

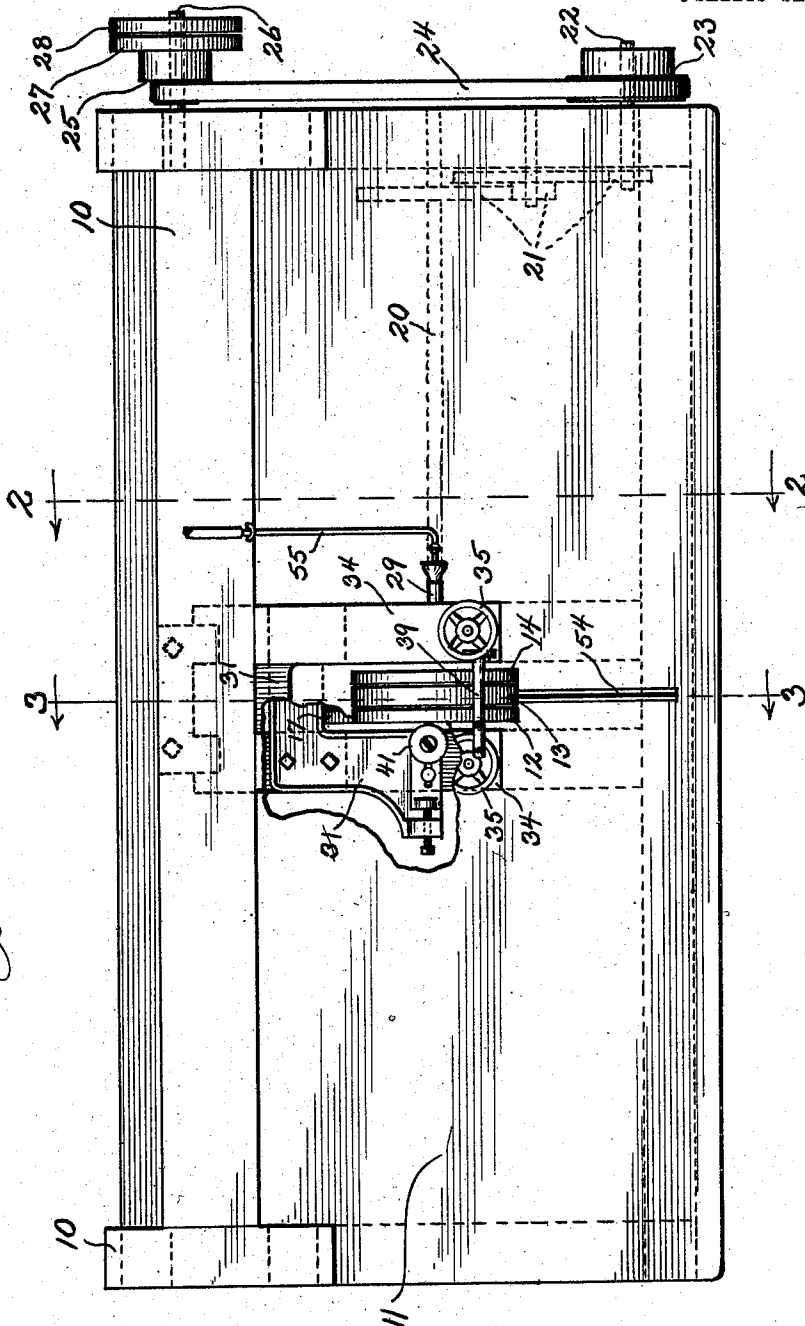
M. NYSTROM & L. TAXON.
 VENEER TAPING MACHINE.
 APPLICATION FILED OCT. 29, 1908.

942,277.

Patented Dec. 7, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



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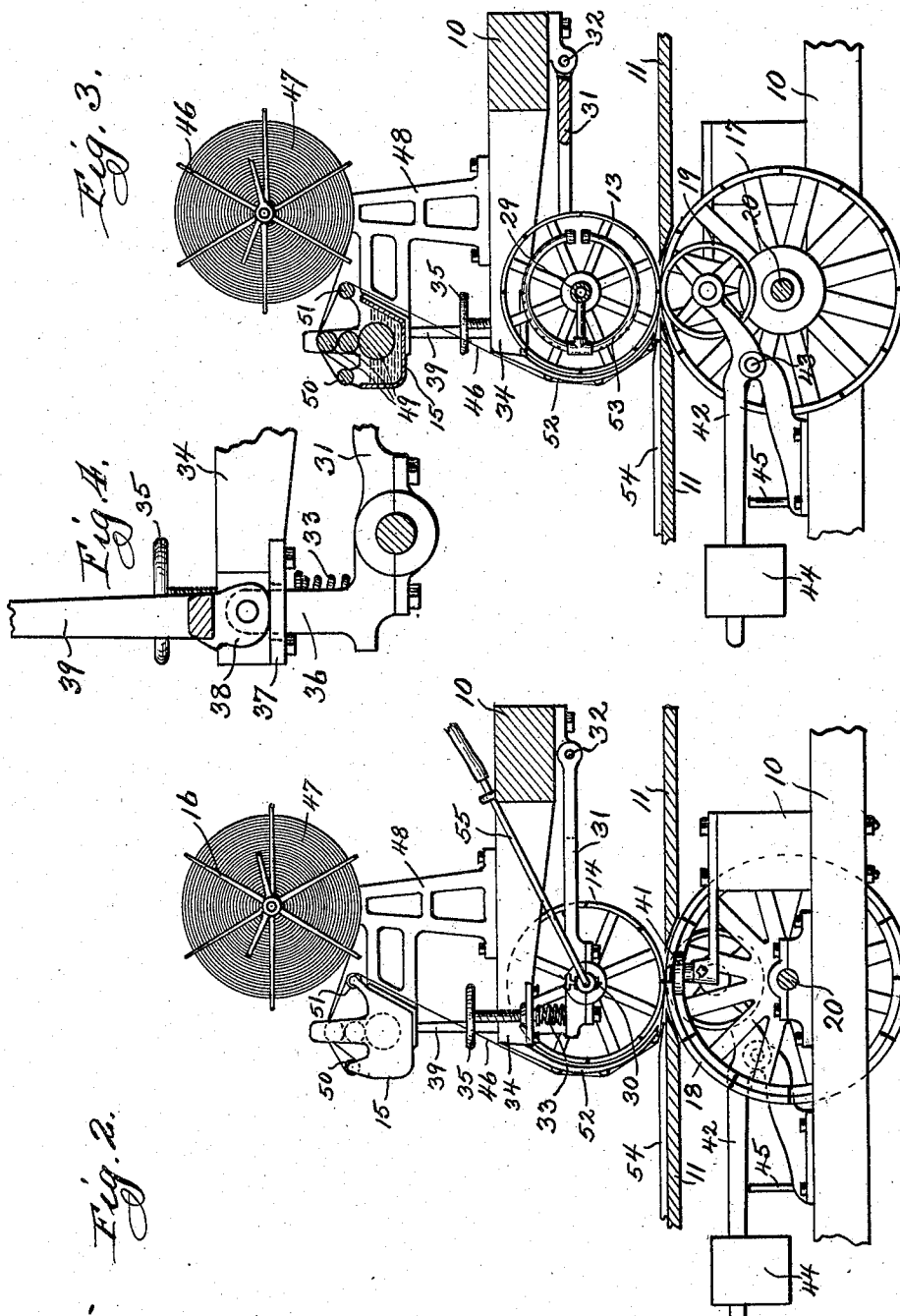
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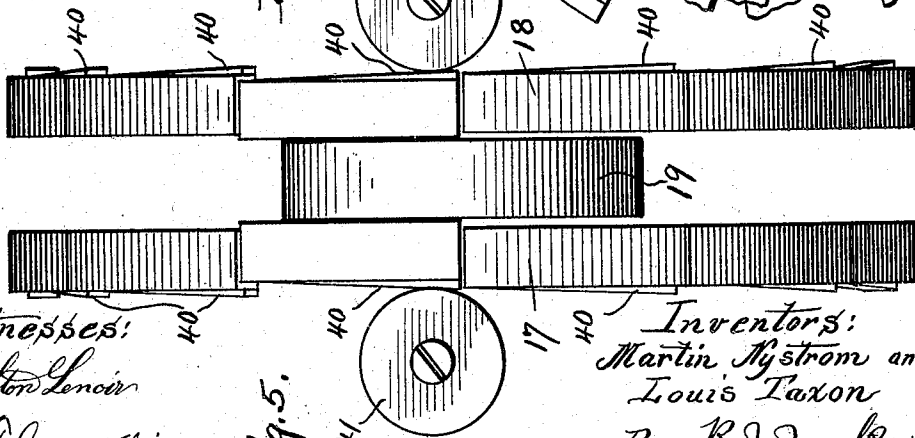
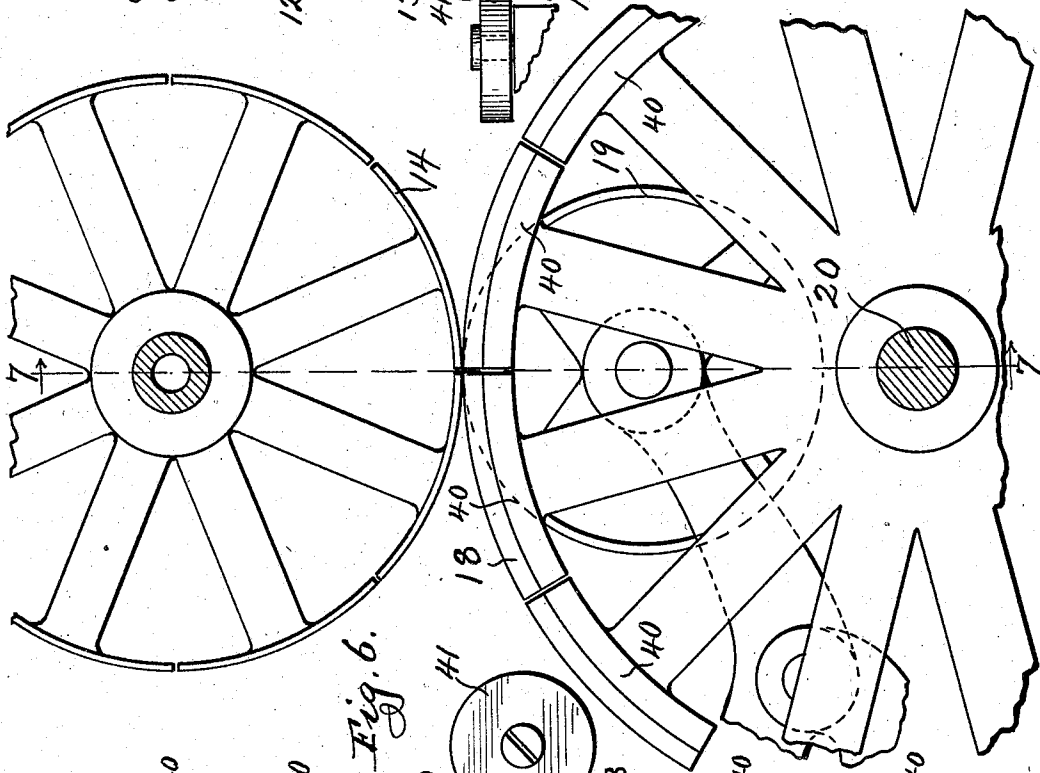
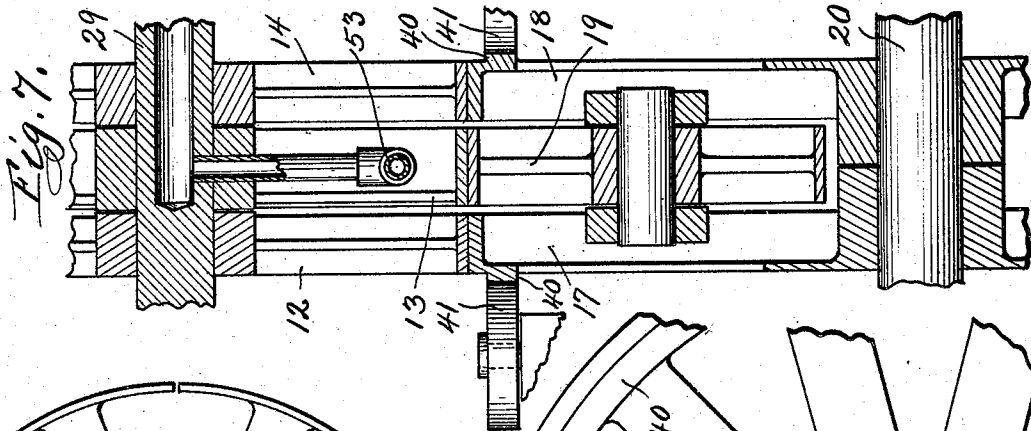
Martin Nystrom and
 Louis Taxon
 By R. J. Jacker
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M. NYSTROM & L. TAXON.
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

MARTIN NYSTROM AND LOUIS TAXON, OF CHICAGO, ILLINOIS, ASSIGNORS TO VENEER MACHINERY COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF MICHIGAN.

VENEER-TAPING MACHINE.

942,277.

Specification of Letters Patent.

Patented Dec. 7, 1909.

Application filed October 29, 1908. Serial No. 460,172.

To all whom it may concern:

Be it known that we, MARTIN NYSTROM and LOUIS TAXON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Veneer-Taping Machine, of which the following is a specification.

Our invention relates to taping machines for securing the edges of veneers together and at the same time crowding the two pieces tightly together, and the objects of our invention are, first, to secure a strip of paper or cloth over the meeting edges of the pieces of veneer; second, to provide means for quickly drying the moistened tape thus applied; third, to positively crowd the edges of the veneer together; fourth to make a simple, cheap and durable machine and other feature to become apparent from the description to follow.

In machines of this class an important feature is to crowd the edges of the two pieces of veneer tightly together at the time that the securing tape is being fastened to the same and this is accomplished in our machine by positively moving that portion of the clamping wheels, which is in contact with the pieces of veneer, toward each other, which obviously moves the pieces of veneer tightly together, and the edges of the veneer are prevented from lapping over one another by the pressure of the upper and lower clamping wheels. The movement of a portion of the clamping wheels toward each other is permitted by having the rims of the wheels made in sections, sufficient spring for such movement being afforded in the spokes.

To describe our invention so that others versed in the art to which it pertains may make and use the same we have illustrated it on the accompanying three sheets of drawings forming a part of this specification in which:

Figure 1, is a plan view of a machine embodying our invention partly broken away for the purpose of illustration; Fig. 2, is a cross section on line 2—2 of Fig. 1; Fig. 3, is a cross section on line 3—3 of Fig. 1; Fig. 4 is a detail sectional view showing a raising and lowering device for the upper pressure wheels; Fig. 5, is a plan view of the lower pressure wheels enlarged; Fig. 6, is a side elevation of the upper and lower pressure wheels enlarged; and Fig. 7, is a section on line 7—7 of Fig. 6.

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

The machine consists of a suitable frame 10 which may be made of wood and is provided with a table 11, and the pressure wheels etc., which are mounted on said frame. The mechanism above the table 11 comprises the upper pressure wheels 12, 13 and 14, the water receptacle 15 and the tape reel 16, while the mechanism below the table 11 comprises the pressure wheels, 17, 18 and 19. The wheels 17 and 18 are rigidly mounted on shaft 20, mounted in frame 10 and driven by means of the connecting gears 21 from shaft 22 on which is provided a pulley 23 connected by belt 24 to pulley 25 on shaft 26 on which is mounted a tight pulley 27 and a loose pulley 28. These pulleys 27 and 28 are connected by the usual shifting belt to a source of power not shown.

The shaft 20 is slowly rotated clockwise as viewed in Figs. 2, 3 and 6, which of course rotates the wheels 17 and 18 in the same direction. The wheels 12 and 14 above the table 11 are mounted on shaft 29 loosely journaled in the bearings 30 on the free end of the hinged frame 31 pivoted at 32 to frame 10, and are arranged to rest on the wheels 17 and 18, so that when the wheels 17 and 18 are rotated the wheels 12 and 14 will be rotated through the frictional contact therewith. It is clear that if a piece of veneer or other material is placed between the lower wheels 17 and 18 and the upper wheels 12 and 14 and the wheels are rotated as described the veneer will be moved along between the upper and lower wheels. To properly feed the veneer through between the wheels it is necessary to have considerable pressure exerted against the veneer and this is done by having the upper wheels spring pressed against the lower wheels by the coiled expanding springs 33 interposed between the free ends of frame 31 and the brackets 34 secured to frame 10. The tension of the springs 33 can be adjusted by the hand screw 35.

It is necessary to lift the wheels 12 and 14 up away from wheels 17 and 18 to stop the veneer from feeding through the machine and this is accomplished by providing an upward extending ear 36 on each free end of frame 31 (said frame 31 being U shaped pivoted at the end corresponding to the bottom of the U and having the wheels

12, 13 and 14 mounted between the ends corresponding to the top ends of the U) which pass freely through perforations in plates 37 and have pivoted to their top ends above plates 37 the cam shaped extremities 38 of the forked lever 39 in such manner that when the lever 39 is in one of the two positions the wheels 12 and 14 are free to rest on wheels 17 and 18 and when the lever 39 is in its other position the wheels 12 and 14 are slightly lifted from contact with the wheels 17 and 18, which permits the wheels 12 and 14 to remain stationary. The wheels 17 and 18 as clearly shown in Figs. 5 and 6, have their peripheral rims made in sections, in the drawing each section is shown as being secured to the hub of the wheel by a single spoke, and is provided on its one side with a cam track 40, which is engaged by the idler 41 as the wheel is rotated, as seen in Fig. 5. The spokes of the wheels 17 and 18 are made to have a certain amount of spring and as the wheels are rotated and the cam tracks 40 successively engage the idlers 41, the sections of the wheel rims are successively pressed and moved toward each other, the idlers 41 being stationary and located on opposite sides of the wheels 17 and 18. The parts are so arranged that the sections of the rims of wheels 17 and 18, are moved toward each other while the two pieces of veneer are tightly clamped between these wheels 17 and 18 and the wheels 12 and 14, and thus press the edges of the two pieces of veneer tightly together. The upper wheels 12 and 14 are constructed with sectional rims similar to the wheels 17 and 18 and of course the sections which are tightly pressed against the pieces of veneer when the same is moved by the idlers 41 will move with the pieces of veneer by reason of the frictional contact therewith.

It is understood that the spring in the spokes tends to hold the different sections of the rims of the wheels in their normal position, and as soon as each successive section passes the idler 41, so that its cam track 40 is out of engagement with the idler it is returned to its normal position. The idlers 41 are placed in a vertical plane slightly beyond the plane in which the point of contact between wheels 17 and 18 and wheels 12 and 14 lies, so that there will be no tendency to move the pieces of veneer apart again when the sections of the rims of the wheels are returned to their normal positions by the spring in the spokes. Obviously the particular construction of the rims of the wheels could be modified without departing from the spirit of the invention.

When the two abutting edges of two pieces of veneer are forced together there is a tendency for the edges of the veneer to overlap or buckle and to prevent such action we provide the lower pressure wheel 19 be-

tween wheels 17 and 18 and the upper pressure wheel 13 between wheels 12 and 14. The upper wheel 13 is mounted on shaft 29 with wheels 12 and 14 and is preferably secured to rotate with said wheels 12 and 14. The lower wheel 19 is loosely journaled between the forked arm or lever 42 pivoted at 43 and having its remaining end provided with a weight 44 to constantly press wheel 19 upward toward the wheel 13. It will be seen that the flat peripheral surface of the wheels 12, 13 and 14 are in the same horizontal plane and all three of these wheels are normally pressed downward by the springs 33.

A stop 45 is provided for lever 42 to prevent the wheel 19 from being lifted too high when the wheels 12, 13 and 14 are raised by the movement of lever 39 as described.

While the machine as thus described will perform the operation of pressing the two abutting edges of two pieces of veneer tightly together it will also do the further and final work of securing a tape over the meeting edges of the two pieces of veneer so as to retain them in their juxtaposition after having passed through the machine.

The tape 46 which may be cloth or paper is preferably wound on a roll 47 supported on a reel 16 secured to a standard 48 mounted on the bracket 34. The standard 48 also supports the water receptacle 15 which is provided with the water carrying rolls 49 and idlers 50 and 51. The tape 46 passes from the roll 47 over the top roll 49, thence around idler 50, thence again over the uppermost roll 49 thence over idler 51 thence over the curved protecting shield 52 and finally under wheel 13 where it is tightly pressed against the veneer below the same. The tape 46 on roll 47 has one side prepared with gum or glue and in passing over roll 49, the gum or glue is moistened so that the strip when pressed against the veneer below wheel 13 will tightly adhere to the same. To assist in the adhesion and drying of the gum or glue on the tape 46, the wheel 13 is constantly heated by any means as a gas burner 53 within the same. The shield 52 is made of non-heat-conducting material so as to protect the tape 46 from the heat thrown off by the wheel 13.

Of course the tape 46 is secured centrally over the meeting line of the two pieces of veneer and laps as much over the one piece of veneer as over the other piece of veneer. To guide the two pieces of veneer into the machine so that their abutting edges will always register centrally under the wheel 13 and the tape 46, a long thin upwardly extending blade 54 is secured on the table 11, having its one end close to wheel 13 and its other end extending at right angles to the vertical plane in which the shafts 20 and 29 lie. The gas for the burner 53 is supplied

through the hollow portion of shaft 29 from the gas pipe 55.

In operation two pieces of veneer one on either side of the guide 54 are laid on the table 11 and are moved by hand toward the wheels 12, 13 and 14 until their advance ends are gripped between the upper and lower wheels and the tape 46 is fed in under wheel 13, and then the rotation of wheels 17 and 18 on shaft 20 continue to feed the pieces of veneer and the tape along through the machine; as the successive sections of the rims of wheels 17 and 18 contact with the under side of the pieces of veneer they are moved toward each other by the action of the idlers 41 and tightly press the edges of the two pieces of veneer together the tape 46 is being pressed against the upper surface of the two pieces of veneer. Thus the two pieces of veneer leave the machine securely held together by the tape. It will be noted that while passing through the machine, the edges of the pieces of veneer have constantly been in a flat position.

Having thus fully described our invention what we claim as new and desire to secure by Letters Patent of the United States is:

1. In a veneer taping machine, an upper and a lower clamping wheel each provided on its periphery with a plurality of laterally movable contact members, a second upper and a second lower clamping wheel adjacent to said first named wheels, means for rotating said second named clamping wheels and means for moving said contact members toward said second named clamping wheels while said members are clamping material between the wheels.

2. In a veneer taping machine, two pairs of upper and lower clamping wheels provided on their periphery with a plurality of laterally movable contact members, means for rotating said wheels and means for moving said contact members of one pair of wheels toward the other pair of wheels while said members are clamping material between the wheels.

3. In a veneer taping machine, an upper and a lower clamping wheel each provided on its periphery with a plurality of integrally laterally movable contact members, means for rotating said wheels, a second upper and a second lower clamping wheel adjacent to one side of said first named clamping wheels, means for rotating said second named clamping wheels and means for moving said contact members of said first named wheels toward the second named wheels while said wheels are clamping material between them.

4. In a veneer taping machine, two pairs of upper and lower clamping wheels provided on their periphery with a plurality of integral laterally movable contact members, means for rotating said wheels and

means for moving said contact members of one pair of wheels toward the other pair of wheels while said members are clamping material between the wheels.

5. In a veneer taping machine, an upper and a lower clamping wheel each provided on its periphery with a plurality of integral laterally movable contact members; means for rotating said wheels, a second upper and a second lower clamping wheel adjacent to one side of said first named clamping wheels, means for rotating said second named clamping wheels and means comprising cam tracks for moving said contact members of said first named wheels toward the second named wheels while said wheels are clamping material between them.

6. In a veneer taping machine, two pairs of upper and lower clamping wheels provided on their periphery with a plurality of integral laterally movable contact members, means for rotating said wheels and means comprising cam tracks for moving said contact members of one pair of wheels toward the other pair of wheels while said members are clamping material between the wheels.

7. In a veneer taping machine, an upper and a lower clamping wheel each provided on its periphery with a plurality of integral laterally movable contact members, means for rotating said wheels, a second upper and a second lower clamping wheel adjacent to one side of said first named clamping wheels, means for rotating said second named clamping wheels and means comprising cam tracks integral with said contact members for moving said contact members of said first named wheels toward the second named wheels while said wheels are clamping material between them.

8. In a veneer taping machine, two pairs of upper and lower clamping wheels provided on their periphery with a plurality of integral laterally movable contact members, means for rotating said wheels, and means comprising cam tracks integral with said contact members for moving said contact members of one pair of wheels toward the other pair of wheels while said members are clamping material between the wheels.

9. In a veneer taping machine, means for feeding a piece of veneer longitudinally and slightly sidewise comprising a rotatable wheel provided near its periphery with laterally extending cams and a fixed extension to engage said cams as the wheel rotates thereby moving the periphery of the wheel laterally.

10. In a veneer taping machine, a suitable frame, a table secured to said frame, two pressure wheels rotatably mounted below said table, three pressure wheels rotatably mounted above said table, cams to move the peripheral edges of said two lower wheels toward each other, means for feeding an ad-

hesive tape under the middle wheel above said table and a vertical blade secured to said table to guide the veneer edges under said tape.

- 5 11. In a veneer taping machine, a clamping wheel provided on its periphery with a plurality of laterally movable contact members, an oppositely disposed clamping member resisting the pressure of such clamping wheel, such clamping wheel and oppositely
10 disposed member being adapted to feed a strip of veneer therethrough, means disposed alongside of such clamping wheel for feeding a second strip of veneer and for resisting the lateral thrust imparted by the
15 clamping wheel and means for moving the contact members of the clamping wheel toward such second strip of veneer while the two strips of veneer are passing through the
20 machine.

12. In a veneer taping machine, two pairs of oppositely disposed clamping wheels, one wheel of each pair being provided on its periphery with a plurality of integral, lat-

erally movable contact members, means for rotating said wheel and means for moving said contact members on one wheel toward the other pair of wheels while the members are clamping material between the wheels.

13. In a veneer taping machine, means for feeding a piece of veneer longitudinally and slightly sidewise, comprising a rotatable wheel, a fixed frame and cooperating cam elements located respectively upon the wheel near its periphery and upon such frame, whereby, as the wheel rotates, that portion of its periphery affected by such cooperating cam elements, will move slightly sidewise in passing such cooperating elements.

In testimony whereof, we have signed our names to this specification in presence of two subscribing witnesses this 14th day of October 1908 at Chicago, Ill.

MARTIN NYSTROM,
LOUIS TAXON.

Witnesses:

R. J. JACKER,
HILMA C. TAXON.