A. A. DENNIS.

VENEER TAPING MACHINE.

APPLICATION FILED JULY 21, 1911.

1,012,609.

Patented Dec. 26, 1911.

6 SHEETS—SHEET 1.

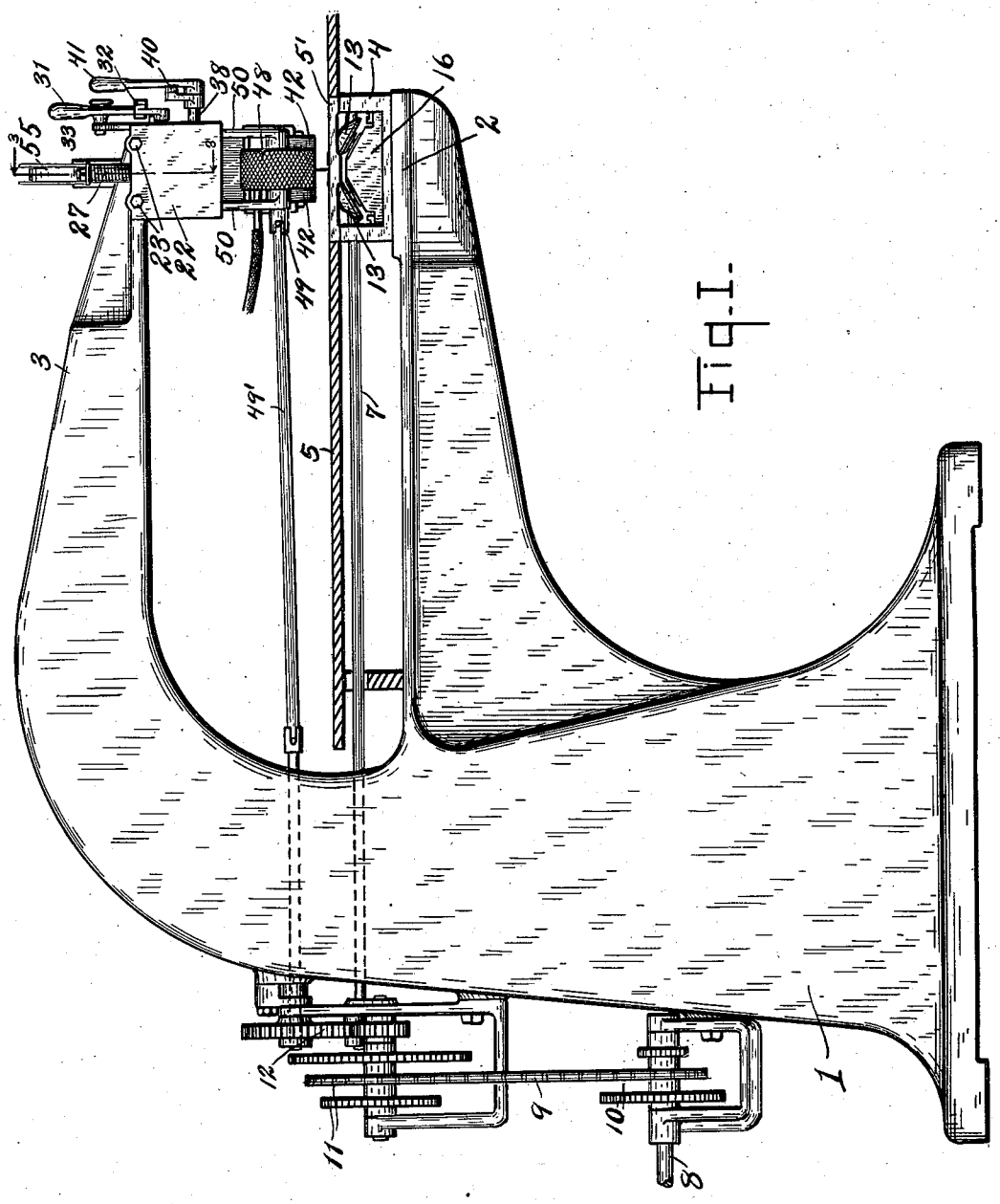

Fig. 1.

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Witnesses

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Fig. III.

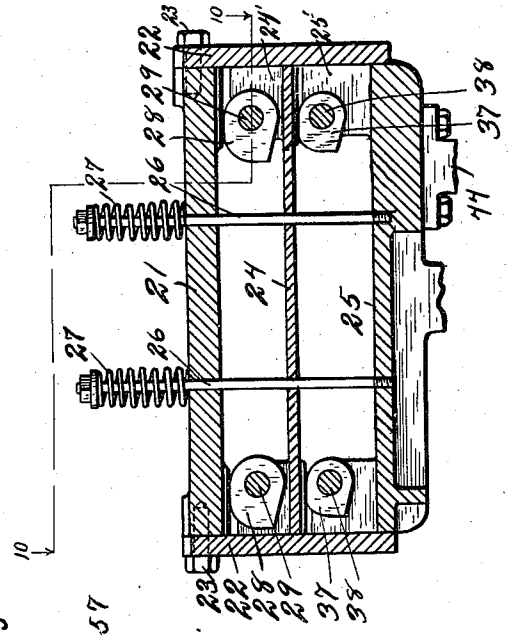

Fig. II.

Witnesses

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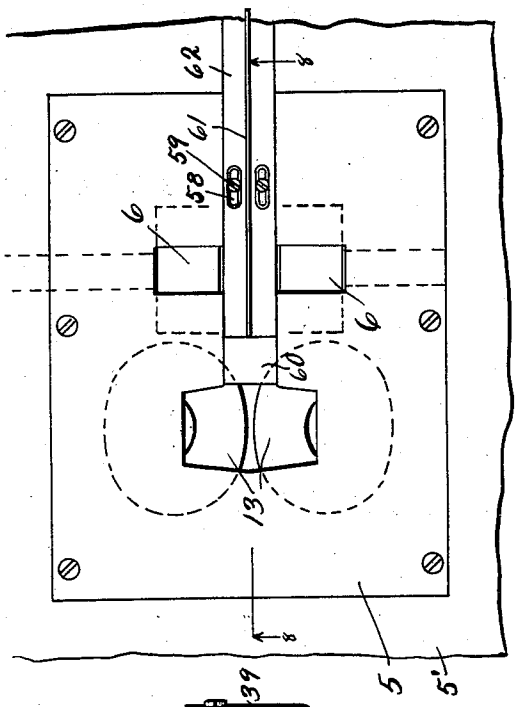

Fig. V.

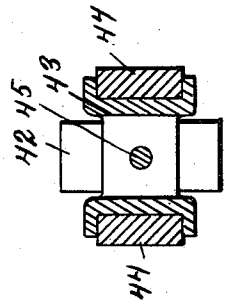

Fig. VI.

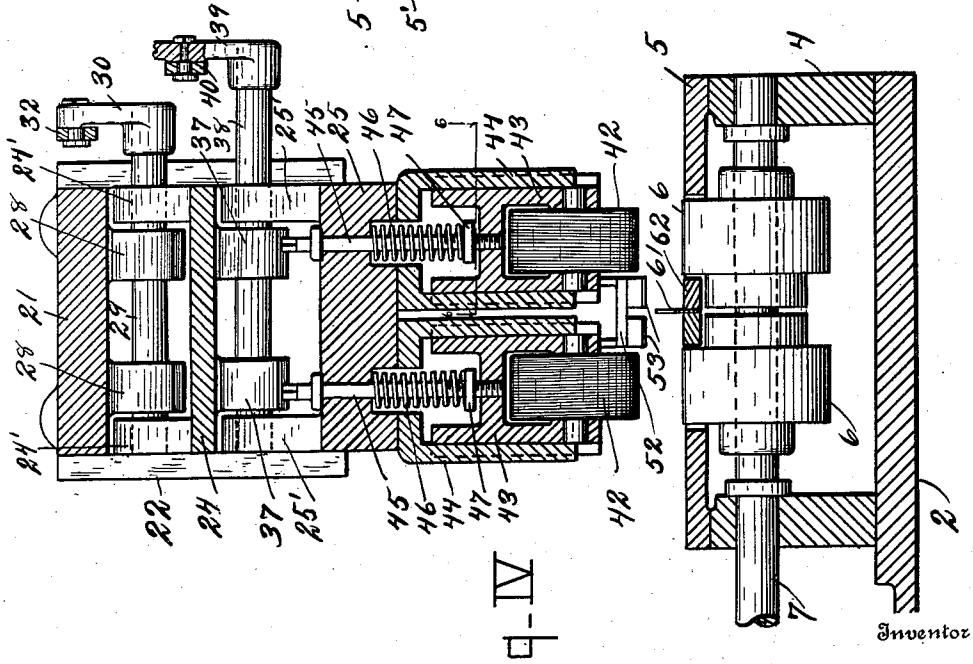

Fig. IV.

Witnesses

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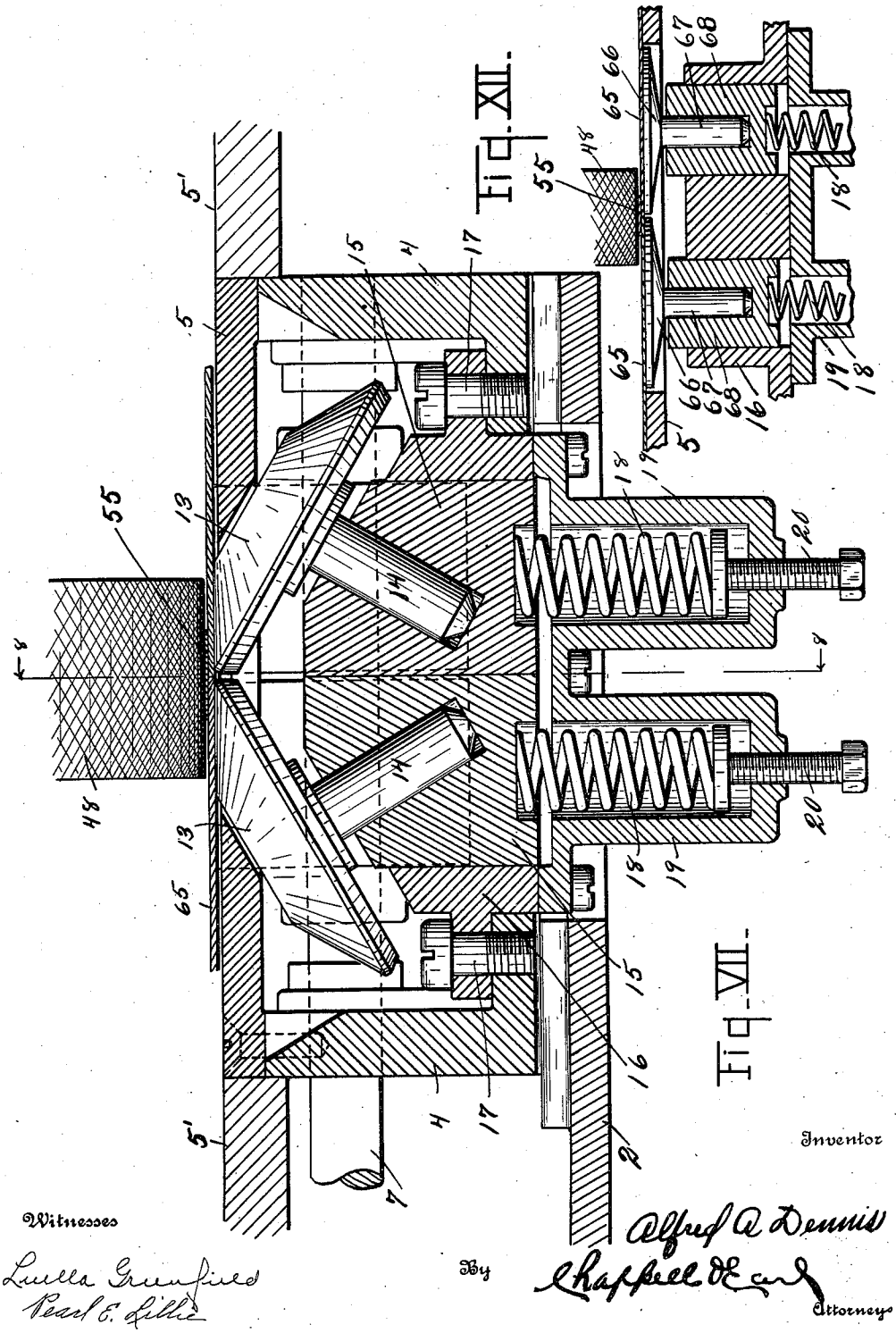

Fig. XII.

Fig. VII.

Witnesses

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6 SHEETS—SHEET 5.

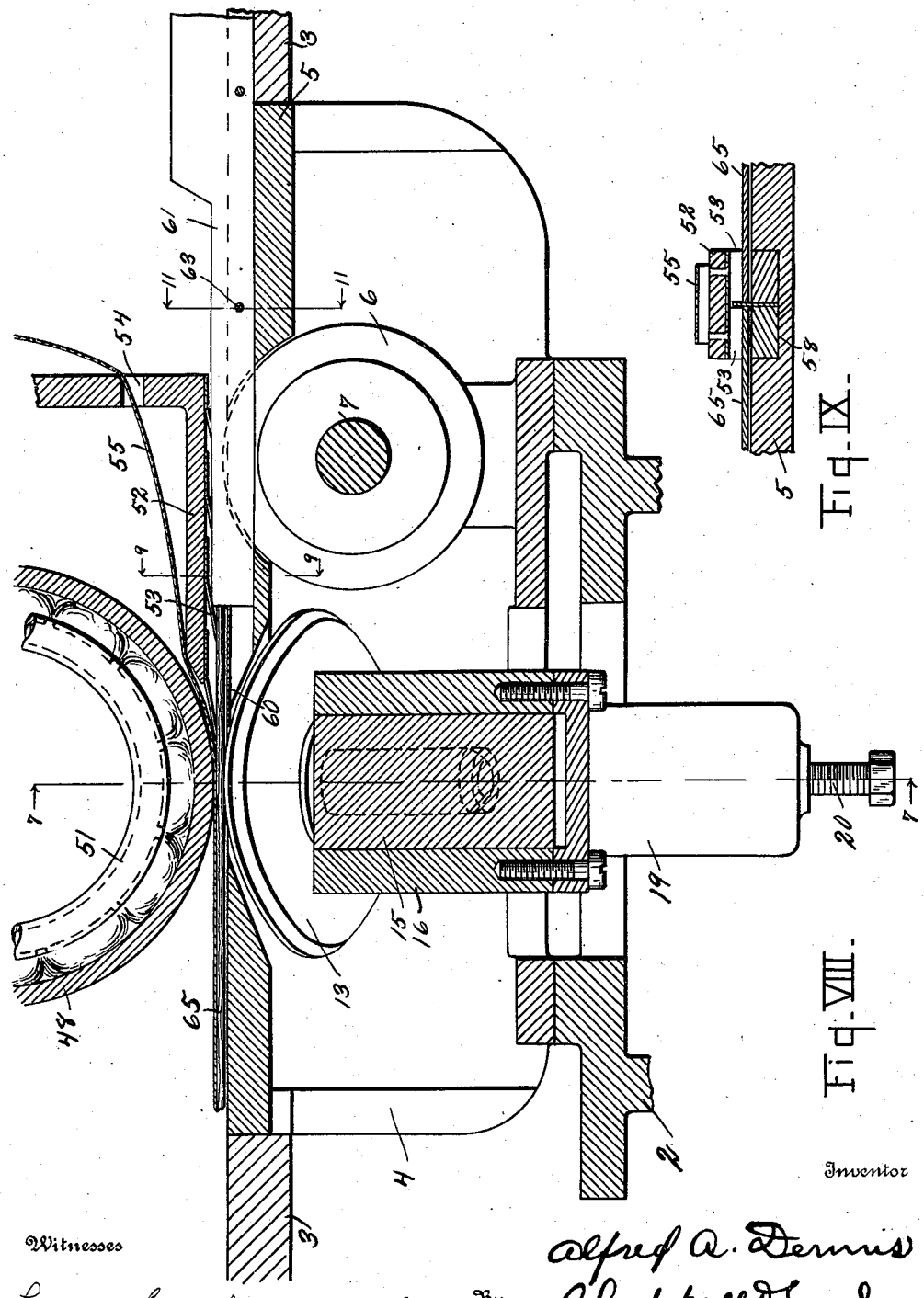

Fig. IX.

Fig. VIII.

Witnesses

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6 SHEETS—SHEET 6.

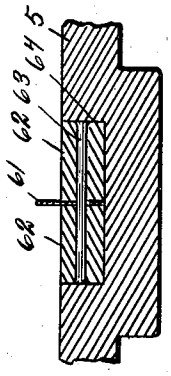

Fig. X.

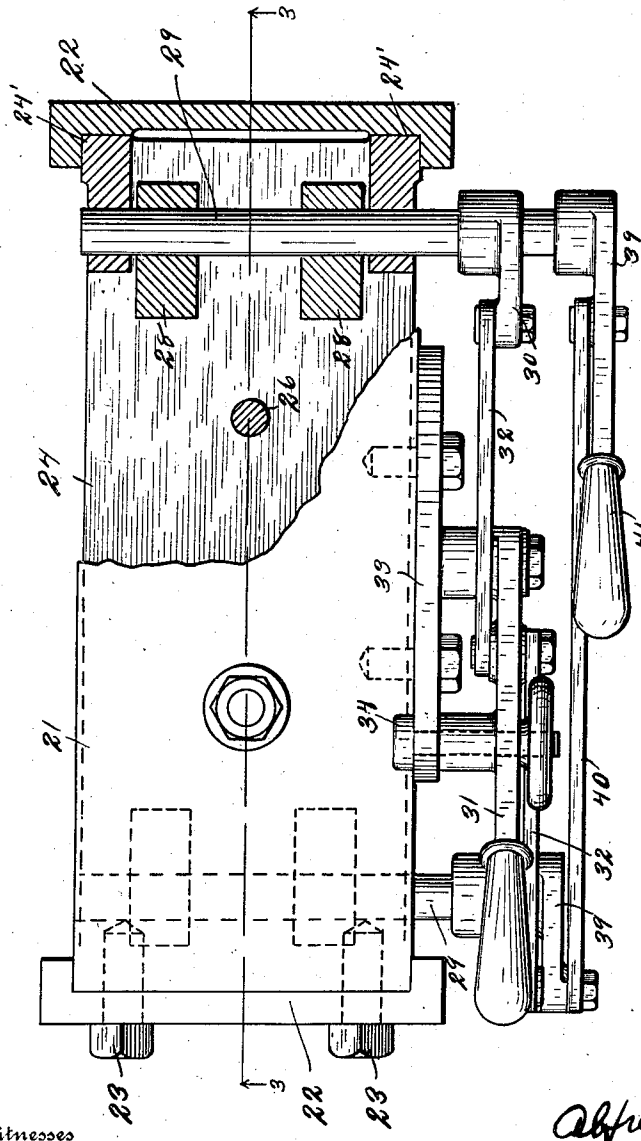

Fig. XI.

Witnesses

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UNITED STATES PATENT OFFICE.

ALFRED A. DENNIS, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO THE VENEER MACHINERY COMPANY, OF GRAND RAPIDS, MICHIGAN.

VENEER-TAPING MACHINE.

1,012,609. Specification of Letters Patent. Patented Dec. 26, 1911.

Application filed July 21, 1911. Serial No. 639,800.

To all whom it may concern:

Be it known that I, ALFRED A. DENNIS, a citizen of the United States, residing at 166 Canal street, Grand Rapids, county of Kent, and State of Michigan, have invented certain new and useful Improvements in Veneer-Taping Machines, of which the following is a specification.

This invention relates to improvements in veneer taping machines.

The invention relates to improvements in machines of the class appearing in U. S. Letters Patent No. 709,864, to W. H. Boenning, issued September 30, 1902, and to an improved machine for carrying on the process of gluing veneers described in my U. S. Reissue Patent No 13,034, of November 2, 1909.

The objects of this invention are, First, to improve the general organization of the machine whereby compactness and strength is secured. Second, to improve the feed devices whereby the strips of veneer are advanced to the taping mechanism. Third, to provide improved means for forcing the strips of veneer laterally toward each other to make a perfect joint between the edges of the same. Fourth, to provide improved guiding means for the tape and strips of veneer.

Further objects relating to economies of construction and details of operation will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A machine which constitutes a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a side elevation view of a veneer taping machine embodying the features of my invention, the work table thereof being in section. Fig. II is an enlarged detail front elevation view of the working parts of my improved veneer taping machine, taken from the right hand of Fig. I, the work table being in section. Fig. III is an enlarged detail sectional elevation view taken on a line corresponding to line 3—3 of Figs. I and X, showing the adjusting and pressure means. Fig. IV is a detail sectional view taken on a line corresponding to line 4—4 of Fig. II, the feed rolls being in full lines. Fig. V is a detail plan view of the feed mechanism in position in the table. Fig. VI is a detail sectional plan showing the details of one of the pressure roll means taken on line corresponding to line 6—6 of Fig. IV. Fig. VII is an enlarged detail sectional view taken on a line corresponding to line 7—7 of Figs. II and VIII, showing details of the bevel compression roller disks and their supports for forcing the veneer strips edgewise together. Fig. VIII is an enlarged detail sectional view on a line corresponding to line 8—8 of Figs. V and VII, showing the details and arrangement of the various feed devices and pressure rolls and of the heated feed roll for pressing the adhesive tape into place. Fig. IX is a detail sectional view taken on a line corresponding to line 9—9 of Fig. VIII, showing the relations of guides, pressure shoe, tape, and strips of veneer at that point. Fig. X is an enlarged detail sectional view taken on a line corresponding to line 11—11 of Fig. VIII, showing the details of the veneer guide and support at that point. Fig. XI is an enlarged detail plan view, partially in section, taken on a line corresponding to line 10—10 of Fig. III, showing the controlling means for applying the pressure to the feed rolls and guides. Fig. XII is a detail sectional elevation view, similar to Fig. VII, of a modification, in which the pressure disks are in flat form.

In the drawings, similar numerals of reference refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the numbered parts of the drawing, the machine is provided with a heavy cast iron base 1, having a lateral table supporting arm 2, which carries a portion of the feed and guide devices, as well as the table 5′. A laterally-projecting arm 3 is above said arm 2, which carries the tape feeding mechanism and other coöperating portions of the feed and guide means for both the tape and veneer. On the outer end of the arm 2 are supporting side plates 4—4 carrying a top plate 5 at the level of the

table 5′, (see particularly Figs. I, II, IV and VII). A pair of feed rollers 6—6 are carried on the shaft 7 which is journaled in the side pieces 4. The said shaft extends to the back of the base 1, where the same is suitably driven by the gear connection. Stepped sprocket wheels 10 and 11 are connected by the sprocket chain 9. The whole is driven from countershaft 8. A pair of gears 12 are connected to drive the feed devices as there indicated. The lower gear 12 drives shaft 7, and the upper gear 12 drives shaft 49′, which is provided with universal and slip joints to permit of the vertical adjustments. Bevel friction pressure roller disks 13—13 are supported on oblique journals 14—14 which converge downwardly toward each other and are carried in the independently yielding blocks 15—15, the said journals being seated in suitable journal bearings therein, as clearly appears in Fig. VII. These blocks are in vertical ways 16—16, which are adjustable by means of the set screws 17 for controlling the exact position thereof. Springs 18—18 are in the sockets 19—19 underneath the same and urge the same upwardly. The tension of the springs 18—18 is adjustable by means of the screws 20—20. Suitable apertures are cut in the top plate 5 to permit the proximate edges of these rollers to project, the cone surfaces being substantially tangent with the top surface of the table plate 5 and the peripheral edges being close together. The surfaces of these conical roller disks 13 are allowed to project slightly above the upper face of the plate 5, so that they can be forced down from above and act yieldingly and independently on the veneer and tape that is being fed, when pressure is applied. No driving means are provided for these roller disks, as they are advanced by the action of the coöperating roller and parts above. It will be seen that when strips of veneer 65 and the adhesive tape 55 are passed onto these roller disks, as they are depressed they will be forced toward each other owing to the fact that journals 14—14 are inclined with their bottoms toward each other, and further, as they rotate, they will each carry the veneer outwardly toward their peripheries, and the strips of veneer will be thus carried very forcibly edgewise toward each other. If it transpires that one piece of veneer is slightly thicker than the other, that one of the roller disks 13 will yield and permit the same to present an even surface on the upper side opposite the coöperating roll 48 and the adhesive tape above.

A plate 21 is secured to the forward portion of the upper arm 3, and guiding end plates 22—22 are secured thereto by suitable cap screws 23—23. The end plates 22 have vertical ways formed therein. Within the vertical ways of the end plates 22 and adapted to adjust up and down are plates 24—25 with upwardly-projecting lugs 24′—25′, respectively, adapted to fit the said ways. Bolts 26 are secured to the bottom plate 25 and extend upwardly through suitable perforations in the plate 24 and the top plate 21, through which perforations the said bolts are freely movable. Springs 27 are disposed underneath the nut at the upper ends of the said bolts 26 and rest upon the top plate 21, urging the bolts upwardly with a yielding pressure, thereby holding said plates 24 and 25 upwardly with a yielding pressure. Transversely through the upwardly-projecting lugs 24′ of the plate 24 are disposed rock shafts 29, carrying thereon pairs of cams 28 which act against suitably prepared surfaces on the under side of the plate 21. Parallel levers 30—30 are connected by links 32 to control the rock shafts 29 and operate the said cams 28 simultaneously. A lever 31 is suitably connected by the said links 32 in parallel with levers 30—30 for this purpose, as clearly appears in Fig. II. The lever 31 is provided with segments 33, into which extends a lock screw 34, as clearly appears in Figs. II and XI. This adjusts the machine to the particular thickness of veneer that is being used. Similar rock shafts 38 are disposed in journal bearings in the upwardly-projecting lugs 25′ of the plate 25, and carry pairs of similar cams 37—37 to act on suitable surfaces on the under side of plate 24. Parallel levers 39—39, connected by link 40, control these cams simultaneously so that they can be operated by the lever handle 41 connected to and forming an extension of one of the levers 39. This means is provided to raise the pressure shoe and its adjusting means without changing the adjustment above.

On suitable brackets on the adjustable plate 25 are carried the presser rolls 42—42, which are independently adjustable, their journals being carried by the adjustable blocks 43, which are vertically adjustable on suitable ways 44. A vertical bolt 45 controls each block, as clearly appears in Figs. IV and VI. A spring 46 interposed between the washer 47 and the plate 25 holds the rollers yieldingly in position. The tension on the spring and the elevation of the rolls is controlled by the said bolts 45, which are squared at their upper ends for the application of a wrench. The rollers 42 are provided with right and left hand threads on their peripheries to draw the veneer strips toward each other as they are advanced. Also supported on the under side of the plate 25 is the gas heated driven presser roll 48, which is secured to the shaft 49, which is carried in the downwardly-projecting bracket 50. A ring burner 51, suitably con-

nected to a gas supply, heats this roll while in operation. The shaft 49 is driven by the tumbling shaft 49′, which connects to the upper one of the gears 12 at the back of the machine. A presser shoe 52 is also secured to the plate 25. This shoe is divided and provided with spring fingers 53, at each side, as seen in Figs. II, IV and VIII. These fingers 53 are for pressing the veneer strips downwardly as they are advanced to the rolls 42—42. See Fig. IV. A perforation 54 is through the upper part of this presser shoe for the passage of the glued or adhesive tape 55. This adhesive tape is delivered from a reel 55′, supported on the upper part of the machine by a suitable bracket 56. The tape is delivered through a suitable moistening box 57, or where the tape is not already an adhesive tape, it may be delivered through a suitable glue-coating box at the same place. I, however, prefer to use adhesive tape that is only slightly tacky when dry, which, when subjected to the heat, as indicated in my process patent hereinbefore referred to, will become adhesive. This machine is, however, adapted to any sort of a glued or adhesive tape, whether the same is glued automatically by the machine, or is a specially prepared adhesive tape.

An adjustable guide blade 60 is carried on the adjustable guiding bars 62—62, which are secured adjustably in place by the set screws 59 for delivering the veneer well over onto the roller disks 13—13 before it contacts with the same. This is to insure the veneer being delivered at such a point that it will be acted upon to the best advantage by the said roller disks in firmly compressing the same edgewise together. A straight vertical blade 61 is secured between guides 62—62 for the proximate edges of the veneer strips to rest against when they are being advanced into the machine. The strips will then only need to be moved toward each other a very short distance to secure the full contact and pressure. These parts constituting this portion of the guide are held together by transverse pins 63, and rest in a suitable groove 64 in the top plate 5, as clearly appears in Fig. X. The strips of veneer 65 having been suitably jointed on their edges, are delivered side by side with their proximate edges on the opposite edges of this vertical guide 61. They are then advanced into the machine and are engaged by the driven feed rollers 6—6, which coöperate with the rollers 42 on the brackets 44 above. These urge the veneer strips toward each other owing to their peripheries being provided with right and left hand threads, respectively.

When the veneer is advanced sufficiently to be engaged by the beveled roller disks 13, the edges of the same are urged strongly toward each other, and at this point the tape 55 is delivered into contact with the same by the driven gas heated roll 48, which presses the adhesive tape into position and thoroughly melts the adhesive so that it flows and secures the same firmly in place, and at the same time, owing to the friction of the roller disks and feed roller, the parts are advanced regularly forward and a perfect joint is secured. The surface of the veneer is perfectly flat under the tape, owing to the fact that the said roller disks 13—13 yield independently. When the veneer is desired to be used, the tape which is either of paper or muslin, may be ground away and the veneer put in place, or, in some instances, it is permissible to glue the veneer, tape, and all in position. It is preferred, however, for the very best work, to grind the tape away, or remove it by softening and peeling it away or by any suitable method.

I have thus described my improved taping machine in its most approved form. I desire to state that the various parts are capable of considerable modification without departing from my invention. In Fig. XII I illustrate a modification in which flat disks 66, corresponding to the beveled disks 13, are substituted therefor. These are on vertical journals 67, which are carried in vertical journal bearings 68 in block 16. The flat sides of the disk should be in the plane of, or slightly above the plane of the table top. The heated pressure roll should be disposed about opposite the center so that the work of applying the tape is completed at the point of the highest lateral pressure.

The machine is very effective, and as will be observed, constitutes a very simple and effective application of the principles called for and set forth in my process patent above referred to. However, the machine is an improvement over these machines that have preceded it in that it secures the effect of delivering the strips of veneer toward each other with proper pressure on a perfectly flat surface with a minimum of parts, and in a very economical and rapid manner.

I desire to claim the invention broadly, as well as specifically as indicated in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a veneer taping machine, the combination of a suitable base; lateral arms projecting therefrom; driving mechanism carried by the said base; driving shafts therefrom corresponding to the said arms; a table supported by the lower arm; a pair of driven feed rolls journaled in suitable supports carried by the said lower arm and connected to the corresponding shaft to be driven thereby; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical sur-

faces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; an adjustable guide blade extending from the driven feed rolls forwardly into proximity to the said conical roller disks for delivering strips of veneer thereto; a guide with a suitable vertical blade centrally disposed for guiding the proximate edges of veneer strips; a suitable frame connected to the upper lateral arm from the said base; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guide blocks 43 in brackets 44 carried by said adjustable plates coöperating with and opposed to the driven rolls below; means of adjusting the elevation of said rolls in said bracket; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the lower of said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified

2. In a veneer taping machine, the combination of a suitable base; lateral arms projecting therefrom; driving mechanism carried by the said base; driving shafts therefrom corresponding to the said arms; a table supported by the lower arm; a pair of driven feed rolls journaled in suitable supports carried by the said lower arm and connected to the corresponding shaft to be driven thereby; a pair of pressure roller disks, disposed with their edges toward each other and with their surfaces in the plane of the table top and projecting yieldingly above the same, and supported on journals; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; an adjustable guide blade extending from the driven feed rolls forwardly into proximity to the said roller disks for delivering strips of veneer thereto; a guide with a suitable vertical blade centrally disposed for guiding the proximate edges of veneer strips; a suitable frame connected to the upper lateral arm from the said base; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by said adjustable plates coöperating with and opposed to the driven rolls below; means of adjusting the elevation of said rolls in said bracket; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the lower of said adjustable plates and positioned to coöperate with the pair of pressure roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to the said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

3. In a veneer taping machine, the combination of a suitable base; lateral arms projecting therefrom; driving mechanism carried by the said base; driving shafts therefrom corresponding to the said arms; a table supported by the lower arm; a pair of driven feed rolls journaled in suitable supports carried by the said lower arm and connected to the corresponding shaft to be driven thereby; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same and supported on journals which converge downwardly; journal boxes for the said journals; springs for urging the same upwardly; an adjustable guide blade extending from the driven feed rolls forwardly into proximity to the said conical roller disks for delivering strips of veneer thereto; a guide with a suitable vertical blade centrally disposed for guiding the proximate edges of veneer strips; a suitable frame connected to the upper lateral arm from the said base; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of

presser rolls 42 carried in guided blocks 43 in brackets 44 carried by said adjustable plates coöperating with and opposed to the driven rolls below; means of adjusting the elevation of said rolls in said bracket; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the lower of said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

4. In a veneer taping machine, the combination of a suitable base; lateral arms projecting therefrom; driving mechanism carried by the said base; driving shafts therefrom corresponding to the said arms; a table supported by the lower arm; a pair of driven feed rolls journaled in suitable supports carried by the said lower arm and connected to the corresponding shaft to be driven thereby; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals; springs for urging the same upwardly; suitable guides for the veneer strips; a suitable frame connected to the upper lateral arm from the said base; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by said adjustable plates coöperating with and opposed to the driven rolls below; means of adjusting the elevation of said rolls in said brackets; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the lower of said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

5. In a veneer taping machine, the combination of a suitable base; lateral arms projecting therefrom; driving mechanism carried by the said base; driving shafts therefrom corresponding to the said arms; a table supported by the lower arm; a pair of driven feed rolls journaled in suitable supports carried by the said lower arm and connected to the corresponding shaft to be driven thereby; a pair of pressure conical roller disks disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals; springs for urging the same upwardly; suitable guides for the veneer strips; a suitable frame connected to the upper lateral arm from the said base; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by said adjustable plates coöperating with and opposed to the driven rolls below; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the lower of said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

6. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported in journals which converge downwardly; jour-

nal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; springs for holding the same yieldingly in position; a hollow driven feed roll with a burner within the same for heating it, disposed above and positioned to coöperate with the pair of pressure conical roller disks beneath; a presser foot centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

7. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; a hollow driven feed roll with a burner within the same for heating it, disposed above and positioned to coöperate with the pair of pressure conical roller disks beneath; a presser foot centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

8. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; a driven feed roll with means for heating it, disposed above and positioned to coöperate with the pair of pressure conical roller disks beneath; a presser foot centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

9. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; springs for holding the same yieldingly in position; a hollow driven feed roll with a burner within the same for heating it, disposed above and positioned to coöperate with the pair of pressure conical roller disks beneath; and means to deliver an adhesive tape directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

10. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; a hollow driven feed roll with a burner within the same for heating it, disposed above and positioned to coöperate with the pair of pressure conical roller disks beneath; and means to deliver an adhesive tape directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

11. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge down-

wardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; a driven feed roll with means for heating it, disposed above and positioned to coöperate with the pair of pressure conical roller disks beneath; and means to deliver an adhesive tape directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

12. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks, disposed with their edges toward each other and with their conical surfaces tangential to the plane of the table top and projecting yieldingly above the same, and supported on journals which converge downwardly; journal boxes for the said journals supported in suitable vertical guides; springs for urging the same upwardly; suitable guides for the veneer strips; a pair of presser rolls opposed to the driven rolls below said table; a driven feed roll disposed above and positioned to coöperate with the pair of conical pressure rolls beneath; and means to deliver an adhesive tape directly to the said feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

13. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks disposed with their surfaces tangential to the plane of the table top and projecting yieldingly above the same; suitable guides for the veneer strips; a suitable frame disposed and supported above said table; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by the lower of said adjustable plates coöperating with and opposed to the driven rolls below; means of adjusting the elevation of said rolls in said bracket; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

14. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks disposed with their surfaces tangential to the plane of the table top and projecting yieldingly above the same, suitable guides for the veneer strips; a suitable frame disposed and supported above said table; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by the lower of said adjustable plates coöperating with and opposed to the driven rolls below; springs for holding the same yieldingly in the depressed position; a hollow driven feed roll with a burner within the same for heating it, carried by the said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

15. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks disposed with their surfaces tangential to the plane of the table top and projecting yieldingly above the same; suitable guides for the veneer strips; a suitable frame disposed and supported above said table; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by the lower of said adjustable plates coöperating with and opposed to the driven rolls below; a hollow

driven feed roll with a burner within the same for heating it, carried by the said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

16. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks disposed with their surfaces tangential to the plane of the table top and projecting yieldingly above the same; suitable guides for the veneer strips; a suitable frame disposed and supported above said table; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by the lower of said adjustable plates coöperating with and opposed to the driven rolls below; a driven feed roll with means for heating it, carried by the said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided with forwardly and downwardly projecting spring presser fingers thereon for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

17. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure conical roller disks disposed with their surfaces tangential to the plane of the table top and projecting yieldingly above the same; suitable guides for the veneer strips; a suitable frame disposed and supported above said table; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by the lower of said adjustable plates coöperating with and opposed to the driven rolls below; a driven feed roll with means for heating it, carried by the said adjustable plates and positioned to coöperate with the pair of pressure conical roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

18. In a veneer taping machine, the combination of a table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of pressure roller disks disposed with their surfaces in the plane of the table top and projecting yieldingly above the same; suitable guides for the veneer strips; a suitable frame disposed and supported above said table; vertically adjustable plates suitably guided within said frame; pairs of adjusting cams controlled by parallel levers to adjust the said plates downwardly with a parallel movement; spring connections for holding the said plates yieldingly upward to maintain contact with the said cams; a pair of presser rolls 42 carried in guided blocks 43 in brackets 44 carried by the lower of said adjustable plates coöperating with and opposed to the driven rolls below; a driven feed roll with means for heating it, carried by the said adjustable plates and positioned to cooperate with the pair of pressure roller disks beneath; connections to the driving shaft for said heated roll; a presser foot secured to said adjustable plates centrally divided for applying pressure to the strips of veneer fed to the said machine; and means to deliver an adhesive tape above said presser foot and directly to the said heated feed roller for applying it to the strips of veneer, all coacting substantially as described and for the purpose specified.

19. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of driven feed rolls journaled in suitable supports beneath said table; a pair of presser rolls disposed above and coöperating with said feed rolls; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; spring supported journal boxes for the journals of said conical roller

disks; a driven heated roll above and cooperating with said conical roller disks; a suitable presser foot with guide fingers for delivering strips of veneer to the said conical roller disks substantially edge to edge; a guide beneath said presser foot; and suitable means for delivering the tape above said presser foot direct to the said heated roll, coacting for the purpose specified.

20. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; spring supported journal boxes for the journals of said conical roller disks; a driven heated roll above and coöperating with said conical roller disks; a suitable presser foot with guide fingers for delivering strips of veneer to the said conical roller disks substantially edge to edge; a guide beneath said presser foot; and suitable means for delivering the tape above said presser foot direct to the said heated roll, coacting for the purpose specified.

21. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; a driven heated roll above and coöperating with said conical roller disks; a suitable presser foot with guide fingers for delivering strips of veneer to the said conical roller disks substantially edge to edge; a guide beneath said presser foot; and suitable means for delivering the tape above said presser foot direct to the said heated roll, coacting for the purpose specified.

22. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; a driven roll above and coöperating with said conical roller disks; a suitable presser foot with guide fingers for delivering strips of veneer to the said conical roller disks substantially edge to edge; a guide beneath said presser foot; and suitable means for delivering the tape above said presser foot direct to the said roll, coacting for the purpose specified.

23. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; a driven roll above and coöperating with said conical roller disks; a suitable presser foot for delivering strips of veneer to the said conical roller disks substantially edge to edge; a guide beneath said presser foot; and suitable means for delivering the tape above said presser foot direct to the said roll, coacting for the purpose specified.

24. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; a driven roll above and coöperating with said conical roller disks; guide means to deliver veneer strips edge to edge to said rolls; and suitable means for delivering the tape direct to the said roll, coacting for the purpose specified.

25. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure roller disks, with their edges disposed toward each other, and with their surfaces substantially in the plane of the table surface, and supported on journals; a driven roll above and coöperating with said roller disks; guide means to deliver veneer strips edge to edge to said rolls; and suitable means for delivering the tape direct to the said roll, coacting for the purpose specified.

26. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure conical roller disks, with their edges disposed toward each other and with their conical surfaces substantially tangential to the table surface, and supported on journals which converge downwardly; a driven roll above and coöperating with said conical roller disks; and suitable means for delivering the tape direct to the said roll, coacting for the purpose specified.

27. In a veneer taping machine, the combination of a suitable base with driving means; a suitable table; a pair of pressure roller disks, with their edges disposed toward each other and with their surfaces substantially in the plane of the table surface, and supported on journals; a driven roll above and coöperating with said roller disks; and suitable means for delivering tape direct to the said roll, coacting for the purpose specified.

28. In a veneer taping machine, a pair of pressure conical roller disks, disposed with their edges toward each other; suitable sup-

ports therefor; a driven roll coöperating with said pressure disks; and suitable means for heating the same, coacting for the purpose specified.

29. In a veneer taping machine, a pair of pressure roller disks, disposed with their edges toward each other; suitable supports therefor; a driven roll coöperating with the said pressure disks; and suitable means for heating the same, coacting for the purpose specified.

30. In a veneer taping machine, a pair of pressure conical roller disks, disposed with their edges toward each other; suitable supports therefor; and a driven roll coöperating with the said pressure disks, coacting for the purpose specified.

31. In a veneer taping machine, a pair of pressure roller disks, disposed with their edges toward each other; suitable supports therefor; and a driven roll coöperating with the said pressure disks, coacting for the purpose specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

ALFRED A. DENNIS. [L. S.]

Witnesses:
COILA M. FOX,
R. P. TIETSORT.