

May 19, 1931.

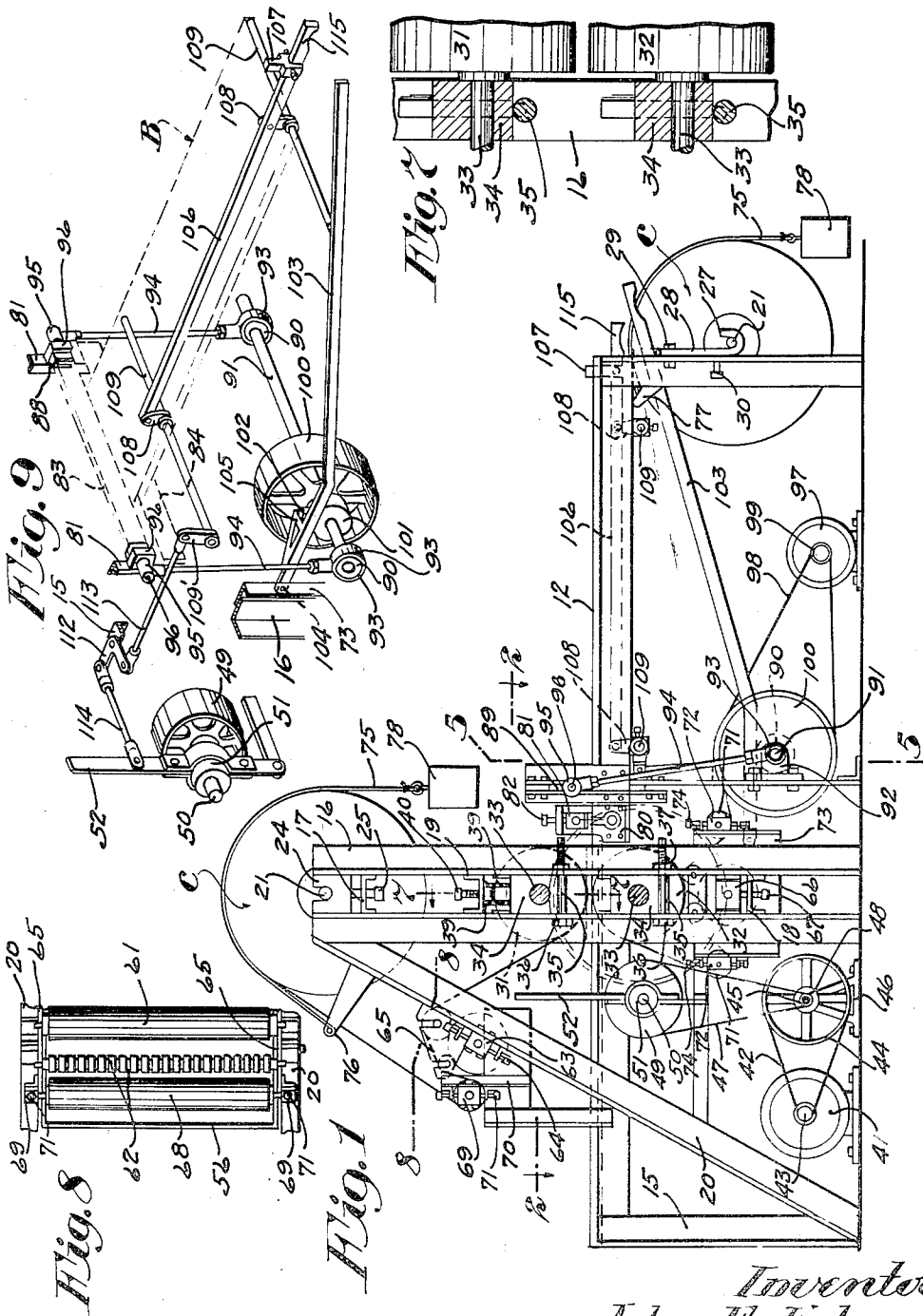
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MACHINE FOR MAKING PAPER COVERED IRONING BOARDS

Filed Aug. 10, 1928

3 Sheets-Sheet 1



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By his Attorneys  
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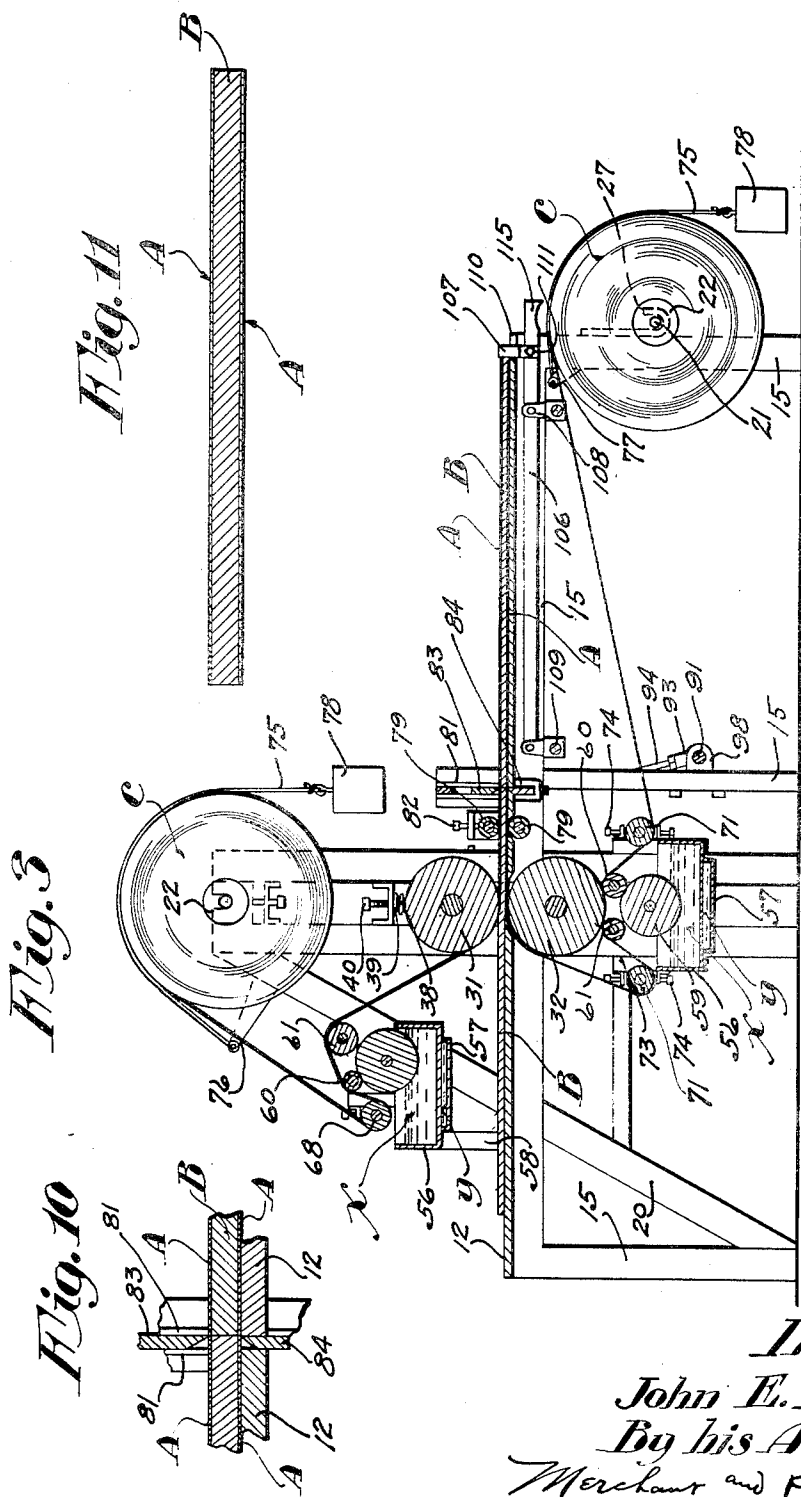
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## UNITED STATES PATENT OFFICE

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## MACHINE FOR MAKING PAPER COVERED IRONING BOARDS

Application filed August 10, 1928. Serial No. 298,770.

My present invention has for its object to provide a highly efficient machine for general use in applying and adhesively securing facings of normally flexible material, such as paper, to a body member, and it is especially well adapted for use in applying such facings to both surfaces of the board or top of an ironing table, as disclosed and broadly claimed in my copending application filed June 4, 1928, under Serial Number 282,542 and entitled "Ironing board."

As fully described in the above application, these paper facings should be strong, tough and glazed or otherwise treated so that they are substantially waterproof or impervious to water. The facing sheets are secured by glue or other adhesive material and applied under high pressure so that the glue will be forced into the pores and imperfections in the wood surface and said facing sheets caused to become practically integral parts of the board. Facing sheets applied to the opposite faces of the board as described, make it possible to use lower grades of lumber than would otherwise be usable, and also make it feasible to use a plurality of longitudinally extended strips to make up the board. These facing sheets reinforce the board against warpage and, moreover, protect the same from moisture and heat applied thereto during the ironing operation that would tend to warp said board. Furthermore, the facing sheets give a smooth finished surface to wooden boards that have not been finished or smoothed with great care. The paper facing sheets may be made in color or in designs to give the board an ornamental and attractive appearance without the use of paint or varnish.

To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings which illus-

trate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a view principally in elevation showing the right hand side of the machine.

Fig. 2 is a view partly in plan and partly in horizontal section taken on the irregular line 2—2 of Fig. 1.

Fig. 3 is a view principally in longitudinal central section taken on the line 3—3 of Fig. 2.

Fig. 4 is an elevation showing the delivery end of the machine with the lower roll of paper removed.

Fig. 5 is a fragmentary view with some parts sectioned on the line 5—5 of Fig. 1.

Fig. 6 is a fragmentary detail view with some parts sectioned on the line 5—5 of Fig. 2, on an enlarged scale.

Fig. 7 is a fragmentary detail view with some parts sectioned on the line 7—7 of Fig. 1, on an enlarged scale.

Fig. 8 is a fragmentary detail view principally in plan with some parts sectioned on the line 8—8 of Fig. 1.

Fig. 9 is a fragmentary perspective view of the clutch control mechanism with some parts sectioned and other parts diagrammatically illustrated by the means of broken lines.

Fig. 10 is a fragmentary detail view showing the knives in section on an enlarged scale.

Fig. 11 is a view in transverse section taken on the line 11—11, on an enlarged scale.

The improved machine may be used to apply paper surfacing sheets to either or both sides of an ironing board and, as illustrated, said machine is equipped and operated to apply facing sheets A to both sides of ironing boards B. At the time the ironing boards B are fed to the machine to receive the facing sheets A, they are of the required width and length but not shaped to form the finished product. The ironing boards B are fed through the machine in endwise abutting engagement on a smooth flat top or deck 12 and

between unwound portions of upper and lower rolls of paper C to the opposing faces of which glue has been applied, and between upper and lower pressure rolls, which press the paper onto both sides of said boards. The deck 12 is supported on a frame 15 having at each side, intermediate of its ends, a pair of fixed upright angles posts 16 rigidly connected and held laterally spaced longitudinally of the machine by short, upper, lower and intermediate tie bars 17, 18 and 19 respectively. The two pairs of posts 16 are transversely aligned and the two posts thereof nearest the receiving end of the machine having their upper ends rigidly secured to the frame 15 by oblique braces 20.

Each roll of paper C is carried by a transverse horizontal shaft 21 having a pair of truncated centering cones 22 which extend into the axial passage in said roll and directly support the same on the shaft 21 for rotation therewith. Said centering cones 22 are mounted for axial adjustment on the shaft 21 and held by said screws 23 where set. The shaft 21 for the upper roll C is removably journaled in open seats in bearing blocks 24, slidably mounted between the posts of each pair and are supported on upright adjusting screws 25 for vertical adjustment. These adjusting screws 25 have screw-threaded engagement with the upper cross-tie bars 17 and the bearing blocks 24 rest on the upper ends thereof. By manipulating either one of the screws 25, or both thereof, the bearing blocks 24 may be raised or lowered to angularly adjust the shaft 21, hence the upper roll C in a vertical plane.

The shaft 21 for the lower roll C is removably journaled in open seats 27 in the lower ends of hanger-straps 28 secured by bolts 29 to the delivery end of the frame 15, with freedom for a limited angular swinging movement longitudinally of said frame. Adjusting screws 30 having screw-threaded engagement with the frame 15 impinge against the hanger-bars 28 near their lower ends and hold the same where set. By manipulating either one or both of the screws 30, the hanger-bars 28 may be angularly adjusted in vertical planes to angularly adjust the shaft 21 and hence the lower roll C in a horizontal plane.

The upper and lower combined feed and pressure rolls 31 and 32 extend transversely of the machine, the former above the deck 12 and the latter below the same with its upper surface working in a transverse passage in said deck and substantially flush with the upper surface thereof. The shafts 33 for the rollers 31 and 32 are journaled in the bearing blocks 34 slidably mounted on and between the posts 16 of each pair and are supported for horizontal adjustment on horizontal eccentrics 35 which extend longitudinally of the machine. These eccentrics 35 are formed on bolts 36 intermediate of their ends

and which bolts are turnably mounted in the posts 16 of each pair with said eccentrics extended therebetween. Nuts 37 on the bolts 36 normally hold said bolts from turning and hence the eccentrics 35. The ends of the bolts 36 are square in cross-section to receive a wrench by which said bolts may be turned to rotate the eccentrics 35. Obviously by turning the eccentrics 35, the bearing blocks 34 may be raised or lowered to the position the opposing faces of the pressure rolls 31 and 32, different distances apart and in parallel arrangement, or the roll 32 may be adjusted to position its upper face in different adjustments in respect to the top of the deck 12.

The lower bearing blocks 34 rest directly on the lower eccentrics 35 and the roll 32 affords a base of resistance for the ironing boards B while passing between rolls 31 and 32. When there is no board B between the rolls 31 and 32, the upper bearing blocks 34 rest on the upper eccentrics 35 and which eccentrics at all times prevent the upper roll 31 from coming in contact with the lower roll 32 for a purpose that will presently appear. In this position of the upper roll 31, the distance between the rolls 31 and 32 is less than the thickness of the boards B, so that during their movement between said rolls, the upper roll 31 is held lifted against the tension of a pair of heavy coiled springs 38. The springs 38 are pressed between the upper bearing blocks 34 which afford seats therefore, and spring caps 39, which engage adjusting screws 40 as bases of resistance. These screws 40 have screw-threaded engagement with the intermediate cross-tie bars 19. Obviously by adjusting the screws 40, the tension of the springs 38 may be varied at will.

The cooperating pressure rolls 31 and 32 are driven in the direction of the arrows indicated in Fig. 3, to feed the ironing boards B through the machine, and at the same time press the unwound portions of the paper from the rolls C onto both faces of said boards. The lower roll 32 is driven direct from an electric motor 41, bolted to the floor under the receiving end of the machine by the following connections, to wit:

A belt 42 runs over a relatively small pulley 43 on the shaft of the motor 41, and a relatively large pulley 44 on a short shaft 45 journaled in bearing brackets 46 bolted to the floor forward of the motor 41. A second belt 47 runs over a relatively small pulley 48 on the shaft 45 and a relatively large pulley 49 on a transverse counter-shaft 50 journaled on the frame 15 under the deck 12 rearward of the pressure roll 32.

For connecting the pulley 49 to the shaft 50, at will, there is provided a friction clutch 51 having a shipper lever 52 for setting or leasing the same. On the opposite end of the countershaft 50 from the pulley 49 is a pinion 53 which meshes with a large gear 54 on the

shaft of the lower roll 32. Intermeshing pinions 55 on the shafts 33 are provided for driving the upper roll 31 from the lower roll 32.

5 The unwound portions of the rolls C extend between the pressure rolls 31 and 32 from the receiving end of the machine with the boards B therebetween. These unwound portions of the rolls C between said rolls and the pressure rolls 31 and 32 have a thin coat of glue applied to their opposing faces by upper and lower glue fountains. Each glue fountain includes a relatively shallow reservoir 56 which extends transversely of the machine and contains a body of glue X. This glue X, during the operation of the machine, is kept at the proper temperature by a heating medium such as steam or hot water Y, circulated in a shallow chamber 57 on the bottom of each of said reservoirs. The upper reservoir 56 is supported rearward of the roll 31 by the oblique braces 20 and legs 58 attached to the frame 15 and the lower reservoir 56 is supported below the roll 32 on the posts 16.

Each glue fountain further includes a relatively large pick-up roll 59, distributing roll 60 and a spreading roll 61. The pick-up rolls 59 extend into the reservoirs 56 with their under surfaces submerged in the glue X and the distributing rolls 60 are provided with axial spaced circumferentially extended corrugations 62, see Fig. 8. Said distributing rolls 60 have peripheral contact with the pick-up rolls 59 at the tops thereof. The spreading rolls 61 are circumferentially spaced from the distributing rolls 60 and supported just out of peripheral contact with the rolls 59.

The shaft for the upper pick-up roll 59 is journaled in bearing blocks 63 mounted on the oblique braces 20 with freedom for a limited longitudinal movement and are held in different adjustments between pairs of opposing adjusting screws 64 on said braces. The shafts for the upper distributing and spreading rolls 60 and 61 respectively, are journaled in open seats in bearing plates 65 on the oblique braces 20. Obviously by adjusting the screws 64, the upper pick-up roll 59 may be raised or lowered to vary its peripheral contact with the distributing roll 60. The shaft of the lower pick-up roll 59 is journaled in bearing blocks 66 slidably mounted on and between the posts 16 of each pair and are supported on adjusting screws 67 having screw-threaded engagement with the lower cross-tie bars 18. Obviously by manipulating the screws 67, the lower pick-up roll 59 may be raised or lowered to vary its peripheral contact with the cooperating distributing roll 60.

The unwound portion of the upper roll C is held by the roll 31 and guide roll 68 bent over the upper distributing roll 60 and upper spreading roll 61 for peripheral contact

therewith, as best shown in Fig. 3. Said guide roll 68 is journaled in bearings 69 mounted for a limited movement on upright posts 70 on the ends of the upper reservoir 56. The bearings 69 are held in different adjustments by pairs of opposing set screws 71 on the posts 70. From the upper spreading roll 61 the unwound portions of the upper roll C passes under the pressure roll 31 for application to the upper faces of the ironing boards B.

The unwound portion of the lower roll C is held by a pair of guide rolls 71 bent over the lower distributing roll 60 and lower spreading roll 61 for peripheral contact therewith as best shown in Fig. 3. The shafts of the guide rolls 71 are journaled in bearing blocks 72 mounted on short posts 73 on the ends of the lower reservoir 56. Said bearing blocks 72 are adjustably held where set by pairs of opposing set screws 74 having screw-threaded engagement with brackets on the posts 73. From the last guide roll 71, the unwound portion of the lower roll C passed through the passage in the deck 12 and over the roll 32 for application to the under faces of the ironing board B. By adjusting each pick-up roll 59 in respect to the cooperating distributing roll 60 said distributing roll receives from said pick-up roll the desired amount of glue. The glue on the corrugated distributing rolls 60 is deposited in rows on the contacting surfaces of the unwound portions of the rolls C and these rows of glue are evenly spread over the unwound portions of the roll C by the spreading rolls 61. The unwound portions of the roll C to which glue has been applied in passing between the rolls 31 and 32 are pressed onto both faces of the board B between the rolls 31 and 32. The tension of the springs 38 on the roll 31 is such that the glue is pressed into all of the pores and imperfections in the wood surfaces and the facing sheets C becomes substantially integral part of the ironing boards B.

The unwound portions of the rolls C attached by glue to the ironing board B are unwound thereby from the rolls C through the glue fountains and between the rolls 31 and 32 where they are pressed onto both faces of said boards.

To place tension on the unwound portions of the rolls C, and prevent said rolls from unwinding except under the feeding movement of the ironing boards B by the rolls 31 and 32, said rolls C are subjected to friction devices. These friction devices as shown, are in the form of flexible metal bands 75 laid transversely over the rolls C in peripheral contact therewith. The band 75 for the upper roll C is anchored at 76 to the oblique braces 20 and the band 75 for the lower roll C is anchored at 77 to the frame 15. The rolls C are unwound in reverse directions from the

pull on the friction bands 75 by the weight 78 and tend to lift said weights and produce sufficient friction on the rolls C to prevent the same from unwinding except under the feeding action of the ironing boards B.

From the pressure rolls 31 and 32 the boards A pass between a pair of cooperating idle squeezing rolls 79 having pliable facings of rubber or other suitable materials. The shaft of the lower squeezing roll 79 is journaled in bearing brackets 80 on the sides of the frame 15 and the shaft of the upper roll 79 is journaled in bearing blocks 81 mounted in the brackets 80 for limited raising and lowering movements. Set screws 82 having screw-threaded engagement with the brackets 80 are arranged to limit the lifting movement of the bearing blocks 81 and hence the upper squeezing roll 79 in respect to the lower squeezing roll 79. The adjustment of the screws 82 determines the squeezing action produced on the surfacing sheets A applied to the boards B by the rolls 31 and 32. These squeezing rolls 79 press the glue still further into the pores and imperfections in the boards B and complete the application of the surfacing sheets A thereto. The surfacing sheets A are cut from the unwound portions of the rolls C after the ironing boards B have passed from between the squeezing rolls 79. The feeding movement of the ironing boards B between the squeezing rolls 79 is produced by their endwise engagement with the following ironing board B to which movement is imparted by the driven pressure rolls 31 and 32.

An upper knife 83 and a cooperating lower knife 84 have opposing beveled cutting edges and are provided for cutting the surfacing sheets A from the unwound portions of the rolls C after the ironing boards B have passed from between the squeezing rolls 79. The lower knife 84 at its ends is loosely seated in open pockets 85 formed in fixed members 86 on the frame 15 and held thereby against movements in all directions except movements toward or from the upper knife 83. Set screws 87 having screw-threaded engagement with the bars 86, extend into the pockets 85 and support the lower knife 84 for vertical adjustment with its cutting edge extending through a passage in the deck 12 and slightly above the upper surface thereof for severing the lower facing sheet A from the unwound portion of the lower roll C. As the lower knife 84 is worn away by usage and grinding, the same may be kept in proper adjustment by the set screws 87.

The upper knife 83 is carried by a pair of heads 88 to which said knives at its ends are rigidly secured. These heads 88 are slidably mounted in ways 89 on the sides of the frame 15. The upper knife 83 is lowered to cut the upper surfacing sheet A from the unwound portion of the upper roll C and then raised to

an inoperative position by a pair of eccentrics 90 on the ends of a transverse shaft 91 journaled in bearings 92 on the frame 15. These eccentrics 90 have eccentric straps 93 to which one of the ends of a pair of connecting rods 94 are attached. On the other ends of the connecting rods 94 are bearings 95 in which trunnions 96 on the heads 88 are mounted. These bearings 95 are attached to the connecting rods 94 by screw-threads, whereby said bearings may be adjusted on the connecting rods 94 to vary the operative length of said rods and hence the stroke of the upper knife 83.

During the cutting action of the upper knife 83, the pressure produced thereby on the upper surfacing sheet A forces the lower facing sheet A downward onto the lower knife 84 and produces a cutting action that severs said lower surfacing sheet, at the same time, the upper facing sheet is severed by the knife 83. The distance the cutting edge of the lower knife 84 projects above the upper surface of the deck 12 is so slight that it does not interfere with the feeding movement of the ironing boards B through the machine.

The shaft 91 is driven from an electric motor 97 by a belt 98 which runs over a small pulley 99 on the shaft of said motor and a large pulley 100 loose on the shaft 91. Said motor 97 is bolted to the floor under the machine. A yielding set clutch 101 having a radially projecting pin 102 is provided for connecting the pulley 100 to the shaft 91. This clutch 101 is normally held released so that the shaft 91 is idle by a horizontally extended lever 103 pivoted at 104 to the frame 15 and having near its pivoted end a laterally projecting stop shoulder 105 with which the clutch pin 102 engages to hold the clutch 101 released. The lever 103 is normally held by gravity with its shoulder 105 in the path of movement of the clutch pin 102.

To operate the knife 83 the operator lifts the lever 103 to move its stop shoulder out of the path of movement of the clutch pin 102 to release the clutch 101 and allow the same to automatically set and connect the pulley 100 to the shaft 91. After the clutch pin 102 has been moved beyond the stop shoulder 105 the operator releases the lever 103 and permits the same to return by gravity to a normal position with its stop shoulder in the path of movement of the clutch pin 102 to be reengaged thereby when the shaft 91 has made one complete rotation. During this complete rotation of the shaft 91 the upper knife 83 has been moved by the connections therefore from the shaft 91 to a cutting position and then returned to its raised or normal position.

For automatically stopping the feeding movement of the ironing boards B as they successively pass from between the squeez-

ing rolls 79 and position the same with the joint between the abutting ends of two of the boards B aligned with the knives 83 and 84 and for automatically releasing the clutch 51 to stop the rotation of the pressure rolls 31 and 32 that produce the feeding action of the boards B, the following connections are provided, to wit:

A trip bar 106 having an adjustable abutment 107 is pivoted to a pair of upstanding short crank arms 108 on a pair of transverse rock shafts 109 journaled in bearings in the sides of the frame 15. Said trip bar 106 extends longitudinally of the machine at the transverse center thereof and under the deck 12 with the abutment 107 projecting upward through a notch 110 in the delivery end of the deck 12 to be engaged by the forward end of one of the ironing boards B when its rear end is aligned with the knives 83 and 84 between which it has just passed.

The abutment 107 at its lower end is bifurcated and slidably mounted on the trip bar 106 for adjustment longitudinally thereof. A set screw 111 having screw-threaded engagement with the prongs of the bifurcated end of the abutment 107 impinges against the trip bar 106 and rigidly holds said abutment where set. By adjustably mounting the abutment 107 on the trip bar 106 the same may be set for ironing boards that vary in length.

The rear rock shaft 109 is connected to the clutch lever 52 by a bell-crank 112 pivoted to the frame 15 and having one of its arms connected by a rod 113 to a short crank arm 109' on said rockshaft and its other arm is connected by rod 114, to the lever 52, see Fig. 9.

At the time the abutment 107 is engaged by one of the ironing boards B, a slight endwise movement is imparted to the trip rod 106 which operates the connections to the clutch lever 52 and thereby releases the clutch 49 and stops the rotation of the rolls 31 and 32 from the motor 41 and at the same time, aligns the rear end of the board with the knives 83 and 84. The operator then lifts the lever 103 to release the held clutch 101 and allow the same to set and thereby complete the connections from the motor 97 to the upper knife 83 for reciprocating said knife as previously described and cause the knives 83 and 84 to sever the two surfacing sheets A from the unwound portions of the rolls C. The operator then lifts the ironing board B from the deck 12.

The free end of the trip bar 106 is shaped to form a handle 115 by which the operator may impart return movement to said bar and again set the clutch 49 to drive the rolls 31 and 32 and position the abutment 107 for the next following ironing board B to which the surfacing sheets A are being applied. The clutch lever 52 may be manually operated at

will, to set or release the clutch 49. In case the ironing boards B vary slightly in length, the surfacing sheets A will sometimes be cut at one side of the joint between the abutting ends of two boards, but this is immaterial as the boards may be easily separated at the time they are removed from the machine. A guide bar 116 on the deck 12 is provided for directing the ironing boards B between the rolls 31 and 32 and at right angles to the axes thereof. This guide bar 116 is rigidly secured to the deck 12 but with freedom for adjustment transversely thereof by a pair of anchor members 117. These anchor members 117, as shown, are permanently secured to the guide bar 116 extend outward therefrom and have slots 118 which extend transversely to said bar. Screws 119 having screw-threaded engagement with the deck 12 extend through the slots 118 and clamp to the anchor members 117 on the deck 12. The slots 118 and the anchor members 117 permit the guide bar 116 to be edgewise adjusted transversely of the deck 12 to transversely align the boards B with the unwound portions of the roll C so that the surfacing sheets A will be properly applied to said boards during their traveling movement between the rolls 31 and 32 with said boards.

By adjusting the bearings 24 and the hanger-bars 28, the upper and lower rolls C may be angularly adjusted to hold the unwound portions of said rolls stretched taut throughout their entire width as they pass under the guide rolls to the glue fountains and from said fountains to the rolls 31 and 32. As previously stated, the feeding movement of the boards B on the deck 12 by the rolls 31 and 32, imparts a like movement to the unwound portions of the roll C by their adhesive attachment to said boards.

After the ironing boards B have been removed from the machine, they are trimmed to shape and their edges finished.

What I claim is:

1. A machine of the class described including a board supporting deck, a pair of pressure rolls for successively feeding boards on the deck and applying thereto under pressure an unwound portion of a roll of normally flexible surfacing material, means for applying an adhesive material between the boards and surfacing material to be pressed by the pressure rolls into the boards and surfacing material to connect the same, driving connections including a normally set clutch for operating one of the pressure rolls, a knife for severing the surfacing material connecting two adjacent boards after having passed from between the pressure rolls, a trip arranged to be actuated by successive boards during their movement on the deck for releasing the clutch to stop the movement of the boards on the deck at the time the joint between two adjacent boards is substantially

aligned with the knife, and operating means for the knife.

2. A machine of the class described including a board supporting deck, a pair of pressure rolls for successively feeding boards on the deck and applying thereto under pressure an unwound portion of a roll of normally flexible surfacing material, means for applying an adhesive material between the boards and surfacing material to be pressed by the pressure rolls into the boards and surfacing material, driving connections including a normally set clutch for operating one of the pressure rolls, a knife for severing the surfacing material connecting two adjacent boards after having passed from between the pressure rolls, a trip arranged to be actuated by successive boards during their movement on the deck for releasing the clutch to stop the movement of the boards on the deck at the time the joint between two adjacent boards is substantially aligned with the knife, means including a clutch for operating the knife, a connection normally holding the clutch in the knife operating connections inactive and for releasing said clutch to operate the knife to produce a cutting action to sever the surfacing material connecting two adjacent boards.

3. A machine of the class described including a board supporting deck, a pair of pressure rolls for successively feeding boards on the deck and applying to both surfaces thereof under pressure unwound portions of two rolls of normally flexible material, means for applying an adhesive material between the boards and surfacing material for connecting the same, driving connections including a normally set clutch for operating one of the pressure rolls, a pair of knives between which the boards are moved after having passed from between the pressure rolls for severing the surfacing material connecting two adjacent boards, a trip arranged to be actuated by successive boards during their movement on the deck for releasing the clutch to stop the movement of the boards on the deck at the time the joint between two adjacent boards is substantially aligned with the knives, and connections for operating one of the knives to produce a cutting action and sever the surfacing material connecting two adjacent boards on one side thereof and for causing the other knife to sever said material on the other side of said boards.

4. A machine of the class described including a board supporting deck, a pair of pressure rolls for successively feeding boards on the deck and applying to both sides thereof under pressure unwound portions of two rolls of normally flexible surfacing material, means for applying an adhesive material between the boards and surfacing material to be pressed by the pressure rolls into the boards and surfacing material, driving con-

nections including a normally set clutch for operating one of the pressure rolls, an upper knife and a lower knife one of which is relatively movable and the other of which is fixed and between which knives the boards are moved after having passed from between the pressure rolls, a trip arranged to be actuated by successive boards during their movement on the deck for releasing the clutch to stop the movement of the boards on the deck at the time the joint between two adjacent boards is substantially aligned with the knives, connections for operating the movable knife to produce a cutting action and sever the surfacing material connecting two adjacent boards on one side thereof and press said material onto the other side of the boards onto the fixed knife to sever the same.

5. A machine of the class described comprising a board supporting deck, means for successively feeding boards on the deck and applying thereto under pressure an unwound portion of a roll of normally flexible surfacing material, means for applying an adhesive material between the boards and surfacing material to be pressed by the feeding means into the boards and surfacing material to connect the same, driving mechanism for the feeding means, a knife for severing the surfacing material connecting two adjacent boards, and a trip arranged to be actuated by successive boards during their movement on the deck for intermittently stopping the feeding means as the joints between adjacent boards are successively and substantially aligned with the knife.

6. The structure defined in claim 5 in which the trip is adjustable in respect to the travel of the boards for boards of different lengths.

7. The structure defined in claim 5 in which the trip is operable to start the feeding means.

8. The structure defined in claim 5 in further combination with a tension device operative on the roll of surfacing material and self adjustable thereto under the varying diameter of the roll.

9. A machine of the class described comprising a board supporting deck, a feed device for successively feeding individual boards in abutting engagement on the deck and applying thereto under pressure a normally flexible surfacing material which connects adjacent boards, means for applying an adhesive material between the boards and surfacing material to be pressed by the feed device onto the boards and surfacing material to connect the same, a cutter, and means actuated by the movement of the boards by the feed device for causing the cutter to sever the surfacing material at the abutting surfaces of the boards to separate the connected boards.

10. A machine of the class described comprising a board supporting deck, a feed device for successively feeding individual

boards in abutting engagement on the deck and applying thereto under pressure a normally flexible surfacing material which connects adjacent boards, means for applying an adhesive material between the boards and surfacing material to be pressed by the feed device onto the boards and surfacing material to connect the same, a cutter, and operating means for the cutter including a trip arranged to be engaged by the boards to cause the cutter to sever the surfacing material at the abutting surfaces of the boards to separate the connected boards. 70

In testimony whereof I affix my signature.  
JOHN E. KALGREN. 75

11. A machine of the class described comprising a board supporting deck, a feed device for successively feeding individual boards in abutting engagement on the deck and applying to each face thereof under pressure a normally flexible surfacing material which connects adjacent boards at each face thereof, means for applying an adhesive material between each face of the boards and the surfacing material to be pressed by the feed device onto the boards and surfacing material to connect the same at each face thereof, a pair of opposing cutters between which the boards are fed, and means actuated by the movement of the boards by the feed device for causing the cutters to sever the surfacing material at the abutting surfaces of the boards at each face thereof to separate the connected boards. 80

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12. A machine of the class desired comprising a board supporting deck, a feed device for successively feeding individual boards in abutting engagement on the deck and applying to the under faces thereof under pressure a normally flexible surfacing material which connects adjacent boards, means for applying an adhesive material between the boards and surfacing material to be pressed by the feed device onto the boards and surfacing material to connect the same, a fixed blade having a cutting edge extending above the upper face of the deck and over which cutting edge the boards are successively moved by the feed device, and automatic means for intermittently applying pressure to the boards as their abutting surfaces are aligned with said cutting edge to press the surfacing material thereagainst and sever the same to separate the connected boards. 100

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13. A machine of the class described comprising a board supporting deck, a feed device for successively feeding individual boards in abutting engagement on the deck and applying to the upper and lower faces thereof under pressure a normally flexible surfacing material which connects adjacent boards at each face thereof, means for applying an adhesive material between each face of the boards and surfacing material to be pressed by the feed device onto the boards and surfacing material to connect the same, upper and lower blades having opposing cut- 120

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