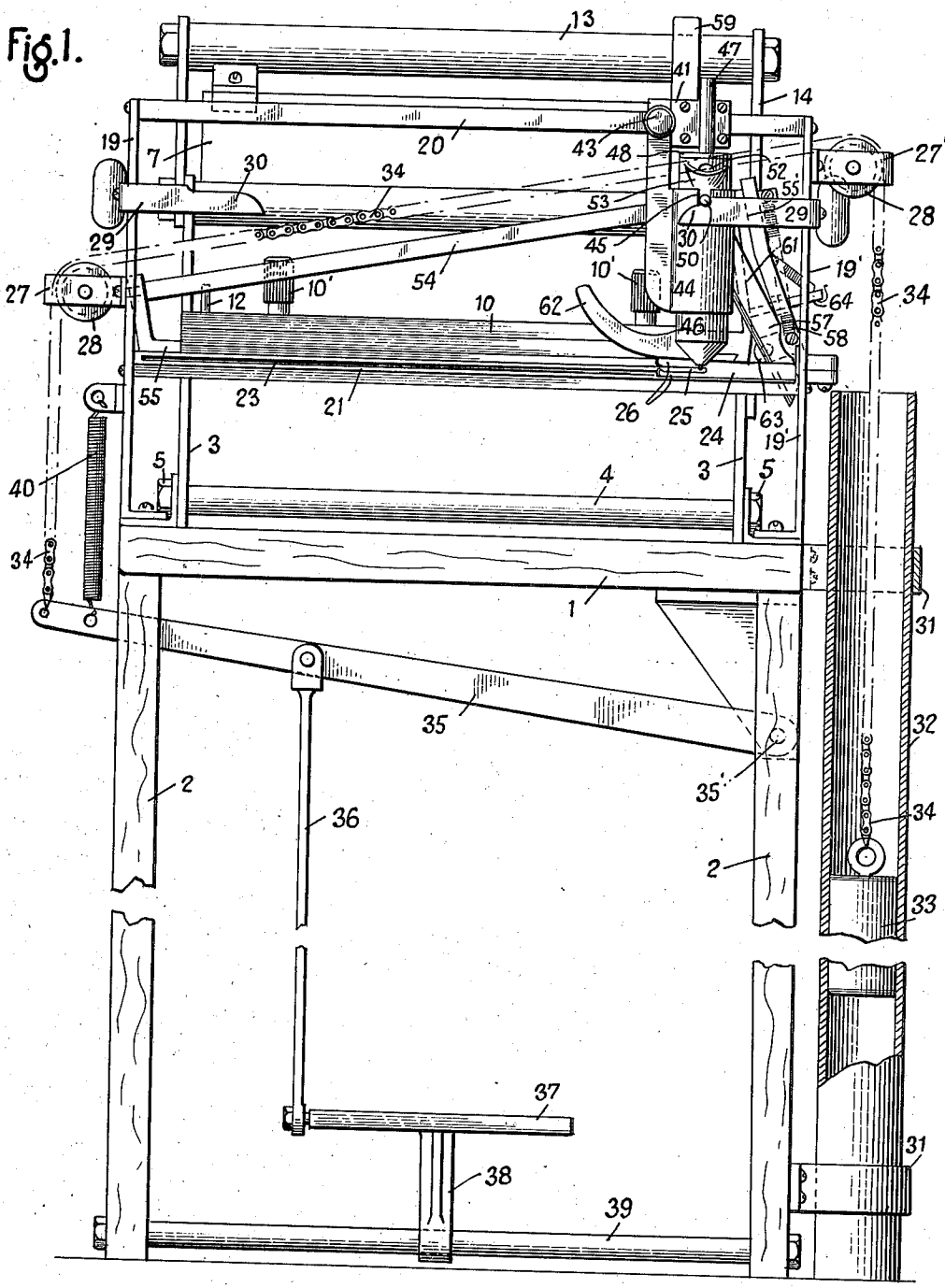
Oct. 13, 1936. H. PIERCE 2,057,264

CUTTING AND GUMMING MACHINE

Filed Nov. 7, 1935 3 Sheets-Sheet 1

Fig. 1.



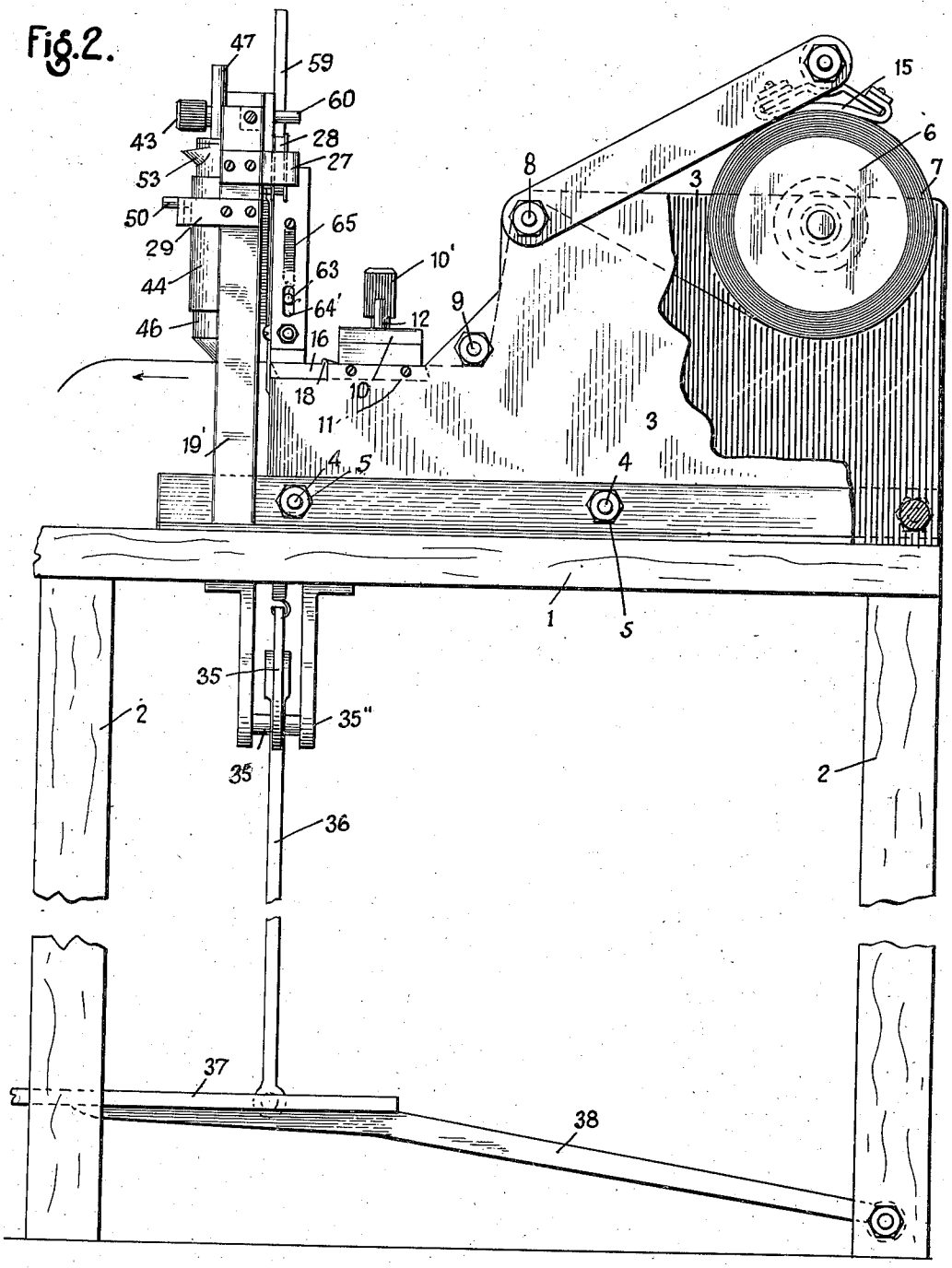
INVENTOR
Harry Pierce,
BY
Townsend & Decker
ATTORNEYS

Oct. 13, 1936. H. PIERCE 2,057,264

CUTTING AND GUMMING MACHINE

Filed Nov. 7, 1935 3 Sheets-Sheet 2

Fig.2.



INVENTOR
Harry Pierce
BY
Townsend & Decker
ATTORNEYS

Oct. 13, 1936. H. PIERCE 2,057,264

CUTTING AND GUMMING MACHINE

Filed Nov. 7, 1935 3 Sheets-Sheet 3

Fig.3.

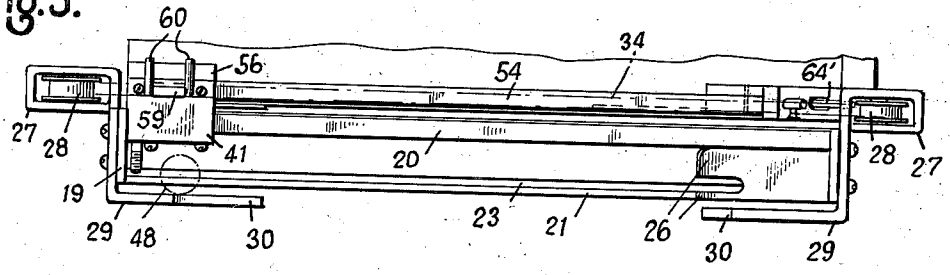


Fig.4.

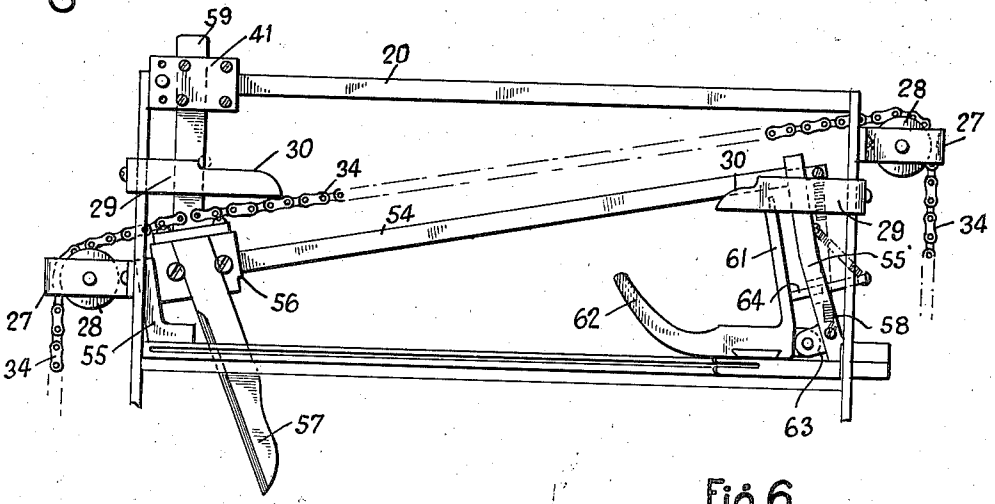


Fig.6.

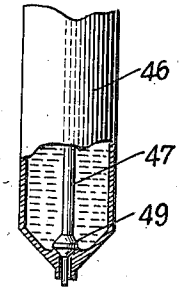
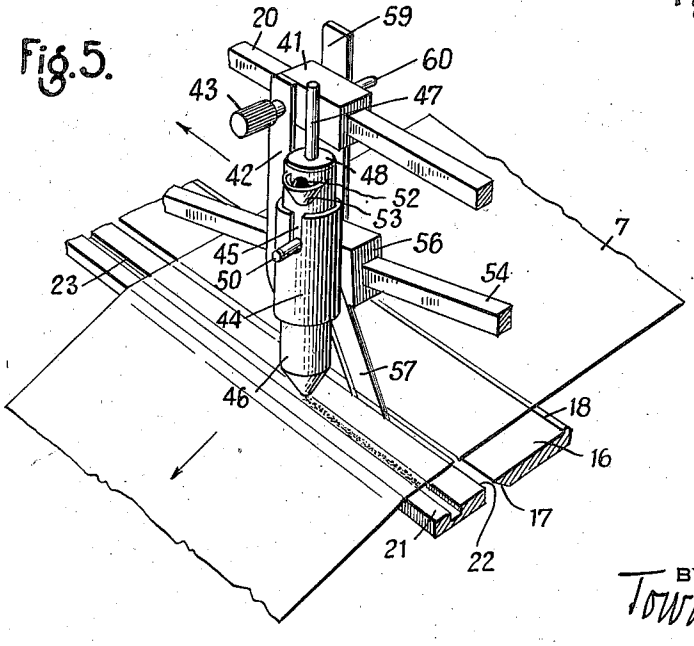


Fig.5.



INVENTOR
Harry Pierce
BY
Townsend & Decker
ATTORNEYS.

Patented Oct. 13, 1936 2,057,264

UNITED STATES PATENT OFFICE

2,057,264

CUTTING AND GUMMING MACHINE

Harry Pierce, Brooklyn, N. Y., assignor to The Pilgrim Laundry, Inc., Brooklyn, N. Y., a corporation of New York

Application November 7, 1935, Serial No. 48,657

12 Claims. (Cl. 91—14)

This invention has for its principal object the production of a simple, effective and compact machine adapted to cut a sheet of material of any desired length and to simultaneously apply an adhesive along an edge thereof whereby opposite edges may be glued together, to facilitate the packaging of goods.

The invention is particularly adapted to the application for use in laundries for wrapping small articles of laundered goods, such as handkerchiefs, which have been folded and ironed. I prefer to use a cellulose material as the matermial for the wrapping, but other materials, such as paper, may also be employed as will be obvious.

The machine of the invention may be conveniently detachably fastened to any small table or other support with the goods to be packaged placed by the operator readily accessible.

The invention preferably includes mechanism supplied with a cutter and an adhesive-applying device both set into action and operating by pressure applied against a lever, preferably a foot-lever, such mechanism being automatically returned to its initial and inoperative position upon the release of pressure against said lever.

Other and further objects and advantages of the invention will appear from the accompanying description, the invention consisting in the novel apparatus and parts thereof hereinafter more particularly described and then specified in the claims.

In the accompanying drawings illustrating a practical embodiment of the invention:

Fig. 1 is a front elevation of my improved machine.

Fig. 2 is a side elevation thereof.

Fig. 3 is a plan view of a part of this device, certain elements being omitted.

Fig. 4 is a front elevation of a part of the machine showing the cutter and adjacent mechanism.

Fig. 5 is a perspective view of the adhesive applicator and adjacent mechanism.

Fig. 6 is a front elevation (partly in section) of the adhesive applicator.

Referring in detail to the several figures of the drawings:

The top or horizontal plate of a supporting table is indicated at 1 and is supplied with vertically extending legs 2 secured thereto in any desirable manner. The angled side walls of the frame of the machine are indicated at 3 and these are secured together in spaced relation by a plurality of bolts 4 carrying suitable holding nuts 5, said side walls 3 being also suitably detachably fastened to the top of the table as by screws as shown. Mounted in the side walls 3 is a roller 6 on which is wound a roll of cellulose material or paper-like material 7 which passes over and under upper and lower rollers 8 and 9 respectively and then beneath a felt-faced guide 10 resting on a plate 11 connecting and secured to the side walls 3 as by screws as shown. The felt-faced portion of the guide is held to the guide proper by headed screws 10'. The plate 11 is provided with pins 12 extending through holes in the guide 10 for properly positioning said guide. The purpose of said guide is for retaining the cellulose material in a smooth unwrinkled condition and for delivery to the operator in that condition.

A braking device comprises a rotatable rod 13 mounted on arms 14 which are pivoted to the side walls 3, said rod carrying curved braking elements 15, preferably of leather or some other pliant, soft material. These braking elements have a configuration conforming to the configuration of the roll of cellulose material 7 and act thereon by gravity to hold the material more or less taut and without tearing and to prevent unwinding thereof.

A plate 16 of somewhat narrow width extends across the machine and is secured to the side walls 3 in any desirable manner and anterior to plate 11. It is provided with a front shearing bevelled edge 17 and with a rear friction-eliminating bead 18 over which the cellulose material 7 passes. Standards 19 and 19' are secured to the angle-portions of the side walls 3 and are connected together by a track bar 20 and by a horizontal plate 21 lying in the same plane as plate 16 but spaced therefrom and forming with the bevelled edge 17 of plate 16 a slot 22. The outer or forward edge of plate 16 which forms the inner or rear wall of this slot is undercut to produce the beveled guiding edge 17 which in effect may serve as a stationary cutter or knife.

Plate 21 is also provided with a groove 23 for a purpose to be presently described. Secured to standard 19' is a flat guide strip 24 slotted at 25 as shown to align with groove 23 and provided with upwardly curved guiding fingers 26 beneath which the cellulose material passes. Standards 19 and 19' are also provided with lower and upper brackets 27 and 27' respectively in which suitable pulleys 28 are journalled. The said standards 19 and 19' also each has secured thereto ad-

hesive applicator raising bars 29 having inner cam edges 30.

Secured to a side of the table by brackets 31 is a tube 32 receiving a counterweight 33 slidable therein and to which a chain 34 is attached. Said chain passes through brackets 27 and 27' and over pulleys 28 and is fastened to the end of a lever 35. Said lever 35 is pivoted as at 35' to a bracket 35'' secured to the under side of plate 1 and is also pivoted to a forked lever 36, the lower end of which is in turn pivotally connected to a rod carried by a foot treadle 37 having an extension 38 which is pivotally connected to a rod 39 journalled in opposed vertical legs 2. A spring 40 is fastened to a stud on standard 19 and to lever 35 adjacent its free end. Obviously the action of spring 40 supplemented by the action of counterweight tends to swing lever 35 on pivot 35' in a clockwise direction to retain the foot treadle 37 in raised or elevated position.

41 indicates a block or carriage slidably receiving track bar 20 and it carries an arm 42 fastened thereto by headed screw 43, said arm being fastened to a sleeve 44 slotted as at 45. Said sleeve receives an adhesive applicator tube 46 having a valve stem 47 extending therethrough and through a head 48 of the tube, the stem carrying a valve member 49 adjacent its lower end and adapted to seat against a suitable valve seat to close an orifice or opening in the end of the tube which is positioned so as to be in alignment with the groove 23 in plate 21. The tube 46 contains mucilage or other suitable adhesive which flows through the orifice in its end and just referred to when the valve member 49 is raised from its valve seat. Tube 46 is removable from sleeve 44 and movable vertically therein and it carries a pin 50 normally received by a slot 45 with which the sleeve is provided. The tube is also provided with an opening 52 and guiding trough 53 for filling purposes.

A second track bar is indicated at 54. This bar is generally inclined downwardly toward the left as illustrated and it is provided with rounded ends which are journalled in inclined standards 55 and 55' so that it is capable of partial rotation or lateral rocking movements in its bearings. Said track bar 54 slidably receives a carriage block 56 to which a cutting knife or blade 57 is fastened and which enters within the slot 22. A spring 58 is secured to the right-hand rounded end of bar 54 and to the lower end of standard 55' or other fixed part and tends by its action to rotate or rock the bar laterally in a direction whereby the knife or blade is held yieldingly pressed in engagement with the bevelled edge 17 of plate 16 whereby a shearing cutting on the material to be cut may be obtained between the knife and said bevelled edge along a definite cutting line at all times. By this means the cutter blade 57 is always guided in its cutting action against the rigid surface formed by the guiding edge 17 so as to cut along a line where the material is firmly supported during such cutting action and where the cutting action is assisted and facilitated by the knife like edge 17. This guiding action and engagement of blade 57 with the guiding edge 17 is maintained by the action of spring 58 on track 54 notwithstanding any possible looseness of parts which may occur from wear and which otherwise would allow the blade 57 to move out of contact with the edge 17 and to have lateral play in slot 22. Certain sheet materials, such as cellulose materials, tear with difficulty and therefore do not respond readily to usual shearing cuts. This difficulty is overcome by the construction described whereby the cutter 57 is prevented from having any wobbling movement and is caused to cut along the line of the edge 17 of the plate 16 against which the material is firmly supported. Said carriage block 56 has an upwardly extending bar 59 fastened thereto and to which chain 34 is attached and said bar 59 extends intermediate pins 60 on block 41 to provide a loose connection between carriage blocks 41 and 56 so that movement of one will effect a movement of the other on their respective tracks.

A clamp having a vertically extending leg 61 and a horizontally extending clamping portion provided with a curved or hooked end 62 is pivoted to a lug 63 fastened to inclined standard 55'. A pin 64 is fastened to leg 61 and extends through a slot 64' in standard 55' and a spring 65 is fastened to the end of said pin and to the standard and tends by its action to pull the end of the pin upwardly and rock the clamp on its pivot in a counter-clockwise direction and into clamping position.

The operation of the device is as follows:

The parts are normally in the position shown in Fig. 1 because of the action of spring 40 and counterweight 33. When in this position, pin 50 on adhesive applicator tube 46 lies on the cam edge 30 of the right-hand bar 29 and has raised the tube 46 in its sleeve 44 thereby permitting the valve 49 to close the outlet in said tube by the action of gravity. The clamp 62 has also been raised into unclamping position by pressure of the carriage block 56 against the vertical leg 61 of said clamp and against the action of spring 65. The cellulose or other material 7 which is wound on roller 6 has been passed over roller 8, under roller 9, beneath guide 10, over bead 18 and beneath the guiding fingers 26 of guide strip 24. The wrapping material is then pulled forwardly a sufficient and desired extent by the operator and the foot pedal 27 is depressed. The clamp 62 is then immediately clamped against the material in an obvious manner by the action of spring 65 to hold the material firmly for the cutting or shearing operation. Depression of the pedal also forces the carriage block 56 to the left on its track or bar 54 thereby forcing the carriage block 41 to the left on its track bar 20 due to the connection between the parts. Meanwhile the action of spring 58 keeps the blade or cutter 57 in engagement with the bevelled knife edge 17 of slot 22 for coaction therewith to effect a shearing action of the blade or cutter across the machine and through the cellulose or other material. By this coaction between the movable knife blade 57 and the stationary knife edge 17 a clean cut through even very thin sheet material may be effected without drawing or wrinkling the material or producing a ragged edge. As the carriage blocks begin their movement to the left the cutter not only begins its shearing action, but the pin 50 also then rides down the cam surface 30 of the right hand bar 29 and finally rests at the bottom of the slot 45 in the sleeve 44. This permits the end of the valve stem 47 of the adhesive applicator to press against the cellulose material and open the valve to permit of the spread of a line of adhesive on the cellulose material as shown in Fig. 5. When the carriage blocks reach the end of their travel at the left side of the machine, pin 50 engages and rides on cam surface 30 on the left-hand bar 29 to again close valve 49 in the applicator. It will thus be seen that the sheet of material is simultaneously gummed and

sheared by the application of pressure against foot pedal 37. When pressure on the foot pedal is released, the carriage blocks ride back to their initial positions on their respective tracks by the action of spring 40 and counterweight 33. Upon the return movement of the carriage blocks, the adhesive applicator tube 46 again falls within its sleeve 44 but the valve 49 remains closed there being no pressure exerted against the end of the valve stem 47 as it rides within the slot 23. The goods to be packaged are then placed on the cut sheet of material and the gummed edge is applied to the opposite edge to secure the edges together after which the free ends of the package may be folded up and over or both to suit the operator's convenience.

It will be understood that modifications may be made and still be within the invention as set forth in the appended claims.

The invention claimed is:

1. In a cutting and gumming machine, a plate having a guiding surface bevelled to a thin guiding edge, a cutter movable for a progressive draw-cut action along said guiding edge, means operating to continuously yieldingly press said cutter laterally in its cutting motion against said bevelled guiding edge, means for mounting a supply of sheet wrapping material adapted to be drawn over said plate and in the path of said cutter, means for clamping said material while being cut, and means for actuating said cutter.

2. In a cutting and gumming machine, a plate having a slot with a marginal wall forming a guiding surface bevelled to a thin guiding edge, a cutter extending within said slot and movable for a progressive draw-cut action along said guiding edge, means operating to continuously yieldingly press said cutter in its cutting movement laterally against said bevelled guiding edge, means for mounting a supply of sheet wrapping material adapted to be drawn over said plate and slot and in the path of said cutter, means for clamping said material while being cut, and means for actuating said clamping means and said cutter.

3. In a cutting and gumming machine, a table having a margnal transverse wall forming a guiding surface, a track extending transversely of the table above said guiding surface, a carriage mounted thereon for travel transversely of the table, a cutter secured to and movable with said carriage for a progressive draw-cut action along said guiding surface, means for mounting sheet wrapping material adapted to be drawn over the table in the path of said cutter, a clamping device for said material set into action to engage the material on the travel of said carriage, means operating to continuously yieldingly press said cutter in its cutting movement laterally against the guiding surface, manual means for moving said carriage on said track to cause said cutter to cut the material, and means for automatically reversing the movement of said carriage on said track to return it to initial position.

4. In a cutting and gumming machine, a table having a marginal transverse wall forming a guiding surface, a track extending transversely of the table along said guiding surface, a carriage slidable thereon, a cutter secured to and movable with said carriage transversely of the table for a progressive draw-cut action along said guiding surface, means for mounting sheet wrapping material adapted to be drawn over the table in the path of said cutter, means operating to continuously yieldingly press said cutter in its cutting movement against the guiding surface, a pivoted clamping device for said material adapted to be engaged and held retracted by the carriage in the retracted position of the latter and to be released for clamping action by said carriage on the initial part of travel of the carriage in the cutting direction, a spring for moving said clamping device into clamping position when released by the carriage, a foot pedal, means connecting said foot pedal and said carriage to move said carriage along said track upon depression of said foot pedal and means for automatically reversing the movement of said carriage on said track to return it to initial position.

5. In a cutting and gumming machine, a track, a carriage slidable on said track, a cutter fastened to said carriage, a second track, a second carriage slidable on said second track, an adhesive applicator carried by said second carriage, means connecting one carriage with the other, means for mounting of sheet wrapping material adapted to be drawn in the path of said cutter and beneath said adhesive applicator, means connecting with one of said carriages to cause it and the other of said carriages to move on their respective tracks and means for returning said carriages to initial position.

6. In a cutting and gumming machine, a cutter movable bodily transversely across the machine, means for mounting sheet wrapping material adapted to be drawn in the path of said cutter, a standard having a slot therein, a pivoted clamping device mounted adjacent said standard, a pin connected to said clamping device, and extending through said slot, a spring connected to said standard and said pin for urging said clamping device into clamping position, means for moving said cutter across the machine and means for returning said cutter to initial position to cause it to engage said clamping device and hold it in inoperative position.

7. In a cutting and gumming machine, a track, a carriage slidable on said track, a cutter fastened to said carriage, a second track, a second carriage slidable on said second track, an adhesive applicator carried by said second carriage, means connecting said carriages together, means for mounting sheet wrapping material adapted to be drawn in the path of said cutter and beneath said adhesive applicator, pulleys mounted on either side of said machine, a pivoted actuating lever, a counterweight and a linear member attached to one of said carriages, said counterweight and said actuating lever and running over said pulleys.

8. In a cutting and gumming machine, a track, a carriage slidable on said track, a cutter fastened to said carriage, a second track, a second carriage slidable on said second track, an adhesive applicator carried by said second carriage, means for mounting sheet wrapping material adapted to be drawn in the path of said cutter and beneath said adhesive applicator, a grooved plate mounted beneath said adhesive applicator, means for moving said carriages transversely across the machine, means for returning the same to initial position and a cam mounted on either side of said machine to engage said adhesive applicator and move it to inoperative position.

9. In a cutting and gumming machine, a roller having a strip of material wound thereon, upper and lower rollers over and under which said material is adapted to pass, a felt-faced

guide engaging said material, a pivoted braking device having curved, pliant braking devices engaging the material wound under said roller and exerting its braking action thereon by gravity, a cutter movable transversely across the machine, an adhesive applicator also movable transversely across the machine and means for actuating said cutter, said material being adapted to be drawn in the path of said cutter and beneath said adhesive applicator.

10. In a cutting and gumming machine, a track, a carriage slidable on said track, a cutter fastened to said carriage, a second track, a second carriage slidable on said second track, an adhesive applicator carried by said second carriage and comprising a sleeve having a slot, a tube having a pin received by said slot and a stem extending through said tube and carrying a valve thereon, means for mounting said material adapted to be drawn in the path of said cutter and beneath said adhesive applicator, means for moving both of said carriages across the machine, means for returning them to initial position and means for engaging the aforesaid pin to automatically close said valve at the end of the movement of said adhesive applicator carriage in either direction.

11. In a cutting and gumming machine, a pair of carriages connected together one of which carries a cutter and the other of which carries an adhesive applicator, means for mounting sheet wrapping material adapted to be drawn in the path of said cutter and beneath said adhesive applicator, means connecting with one of said carriages to cause it and the other of said carriages to move transversely across the machine and means for returning said carriages to initial position.

12. In a cutting and gumming machine, a cutter movable bodily transversely across the machine, means for mounting sheet wrapping material adapted to be drawn in the path of said cutter, a pivoted clamping device, a fixed element, means connected to said clamping device and said fixed element for urging said clamping device into clamping position, means for moving said cutter across the machine and means for returning said cutter to initial position to cause it to engage said clamping device and hold it in inoperative position.

HARRY PIERCE.