

June 21, 1927.

J. H. SUTHERLAND ET AL

1,633,295

TEMPLATE HOLDER FOR PATTERN GRADING MACHINES

Filed July 20, 1926

2 Sheets-Sheet 1

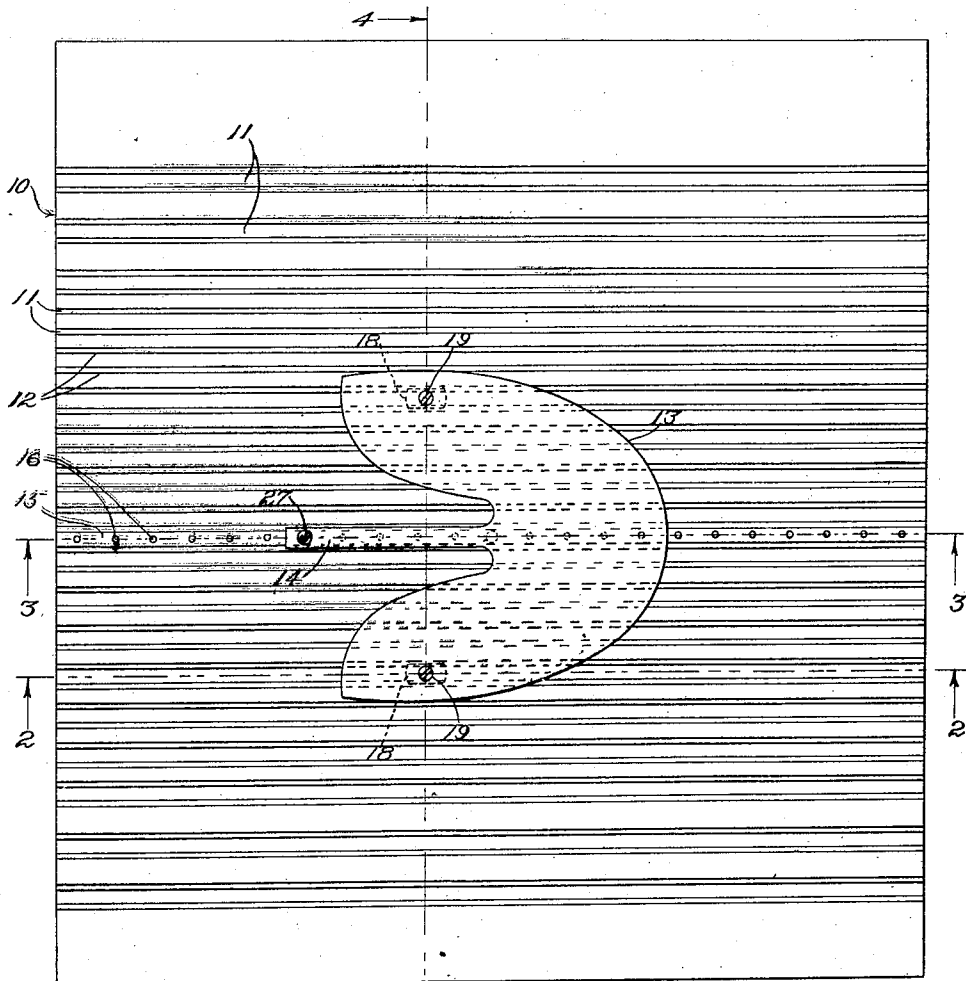


Fig. 1-

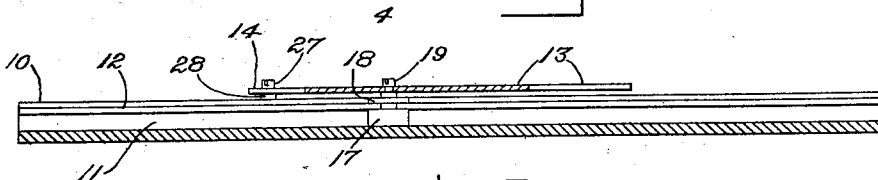


Fig. 2-

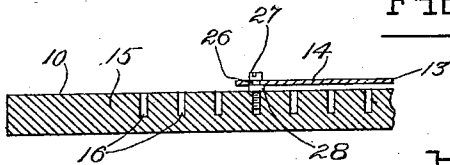


Fig. 3-

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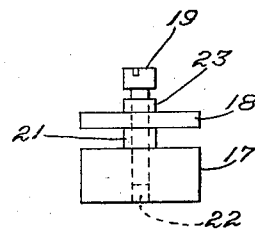
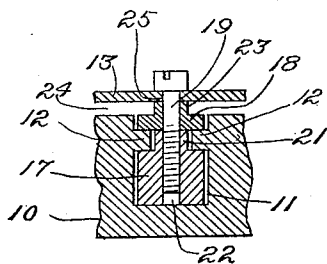
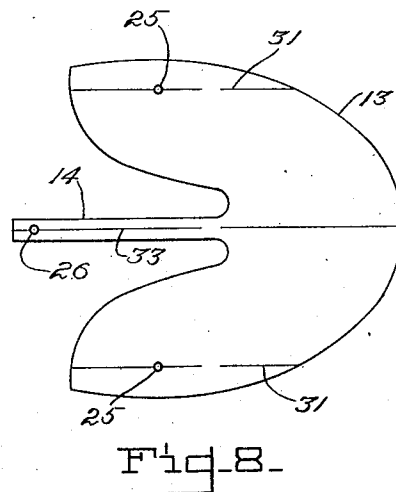
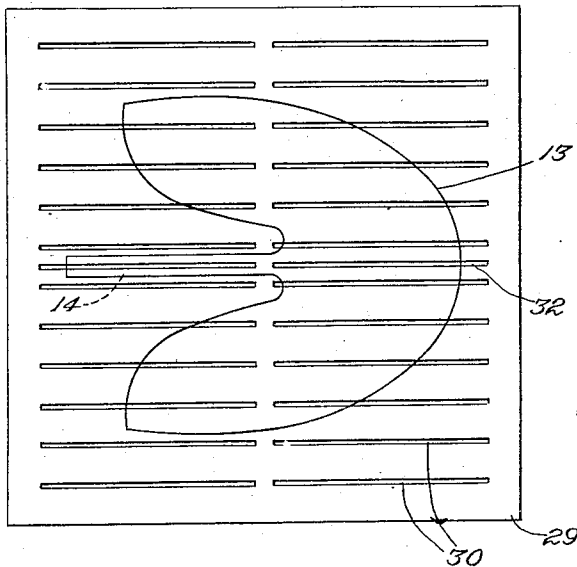
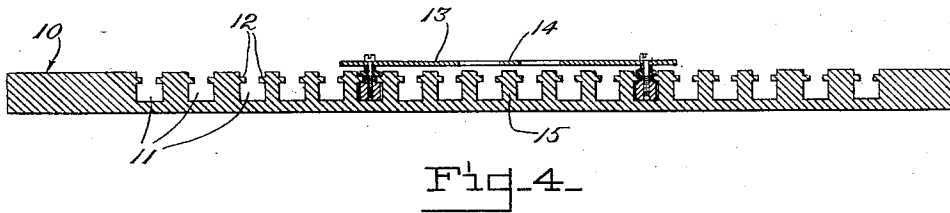


Fig. 6.

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TEMPLATE HOLDER FOR PATTERN-GRADING MACHINES.

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In machines for cutting patterns for use in the shoe-making art and various other industries in which leather, or other sheet material is employed it is common to provide a template of the pattern to be used in connection with the pattern cutting machine. The patterns particularly in the shoe-making industry are usually cut from stiff cardboard or the like. By means of a pantographic mechanism a single template may be employed in cutting out patterns of different sizes all having the same relative proportions. It is important that the template shall be properly adjusted and firmly held in the adjusted position in relation to the pattern cutting mechanism. A holding device commonly used comprises a plate in combination with means for clamping the template in its adjusted position on the plate. It is important that the holding apparatus be adapted for use with templates of various shapes and sizes and that the clamping means be adjustable thereon according to the size and shape of the template.

The object of this invention is to provide an improved holding plate and adjustable clamping mechanism for use in connection with a grading and pattern cutting machine.

The more particular objects of the invention, together with means whereby the latter may be carried into effect, will best be understood from the following description of a preferred form thereof illustrated in the accompanying drawings. It will be understood however that the particular construction described and shown has been chosen for purposes of exemplification merely, and that the invention, as defined by the claims hereunto appended, may be otherwise embodied without departure from the spirit and scope thereof.

In the drawings:

Fig. 1 is a plan view of apparatus embodying the invention showing a template for one form of shoe vamp clamped in operative position on the plate.

Fig. 2 is a section on line 2—2, Fig. 1.

Fig. 3 is a fragmentary sectional view on an enlarged scale on line 3—3, Fig. 1.

Fig. 4 is a section on line 4—4, Fig. 1.

Fig. 5 is a fragmentary enlarged section of a portion of Fig. 4.

Fig. 6 is an enlarged detail view of one of the clamping members.

Fig. 7 is a plan view of the slotted trans-

parent guide plate used in marking the position for the bolt holes in the template and a so-called sally-vamp similar to that shown in Fig. 1 positioned under the guide plate.

Fig. 8 is a plan view of the template shown in Fig. 7 having the location for the bolt holes marked thereon.

Referring to the drawings there is shown at 10 a holding plate embodying the invention. The plate is formed with a series of parallel slots or wide grooves 11, the side walls of which have horizontal flanges 12 a short distance below the top surface of the plate to cooperate with the clamping mechanism as will be hereinafter described. The grooves may or may not be all equally distant from each other. As shown in the drawings, the outermost two grooves at the front and rear are spaced further apart than the intermediate grooves but it is immaterial whether they are or are not all equally spaced apart.

For use in cutting certain forms of patterns, especially patterns of symmetrical form, for instance a so-called sally-vamp 13, in which there is a long narrow tongue 14 such as shown in detail in Fig. 8, one of the partition portions between the grooves of the holding plate, preferably the middle one as shown at 15 in Fig. 1, is formed with a series of holes 16 to receive a screw for centering the template as well as to aid in clamping it to the holding plate.

The template will be formed with holes for the clamping bolts so located that when the template is properly positioned on the holding plate, the bolt hole 26 in the tongue will be in alinement with one of the holes 16 in the partition 15 and the holes 25 in the body of the template will come directly over the middle of one of the grooves 11 in the holding plate. Means are preferably provided as will be hereinafter described for a marking plate in locating the places for the holes 25 in the body portion of the pattern but in the present part of the description, it will now be assumed that the holes have already been made in proper location.

The main clamping members for use in securing the body portion of the template to the holding plate comprise a block 17, a washer 18 and a screw 19. The block 17 is of a suitable width and thickness to have a sliding fit in that part of the groove 11 which is below the flanges 12, 12 so that the block

may be adjusted lengthwise in any part of the groove by a sliding movement. The block may be entered into the groove at one end and then be moved beneath the flanges which will prevent the block from being pulled up out of the groove. Preferably the sides of the block are straight or otherwise shaped so that the block cannot swivel or turn.

The block 17 is formed with a central boss 21 on its upper face and with a vertical screw hole 22 extending through the boss and into the block.

The washer 18 fits in the upper part of the groove and rests on the flanges 12, 12. It is slidable on said flanges lengthwise of the groove. It is formed with an upwardly extending boss 23. A hole extends through the washer and is adapted to be brought into alinement with the hole in the block so that the screw 19 may pass through the holes in the washer and into the block.

The template will rest upon the bosses of the several washers 18. The boss of each washer should extend slightly above the face of the holding plate so as to support the template at a slight elevation above the holding plate in order to afford a space to admit the finger of the guide of a pantagraph (not shown) between the washer and the template above the surface of the plate.

The screw 19 is adapted to pass through the holes in the template and washer 18 and be screwed into the threaded hole 22 in the block 17 and will thus draw the block tightly up against the under side of the flanges 12.

Assuming that the template has been formed with the holes 25, properly located therein so that they may be alined with grooves in the holding plate and, if the template has a tongue 14 such as shown in the drawings, assuming that the hole 26 has been so located therein as to be brought into alinement with one of the holes 16 in the face of the holding plate, the template should then be positioned on the holding plate to bring the hole 26 into alinement with one of said holes 16 and to bring each of the holes 25 into alinement with one of the grooves 11. A plurality of blocks 17 should then be adjusted in the grooves so as to bring the holes 22 in the several blocks into alinement with the holes 25 in the template. The template will be supported on the shoulders formed by the bosses 23 of the washers 18 associated with the several blocks. Screws 19 will then be inserted through the holes 25 and through the holes in the washers 18 and screwed down into the tapped out holes in the blocks 17.

The screws are formed with a grooved head to receive a tool for turning the screw. By continuing to turn the screw, it will draw up the block 17 into pressing engagement against the underside of the flanges 12, and also will press the washer down against the

upper side of said flanges. This will firmly clamp the blocks and washers against sliding movement and thus the template will be firmly held in position.

A screw 27 similar to the screws 19 should be entered in the hole 26 in the tongue 14 of the template and screwed into the hole 16 in the face of the holding plate 10. A washer 28 for the screw 27 is provided to lie between the template and the holding plate to support the tongue of the template elevated above the surface of the holding plate for the same reason that the boss 23 on the washer 18 is provided.

If the template does not have a tongue or is not otherwise of such symmetrical form that a portion of it must be screwed or clamped to the body of the holding plate as well as clamped in the grooves, then there need be employed only the kind of clamping means used with the grooves.

When a symmetrical form of pattern is to be made as already described and which requires the clamping of a portion of the template to the surface of the holding plate, there is preferably employed a guide for use in locating and marking the position for the several holes in the body of the template. A guide for such a purpose is shown in Fig. 7 in association with a template. The guide consists of a transparent plate 29 having formed therein a plurality of narrow slots 30 parallel with each other spaced at such distances apart from each other that the distance between the median line of the several slots will be equal to the distance between the median line of two adjacent grooves 11 of the holding plate. The guide plate also has a slot 32 midway between two of the slots 30. By placing the guide plate on the face of the template lines 31, 31 may be made on the template by means of a pointed marking tool or pencil inserted through any two of the parallel slots 30 and a line 33 may be marked through the slot 32 in the guide. After the guide is removed the holes 25 may be made anywhere along the lines 31, and a hole 26 may be made on line 33. The holes will then be correctly spaced so that the template may then be positioned on the holding plate with bolt holes in alinement with grooves 11 in the holding plate and with hole 26 in alinement with one of the holes 16 in the holding plate.

What we claim is:

1. A device of the character described having a plate on which a template support may be adjustably mounted, said plate being formed with a plurality of parallel grooves and horizontal flanges projecting into said grooves intermediate the top and bottom thereof in combination with a template support having a part which is slidable in the portion of the groove below said flanges and a part of which is slidable in the portion of

the groove above the flanges, and means for clamping a template to said support in its adjusted position.

2. A device of the character described comprising a plate having a plurality of parallel grooves therein, horizontal flanges projecting into said grooves intermediate the top and bottom of the groove, a template support comprising a base portion which is slidable in the portion of the groove beneath the flanges, and a separable top portion which is slidable in the part of the groove above the flanges, and means for clamping a template to said supporting member and for holding the supporting member in its adjusted position.

3. A device of the character described comprising a plate having a plurality of parallel grooves therein, horizontal flanges projecting into said grooves intermediate the top and bottom of the groove, a template support having a base portion which is slidable in the portion of the groove beneath the flanges, and a top portion which is slidable in the portion of the groove above the flanges, said top portion of the supporting member having an extension which projects above the upper surface of said grooved plate to maintain the template at a slight elevation above the face of the plate, and means for clamping a template to said supporting member and for holding the supporting member in its adjusted position.

4. A device of the character described comprising a plate having a plurality of parallel grooves therein, horizontal flanges projecting into said grooves intermediate the top and bottom of the groove, a template-supporting member having a base portion which is slidable in the portion of the groove below the flanges, and a separable top portion which is slidable in the part of the groove above the flanges, the said top and bottom portions of said template supporting member being each formed with a screw hole, one of which is in alinement with the other, clamping screws which pass down through the holes in the top members and into the holes in the bottom members, whereby the setting down of said screws will clamp the said supporting members to said flanges, and are adapted to clamp a template to said supporting member.

5. A device of the character described comprising a plate having a plurality of parallel grooves therein, horizontal flanges projecting into said grooves intermediate the top and bottom of the groove, a plurality of

blocks slidable in said grooves beneath the said flanges, a washer associated with each block and slidable on said flanges within said groove, said block having a vertical screw hole and said washer having a hole in alinement with said screw hole, a headed screw inserted in the hole in the washer and adapted to be screwed down into the block whereby the said block and washer may be clamped in their adjusted position in the groove, and adapted to clamp a template to the upper side of said washer.

6. A device of the character described comprising a plate having a plurality of parallel grooves therein, horizontal flanges projecting into said grooves intermediate the top and bottom of the groove, a plurality of blocks slidable in said grooves beneath the said flanges, a washer associated with each block and slidable on said flanges within said groove, said washer having a boss on its upper face, said washer and boss having a hole in alinement with said screw hole, a headed screw inserted in the hole in the washer and adapted to be screwed down into the block whereby the said block and washer may be clamped in their adjusted position in the groove, the head of the screw being adapted to clamp a template to said washer when the screw is set down to clamp the block and washer in the groove.

7. A device of the character described having a plate on which a template support may be adjustably mounted, said plate being formed with a plurality of parallel grooves, partition members separating said grooves, in combination with a plurality of template supports adjustable in said grooves, means for clamping the body of a template to said adjustable supports, one or more of the partition members being formed with a plurality of screw holes, a washer having a hole and adapted to be positioned on said partition member with the hole in alinement with one of the screw holes in the partition member, said washer being adapted to form a support for a portion of the template, the holes in said washer and plate being adapted to receive a screw passing down through a template supported by said washer and through said washer into the screw hole in said partition member.

In testimony whereof we affix our signatures.

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