

Sept. 7, 1965

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3,204,603

GLUING MACHINE

Filed June 22, 1962

5 Sheets-Sheet 1

FIG. 1

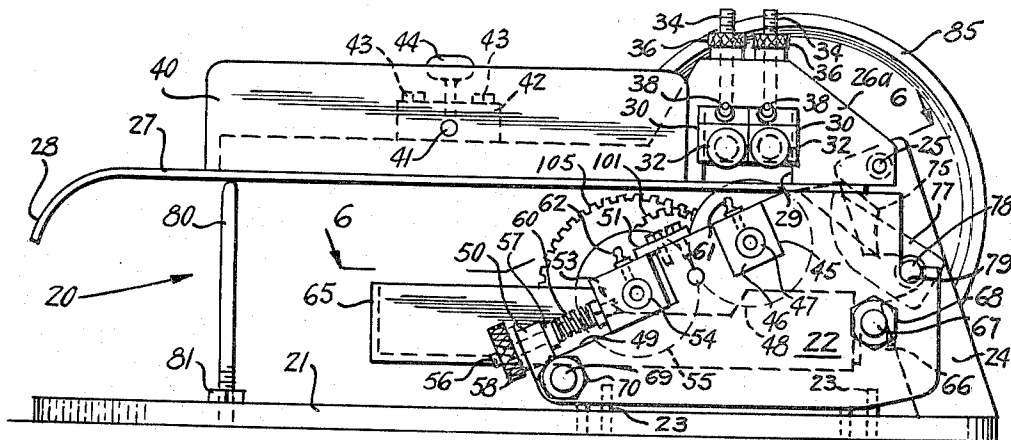
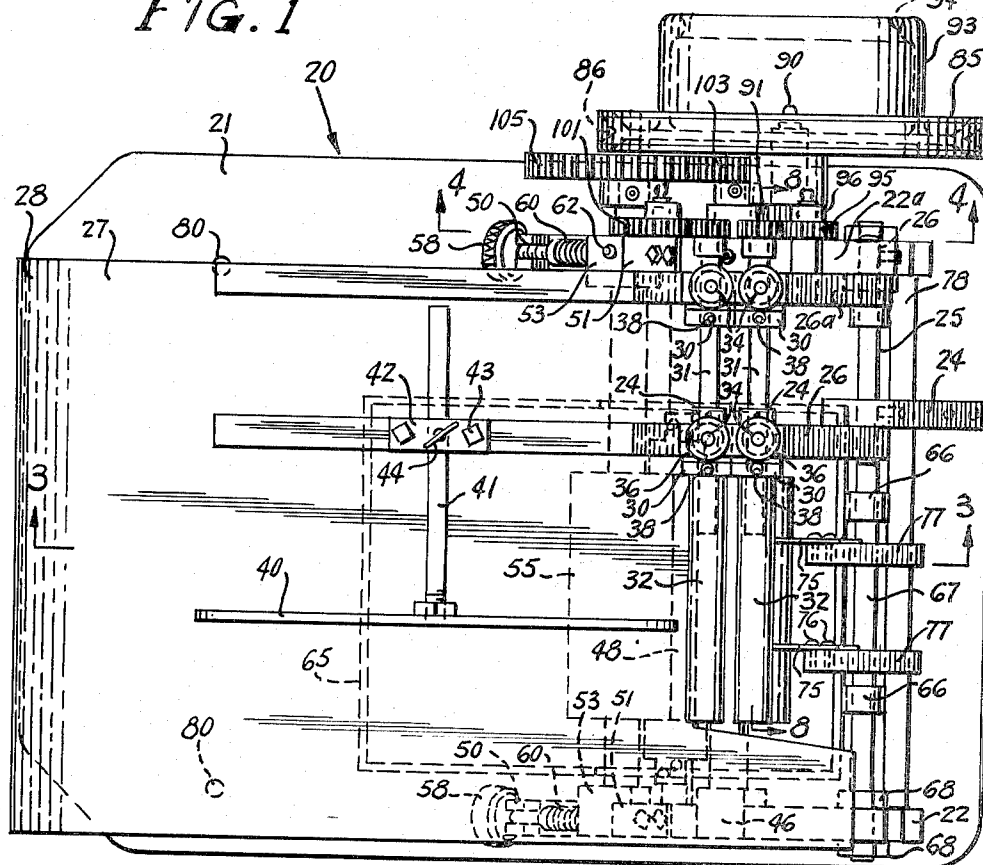


FIG. 2

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FIG. 6

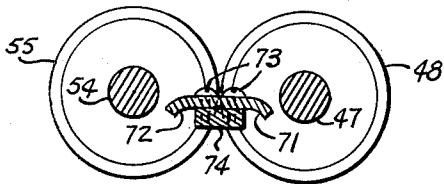
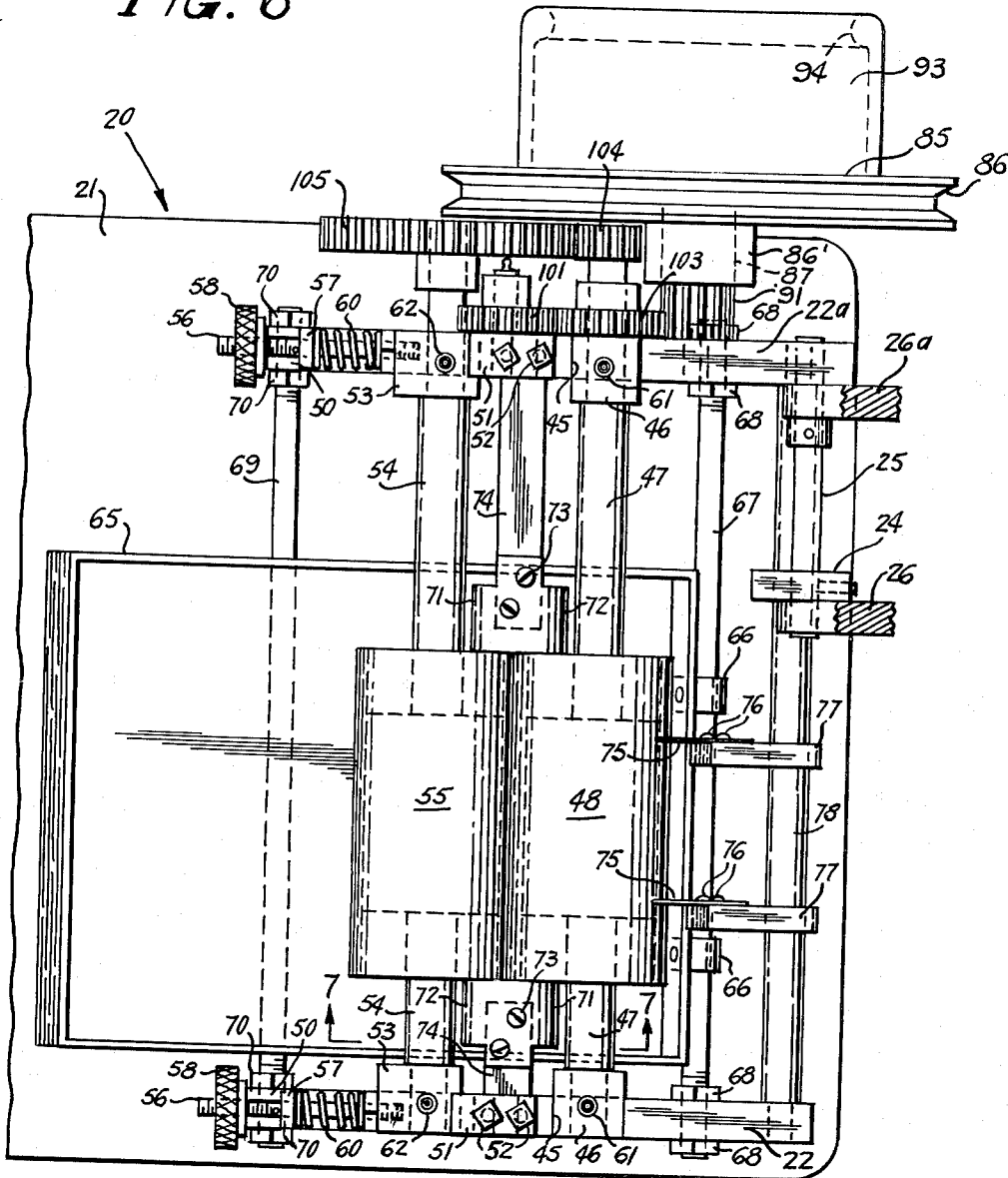


FIG. 7

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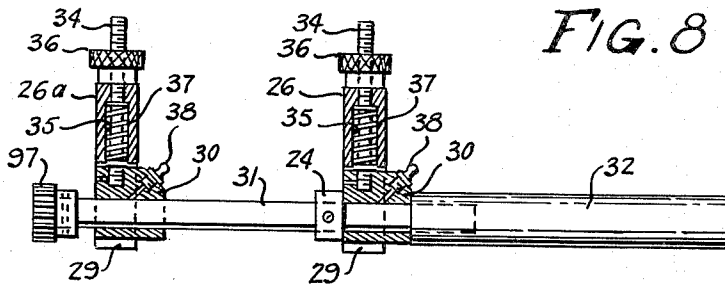


FIG. 8

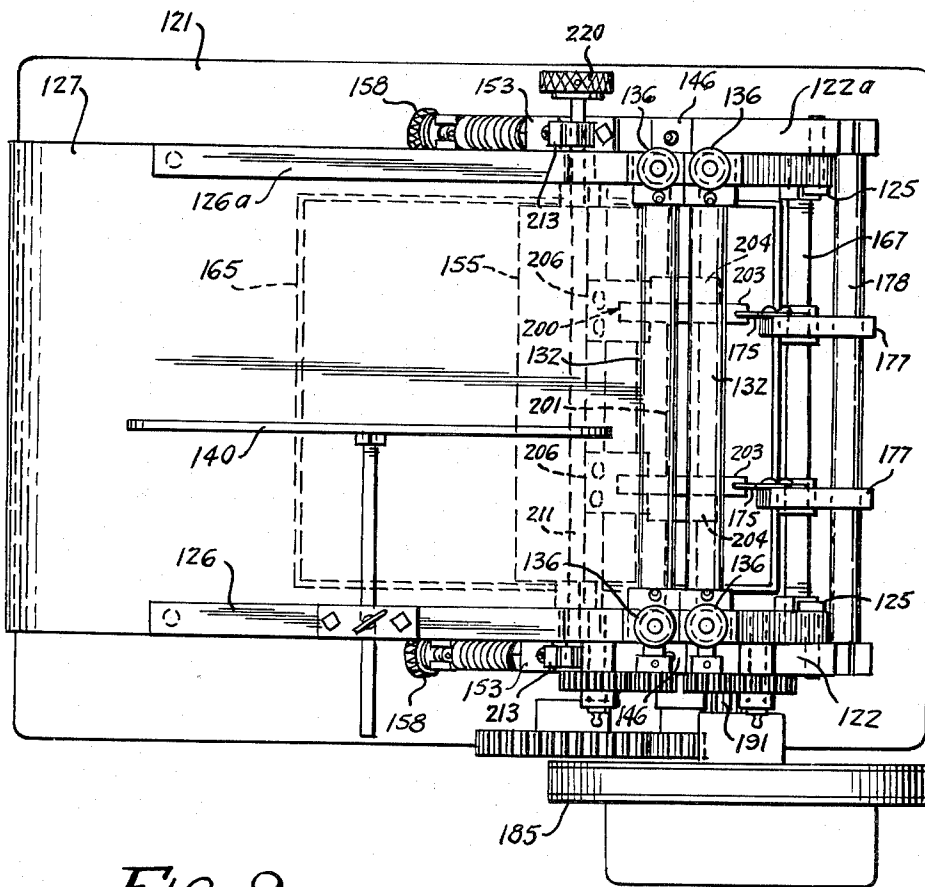


FIG. 9

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GLUING MACHINE

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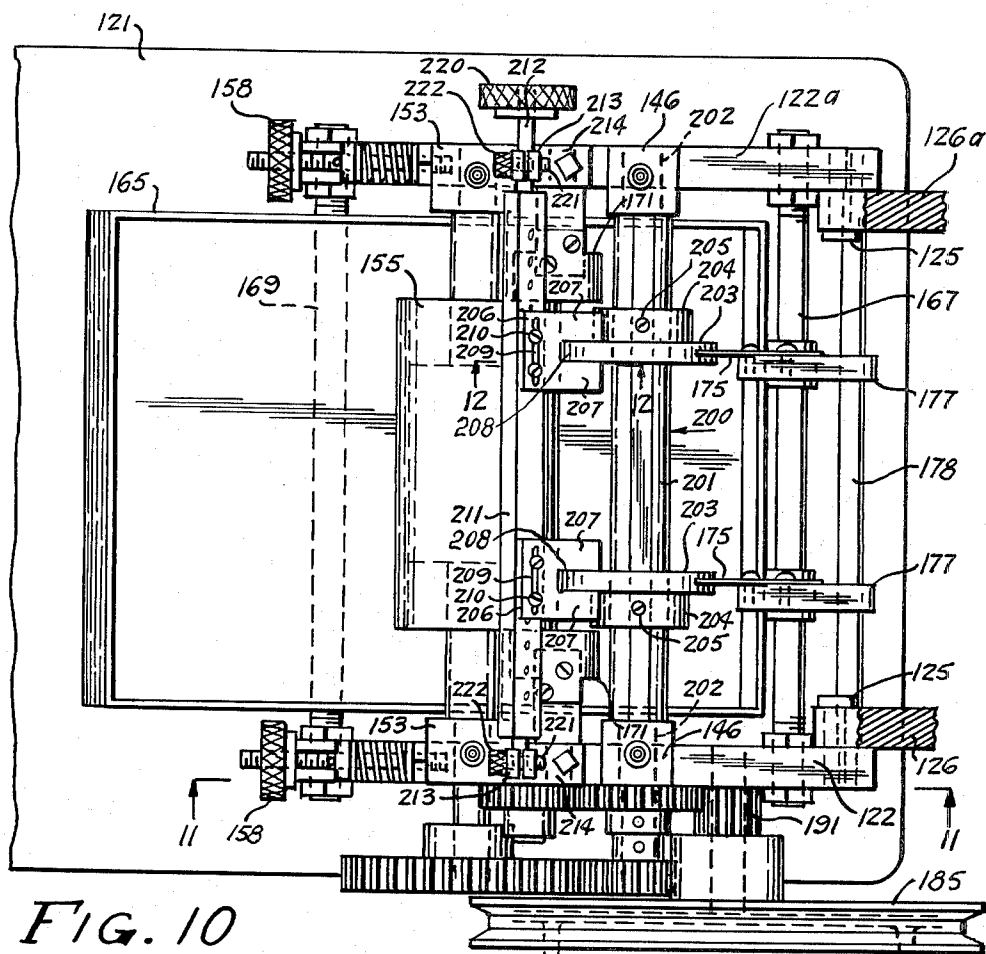


FIG. 10

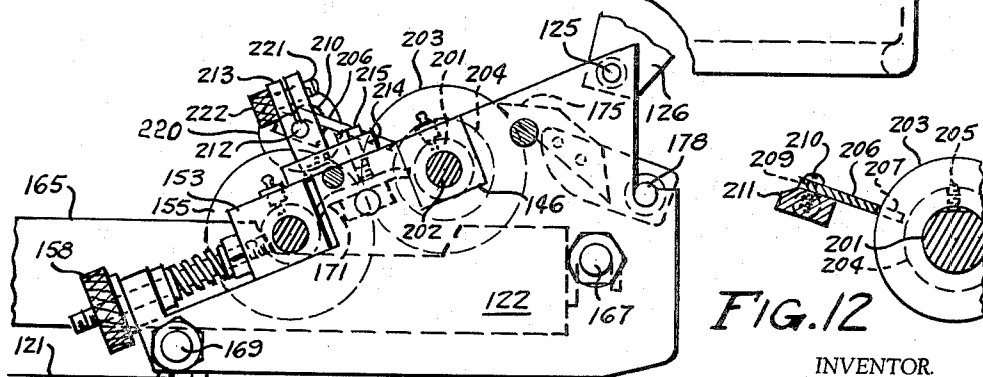


FIG. 12

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FIG. 11

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3,204,603

GLUING MACHINE

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9 Claims. (Cl. 118-246)

This invention relates to gluing machines, and has as its primary object the provision of a machine for applying glue to sheets of paper, cardboard, plastic, leather, thin sheet metal, and other flexible or rigid materials employed in the manufacture of boxes, luggage, leather goods, table pads, and other products employing sheets of flexible or rigid material to which it is desired to glue other materials.

An additional object of the invention is the provision of a machine of this character embodying improved features which are equally applicable to those machines which apply glue to the whole surface of the sheet, to the margins of the sheet only, or in strips longitudinally of the sheet.

An additional object of the invention is the provision of a device of this character which employs dual rollers of equal diameter, one of which moves at high speed to apply glue directly to the sheet, and a second of which is revolved at lower speed and which is partially immersed in the glue tank, and which picks up the glue from the tank at a much lower speed and passes it to the applicator roll.

A further object of the invention is the provision in a machine of this character of a readily removable glue tank, which is particularly useful in conjunction with a cold glue such as latex, resin glue, and similar polyvinyl glues of which materials the glue pan must be cleaned every night.

Still another object of the invention is the provision of an improved method of mounting the lower or pick-up roll which is immersed in the glue pan, in an adjustable position, with the mounting and tensioning member set at an incline relative to the horizontal to facilitate the removal of the pick-up roller, and removal of the glue tank.

A still further object of the invention is the provision of an improved gearing arrangement whereby the feed rolls for the sheet material may be positioned very closely together whereby to insure even guiding of the sheet beneath the rollers and to avoid any portion of the sheet when emerging from beneath the feed rollers, being in such position as not to receive its full share of the glue.

A further object of the invention is the provision of an improved adjusting means for the feed rollers, wherein each roller may be adjusted individually as to height, with the two adjusting means for the two rollers operating in the same slot in the end frame of the machine, thus further permitting the rollers to be placed in closely adjacent relation, and obviating the necessity for separate grooves or slides in which the bearings or mountings for the feed rollers have hitherto been positioned.

A further object of the invention is the provision of a gluing machine of this character wherein the entire feed table may be swung about a pivot at one end of the machine in such manner as to expose the interior of the device including the glue tray, the applicator roll, and the feed roll, so that the glue tray may be readily removed, after the removal of the pick-up roll and its associated mounting mechanism, also for cleaning and servicing.

Still another object of the invention is the provision, in a margin gluer, of means for mounting the sheet feeding rolls in such manner that they are supported wholly from one side of the machine, with their other ends being free.

A still further object of the invention is the provision in a mechanism of this character of means for applying strips of glue wherein a shield and scraper is provided to

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remove excess glue from the pick-up roll, as well as from the surface of the striper rolls and the sides thereof, to insure an even coating of the desired thickness over the contacting surface of the striper rolls.

A further specific object of the invention is the provision of a striper bar of this character which is adjustable so that the thickness of the coating applied to the applicator rolls may be readily controlled.

A further object of the invention is the provision of a device of this character wherein the drive gearing may be advantageously positioned on either side of the machine, in accordance with the particular position or use of the machine.

Still another object of the invention is the provision of a pick-up roll and an applicator roll of the same diameter, but so positioned as to avoid any frictional contact, the drive being effected through gearing, so that the rolls may be rotated at highly divergent or different speeds, while maintaining the rolls of the same diameter, resulting in a relatively even application of glue from the pick-up roll to the applicator roll.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there are shown preferred embodiments of this inventive concept.

In the drawings:

FIGURE 1 is a top plan view of one form of gluing machine illustratively, a margin gluing machine, embodying features of the instant inventive concept.

FIGURE 2 is a side elevational view of the device of FIGURE 1 viewed from the side opposite the drive gearing.

FIGURE 3 is a sectional view taken substantially along the line 3-3 of FIGURE 1 as viewed in the direction indicated by the arrows.

FIGURE 4 is an enlarged sectional view taken substantially along the line 4-4 of FIGURE 1 as viewed in the direction indicated by the arrows showing the drive gearing.

FIGURE 5 is a sectional view taken substantially along the line 5-5 of FIGURE 4 as viewed in the direction indicated by the arrows.

FIGURE 6 is an enlarged plan view, partially in section, taken substantially along the line 6-6 of FIGURE 2 with the table and its associated feed rollers being pivoted to an out-of-the-way position to provide access to the pick-up and applicator rolls.

FIGURE 7 is a fragmentary sectional view taken substantially along the line 7-7 of FIGURE 6 as viewed in the direction indicated by the arrows.

FIGURE 8 is a fragmentary enlarged sectional view taken substantially along the line 8-8 of FIGURE 1 as viewed in the direction indicated by the arrows.

FIGURE 9 is a top plan view similar to FIGURE 1 showing a modified form of striper gluing machine with the drive gearing placed on the opposite side from that of FIGURE 1, and striper rollers being employed in place of the margin applicator roll.

FIGURE 10 is a view similar to FIGURE 6 but showing in the machine of FIGURE 9 with the table pivoted to an out-of-the-way position and illustrating the striper rollers and the scraper blades therefor.

FIGURE 11 is a sectional view taken substantially along the line 11-11 of FIGURE 10 as viewed in the direction indicated by the arrows; and

FIGURE 12 is a fragmentary sectional view taken substantially along the line 12-12 of FIGURE 10 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, there is generally indicated at 20 one form of gluing machine constructed in accordance with the instant inventive concept, in this form, a margin gluer, or machine designed specifically for applying glue to the margins of sheets.

The gluing machine 20 comprises a base 21 of any suitable size, in accordance with the type of sheets to which the glue is to be applied and the size thereof, upon opposite sides of which are mounted main side supporting plates 22 and 22a which are secured to base 21 as by means of bolts or studs 23.

In the form of the invention disclosed in FIGURES 1 and 6, an auxiliary support 23 extends upwardly at an angle from base 21 at an intermediate point, and is provided with an opening in which is journaled one end of a stud shaft 25, the other end of which is mounted in plate 22a.

Fixedly secured to stud shaft 25 in any desired manner are a pair of feed roller supporting plates 26 and 26a, which are in turn secured to a feed table 27 having an arcuate extremity 28. The arrangement is thus such that the table 27 and its associated feed roll supports may be swung about pivot shaft 25 to an out-of-the-way position exposing certain interior mechanism of the gluing machine, as shown best in FIGURE 6, and providing access thereto in a manner and for a purpose to be more fully described hereinafter.

Feed roller support plates 26 and 26a are substantially identical, and each is provided with a rectangular open bottom slot 29 in which are mounted a pair of bearing blocks 30. Each bearing block 30 has rotatably mounted therein a shaft 31, the ends of which shafts extend outwardly beyond plate 26 and have mounted thereon sheet feeding rolls 32. The rolls 32 are positioned as close together as possible, in order to hold a sheet as firmly as possible against an applicator roller 48 to be more fully described hereinafter, in order that any curvature of the sheet away from the applicator roller at its ends, for example, may be eliminated.

Means are provided for varying the height of feed rollers 32 relative to the applicator roller 48 individually, in accordance with the texture of the material of the sheet to which the glue is being applied, and take the form of threaded bolts 34 which extend with clearance through suitable plural diametered bores 35 in the upper portions of plates 26 and 26a above slot 29, and which are threadably connected to bearing blocks 30. Suitable knurled nuts 36 permit vertical adjustment of bolts 34, and suitable expansive springs 37 positioned in the larger diameter lower portions of bores 35, bias the blocks 30 and their associated shafts 31 and rollers 32 downwardly into contacting relation with the sheet material to be fed. Grease fittings 38 of conventional type permit the introduction of lubricant material into the bearing blocks.

A margin guide is provided on plate 26, which is the plate adjacent feed rollers 32 and takes the form of a vertically positioned plate 40 in contacting relation with table 27, the plate being mounted on a rod or bar 41 which extends transversely through a bracket 42 mounted on the extending portion of plate 26 as by bolts 43, the position and securing of rod 41 and hence plate 40 being effected by a set screw 44.

The upper inclined surface of each plate member 22 and 22a is provided with a rectangular slot 45 in which seats a bearing block 46 in which is journaled the end of a shaft 47 which carries an applicator roller 48. The center of applicator roller 48 is directly beneath, preferably, the central portion of the space between feed rolls 32 and in alignment therewith. The slots 45 in each of members 22 and 22a are in alignment, so that the applicator roll 48 is properly aligned transversely of the table 27. Toward the lower end of the inclined top surface of each member there is provided a cutaway portion 49, which at its lower end has a bifurcated bracket 50. A transversely extending plate 51 secured as by bolts 52

serves as a top retainer for a bearing block 53 in which is mounted a shaft 54 which carries a pick-up roll 55, the latter preferably being of the same diameter as applicator roller 48, and in close juxtaposition thereto. A threaded bolt member 56 is seated between the bifurcations 50 and is threadedly engaged at its opposite end with bearing block 53. A square abutment member 57 is positioned around bolt 56 and bridges the upper face of the bifurcations. A knurled nut 58 serves to adjust the linear positions of the oppositely disposed bearing blocks 53 to vary the spacing between pick-up roll 55 and applicator roll 48, a spring 60 surrounding member 56 serving to bias bearing block 53 and hence roller 55 in a direction towards roller 48. Bearing blocks 46 and 53 are provided with conventional grease fittings 61 and 62 in a conventional manner.

A glue tray 65 is removably positioned beneath the doctor roller 55 in such position that the lower portion of roller 55 is immersed therein for the purpose of picking up glue for transfer to the applicator roller 48. Tray 65 is provided at its rear end with a pair of hooks 66 which extend over a rod 67 extending transversely between side plates 22 and 22a and secured in position by lock nuts 68. A second rod 69 extends transversely beneath the end portions of side plates 22 and 22a beneath the bifurcated brackets 50, and is secured in position by lock nuts 70. Rod 69 underlies the forward portion of glue tray 65 removably to support the same in position. When the pick-up roller 55 and its associated mechanism is removed by lifting bolt member 56 out of bracket 50, it will be readily apparent that the tray 65 may be tilted to disengage hooks 66 from rod 67 and the tray removed for cleaning or other purposes.

Scraper blades 71 are positioned on opposite sides of rollers 55 and 48 and are arcuately curved downwardly as at 72. The blades are secured as by rivets or screws 73 to plate like members 74 which are secured to the side frame members 22 and 22a. It is to be noted that in this type of machine the bracket plate 74 associated with side plate 22a is considerably longer than its opposite member, in order that the scraper may be closely juxtaposed to the ends of both rollers to prevent any build up of glue thereon, and continually scrape the ends of the rollers clean.

Pick-off fingers 75 are positioned in alignment with the top of applicator roller 48 for the purpose of preventing sheets from adhering thereto, and passing the sheets on to a suitable receiving station. The pick-off fingers are secured as by means of bolts or screws 76 to plate like members 77, which in turn are pivotally mounted on a rod 78, the ends of which are journaled in suitable recesses 79 in side wall members 22 and 22a, respectively, the arrangement being such that the pickoff fingers may be readily swung out of position or removed entirely when unnecessary. Obviously, any desired number of pick-off fingers may be employed in accordance with the width of the rollers with which they are associated.

Pins 80 engaged in threaded apertures in base 21 and held in position by nuts 81 serve to support the table 27 in horizontal position adjacent the free end thereof.

Means are provided for driving the several rolls previously described, and take the form of a pulley 85 which is grooved as at 86 to receive a drive belt, the drive belt being connected to any suitable source of power. Pulley 85 includes a hub 86' having a bore therein, into which is press fitted the hub 87 of a main drive gear 91, hub 87 being mounted on a liner surrounding a shaft 88 having a reduced threaded end 89, which is threaded into a suitable opening in side plate 22a. A grease fitting 90 is provided for lubrication. Openings 92 may be provided in the pulley disk, if desired for reduction of weight. An annular flange 93 with a thickened edge 94 extends outwardly from pulley 85 and provides a hand wheel by means of which the pulley 85 and its associated mecha-

nism may be rotated manually for adjustment or other purposes.

Main drive gear 91 meshes with an idler gear 95 which is mounted on a suitable stud or stub shaft 96, the gear 95 in turn meshing with the drive gear 97, which is mounted on one end of one shaft 31 driving an associated feed roller 32. The other shaft 31 is provided with a similar gear 98, which in turn meshes with an idler gear 99 carried by a stub shaft 100. The gears 99 and 95 are of the same size, as are the gears 97 and 98, to ensure an equal speed of rotation of the two rollers 32. However, the drive of the two roller drive gears from opposite sides permits the rollers to be placed very closely together, and does away with the positioning of an idler gear between or in driving association with both rollers 97 and 98. Idler gear 99 meshes with a second idler gear 101 mounted on a shaft 102, which in turn is engaged by a gear 103 which is mounted on the end of applicator roll drive shaft 47. Shaft 47 also carries a gear 104 of lesser diameter which drives a gear 105 mounted on shaft 54 of pick-up roller 55. Main drive gear 91 is also in mesh with gear 103, so that all the components are driven from drive pulley 85, it being noted that gears 95, 97, 98, and 99 are all mounted on shafts carried by said plate 26a, while the remaining gears are all mounted on shafts carried by support plate 22a. The arrangement is thus such that when the table 27 is swung about its pivot rod 25, the gears will immediately and readily disengage and separate, and then upon return of the table to its normal horizontal operating position, the gears will mesh substantially instantaneously, or such mesh may be effected by a very slight rotation of hand wheel 93.

From the foregoing the use and operation of this form of the apparatus should now be readily apparent. The guide 40 is first set to the requisite width of margin to which it is desired to apply glue or other adhesive, and the apparatus started by the energization of any suitable means for driving the pulley 85. Sheets are then fed individually over the table 27 by the feed rollers 32, at which time the applicator roller applies adhesive picked up from the pick-up roller 55 which in turn picks it up from the glue tray 65 as the sheet passes thereover. The two feed rollers are closely juxtaposed to keep the ends of the sheet from curling until glue has been applied thoroughly over the entire length of the margin to be finished. Pick off fingers 75 then remove the sheets and cause them to pass linearly out of the end of the gluing machine to be applied to a wood or cardboard case, or other materials, or other suitable disposition made thereof.

It is obvious that the device may be made in any desired width, and the guide 40 set for any desired width of marginal application of glue. By means of the nuts 58 the relative space between the pick-up roll 55 and the applicator roll 48 may be controlled to control the thickness of the adhesive coating, and by means of the nuts 36 the feed rolls 32 may be individually positioned relative to the top of the table 27 to accommodate various thicknesses, sizes, and qualities of material, such adjustment being limited to a range contingent upon the proper meshing of the gears.

Referring now to FIGURES 9 to 12, inclusive, there is disclosed a modified form of apparatus embodying many of the principles of the previously described modification which may be employed either as a striper machine for applying spaced strips of glue to the underside of a sheet of suitable material, or which may alternatively, by a mere interchange of applicator rolls, be employed to apply glue or other adhesive to the entire width of a sheet.

In this form of the invention, a base 121 identical to base 21 carries a pair of side frame members 122 and 122a which are identical to the frame members 22 and 22a, and include bearing blocks 146 and 153 identical to the previously described bearing blocks 46 and 53, the bearing block 153 being adjustable by means of a knurled knob 158 in a manner identical to that previously described. A table 127 identical to table 27 is pivotally

mounted on studs 125 extending respectively from side frame members 122 and 122a through feed roll support members 126 and 126a rather than in one side member and an intermediate support as in the previously described modification, for the reason that the feed rollers 132 instead of extending outwardly beyond upper feed roller support member 126 as in the previous modification, are journaled between support members 126 and 126a, which are otherwise identical to the previously described members 26 and 25a, but are mounted on opposite sides of the table, rather than in an intermediate position as the member 26 is shown in the foregoing modification. The roller bearings and the control nuts 136 therefore are identical to the previously described control members 36, and are mounted in an identical manner. The tray 165 is identical to the previously described tray 65 and is mounted in an identical manner on bars or shafts 167 and 169 which are positioned identically to the bars 67 and 69.

The doctor roller 155 is also identical to the previously described pick-up roller 55, and is adjustable in the same manner by rotation of knurled nuts 158, previously described as adjusting the bearing blocks 53 in a manner identical to that of the previous modification.

Pick-off fingers 175 are identical to the pick-off fingers 75 and are mounted on a rod 167 in an identical manner. It is to be noted that the pick-off fingers 175 are not necessarily employed in conjunction with a striper roll as will be hereinafter described, and may be removed when a striper roll is used. However, when a full width applicator roller is used, such pick-off fingers are employed.

The gearing including a drive pulley 185 provided with a driving gear 191 are identical to the previously described pulley 85 and its driving gear 91, and drive a series of gears identical to those disclosed in FIGURE 4, it being noted, however, that in this form of the apparatus, the pulley is mounted on the opposite side thereof, although this is a matter of convenience, and not a necessity.

A guide 140 identical to the previously described guide 40 is mounted in the same manner on the upper portion of feed roll support member 126, but extends in the opposite direction to that of member 40, due to the spacing of members 126 and 126a. It is preferable though not essential that the guide be mounted on the side adjacent the drive mechanism for purposes of convenience.

When this form of the invention is employed for applying spaced strips of glue to the surface of the sheet, an applicator roll, generally indicated at 200, is provided, which is comprised of a shaft 201 having reduced end portions 202 which are journaled in bearing blocks 146 in a manner identical to the previously described applicator roll 48 and its journal blocks 46. Shaft 201 carries, at spaced intervals, relatively narrow applicator rollers 203, each of which is integrally mounted with a collar 204, which is slidable on the shaft 201 and secured in position by means of a set screw 205 so that the relative spacing of applicator members 203 may be varied as desired. While in this embodiment of the invention, only two applicators are shown, it will be understood that one or more than two may be employed in accordance with the particular construction.

When striper rolls such as 203 are employed for applying adhesive in strips, it is necessary that the sides thereof as well as the edges be kept free from glue. For this purpose slotted scraper blades 206 are provided which have side portions 207 engaging both sides of applicator members, with the ends of the slots 208 therein being adjustably positioned relative to the perimeter of the applicator rollers 203. The members 207 are provided with elongated slots 209 through extend screws 210, which engage in threaded bores in a polygonal bar 211, the ends of which are provided with cylindrical stub shafts or rods 212. The stub shafts or rods 212 are rotatably mounted in split lugs 213, which are mounted on plates

214 secured as by screws 215 to the inclined top surfaces of side frame members 122 and 122a between bearing blocks 146 and 143. One of rods 212 extends outwardly of its adjacent frame member 122a and is provided with a knurled knob 220, rotation of which varies the angle of inclination of scraper blades 206 relative to applicator rolls 203. This variation in the angle of inclination varies the space between the end of slot 203 and the periphery of applicator rollers 203 to control the thickness of the film of glue adhering thereto after application by pick-up roller 155. Clamping screws 221 provided with knurled heads 222 extend through the bifurcations of members 213 to clamp the end portions of rods 212 in place and secure the blades 206 in adjusted position after a suitable angle has been achieved.

A scraper blade 171 identical with previously described scraper blade 71 is provided at each end of pick-up roll 155, and prevents the accumulation of glue on the ends thereof.

It is to be noted that the polygonal member 211 may be provided with as many threaded bolt holes as may be necessary to accommodate any desired number of scrapers 206 in accordance with the number of applicator rollers desired to place the requisite number of strips on any particular sheet.

The use and application of this form of the invention should also be readily apparent. After the requisite number of strips of glue to be positioned upon a particular sheet, and their spacing have been determined, a roll is assembled including the desired number of applicators 203 properly spaced and secured by means of screws 205, this operation being effected simply by the removal of bearing blocks 146 and their associated shaft 201 from their grooves in frame members 122 and 122a. The roller is repositioned, and the requisite number of scrapers 206 are aligned with the applicators 203, and set by means of the knob 220 to the desired angle in accordance with the consistency of the glue, for providing a predetermined thickness on the surface of the applicator rolls 203.

Sheets are then fed over table 127 in a manner identical to that of the previous modification, by means of feed rollers 132, and strips of the desired thickness and spacing are applied to the underside thereof by the applicator rolls 203.

When it is desired to employ this form of the invention for coating the entire underside of a sheet, it is merely necessary to remove the entire scraper assembly by removal of bolts 215 whereupon the entire assembly may be lifted from its associated frame members 122 and 122a, and to replace the stripper roller assembly together with its associated bearings by a roller assembly (not shown) identical to that of roller 48 in the previous modification, including end shafts mounted in identical bearings blocks. The full width roller is preferably of the same width as applicator roller 155 and of the same diameter, and the driving of the same is identical to that of the previously discussed modifications.

From the foregoing it will now be seen that there is herein provided an improved glue applicator which may be used as a margin applicator, a strip applicator, or a full width applicator, with the minimum of modification and change, which readily lends itself to manufacture, wherein parts may be interchanged with a minimum of time and waste motion, wherein the tray may be readily removed for cleaning at the end of each day, and wherein the entire assembly may be disassembled for replacement of desired parts with a minimum of waste time and motion, and which thereby accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

It will also be seen that, by virtue of the foregoing construction, the same machine may accommodate any desired material from a thin sheet of paper to ¼" plywood, that the relatively slow rotation of the pick-up roll tends to minimize foaming of certain types of glue, which

occurs when fast moving rolls are employed, and wherein the arrangement of the feed rolls improves the quality of the adhesive coating.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. (1) In a gluing machine
 - (2) a base,
 - (3) a pair of side frame plates mounted on opposite sides of the rear of said base,
 - (4) a pick up roll vertically removably mounted for rotation between said side plates,
 - (5) a removably mounted glue tray pivotally supported at one end and also upon substantially a middle bottom portion, and mounted in a position such that during operation it will permit immersion of said pick up roll,
 - (6) an applicator roll in closely juxtaposed overlying relation to said pick up roll and vertically removably mounted between said side plates for differential peripheral velocity with respect to said pick up roll,
 - (7) a feed table with a forward receiving end and a rearward delivery and overlying said pickup roll and a top portion of the upturning periphery of said applicator roll,
 - (8) feed roll supporting plates mounted upon said table and upon rear base supported pivot means, whereby said feed table and said feed roll supporting plates may be simultaneously pivoted towards and away from said applicator roll,
 - (9) a pair of closely adjacent parallel feed rolls mounted between the supporting plates and above said applicator roll,
 - (10) each supporting plate having a single constant width slot in its underside,
 - (11) a pair of similar bearing blocks in each said slot for rotatably mounting said feed rolls, means for moving said blocks individually towards and away from said applicator roll, resilient means individually biasing each of said bearing blocks and hence said feed rolls towards said applicator roll,
 - (12) a common drive means for all of said rolls including a pulley and terminating in a main drive gear mounted on an outward face of one of said side frame plates,
 - (13) a downwardly oriented gear train from said main drive gear to the gear on the applicator roll and then to the gear on the pick up roll, for driving said two rolls and also mounted on the same outward face of one of said side frame plates,
 - (14) an idler gear branching from said gear train, mounted on the same outward face of one of said side frame plates,
 - (15) two idler gears mounted on an outward face of one of said feed roller supporting plates, and a drive gear on the end of each feed roll, the drive gears being nonintermeshing with respect to each other, but each drive gear being in individual meshed arrangement with respect to one of said adjacent idler gears, the axes of the latter two idler gears and each roll drive gear being horizontally coplanar to one position of adjustment and operation, and
 - (16) a lower portion of each of said two latter idler gears being in drive relationship with an upper portion of one of the gears mounted on the side frame plates when said feed table and rolls are in a downward pivoted position, and being out of drive relationship when said feed table and rolls are in an upwardly open pivoted position.
2. The structure of claim 1 wherein one of said feed roll supports is mounted in an intermediate position transversely of said table, and said feed rolls are supported

from one end only, the vertical center line distances between supports being less than the lengths of said rolls.

3. (1) The structure of claim 1 and in addition,
 - (2) a bracket mounted above a portion of one of said feed roll supports,
 - (3) a solid bar adjustably passing at right angles to one of said feed roll supports and with vertical clearance with respect to the adjacent surface of said feed table, and
 - (4) a vertical plate margin guide resting on said feed table and connected at right angles to an end of said bar at a height to provide said recited clearance for the full length of the bar.
4. (1) The structure of claim 1 wherein,
 - (2) said side plates each include a rearwardly and upwardly inclined upper side having a medial and perpendicular slot, and a near but lower perpendicular elongated recess therein,
 - (3) a rectangular bearing block with similar inclined tops in each slot, said bearing blocks mounting said applicator roll,
 - (4) additional rectangular bearing blocks with similar inclined tops in the higher portion of each recess serving to journal said pick up roll, and
 - (5) means for linearly adjusting said additional bearing blocks inclinedly upwardly and downwardly to vary the gap between said pick up roll and said applicator roll, for varying the thickness of glue transferred from said pick up roll to said applicator roll, and from said applicator roll to the stock being operated upon.
5. (1) The structure of claim 4 wherein the means for linearly adjusting the position of said additional bearing blocks include, on each side plate,
 - (2) a bifurcated support bracket extending upwardly at the lower end of said elongated recess and open at the top,
 - (3) a threaded bolt engaging in a said additional bearing block and passing between and out beyond said bifurcations,
 - (4) an abutment member positioned around the bolt and bridging the upper face of the bifurcation,
 - (5) an expansion spring surrounding the threaded bolt, abutting said abutment member and extending towards said additional bearing block and serving to bias said additional bearing block and hence said pick up roll in a direction towards said applicator roller,
 - (6) a knurled knob threaded on the lower outer end of said bolt,
 - (7) and a plate bolted to the top of a side plate and overlying the top edge of said additional bearing block at the opposite and upper end of said recess,
 - (8) whereby the assemblage of said knobs, bolts, abutment members, springs, bearing blocks and pick up roll may be removed from operating position by unbolting said plate, slacking off said knobs and lifting the assemblage out of said bifurcated supports.
6. (1) The structure of claim 4 wherein,
 - (2) said applicator roll comprises a shaft and a plurality of striper rolls longitudinally adjustable thereon,
 - (3) a plate carrying a split lug secured to the rearwardly and upwardly inclined tops of each of said side plates between the bearing blocks for the applicator roll and the additional bearing blocks for the pick up roll,
 - (4) a circular opening means at the base of each split lug suitable to pivotally carry cylindrical stub shafts therein,
 - (5) a polygonal cross sectioned bar extending between said split lugs, said bar having terminal circular in cross section stub shafts each seated in one of said circular opening means and pivotable therein,
 - (6) a selected series of pairs of threaded hole means

extending over the length of the polygonal portion of said bar,

- (7) a plurality of slotted plate scraper blade means with slots centered on the longitudinal portion of such striper roll, each blade being selectively mounted on said polygonal bar by a pair of screws threaded into a selected pair of said threaded hole means,
 - (8) a knurled knob fixed to one of said stub shafts and capable of angularly selectively positioning said polygonal bar and hence said scraper blade means with respect to the applicator rolls,
 - (9) and clamping screws provided with knurled heads and threaded shanks, said shanks threaded into the portions only of each split lug adjacent the distal ends of the shanks,
 - (10) whereby to clamp the stub shafts and hence the scraper blades in said selected angular position, the angular position of said scraper blades controlling the thickness of glue retained on the periphery of said striper rolls.
7. (1) The structure of claim 1 wherein the glue tray is closely adjacent the base, and is provided at its rear end with spaced hooks,
 - (2) a first horizontal rod extending between said side frame plates at a height above the bottom of the tray,
 - (3) said hooks engaging over said first rod to pivotally support the rear end of said tray,
 - (4) and a second horizontal rod extending between said side plates beneath and contacting said tray and below and forward of said pick up roll and spaced forwardly of said first rod by a distance slightly greater than one half the length of said tray,
 - (5) whereby upon removal of said pick up roll, said glue tray may be readily removed from between said side plates by lifting said hooks from said first rod while pivoting and substantially balancing the tray on said second rod, and sliding the tray bottom forwardly over said second rod until the forward end of said tray is supported by said base, and the rear end of the tray supported by said second rod.
 8. (1) The structure of claim 1 wherein,
 - (2) the pick up roll and applicator roll are each so constructed and arranged as to present on their ends an annular shell with edges in parallel planes which are perpendicular to the plane containing the axes of the rolls,
 - (3) a plate-like scraper blade extending from a bracket in each side plate, into contact with the edges of a pair of adjacent shells, the blade also extending radially inwardly of each shell,
 - (4) the scraper in inclined plan preventing a straight roll contacting front end, a pair of perpendicularly oriented sides at equal distances from the middle of the end, and a pair of rear ends extending from the sides to the bracket, the latter rear end pair being within the projected area of the glue tray when the latter is in operative position,
 - (5) the scraper in elevation presenting arcuately downwardly curved edges or sides and a smoothly joined planar section therebetween, the top of said planar section being coplanar with a plane containing the axes of said pick up roll and applicator roll.
 9. The structure of claim 1 wherein said feed roll supports are mounted on opposite sides of said table.

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