

March 17, 1931.

M. W. PERRY

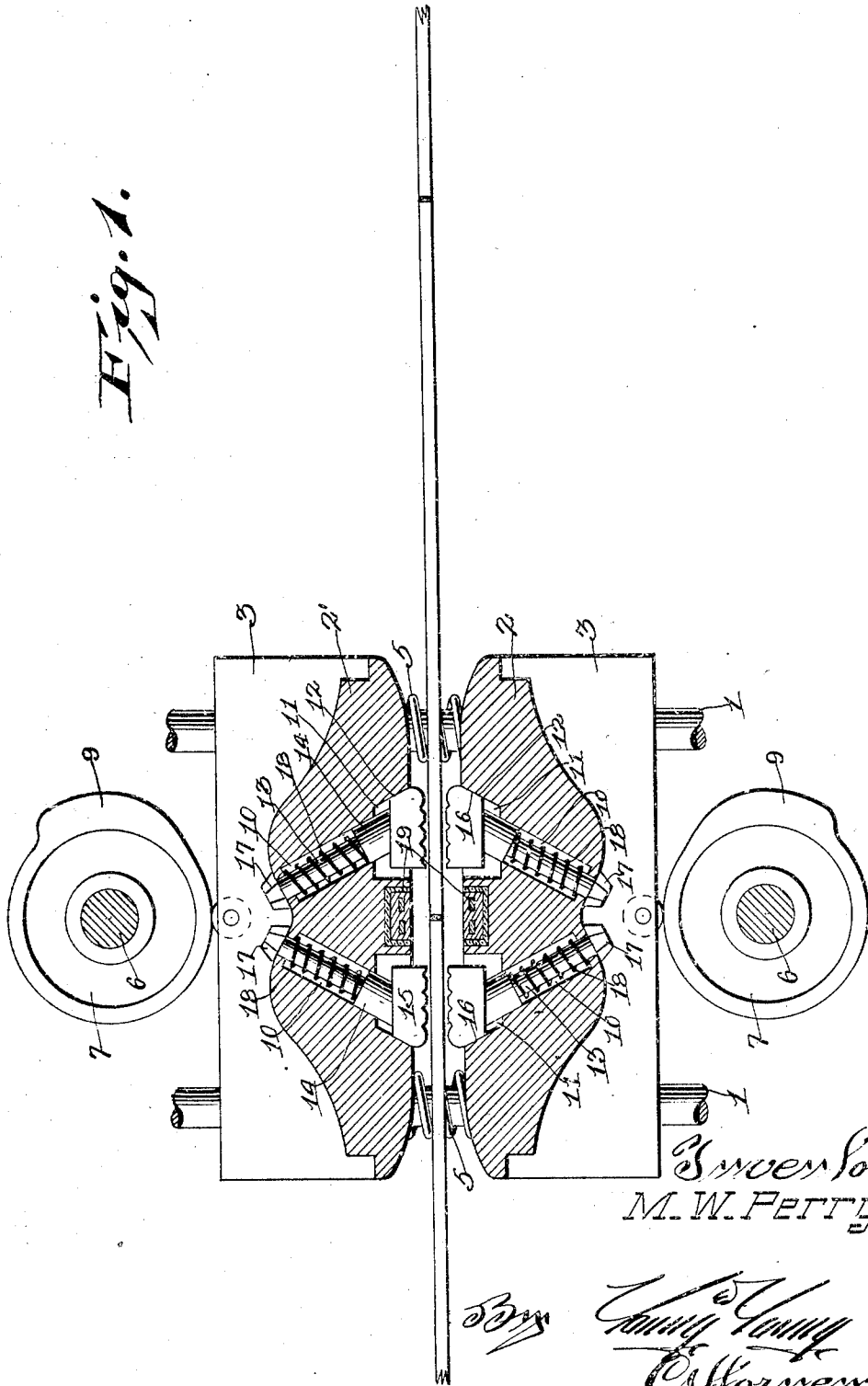
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EDGE GLUING MACHINE

Filed May 17, 1930

3 Sheets-Sheet 1

*Fig. 1.*



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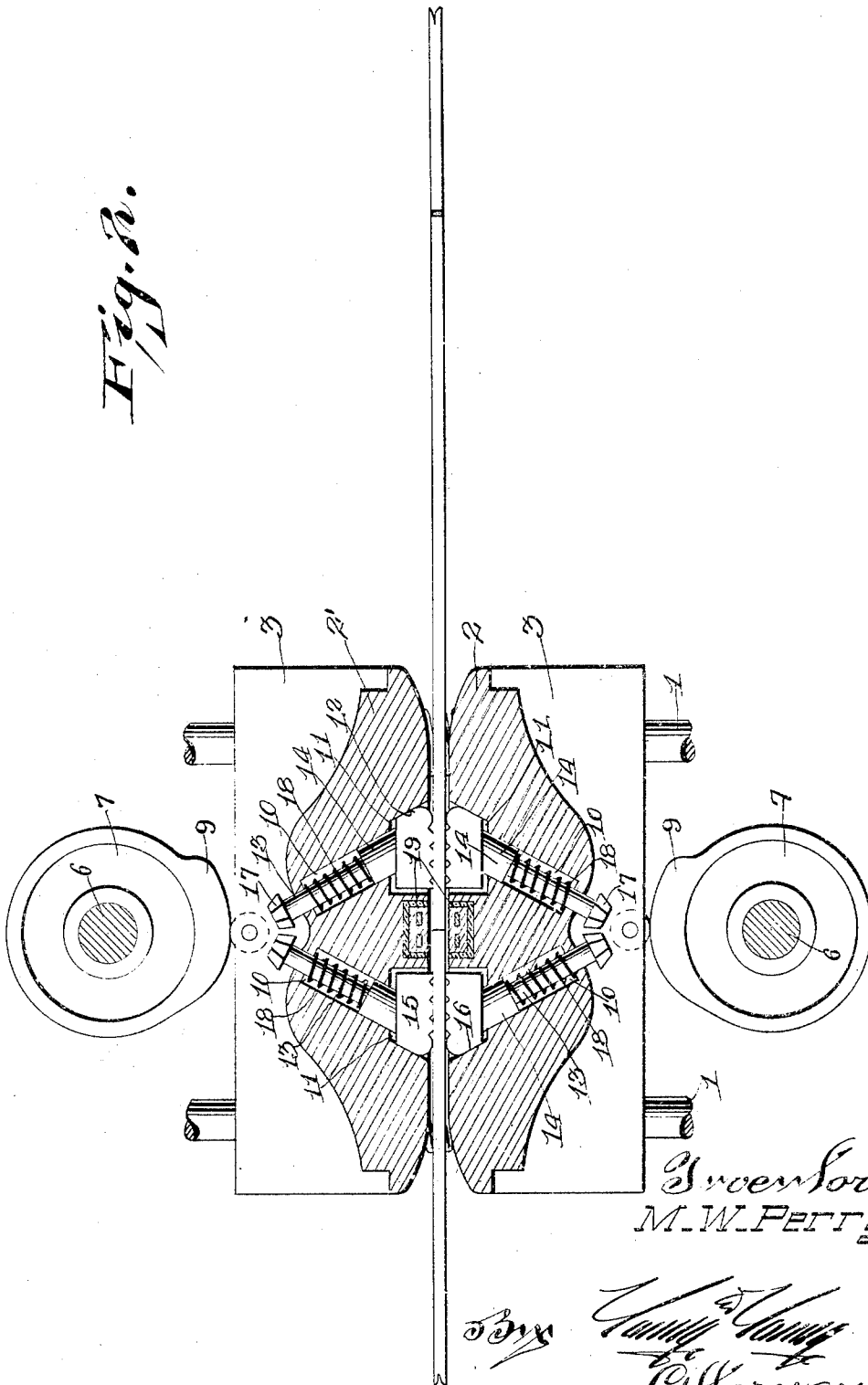
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*Fig. 2.*



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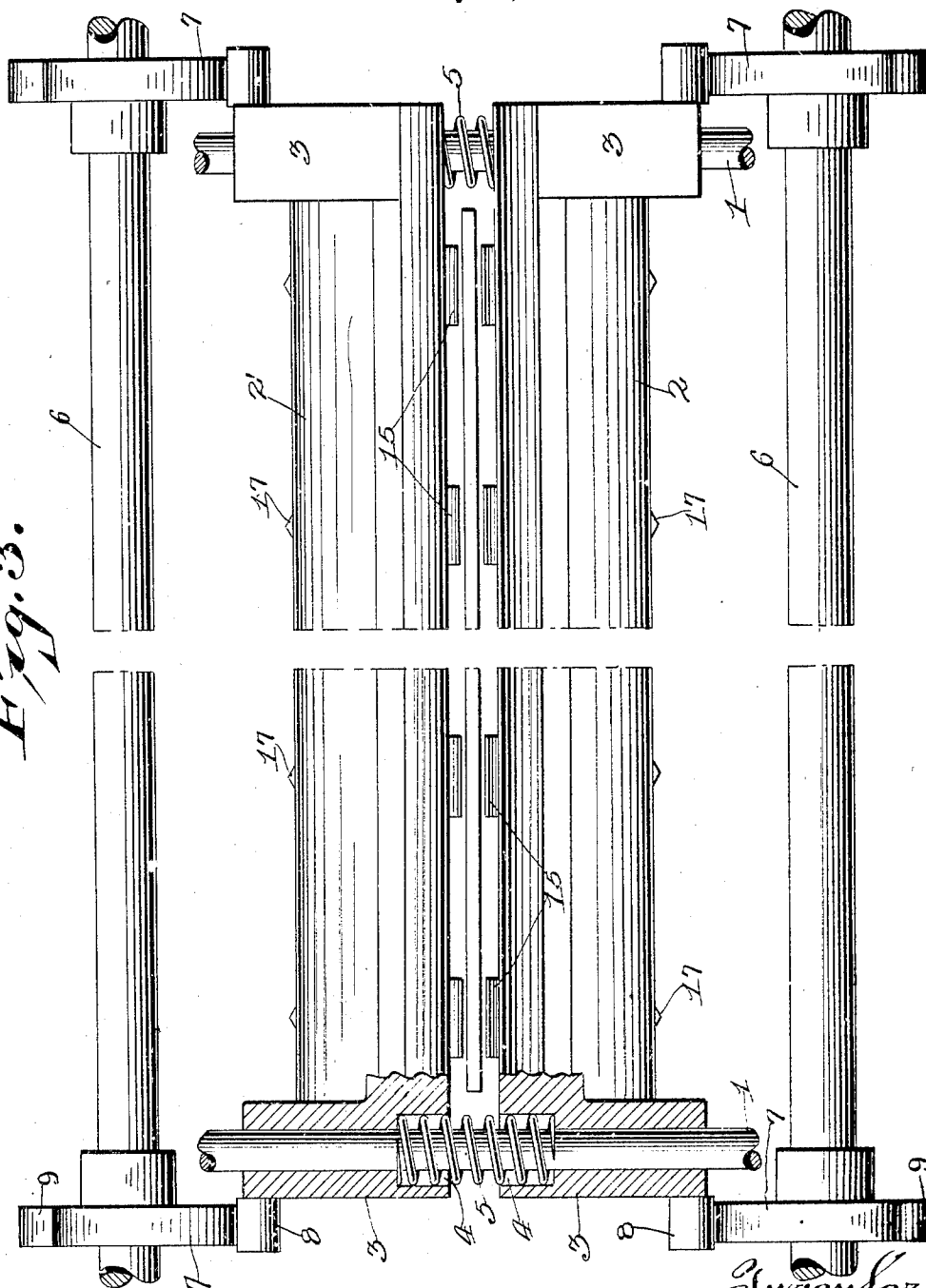
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Fig. 3.



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## UNITED STATES PATENT OFFICE

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## EDGE-GLUING MACHINE

Application filed May 17, 1930. Serial No. 453,269.

This invention relates to improvements in veneer gluing machines.

One of the objects of the invention is the provision of an improved machine for gluing veneer strips edge-to-edge, and retaining the strips in position until the glue has hardened sufficiently to securely retain the strips against detachment.

At the present time, the usual practice for gluing veneer edges is to position the veneered strips in intimate contact, and then connect the strips with a piece of paper, and after the strips are connected, the paper acts as a hinge whereby strips may be folded to permit glue or other similar adhesive being inserted between the edges and after the strips are again moved to a parallel plane so that the glued edges will be disposed in intimate contact, the strips are usually placed in a pressing machine to hold them together until the glue is set. The above operation takes considerable time and requires considerable labor, and it is, therefore, another object of my invention to provide a machine wherein the glue is applied directly to the edges of the veneer strips, and the strips then placed in my improved machine where the edges are moved tightly together, and all of the material adjacent the edges is retained in a flat position until after the glue is hardened, thus saving the trouble of having to temporarily secure the opposed edges together and then glue them, which will mean a saving in time and labor for greatly reducing the cost of veneer gluing.

One of the great difficulties in gluing veneer strips edge-to-edge is the forcing of the strips tightly together and securely holding them until the glue has been properly set before releasing them, and it is another object of the invention to provide a machine with compressing members which engage opposed faces of the strips to be glued together and urges them into contacting relation with the adhesive between the strips and then securely holding these strips until the glue has set or hardened sufficiently so that it will not pull apart.

A further object of the invention is the

provision of a veneer gluing machine comprising opposed members having yieldably gripping and pressing members adapted to engage the veneer strips, and not only urge them together, but securely hold them in attached position until the glue has properly set and includes means for quickly drying the glue while the strips are being held in intimate contact.

With the above and other objects in view, the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawings wherein:

Figure 1 is a transverse section through the machine illustrating the gripping and pressing members in inoperative position about to engage opposed strips;

Figure 2 is a view similar to Figure 1 with the gripping and pressing members in engagement with the veneer strips, and illustrating them in operative position; and,

Figure 3 is a front elevation of the machine with parts thereof broken away and illustrated in cross section.

Referring more particularly to the drawings, it will be noted that I have illustrated the construction in one of its embodiments, and it will be apparent that the machine may be made in various sizes for gluing narrower strips or comparatively wide panels, and in the present instance, suitable spaced standards 1 are provided which pass upwardly through the movable blocks 2 and 2'. The blocks are reinforced at their ends, as shown at 3, and each reinforced portion is provided with a recess 4 arranged in opposed relation, as shown in Figure 3, and mounted upon the standards 1, with their ends extending into the recess 4 are the coil springs 5, which normally urge the blocks 2 and 2' apart.

Extending longitudinally of the movable blocks 2 and 2' are the shafts 6 having mounted thereon cams 7 adapted to engage lateral projections 8 on the reinforced ends of the blocks for urging the blocks toward each other as the high points 9 of the cams contact with the projections 8.

The body portions of the blocks 2 and 2' are provided upon opposite sides of their longitudinal centers with diagonally disposed bores 10, with the bores upon one side of the center extending in a direction opposite the bores on the other side, and the lower ends of these bores open into recesses 11 formed in the opposed faces of the blocks and the outer side of each recess is provided with an inclined wall 12. The outer end of the bores 10 are provided with restricted openings, and movable therethrough are the plungers 13 which are provided with enlarged cylindrical portions 14 adjacent their inner ends which are of a diameter equal to the diameter of the bores, so as to fit snugly therein.

At the inner ends of the plungers and integral with the enlarged cylindrical portions 14 are the presser feet 15 having comparatively rough faces, as illustrated in Figures 1 and 2. These presser feet are provided at one side with an inclined wall 16 adapted to cooperate with the inclined wall 12 of the recesses 11. The outer end of the plungers 13 are provided with stop heads 17 for limiting the inward movement of the plungers. Normally, these plungers are moved inwardly by means of the coil springs 18 which surround the plungers within the bores 10 and are disposed between the enlarged portions 14 and the inner ends of the bores.

Arranged centrally of each of the blocks 2 and 2' is a heating element 19 which is disposed between the opposed sets of presser feet, as shown in Figures 1 and 2.

In the operation of this machine, it will be apparent that when it is desired to glue the edges of opposed strips or panels, the two pieces of material which are to be glued together have glue or other suitable adhesive applied to the edges thereof and the two pieces are then inserted in the machine, as shown in Figure 1, until the edges are comparatively close together. At this time, rotative movement is imparted to the shafts 6 until the high points 9 of the cams 7 engage with the lateral projections 8 on the block, at which time the blocks 2 and 2' will be urged toward each other, bringing the presser feet 15 into contact with opposed faces of the two pieces to be glued together. As the blocks move together, the presser feet will be urged into the recesses 11 and due to the inclined walls of the presser feet, and the recesses, the opposed presser feet will have a tendency to move toward each other, thus drawing the two pieces of material toward each other and causing them to be brought into intimate contact, as shown in Figure 2, it being understood that the coil springs 18 are placed under tension, as illustrated.

When the two pieces of material are moved tightly together, as shown in Figure 2, and the presser feet 15 are in their innermost posi-

tion within the recesses 11, the edges of the two pieces of material will be brought tightly together, and the blocks 2 and 2' are retained in this position, shown in Figure 2, until the glue or adhesive has had time to properly set, and in order to hasten the setting of the adhesive, the heaters 19 are used and these heaters are preferably in such position that they are arranged upon opposite sides of the glued joint.

It will be noted that when the high points on the cams are moved from the lateral projections 8, the presser feet 15 have a tendency to exert an outward pressure on the two pieces of material, therefore, it is essential that the glue or adhesive be properly set before the blocks are released in order to prevent the two pieces of material from being pulled apart due to the action of the presser feet 15, when the blocks are released.

It will be apparent from the foregoing that with the use of such a machine, the opposed edges of strips, panels, and similar veneer-like pieces, can be quickly and easily glued together edge-to-edge and the glue be properly set before the pieces are released.

The machine can be made of sufficient size to accommodate various sizes of veneer pieces and with the use of the machine, these veneer pieces can be very quickly glued together, and due to the heaters 19, the glue will be properly set before the pieces are released.

While I have shown and described the preferred embodiment of my invention, it will be apparent that slight changes may be made in the construction when putting the invention into practice without departing from the spirit of the same or the scope of the appended claims.

I claim:

1. A machine of the class described including opposed movable blocks, means for urging said blocks toward each other, opposed presser feet movably mounted in said blocks upon opposite sides of the center, and adapted to be moved toward each other as the blocks are moved together, and means for urging said blocks apart upon release of the first means.

2. A machine of the class described including opposed bodies mounted for movement toward and away from each other, means for urging said bodies toward each other, diagonally movable presser feet carried by said bodies and arranged upon opposite sides of the center thereof, means for urging said presser feet toward each other when the bodies are moved toward each other, means for moving said bodies away from each other upon release of the first means, and means for moving said presser feet outwardly beyond the opposed faces of the bodies with the presser feet upon one side of the center of the bodies moving in the opposite direction

of the presser feet on the other side of the center.

3. A machine of the class described including opposed movable blocks, means for urging said blocks toward each other, opposed presser feet movably mounted in said blocks upon opposite sides of the center and adapted to be moved toward each other as the blocks are moved together, and means for urging said blocks apart upon release of the first means, and heating elements carried by said bodies and positioned between the presser feet.

4. A machine of the class described including opposed movable bodies having diagonal bores arranged upon opposite sides of the center and extending in opposite direction, plungers movably mounted within said bores, stop heads on the plungers for limiting the movement thereof in one direction, said bodies having recesses in the opposed faces thereof communicating with the bores and having an inclined side wall, presser feet carried by the plungers and movable into and out of the recesses, an inclined wall on each presser foot adapted to cooperate with the inclined wall of each recess, whereby to move said presser feet upon opposite sides of the center of the bodies toward each other when the bodies are moved together away from each other when the bodies are moved apart, and means for urging said bodies toward and away from each other.

5. A machine of the class described including spaced standards, movable bodies mounted upon said standards, means for urging said bodies toward each other, means for urging said bodies away from each other upon release of the first means, presser feet movably supported by the bodies and arranged upon opposite sides of the center thereof with their outer faces normally projecting beyond the opposed faces of the body, means for urging the presser feet toward the center of the bodies when the bodies are moved toward each other and moving the presser feet away from the center when the bodies are moved away from each other, and means for limiting the movement of the presser feet in either direction.

6. A machine of the class described including spaced standards, movable bodies mounted upon said standards, means for urging said bodies toward each other, means for urging said bodies away from each other upon release of the first means, presser feet movably supported by the bodies and arranged upon opposite sides of the center thereof with their outer faces normally projecting beyond the opposed faces of the bodies, means for urging the presser feet toward the center of the bodies when the bodies are moved toward each other and moving the presser feet away from the center when the bodies are moved away from

each other, and means for limiting the movement of the presser feet of each body.

7. A machine of the class described including opposed movable blocks, means for moving said blocks toward each other, opposed pressure feet movably mounted in said blocks and adapted to be moved toward each other as the blocks are moved toward each other, and means for urging said blocks apart upon release of the first means.

In testimony that I claim the foregoing I have hereunto set my hand at Algoma, in the county of Kewaunee and State of Wisconsin.

MELVIN W. PERRY.