted in said carriage and having a feeder grip to grip and hold the tape when the same is first fed forward, a finger grip on said feeder to be engaged by the finger of an operator during feeding and allow the operator to engage the free end of the tape when the forward movement of said carriage ceases, a tape moistener mounted adjacent and ahead of said runway to coöperate with the tape fed forward therethrough, a cutter mounted adjacent the end of said runway to sever tape.

17. In tape moistening machines, means to support a roll of gummed tape, a feeder to feed tape from said roll, a stationary tape cutter beyond said feeder, a removable moistener tank and a belt moistener mounted therein to coöperate with said tape beyond said cutter and having a square moistener drum over which the upper portion of said moistener passes, a lower moistener roll located in said moistening tank and around which the lower end of said moistener passes, a spring doctor device to engage the moistener as it moves toward said moistener drum and means connected with said feeder to intermittently turn said moistener drum and bring the moistener on another face of said drum into moistening position substantially in line with the feed of the tape to have a moistening scraping action on the gummed tape moving over the same.

18. In tape moistening machines, means to support a roll of gummed tape, a feeder to feed tape from said roll, a removable moistener tank and a belt moistener mounted therein to coöperate with said tape and having a square moistener drum over which the upper portion of said moistener passes, a lower moistener roll located in said moistening tank and around which the lower end of said moistener passes, a doctor device to engage the moistener as it moves toward said moistener drum and means connected with said feeder to intermittently turn said moistener drum and bring the moistener on another face of said drum into moistening position substantially in line with the feed of the tape.

19. In tape moistening machines, means to support a roll of gummed tape, a feeder to feed tape from said roll, a cutter beyond said feeder, a moistening tank, a belt moistener extending into said tank to coöperate with said tape beyond said cutter and having a polygonal moistener drum over which the upper portion of said moistener passes, a spring doctor device to engage the moistener as it moves toward said moistener drum and means connected with said feeder to intermittently turn said moistener drum and bring the moistener on another face of said drum into moistening position substan-

tially in line with the feed of the tape to have a moistening scraping action on the gummed tape moving over the same.

20. In tape moistening machines, means to support a roll of gummed tape, a feeder to feed tape from said roll, a moistening tank, a belt moistener extending into said tank to coöperate with said tape beyond said cutter and having a polygonal moistener drum over which the upper portion of said moistener passes, and means connected with said feeder to intermittently turn said moistener drum and bring the moistener on another face of said drum into moistening position to have a moistening scraping action on the gummed tape moving over the same.

21. In tape moistening machines, means to support a roll of gummed tape, a moistening tank, a belt moistener extending into said tank to coöperate with said tape and having a polygonal moistener drum over which the upper portion of said moistener passes, and means to intermittently turn said moistener drum and bring the moistener on another face of said drum into moistening position.

22. In tape moistening machines, means to support a roll of gummed tape, means to withdraw tape from said roll, and a moistener to coöperate with said tape and having a square moistener support, and means to intermittently turn said moistener support and bring another face into moistening position substantially in line wth the feed of the tape to have a moistening and scraping action on the gummed tape moving over the same.

23. In tape moistening machines, means to support a rolled of gummed tape, means to withdraw tape from said roll, and a moistener to coöperate with said tape and having a polygonal moistener support, and means to intermittently turn said moistener support and bring another face into moistening position.

24. In tape moisteners, a frame comprising container guides, a container securing device, and moistening and severing devices coöperating with the upper part of said frame, and a coöperating sealed tape shipping container formed substantially of paper and having a roll of tape revolubly mounted therein to be drawn through a tape aperture in the upper part of said container to moisten and sever lengths of said tape on said moistening and severing devices, said container being engaged and removably held in substantially stationary position by said guides and substantially embraced by said frame.

25. In tape moisteners, a frame, and moistening and severing devices coöperating with said frame, and a coöperating sealed tape shipping container having a roll of tape revolubly mounted therein to be drawn through a tape aperture in said container to moisten and sever lengths of said tape on said moistening and severing devices, said container being engaged and removably held in substantially stationary position by said frame.

26. In tape moisteners, a frame comprising a container securing device, a moistening and severing device coöperating with the upper part of said frame, and a coöperating interchangeable substantially sealed tape container having a roll of tape revolubly mounted therein from which the tape may be drawn through a tape aperture in said container to moisten and sever lengths of said tape on said moistening and severing device, without exposing said roll of tape to undesirable atmospheric influences, said container being engaged and held in substantially stationary position and substantially embraced by said frame.

27. In tape moisteners, a frame, a moistening and severing device coöperating with said frame, and a coöperating interchangeable substantially sealed tape container having a roll of tape revolubly mounted therein from which the tape may be drawn through a tape aperture in said container to moisten and sever lengths of said tape on said moistening and severing device, without exposing said roll of tape to undesirable atmospheric influences, said container being engaged and held in substantially stationary position by said frame.

28. In tape moisteners, a frame, a moistening and severing device coöperating with said frame, and a coöperating interchangeable substantially sealed tape container held in substantially stationary position on said frame and having a roll of tape revolubly mounted therein from which the tape may be drawn from said container to moisten and sever lengths of said tape on said moistening and severing device without exposing said roll of tape to undesirable atmospheric influences.

29. In tape moisteners, a frame comprising removable flanged container guides and a container securing device, and a moistening and severing device coöperating with said frame, and a coöperating substantially closed protective tape container removably mounted on said frame in substantially stationary position thereon and having a supply of tape therein to be drawn through a tape aperture in said container to moisten and sever lengths of said tape on said moistening and severing device without undesirably exposing said tape to atmospheric moisture, said container being engaged and held in said guides and substantially embraced by said frame.

30. In tape moisteners, a frame comprising container guides and a container secur-

ing device, and a moistening device coöperating with said frame, and a coöperating substantially closed protective tape container removably mounted on said frame in substantially stationary position thereon and having a supply of tape therein to be drawn through a tape aperture in said container to moisten lengths of said tape on said moistening device without undesirably exposing said tape to atmospheric moisture, said container being engaged and held in said guides and substantially embraced by said frame.

31. In tape moisteners, a frame and a moistening device coöperating with said frame, and a coöperating substantially closed protective tape container removably mounted on said frame in substantially stationary position thereon and having a supply of tape therein to be drawn through a tape aperture in said container to moisten lengths of said tape on said moistening device without undesirably exposing said tape to atmospheric moisture.

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