April 28, 1942. H. R. JAYNES 2,281,522

CLAMP FOR GRIPPING THE ADJACENT EDGES OF SHEET MATERIAL

Filed May 2, 1940

Fig. 1

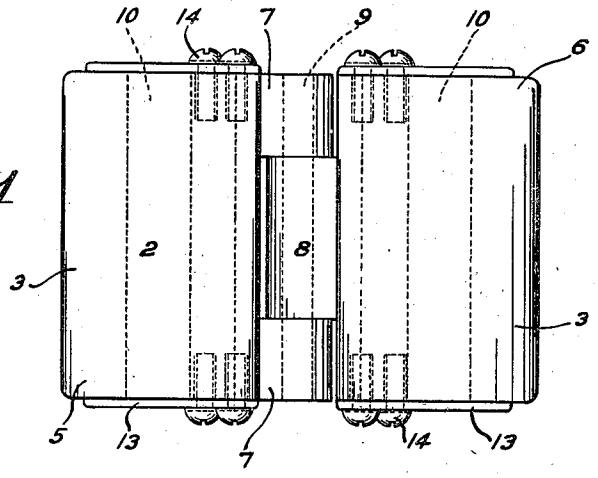


Fig. 2

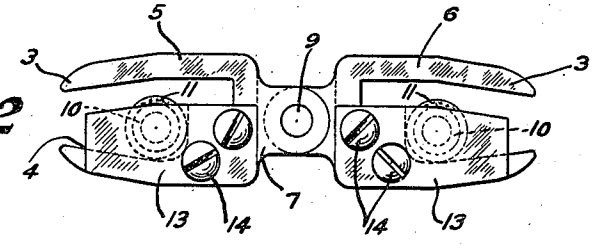
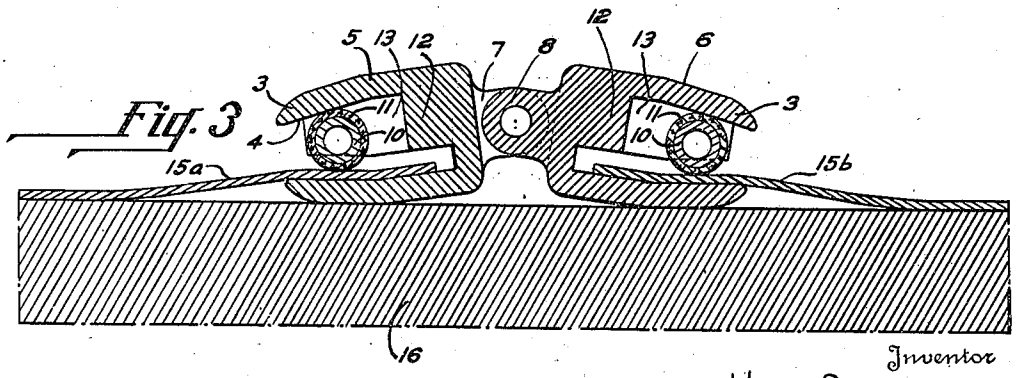


Fig. 3



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CLAMP FOR GRIPPING THE ADJACENT EDGES OF SHEET MATERIAL

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6 Claims. (Cl. 24—81)

This invention relates to a clamp and, more particularly, to a clamp for securely gripping and connecting large, comparatively thin sheets of floor or wall covering material, such as linoleum, felt base, rubber, or the like.

For economical purposes, it is essential that the various operations in the manufacture of floor or wall covering such as linoleum, felt base, or rubber, be conducted as continuous operations. Such practices require that various rolls of sheet material be secured to one another to form a continuous sheet of extreme length. Generally, the adjacent edges of the sheet material were taped or sewed together to form the continuous sheet. Such practices were undesirable and expensive since the portions of the sheets so taped or sewed together were rendered unsalable and need be discarded in the finished product. Additionally, the joint between the sheets was not so strong as required and frequently tore apart thus necessitating stoppage of the manufacturing operation until the destroyed joint could be repaired or replaced. In many cases, the tear extended some distance in the sheet material which created an additional amount of waste for such material cannot be sold. This has been a serious problem in the floor and wall covering industry but no one has heretofore devised a simple, economical device which would eliminate the disadvantages involved in the use of taped or sewed joints and which would satisfactorily secure the adjacent edges of sheet material together to permit continuous handling throughout the various manufacturing operations.

The chief object of my invention is to provide a simple, economical clamp of rugged construction which will satisfactorily grip the adjacent edges of sheet material and hold them together as a continuous sheet. An object of my invention is to provide a clamp for holding the adjacent edges of sheet material together so constructed that forces attempting to pull such edges apart serve to tighten the grip of the clamp upon such edges. A further object is to provide a hinged clamp adapted to flex at its center so that it may move over rolls and the like during manufacturing operations. A still further object is to provide a clamp which grips or holds the sheet firmly while engaging merely a small portion of the sheet material being handled. A still further object is to provide a clamp so devised that it possesses some degree of flexibility during the various operations in which it is used.

This invention relates to a clamp for gripping the adjacent edges of sheet material comprising a member having its opposed ends terminating in outwardly extending jaws between which the edge of a sheet may be inserted, and means placed between said jaws adapted to wedge therebetween, thereby securely holding the inserted edge of a sheet.

The attached drawing illustrates a preferred embodiment of my invention, in which

Figure 1 is a plan view of the clamp of my invention;

Figure 2 is a view in elevation of my clamp in inverted position; and

Figure 3 is a sectional view of the clamp shown in use gripping the adjacent edges of sheet material.

Referring to the drawing, there is shown a clamp for gripping the adjacent edges of sheet material comprising a frame member 2 having its opposed ends terminating in outwardly extending jaws 3. The jaws 3 taper inwardly as shown at 4 for a purpose hereinafter described and are rounded to a slight extent at their ends to prevent marring or disfiguring the surface of the sheet material with which the clamp is used. The member 2 may be formed as an integral or cast unit but I prefer to form it of two similar gripping members 5 and 6, each of which terminates in the outwardly extending jaws 3. The gripping member 5 terminates in two similar spaced hinge projections 7 having openings therein while the gripping member 6 terminates in a single hinge projection 8 having an opening therein. The projection 8 fits between the projections 7 in such manner that the openings therein are in alignment. A pin 9 is fitted in the openings extending through the projections 7 and 8 and serves to interlockingly connect the members 5 and 6, thus forming a flexible knuckle-joint connection therebetween.

Between the jaws 3 are disposed rolls or tubes 10 covered with a resilient, flexible, frictional coating 11 which may be cork and rubber composition, cork and synthetic rubber composition, cork composition, or the like. The surfacing 11 provides a cushioning effect when the roll 10 engages the edge of a held sheet; such coating also offers frictional resistance to movement of the sheet material thereunder. The roll 10 is adapted to wedge itself between the jaws 3 upon attempted removal of the edge of a sheet inserted between the jaws 3 and thus securely holds the inserted edge of the sheet in the clamp.

Preferably, the members 5 and 6 are provided with stops 12 which serve to prevent movement of the rolls 10 toward the interlocking connection

formed by the hinge projections 7 and 8. Such stops 12 may be cast or molded as an integral portion of the members 5 and 6 or may be secured therein in any desired manner. Plates 13 are secured on opposite sides of the members 5 and 6 by means of machine screws 14 and serve to prevent substantial lateral movement of the rolls 10, which would be undesirable since lateral movement thereof would necessitate replacement of the rolls in their proper positions.

In Figure 3, I have shown my clamp in use securely gripping the adjacent edges of sheet material. The sheets 15*a* and 15*b* are disposed on a base 16, the sheet 15*a* being secured in the gripping member 5 by the roll 10 wedging itself between the tapered jaws 3 and securely holding the inserted edge of the sheet 15*a* between itself and a jaw. The inserted edge of the sheet 15*b* is held in the same manner in the gripping member 6. Thus, it will be noted any force exerted longitudinally of the clamp to remove the inserted edges of sheet material from the clamp serves to further wedge the rolls 10 between the jaws 3 thus rendering more secure the grip of the clamp upon the inserted edges of the sheets. Any desired number of clamps may be used, of course, depending upon the width of the sheets held together to form a continuous sheet. The clamp may be removed from the sheets 15*a* and 15*b* by moving the rolls 10 in the members 5 and 6 toward the stops 12 thus releasing the grip of the clamp upon the sheets and holding the rolls 10 in such position while withdrawing the edges of the sheets 15*a* and 15*b* therefrom. The hinged joint connection of the clamp is especially desirable since the clamp is thus free to flex at its center permitting it to be moved over the various wind-up rolls, for example, during the continuous manufacturing operations customarily employed in the floor and wall covering industry.

While I have described and illustrated a preferred embodiment of my invention it will be understood my invention is not limited thereto since it may be otherwise embodied within the scope of the following claims.

I claim:

1. A clamp for gripping and connecting the adjacent edges of sheet material such as linoleum, felt base and the like during factory processing comprising similar sheet gripping members interlockingly connected to one another, each of said members terminating in outwardly extending jaws between which the edge of a sheet may be inserted, and means disposed between said jaws adapted to wedge therebetween thereby securely holding the inserted edge of a sheet.

2. A clamp for gripping and connecting the adjacent edges of sheet material such as linoleum, felt base and the like during factory processing comprising similar sheet gripping members hingedly connected to one another, each of said members terminating in outwardly extending jaws between which the edge of a sheet may be inserted, and a roll held between the jaws of a gripping member adapted to wedge therebetween thereby securely holding the inserted edge of a sheet.

3. A clamp for gripping and connecting the adjacent edges of sheet material such as linoleum, felt base and the like during factory processing comprising similar sheet gripping members, each terminating in outwardly extending jaws between which the edge of a sheet may be inserted, the opposite end of one of said members terminating in two spaced projections having openings therein, the opposite end of the other member terminating in a single projection having an opening therein adapted to be placed in alignment with the openings in said spaced projections, means fitting in the openings adapted to interlockingly connect said members with one another, and a roll held between said jaws adapted to wedge therebetween, thereby securely holding the inserted edge of a sheet.

4. A clamp for gripping and connecting the adjacent edges of sheet material such as linoleum, felt base and the like during factory processing comprising a sheet gripping member terminating in spaced jaws between which the edge of a sheet may be inserted, the opposite end of said member terminating in two spaced projections having openings therein, a roll placed between said jaws and being movable longitudinally therein, plates mounted on said member adapted to prevent substantial lateral movement of said roll, said roll being adapted to wedge itself between said jaws to hold the inserted edge of a sheet, a second gripping member terminating in spaced jaws between which the edge of a second sheet may be inserted, the opposite end of said second member terminating in a single projection having an opening therein adapted to be placed in alignment with the openings in said spaced projections, a roll placed between the jaws of the second gripping member and movable longitudinally therein, plates mounted on said second member adapted to prevent substantial lateral movement of said roll, said roll being adapted to wedge itself between said jaws to hold the inserted edge of the second sheet, and means fitting in the aligned openings of said projections interlockingly connecting said members.

5. A sheet gripping member comprising a body member terminating in spaced, converging jaws between which the edge of a sheet may be inserted, the opposite end of said member terminating in means adapted to engage a similar gripping member, a roll placed between said jaws movable longitudinally therein, said roll being adapted to wedge itself between said jaws to hold the inserted edge of a sheet, and plates mounted on opposite sides of said member to prevent substantial lateral movement of said roll.

6. A sheet gripping member comprising a body member, one end of which terminates in spaced, converging jaws between which the edge of a sheet may be inserted, the opposite end of said member terminating in means adapted to engage a similar gripping member, a roll covered with a resilient coating placed between said jaws and movable longitudinally therein, said roll being adapted to wedge itself between said jaws to hold the inserted edge of a sheet, a stop integrally united with said member adapted to prevent longitudinal movement of said roll in one direction, and plates mounted on opposite sides of said member to prevent substantial lateral movement of said roll.

HARRY R. JAYNES.