

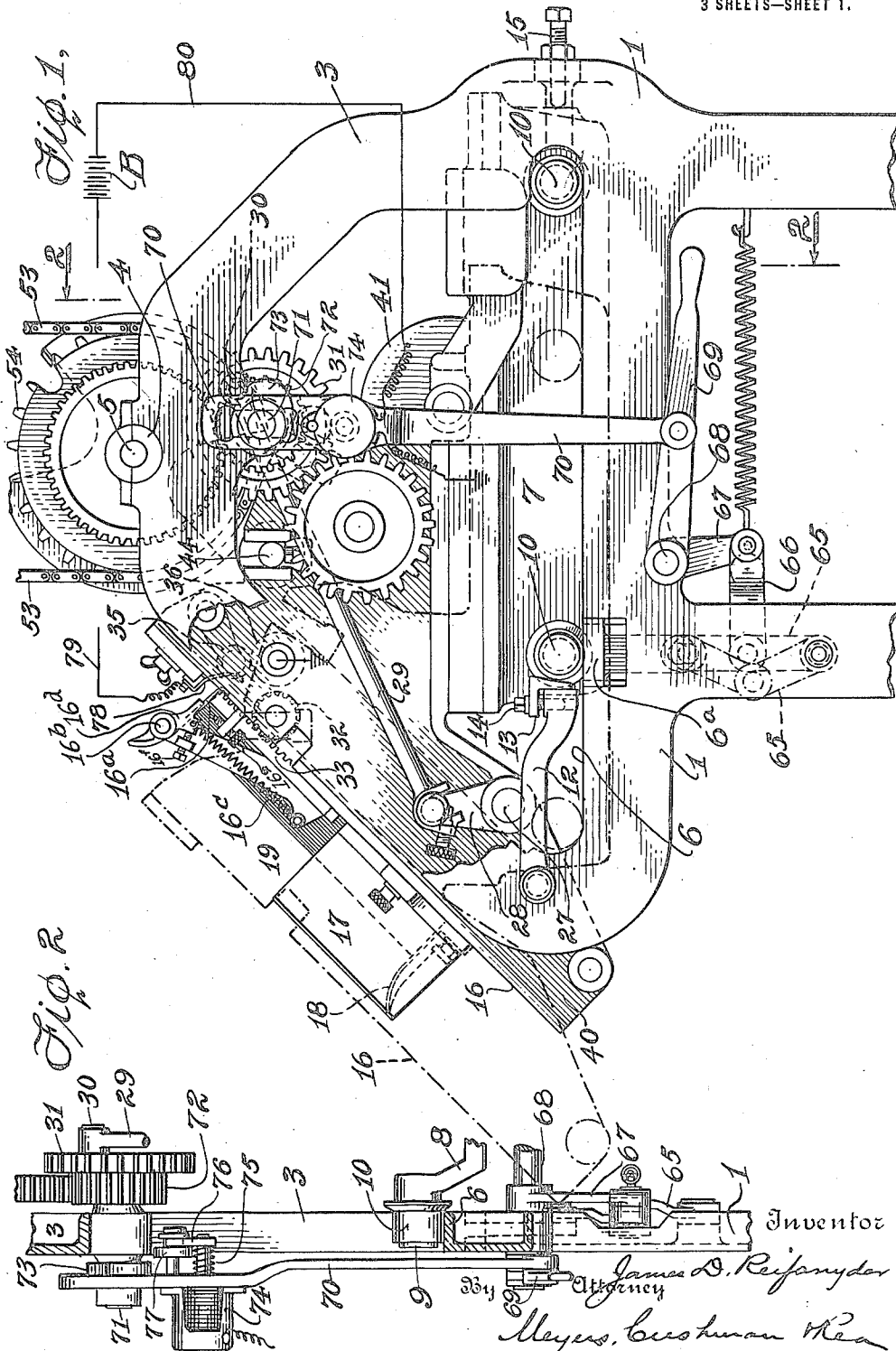
J. D. REIFSNYDER.
SHEET FEEDING AND GUMMING MACHINE.

APPLICATION FILED JULY 19, 1916. RENEWED MAR. 25, 1918.

1,282,950.

Patented Oct. 29, 1918.

3 SHEETS—SHEET 1.



J. D. REIFSNYDER.

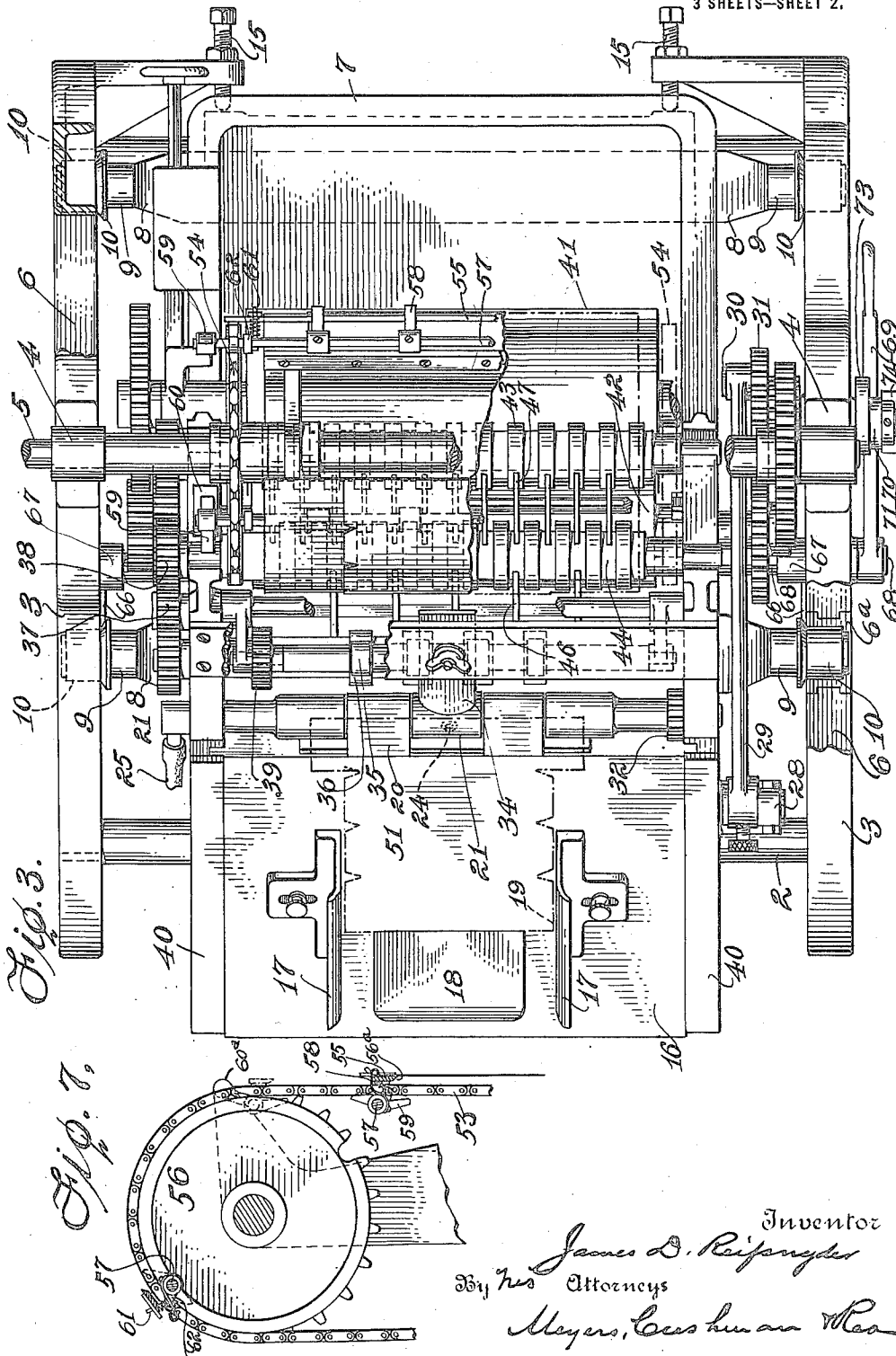
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Inventor
James D. Reifsnyder
By his Attorneys
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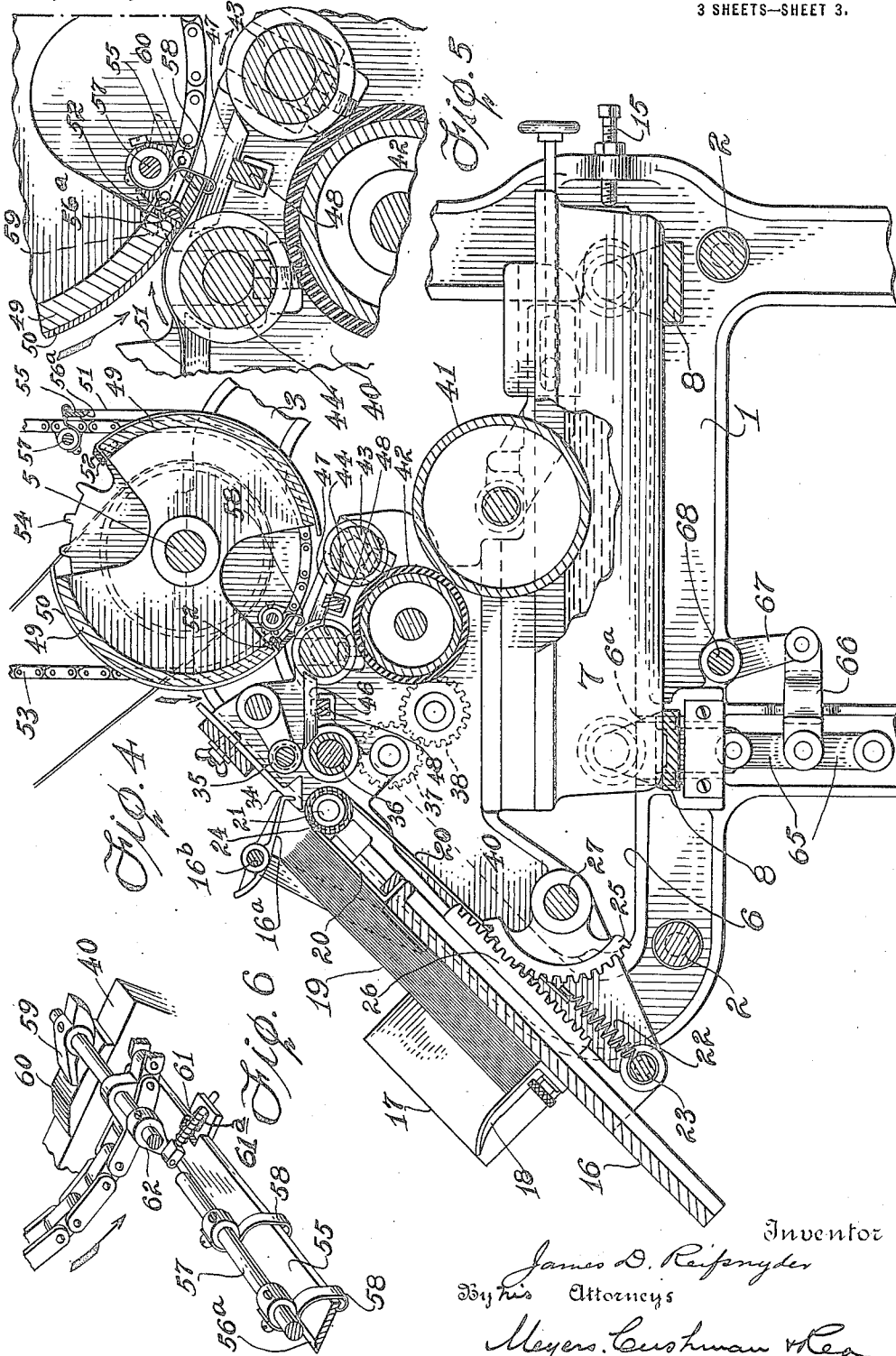
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UNITED STATES PATENT OFFICE.

JAMES D. REIFSNYDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO STOKES & SMITH COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SHEET FEEDING AND GUMMING MACHINE.

1,282,950.

Specification of Letters Patent.

Patented Oct. 29, 1918.

Application filed July 19, 1916, Serial No. 110,957. Renewed March 25, 1918. Serial No. 224,651.

To all whom it may concern:

Be it known that I, JAMES D. REIFSNYDER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Sheet Feeding and Gumming Machines, of which the following is a specification.

My present invention relates to certain new and useful improvements in sheet feeding, gumming and transporting mechanism, especially adapted for use in connection with box covering, package wrapping and like automatic machinery, and more particularly such machines as require an accurate registering of the transported sheets, blanks or wrappers with relation to the mechanism employed for applying them to the boxes or packages to be covered or wrapped, whatever may be the construction of such mechanism.

One object of the invention is to provide simple and reliable means for selecting the sheets or wrappers singly from a stack of wrappers and for feeding them forward successively to the gumming and transporting means respectively in such a way that they will maintain, during the feeding and transporting movement, the registered position they occupied when in the stack form.

A further object of the invention is to provide simple and reliable means for positively grasping the sheets or wrappers as they are fed forward by the selecting and feeding means and for drawing them through or in association with the gumming means to have gum applied to one face thereof and for transporting the gum coated sheets or wrappers to a predetermined point of delivery and then delivering or releasing them at such point in association with the wrapping or covering instrumentalities with which the mechanism of the present invention may be associated.

A still further object of the invention is to provide in association with gumming mechanism constructed to apply adhesive material over substantially the entire face of blanks or sheets, transferring or transporting mechanism having grippers adapted to grasp the sheets as they are successively fed to the gumming means and drawing such sheets thereover and then transporting them to a point of delivery.

A still further object of the invention is to provide simple and reliable means for

automatically throwing the gumming mechanism out of operation in the event the sheet feeding means fails to feed a sheet forward to the gumming mechanism, in order to prevent certain parts of the machine from becoming coated with gum by means of the gumming rolls upon failure of a sheet to be fed in position to receive the gum.

Another object of the invention is to provide a simple construction and arrangement of the various parts that will permit of the gumming rolls being quickly and easily removed and replaced for cleaning and other purposes.

The invention also has for its objects other more or less important features, all of which will hereinafter more clearly appear from a reading of the detailed description to follow.

I will now proceed to describe a preferred embodiment of the invention, although it is to be understood that the showing is merely illustrative and that various changes may be made in the construction and arrangement of parts and in the particular combinations employed without departing from the spirit of the invention.

In the accompanying drawings:

Figure 1 is a side elevation of one form of mechanism for carrying out the invention, a portion of the machine frame being broken away to more clearly illustrate certain of the parts.

Fig. 2 is a vertical section on the line 2-2, Fig. 1, taken through a portion of one side of the machine frame.

Fig. 3 is a top plan view of the machine, certain parts thereof being broken away to more clearly illustrate the glue applying rolls of the machine.

Fig. 4 is a central vertical section of the machine.

Fig. 5 is an enlarged detail sectional view of the glue applying rolls and portions of the glue distributing roll and sheet separating platen respectively, the view also showing the sheet grippers in gripping position.

Fig. 6 is a detail perspective view of the sheet grippers shown attached to an endless chain form of sheet transporting means.

Fig. 7 is a detail view of a portion of the endless chain carrier.

Like reference characters indicate corresponding parts throughout the several views.

The main frame of the machine in the instance shown comprises two separated main frame members 1, joined together in any

suitable way, as by means of tie-rods, or braces 2. Each frame member has an up-standing yoke-like portion 3 provided at its highest point with a suitable bearing 4, in which the main power shaft 5 is journaled, the said shaft being driven by any suitable source of power.

Each of the main frame members 1, is provided with a track-way 6, for supporting a glue tank or pan 7, which latter is supported upon and secured to a pair of transversely arranged supporting straps 8, each of which has a journal 9 at its opposite ends upon which journals flanged rollers 10 are mounted, the rollers being arranged to travel upon the trackways 6, so that the glue pan or tank 7 and other parts carried thereby may be moved longitudinally into and out of operative position for a purpose presently to appear. The glue tank or pan 7 is held in its operative position by means of pivoted arms 12, each of which is provided at its free end with a vertically adjustable wedge 13, adjustment of the wedge being effected by means of the screw 14. Threaded through the rear wall of the machine frame are one or more stop screws 15, the forward ends of which are adapted to form stops against which the rear end wall of the glue pan or tank abuts. By means of the screws 15 and the wedges 14 carried by the pivoted arms 12 the glue pan or tank may be maintained in proper adjusted position. When it is desired to shift the glue pan or tank forward for a purpose presently to appear, the pivoted arms 12 are swung upwardly so as to take their forward ends away from contact with the rollers 10, whereupon the glue tank or pan will be free to be shifted forward on its rollers which ride upon the track-ways 6.

Mounted upon or otherwise carried by the glue tank or pan 7 are frame members which carry the glue applying rolls, presently to be described as well as the sheet selecting and feeding mechanism which latter may be of any preferred type capable of selecting sheets singly from a stack of sheets and feeding them forward to the glue applying mechanism.

In the instance shown and as more clearly appears in Fig. 4, the sheet selecting or feeding means comprises an inclined feed board or table 16 provided with adjustable side gages 17 and an adjustable rear gage 18 between which a stack of sheets or blanks 19 may rest, it being understood that the sheets are supported upon the bed 16 in pack or stack form between the gages in a registered position with relation to the gumming and transporting means, presently to be described. The forward edges of the sheets of the pack are maintained in alinement by means of movable buffer-arms 16^a, adjustably mounted upon a rockshaft 16^b, journaled at its opposite ends in brackets, Figs.

1 and 4 projecting upwardly from the reciprocating bed 16. The rock shaft 16^b carries an arm 16^a at one end, which, during each rearward reciprocation of the bed 16 engages a set screw 16^c mounted upon a fixed part of the frame and causes the shaft to be rocked and the buffer arm to be lifted or moved away from the front edge of the pack of sheets as shown in Fig. 4. The buffer arms 16^a are normally urged toward the front edge of the pack of sheets by means of a spring 16^c secured to the arms 16^a, as more clearly shown in Fig. 1, a stop screw 16^c acting upon the arm to limit the rocking movement of the shaft 16^b in one direction. The forward portion of the stack of sheets 19 is supported upon a plurality of tapes 20, one end of each of the tapes being secured to the forward end of the table 16, thence passing around a hollow suction roller 21 journaled at its ends in suitable bearings at the forward end of the table, and the rear end of each tape being fastened to a coiled spring 22, which latter is secured to a pin 23 fixed to the other end of the table, all as more clearly shown in Fig. 4. The suction roller 21 is provided with one or more suction openings 24, a flexible, or other pipe connection 25, Fig. 3, leading to any suitable form of air suction apparatus, not shown. The bed or table 16 is reciprocated constantly through the medium of a gear segment 25 which meshes with a rack 26 mounted upon the under side of the bed or table 16, the gear segment being mounted upon a rock shaft 27. A rocking motion is imparted to the shaft through the medium of a crank arm 28 having a link connection 29 with a crank pin 30 carried by a gear 31, as more clearly shown in Figs. 1 and 3. In order to permit forward movement of the tank 7 relative to other parts of the machine, the link 29 has a removable connection with the crank arm 28 as more clearly shown in Fig. 1. By the means described the bed plate or table 16, is given a rapid reciprocatory movement to bring the pack of sheets at each reciprocation of the bed over the suction aperture 24 in the suction roller 21, in order that a sheet may be selected from the bottom of the pack at each forward movement of the table. The suction roller 21 is provided at one end with a pinion 32 with which a rack 33 meshes, said rack being also carried by the reciprocating bed, so that as the bed reciprocates the suction roller will be oscillated through the medium of the rack and pinion described to feed forward at each forward rotation of the roller the lowermost sheet of the pack of sheets and deliver the same under a sheet separating finger 34, Fig. 4. The sheets thus successively fed by means of a reciprocating bed and suction roller described pass on between upper and lower feed rolls 35 and 36, the latter being posi-

tively driven by means of gears 37, 38 and 39, Figs. 3 and 4, it being understood that all the parts of the feed table and associated mechanism are carried by a pair of frame members 40 supported by and projecting from the glue pan or tank 7.

Rotatively mounted so as to dip within the glue tank or pan 7 is a glue supply roll 41, the purpose of which is to supply a film of glue or other adhesive material to the rubber coated surface of a glue distributing roll 42. Said rolls 41 and 42 are positively driven in any suitable manner, as by the gearing shown.

The glue applying mechanism in the instance shown consists of a pair of rolls 43 and 44 arranged parallel to each other and suitably journaled in open slotted bearings in a part of the frame member 40. Each glue applying roll 43 is provided with a plurality of spaced glue applying faces, the glue applying faces of one of the rolls being disposed opposite the spaces between the faces of the other roll so that a sheet or blank to be coated when drawn over said rolls will have applied to one face thereof a coating of glue which extends over substantially the entire area of the surface contacting with the glue applying faces. The glue applying rolls 43 and 44, as more clearly shown in Fig. 4, rest by gravity upon the rubber coated surface of the glue distributing roll 42 and said rolls are positively driven in any suitable manner as by the gearing shown, so that during the rotation thereof, the spaced glue applying faces will be coated with a film of glue or other adhesive material which will be transmitted to a surface of the sheet or blank drawn thereover by the sheet or blank transferring means, presently to be described.

In order to prevent the sheets or blanks from winding about the rolls over which they pass, I provide two sets of picker fingers 46 and 47, the fingers 46 projecting at their forward ends into peripheral grooves formed in the roller 36 and at their rear ends in the spaces between the glue applying faces of the first one of the glue applying rolls 44.

The picker fingers 47 are arranged between the glue applying rolls 43 and 44, as more clearly shown in Figs. 3 and 4, and they effectually serve to guide the sheet or wrapper being glued from one glue applying roller to the other and prevent the sheet from winding about the rolls. Each of the sets of picker fingers 46 and 47 is mounted upon a removable supporting bar, as at 48, and said bars are supported at their ends in open slots formed in a part of the machine frame, as more clearly shown in Figs. 3, 4 and 5.

Arranged above and in coöperative relation with the two glue applying rolls 43 and

44, is a sheet or blank supporting platen, in the present instance shown as comprising segments of a drum 49, mounted upon the main shaft 5. Two drum segments are shown in the present instance but obviously a single segment may be employed, if desired. The drum segments preferably have mounted on the faces thereof a yielding strip or blanket 50 having the shape of the sheet or wrapper 51 to the face of which gum is to be applied, the forward edge of the blanket being secured to a longitudinally extending edge portion of the drum segment by means of a clamping strip 52, as more clearly shown in Figs. 4 and 5. In operation the drum segment or segments constitute a support or supports for the blank or sheet during the operation of applying the gum to a face of the sheet or blank, it being understood that the segment or segments rotate in the direction of the arrow in Fig. 4, so as to press the moving blank or sheet into contact with the glue applying rollers during the forward travel of the platen and its sheet so as to apply to a face thereof a thin uniform coating of glue throughout substantially the entire area of the blank or sheet. Coöperatively associated with the sheet supporting platen and glue applying rolls is a blank or sheet transferring or transporting means which may be of any preferred construction, but as shown in Figs. 1, 3 and 4 consists of a pair of endless chains 53 which travel about sprocket wheels 54 mounted upon the shaft 5 and about other sprocket wheels, 56, Fig. 7, the sprocket wheels 56 being arranged adjacent to or in association with the box covering, wrapping or other machine (not shown) to which the gummed blanks are fed. The endless chains 53 are provided at suitable intervals throughout the runs thereof with transverse bars 55, one of the longitudinal edges of the bars being beveled as at 56^a, and the said beveled edges being arranged to miter with a correspondingly beveled edge of the clamping strip 52 carried by the drum segment, all as more clearly shown in Fig. 5. The said transverse bars 55, when in mating relation with the strips 52 form a continuation of the drum segment or segments to provide a supporting surface for the forward edge of the sheet or blank 51 as they are fed forward over the first glue applying roll 44. The chain carriers are also provided with a plurality of rock shafts 57, one such shaft being arranged adjacent each of the transverse strips 55, said shafts being each provided with a plurality of gripper fingers 58, the free ends of which are adapted to be brought into and out of clamping engagement with the outer face of its associated transverse strip 55 so as to grip the sheets or blanks fed thereto and draw them over the glue applying faces of the rolls 43 and 44.

and 44. The gripper fingers 58 which in the instance shown are in the form of flat spring blades, are each secured at one end to the rock shaft 57 in any suitable manner, and said shaft is rocked so as to bring the hooked free ends of the fingers into and out of sheet or blank gripping position by means of toe pieces 59 mounted upon the ends of the shaft 57, said toe-pieces being arranged to engage cam plates 60 carried by a part of the machine frame, as more clearly shown in Fig. 6. The rock shaft is normally held in position to hold the gripper fingers open and retracted within or below the peripheral line of the drum segment as shown in Fig. 4, by means of a spring-actuated pin 61 having a crank connection 62 with the rock shaft as more clearly shown in Fig. 6, the spring-actuated pin referred to having a rocking motion over centers and operating upon the rock shaft through the crank arm 62 to hold the fingers in either one of two positions, namely the open and the closed positions. Before the toe-piece 59 reaches the cam 60 the arm 62 is in a position at an angle to the position shown in Fig. 6 and in a counter-clockwise direction therefrom; the spring 61^a being a compression spring tends to move the arm 62, shaft 57 and fingers 58 in a counter-clockwise direction to hold the fingers open. Upon engagement of the toe-piece 59 with the cam 60, the shaft 57 is rotated in a clockwise direction to move the fingers 58 to a closed position. During this movement, the arm 62 moves beyond the center or clockwise in a position at substantially right angles to its former position and the spring 61^a then tends to hold the fingers in a closed position, even after the toe 59 moves from off the cam 60. The fingers 58 continue to hold the paper under action of the spring 61^a until the other arm of the toe-piece engages a roller at the upper end of the carrier, whereupon the shaft 57 is rotated in a counter-clockwise direction to open the fingers 58 to release the paper. In this latter movement, the arm 62 moves beyond the center in a counter-clockwise direction to a position at substantially right angles to its prior position, and the compression spring then holds the fingers in their open position until the other end of the toe-piece again engages the cam 60. In operation, as the carrier travels forward in the direction of the arrows in Figs. 4 and 6, the toe pieces 59, upon reaching the cam members 60 engage the latter and impart a rocking movement to the shaft 57 which brings the gripper fingers 58 gradually toward the transverse bars 55. During this operation a blank or sheet is being fed over the glue applying roller 44 to have glue applied thereto. As the forward edge of the sheet or blank passes over the glue

applying roller 44, it comes to rest upon the outer face of the bar 55 and at this point the maximum rocking movement of the shaft 57 takes place through the action of the cams 60 on the toes 59 so as to bring the gripper fingers 58 into gripping engagement with the sheet or blank, as more clearly shown in Fig. 5. The onward travel of the chain carrier operates to transfer or transport the gummed blank to a suitable delivery point, which may be in an upward direction, as shown in Fig. 7, or in any other direction desired. A suitable projection or roller 60^a is provided as shown in Fig. 7, in position for engagement with the toe-piece 59 for operating the rock-shaft 57 in the manner heretofore described to open the gripper fingers 58 and release the gripped sheet.

I prefer to provide the chain carriers with a plurality of gripping devices arranged at regular intervals throughout the runs of the chains so as to simultaneously transport a plurality of gummed sheets or blanks. This arrangement serves to feed a maximum number of the blanks in a minimum space of time and also allows for the gum on the face of the sheets or blanks to become properly set or tacky before the blank or sheet is applied to the box or package, which is a desirable feature in machines of this type.

It will be noted that the gripper fingers 58 when in open or non-gripping position lie within or below the peripheral plane of the blank-supporting platen 49 and will not therefore come into contact with the glue applying faces of the glue applying roll 44 preparatory to gripping the sheets or blanks. When the gripper fingers are in gripping position, as shown in Fig. 5, and wherein the extremities of the gripper fingers project beyond the periphery of the sheet or blank-supporting platen, these fingers being arranged in line with the spaces between the glue applying faces of the rolls 43, pass in these spaces in the forward travel of the chain carriers and do not therefore, in any way engage either of the glue applying rolls in their travel. I consider as an important and novel feature of the present invention the provision of suitably arranged gripper fingers mounted in coöperative relation with the blank or sheet supporting platen and transferring means, whatever may be the construction of such means. The association of such fingers with glue applying rolls and platen and wherein the fingers are brought into gripping engagement with a sheet or blank adjacent one of the rolls and then move onward past the other glue applying roll to complete the gluing operation without having the fingers come in contact with the rolls, I have claimed broadly as it is important and because I believe such a construction to be entirely new with me.

It is desirable in machines of this type to provide means for throwing the glue applying mechanism out of operation in the event of the failure of a sheet to be fed thereto by the sheet selecting and feeding means, this being desirable because if the glue applying means remains in operative position and operates when no sheet is fed, obviously a coating of glue will be applied to the face of the blanket 50 carried by the blank or sheet supporting platen and this would require a stoppage of the machine to clean the parts.

To obviate this difficulty, I have provided in the machine shown means for effecting a relative movement between the glue applying rolls and the sheet or blank supporting platen, this means, in the instance shown, consisting in so mounting the glue applying mechanism that the glue applying rollers 43 and 44 will be moved bodily away from contact with the face of the blank or sheet supporting platen in case of the failure of a sheet to be fed by the sheet selecting and feeding means. In the specific means shown for accomplishing this result I provide each of the trackways 6 of the main frame, upon which the rollers that support the glue tank or pan 7 ride, with a downwardly moving track section 6^a upon which the foremost rollers 10 of the glue pan or tank normally rest. These track-sections 6^a are normally held with their upper faces on a level with the remaining portions of the track so as to provide a continuous trackway. These track-sections are arranged to be automatically lowered or depressed in the event of failure of a sheet to be fed by the sheet feeding and selecting means and upon depression or lowering of the track sections the glue tank or pan together with all the glue applying mechanism carried thereby including the glue applying rollers 43 and 44 will be lowered so that the faces of the glue applying rollers will not make contact with the outer face 50 of the blanket carried by the blank-supporting segment 49 with the result that such face will not be smeared with glue in case no blank is fed. The means for automatically lowering the track sections 6^a consists of two sets of toggle links 65, one set being pivotally connected to each of the movable track sections. The toggle links 65 are each connected by a short link 66 which in turn are each connected to a crank arm 67 mounted upon a rock shaft 68 as more clearly shown in Figs. 1 and 4, the said rock shaft 68 extending entirely across the machine frame. The rock shaft 68 is further provided at one side of the machine with a manually operable hand lever member 69 to enable the glue applying mechanism to be lowered by hand when desired. Extending upwardly from the manually operable lever

69 is a link 70, the upper end of which is slotted as more clearly shown in Fig. 1, through which slot the end of a rotating shaft 71 extends, said shaft being journaled in one of the yoke portions 3 and continuously driven by means of a gear 72, the shaft being further provided with a cam 73, as more clearly shown in Figs. 1 and 2.

Carried by the link 70 is a solenoid magnet 74, the spring actuated armature 75 of which carries a shipper member 76, which operates to normally hold a roller 77 out of the path of the cam 73, as more clearly shown in Fig. 2. Obviously if the magnet 74 is energized the armature will be drawn in so as to bring the roller 77 in the path of movement of the cam 73 with the result that the link 70 will be shifted longitudinally and its motion transmitted to the lever 69 and through the crank arm 67 and link 66 to the toggle links 65 with the result that the track sections 6^a will be lowered and with them the entire gumming mechanism, for the purpose hereinbefore stated. The magnet 74 may be energized in any suitable way, as by the completion of a circuit in which the magnet is included, through the coming together of the feed rolls 35 and 36, as more clearly shown in Fig. 1, the circuit being grounded in part through the machine frame and taken off in part by means of a contact finger 78 through wire 79 to the battery B, and from thence by wire 80 to the electro-magnet 74.

Obviously, so long as the sheets are fed between the feed rolls 35 and 36, the rolls being held separated by the sheets which act as an insulator serve to keep the magnet 74 deenergized. As soon, however, as a sheet fails to be fed the circuit will be completed through the magnet to energize the same and the roller 77 will be immediately drawn into the path of the cam 73, which cam, it will be understood, is continually rotating, and the thrust of the cam will thus actuate the link 70 to operate the lever 69 and through it the connections described to cause the toggle links to break and thus lower the track sections 6^a and with them the glue applying mechanism.

One of the important features of the present invention is the provision of means associated with sheet or blank gumming mechanism for gripping and transporting sheets or blanks that are supported in registered position upon a suitable feed table, the sheets or blanks being maintained in their true registered position from the time they leave the supporting table until they are delivered to a predetermined point of delivery, which point is in association with the mechanism for applying the blanks or sheets to a box or package. This becomes very important where cornered blanks are being

gummed and wherein the box or package to be covered or wrapped is to be accurately centered with relation to the cornered blank.

As it is necessary in a machine of this type to clean the various glue-applying and distributing rollers from time to time, as after a day's run, I have mounted the rollers in open bearings and have also mounted these rollers upon a frame work carried by the traveling glue tank or pan, so that when it is desired to clean the rollers, the tank or pan may be moved forward bodily, the rollers riding over the trackways for this purpose, and when the pan with its glue applying mechanism is moved forward to the dotted line position, Fig. 1, the various glue applying and distributing rollers may be readily lifted from their bearings, cleaned and then replaced. The wedge pieces, and stop screws, constitute means for accurately adjusting the glue-applying rollers with relation to the sheet-supporting platen in order to regulate the quantity of glue applied to the face of the sheet or blank.

I do not wish to be understood as limiting myself to the specific form of sheet feeding and selecting means herein shown and described as I may employ any preferred construction of means for selecting sheets singly from a stack of sheets and feeding them to the glue applying means. Neither do I wish to be understood as limiting myself to the specific means for gripping and transferring or transporting the gummed blanks or sheets as I am aware that such means may take forms other than those shown without departing from the spirit of the invention. I prefer, however, to provide a blank transferring means of the endless chain type, constructed to carry a plurality of blanks simultaneously and to arrange a portion of the endless carrier so that it will travel in a right line in any desired direction. Furthermore, I do not wish to be understood as limiting myself to the specific means shown and described for throwing the glue applying mechanism out of operation upon the failure of a sheet to be fed thereto, as obviously other constructions wherein there is a relative separating movement between the glue applying rolls and the sheet or blank supporting platen may be employed without departing from the spirit of the invention.

What I claim is:

1. In a machine for applying adhesive to individual sheets and in combination, a plurality of glue-applying rolls each having spaced glue-applying faces with the faces of one roll arranged opposite the spaces between the faces of its companion roll, a rotary sheet supporting platen coöperatively associated with the glue-applying faces of said plurality of rolls for supporting a sheet during application of glue

thereto, and sheet engaging means movable with the platen and operative to engage an edge of a sheet fed thereto to cause the sheet to travel therewith and in facial contact with the glue-applying faces of said rolls, whereby a coating of glue is applied throughout substantially the entire area of a face of the sheet during its passage over said plurality of rolls.

2. In a machine for applying adhesive to individual sheets and in combination, a plurality of glue-applying rolls each having spaced glue-applying faces, said rolls being so arranged relative to each other that the glue-applying faces of one roll lie opposite the spaces between the faces of its companion roll, a rotary sheet supporting platen coöperatively associated with the glue-applying faces of said plurality of rolls for supporting a sheet during application of glue thereto, sheet engaging grippers movable with the platen for engaging an edge of a sheet fed thereto to cause the sheet to travel therewith and in facial contact with the glue-applying faces of said rolls to have a coating of glue applied throughout substantially the entire surface area thereof, and means for causing the said grippers to engage the sheet after an edge thereof has passed over the first glue-applying roll and to remain in engagement therewith after the gripped edge passes over the companion glue-applying roll.

3. In a machine for applying adhesive to individual sheets and in combination, a plurality of glue-applying rolls each having spaced glue-applying faces with the faces of one roll arranged opposite the spaces between the faces of the companion roll, a rotary sheet-supporting platen coöperatively associated with the glue-applying faces of said plurality of rolls for supporting the sheet during application of glue thereto, sheet engaging means movable with the platen for engaging an edge of a sheet fed thereto to cause the sheet to travel therewith and in facial contact with the glue-applying faces of said rolls whereby a coating of glue is applied over substantially the entire surface area of the sheet, and means for feeding and guiding individual sheets successively between the first glue-applying roll and the platen in position to be engaged by the sheet engaging means.

4. Sheet feeding, gumming and transporting mechanism for operating upon individual sheets comprising a pair of glue applying rolls each having a plurality of spaced glue applying faces, said rolls being so arranged relative to each other that the glue applying faces of one roll lie opposite the spaces between the faces of the other roll and a movable sheet transporting device including a gripper operating to grasp a sheet adjacent one of the glue applying rolls

and draw it over the companion glue applying roll, whereby glue is applied to the face of the sheet by both rolls during the passage of the sheet thereover, said gripper
5 being arranged in its travel to pass in a space between adjacent glue applying faces of the said companion roll.

5. Sheet feeding, gumming and transporting mechanism for operating upon individual sheets comprising a pair of glue applying rolls, each having spaced glue applying faces, said rolls being so arranged relative to each other that the glue applying faces of one roll lie opposite the spaces between
15 the faces of the other roll, a traveling sheet supporting platen cooperating with the glue applying rolls for pressing the sheet thereagainst, means for selecting and feeding the sheets singly to the glue applying rolls
20 and a movable sheet transporting device including a gripper operating to grasp an edge of a sheet after it has passed over one of the glue applying rolls and draw it over and transport it away from the other glue
25 applying roll.

6. Sheet feeding, gumming and transporting mechanism for operating upon individual sheets comprising a pair of glue applying rolls each having spaced glue applying
30 faces, said rolls being so arranged relative to each other that the glue applying faces of one roll lie opposite the spaces between the faces of the other roll and sheet transporting means including an endless carrier
35 having a plurality of grippers for transporting simultaneously a plurality of sheets, said grippers being arranged to grasp an edge of a sheet after it has passed over one of the glue applying rolls and
40 draw it over the other of said rolls, whereby a coating of glue will be applied over substantially the entire face of the sheets by the conjoint action of the two rolls as the sheets pass thereover.

7. In a machine for applying a surface coating of adhesive to individual blanks, and in combination, a rotatable blank-supporting platen for supporting one face of a blank during application of adhesive to its
50 other face, grippers traveling with the said platen for engaging an edge of a blank fed thereto and for causing the blank to move therewith, and a pair of adhesive-applying rolls each coöperatively associated with the
55 periphery of said platen, and each roll having a plurality of spaced adhesive applying faces with the faces of one roll arranged opposite the spaces between the faces of the companion roll, whereby a blank moving
60 with the platen and in contact with said rolls will have a substantially continuous surface coating of adhesive applied to one face thereof.

8. In a machine for applying a surface
65 coating of adhesive to individual blanks,

and in combination, a rotatable blank-supporting platen for supporting one face of a blank during application of adhesive to its other face, grippers traveling with the said platen for engaging an edge of a blank fed
70 thereto and for causing the blank to move therewith, a pair of adhesive-applying rolls each coöperatively associated with the periphery of said platen, and each roll having a plurality of spaced adhesive applying
75 faces with the faces of one roll arranged opposite the spaces between the faces of the companion roll whereby a blank moving with the platen and in contact with said rolls will have a substantially continuous
80 surface coating of adhesive applied to one face thereof, and means for causing the grippers to grasp the advancing edge of a blank after said edge has passed over the first one of the pair of glue-applying rolls. 85

9. In a machine for feeding and gumming individual sheets, glue-applying rollers arranged in succession to apply glue to one face of sheets fed thereover, means for feeding
90 sheets singly to and over said glue-applying rollers successively, a sheet-supporting platen coöperatively associated with the said glue-applying rollers, grippers movable with the platen for engaging the sheets after they have passed over the first one of the
95 glue-applying rollers and for drawing the sheet over the other glue-applying roller and a movable carrier for removing the sheets from the platen and transferring them to a point of delivery. 100

10. In a machine for feeding, gumming and transporting individual sheets, glue applying rollers arranged to apply glue to one face of the sheets fed thereover, means for feeding sheets singly to and over said
105 glue applying rollers, a sheet supporting platen coöperatively associated with both the said glue applying rollers, grippers coöperatively associated with the said platen for gripping the sheets after they have
110 passed over one of the glue applying rollers and for drawing the sheet over the second glue applying roller and a movable carrier for the grippers for transporting the sheets to a point of delivery. 115

11. In a machine for applying adhesive to individual sheets and in combination, a plurality of glue-applying rolls each having spaced glue-applying faces with the faces of one roll arranged opposite the spaces between the faces of the companion roll, a rotary sheet-supporting platen coöperatively associated with the glue-applying faces of said plurality of rolls for supporting a sheet during application of glue thereto,
120 means for feeding the sheets singly in a direction tangent to the periphery of the platen, and sheet-engaging means movable with the platen for engaging an edge of the sheet so fed to cause the sheet to travel there- 130

with and in facial contact with the glue-applying faces of said rolls whereby said sheet will have a coating of glue applied over substantially the entire area of a face thereof during the passage of the sheet over said rolls.

12. In mechanism of the class described, and in combination, a pair of glue applying rollers having spaced glue applying faces, a distributing roll for applying a coating of glue to the said glue applying rolls, a sheet supporting platen comprising a drum-segment coöperatively associated with the said glue applying rolls, and grippers coöperatively associated with the drum-segment for grasping the forward edge of a sheet after it is fed over one of said rolls and for drawing the sheet over the other of said rolls.

13. In a machine of the class described, and in combination, a machine frame having a trackway, a glue tank supported on said trackway and capable of bodily movement thereon, glue applying rolls supported from said glue tank, rolls for applying a coating of glue to the faces of the glue applying rolls, a rotary sheet supporting platen co-

operatively associated with the glue applying rolls and means for selecting and feeding sheets singly to said glue applying rolls, the said tank, glue applying rolls and feeding means being movable bodily toward and from the sheet supporting platen.

14. In a machine of the class described, and in combination, a machine frame having a trackway including movable tracksections, a glue tank supported by said trackway and said movable track sections, glue applying rolls supported by the glue tank, a sheet supporting platen coöperatively associated with the glue applying rolls, means for feeding sheets singly to the glue applying rolls and automatic means rendered operative upon failure of a sheet to be fed by the sheet feeding means for moving the track sections, to lower the glue tank and the mechanism carried thereby.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES D. REIFSNYDER.

Witnesses:

CARL E. SCHAEFFER,
SILAS E. CHILD.