Aug. 7, 1923. 1,464,389

J. M. LANCASTER

FURNITURE CLAMP

Filed Jan. 10, 1922 3 Sheets-Sheet 1

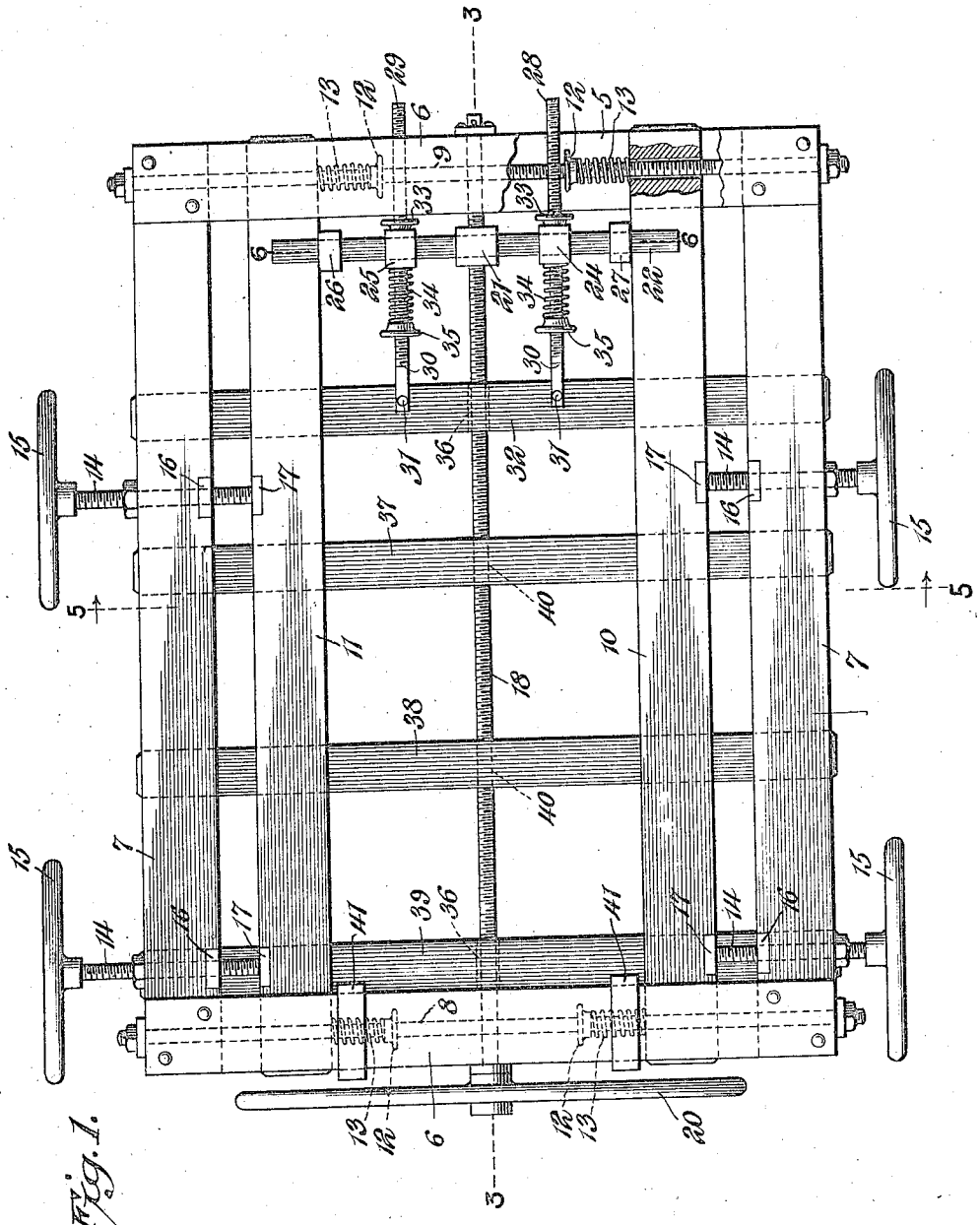


Fig. 1.

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FURNITURE CLAMP

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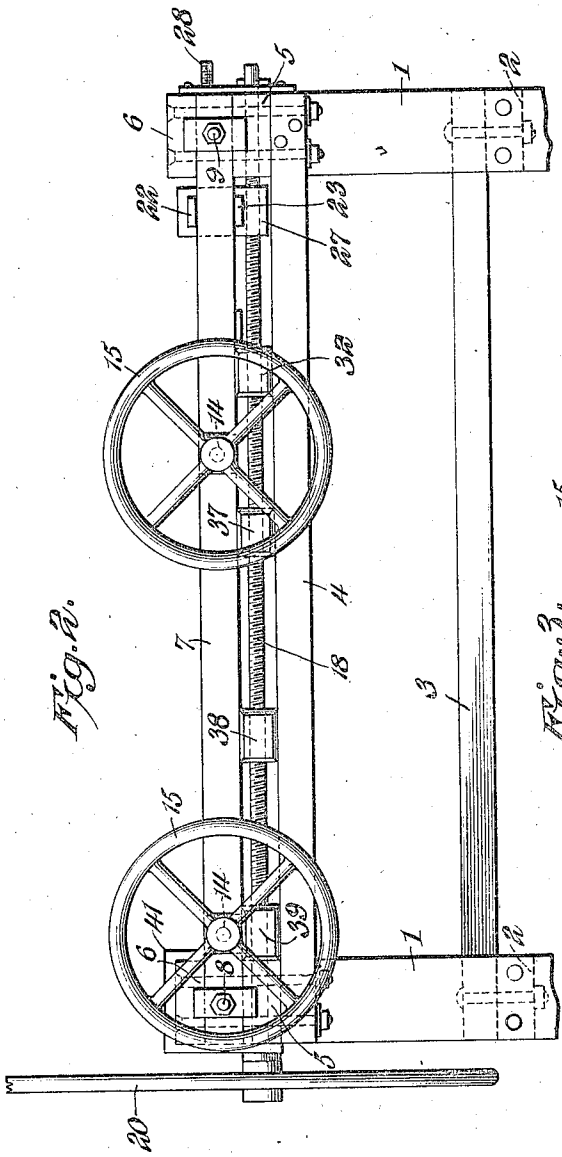


Fig. 2.

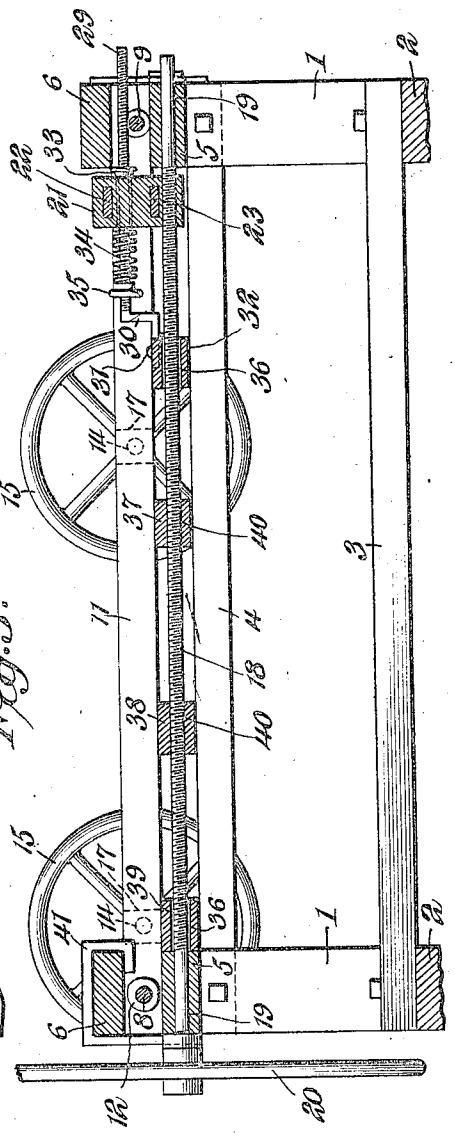


Fig. 3.

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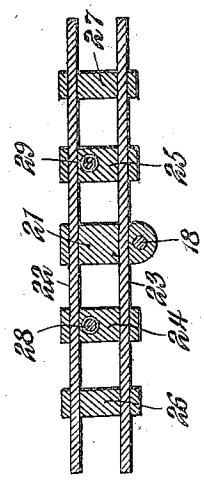
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FURNITURE CLAMP

Filed Jan. 10, 1922 3 Sheets-Sheet 3

Fig. 6.



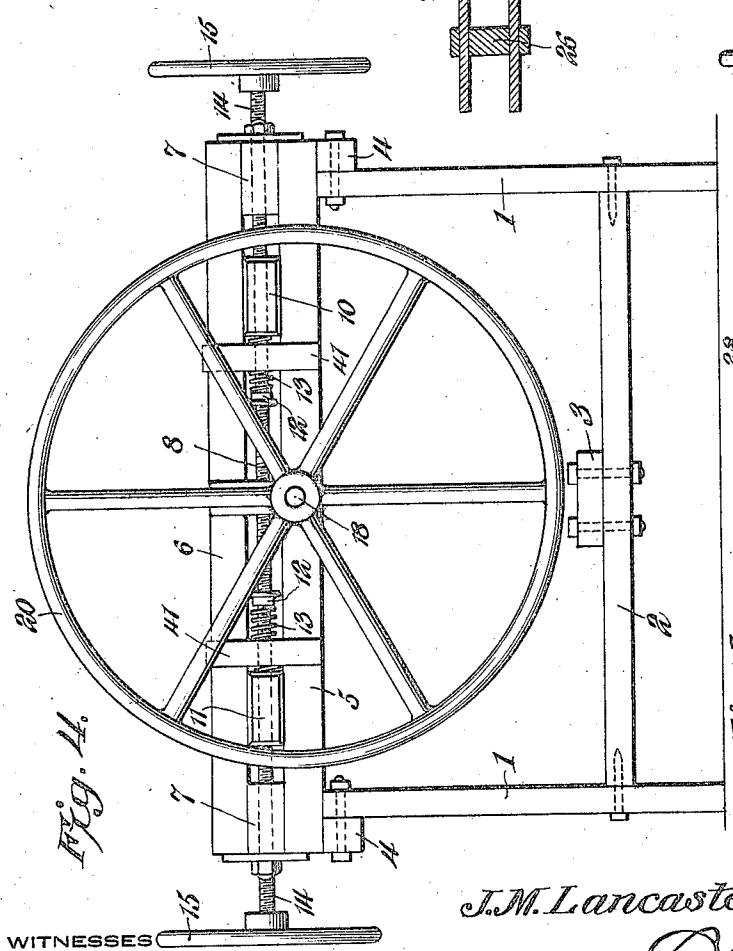


Fig. 4.

Fig. 5.

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Patented Aug. 7, 1923. 1,464,389

UNITED STATES PATENT OFFICE.

JETER M. LANCASTER, OF HIGH POINT, NORTH CAROLINA.

FURNITURE CLAMP.

Application filed January 10, 1922. Serial No. 528,189.

To all whom it may concern:

Be it known that I, JETER M. LANCASTER, a citizen of the United States, residing at High Point, in the county of Guilford and State of North Carolina, have invented a new and useful Furniture Clamp, of which the following is a specification.

This invention relates to furniture clamps, and has for its object the provision of a new and improved frame having a plurality of adjustable clamping means, whereby the assembled parts of a panel of a cupboard, cabinet, dresser, chiffonier or any other kind of furniture, or ordinary doors, may be securely clamped together in a plurality of directions, in order to form close fitting joints, and at the same time to automatically square the panel to form a true and uniform product.

It is a further object of this invention to provide an adjustable or movable supporting base for the furniture whereby it is unnecessary to employ blocks or strips of wood for building up or elevating certain parts of the furniture because of the various forms of curved or carved legs forming part of the furniture.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing in the drawings, but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:—

Fig. 1 is a plan view of my improved furniture clamp.

Fig. 2 is a side elevation of the same.

Fig. 3 is a longitudinal section taken along the line 3—3 of Fig. 1.

Fig. 4 is an end view of the furniture clamp.

Fig. 5 is a transverse section taken along the line 5—5 of Fig. 1.

Fig. 6 is a transverse section of the end clamping member, taken along the line 6—6 of Fig. 1.

Referring more particularly to the drawings, 1 designates standards or legs vertically mounted at the four corners of the clamping device, having end brace bars 2 connecting pairs of the adjacent end standards 1, and a longitudinal transverse beam 3 connecting the end brace bars 2 at a point intermediate their ends. Side bars or beams 4 connect the upper ends of the standards 1 and form part of each side of the clamping frame.

The clamping frame is mounted upon the upper ends of the posts or standards 1, and comprises end members 5 and 6 spaced from each other by the longitudinal side members 7, the end member 5 having its ends secured between the side members 4 and 7, (Fig. 4).

Screw-threaded rods 8 and 9 are respectively mounted between the end members 5 and 6, and secured in position by means of nuts drawn up tight against washers placed between the nuts and the ends of the longitudinal side members 7. Slidably mounted at their ends upon the screw-threaded rods 8 and 9 are longitudinal side clamping bars 10 and 11 having their outer ends projecting between the spaced end bars 5 and 6. Wheels 12 having an internally screw-threaded central perforation are mounted on the rods 8 and 9 and are adapted to be adjusted towards each other between the side clamping members 10 and 11. Coil springs 13 are located between the respective side members 10 and 11 and the wheels 12. As the wheels are adjusted along the rods 8 and 9 towards the respective side clamping members 10 and 11, the tension of the springs 13 is increased or diminished in order to vary the force of the springs for moving the side clamping members 10 and 11 outwardly towards the longitudinal members 7 of the frame.

A pair of screw shafts 14 are mounted in transverse passages in each longitudinal side member 7 and provided with hand wheels 15 for rotating said screws. Nuts 16 are secured to the inner faces of the longitudinal side members 7, and in alinement with the transverse passages in the side members 7, so that as the hand wheels 15 are operated, the threads of the screws 14 meshing with the internally threaded passages in

the nuts 16, will cause the inner end of the screws 14 to move in or out toward or from the clamping members 10 or 11, depending upon the direction of rotation of the wheels 15. Blocks 17 of any approved construction and material are secured in the outer longitudinal side faces of the clamping members 10 and 11, so that the central portion of said blocks will be in alinement with the ends of the screws 14 and be engaged by said ends when the hand wheels 15 are rotated for moving the screws inwardly to force the clamping members 10 and 11 towards each other. The springs 13 return the clamping members to their normal outward positions, when the hand wheels are rotated in a direction which is the reverse of their direction of rotation for moving the screws inwardly.

A screw shaft 18, disposed centrally and longitudinally of the clamping frame, has cylindrical portions, mounted in bearings 19 formed in the opposite end members 5 of the clamping frame. On the end of the screw shaft 18 is provided a hand wheel 20 for rotating the shaft 18. At the other end of said screw 18 is provided an end clamping member comprising a block 21 having a screw-threaded passage in its lower end engaged by the threads of the shaft 18. The block 21 is provided with spaced transverse passages above the shaft 18, in which are secured the spaced transverse guide bars 22 and 23. Similar blocks 24 and 25 spaced upon opposite sides of the block 21 have spaced transverse passages through which are inserted the transverse guide bars 22 and 23. Slidably mounted upon the bars 22, 23 at opposite sides of the respective blocks 24 and 25 are furniture stops 26 and 27 which are movable towards and away from each other by the movement of the members 10 and 11.

The blocks 24 and 25 are provided with horizontal passages through which are inserted rods 28 and 29, extending longitudinally of the frame and screwthreaded for a portion of their length. Each rod extends outwardly and between the spaced end members 5 and 6 of the frame and inwardly beyond the blocks 24 and 25, and are then bent downwardly at right angles, as shown at 30, and then forwardly at right angles to the bent portion 30 and secured at 31 to a transverse bar 32 forming part of the supporting base of the furniture clamping device.

Wheels 33 having a screw-threaded central perforation engage the screwthreads of the rods 28 and 29, and are adapted to be screwed up against the blocks 24 and 25. A coil spring 34 surrounds the inner end of each rod 28 or 29, and is held under tension by means of the wheel 35.

The bar 32 is provided with a central passage 36 through which the screw shaft 18 is adapted to be moved, or in other words, the bar 32 is slidable on the screw-threaded shaft 18.

Variously spaced from the bar 32 and from each other are other bars 37, 38, 39, forming with the bar 32 a complete supporting open base or floor of the furniture clamp, and upon which is adapted to rest any piece or panel of the furniture which is to be clamped in the device. All the bars 32, 37, 38 and 39, have their outer ends located between the longitudinal side members 4 and 7 of the clamping frame and are slidable therebetween. Bars 37 and 38 are provided with transverse central passages 40 having a screw-threaded engagement with the threads of the shaft 18, and are adapted to be moved longitudinally of the frame when the shaft 18 is rotated. The base bar 39 is provided with a central transverse passage 36 which is sufficiently large in diameter to permit the shaft 18 to rotate within the passage but nevertheless allows the bar 39 to slide between the ends of the side members 4 and 7 and on the shaft 18. The floor bar 32 is adapted to move towards one end of the frame simultaneously with the bars or beams 37 and 38, since the rods 28 and 29 connect beam 32 respectively with blocks 24 and 25 which move simultaneously with block 21 by reason of their connection with the guides 22 and 23, block 21 being moved by the rotation of the screw 18.

Slidably mounted upon one end of the frame, or more particularly upon the end members 5 and 6, are furniture stops 41 located between the side clamping members 10 and 11 and movable towards and away from each other.

The stops 41, like the furniture-stops 26 and 27, are movable towards each other along their respective guides by the side clamping members 10 and 11, when the latter are moved towards each other as the hand wheels 15 are rotated to force the screws 14 inwardly.

When it is desired to clamp a certain number of panels with their intermediate stays or reinforcing members to the side posts of one section of a piece of furniture, the posts are placed in position longitudinally of the clamping frame with one edge in engagement with the inner edges of the clamping members 10 and 11. The ends of the panel are placed transversely of the frame and have their outer ends, which have been previously treated with glue, positioned within the usual slots formed longitudinally in one face of the posts. The upper ends of the posts are in engagement with the furniture stops 41, while the lower ends or feet of the posts are placed in alinement with the furniture stops 26 and 27, the posts being supported by the floor beams

32, 37, 38 and 39. The open space between the end member 5 and the floor beam 32 will receive the curved or carved portions of the leg of the post, and therefore no boards will be necessary to elevate the posts above the floor space because of the decorative portion of a post being outside of the plane of the post.

If it be found that the bent portions 30 of the screw-threaded rods 28 and 29 interfere with the positioning of the bottom panel, the lower edge of the bottom panel may be forced against the bent portions 30, and since the rods 28 and 29 are resiliently held by the coil spring 34, these rods may be moved outwardly towards one end of the frame so that the bottom panel may be positioned with the lower edge of said panel in engagement with the bent portion 30 of the rods 28 and 29.

Since the base supporting bar 32 is connected to the rods 28 and 29, this bar will be moved outwardly with the rods towards the end of the frame, but nevertheless in supporting relation with the posts of the part of the furniture to be clamped. To operate the end clamping member, it is only necessary to rotate the hand wheel 20 for rotating the shaft 18, when the threads of said shaft will engage the threads of the passage through which said shaft passes, and cause the end clamping member to be drawn towards the piece of furniture until the furniture-stops 26 and 27 will be seated against the feet of the side posts. It will be seen that the posts are clamped between the stops 41 upon one end of the frame and the stops 26 and 27 at the other end of the frame, while the side edges of the post will be in engaging position with the inner edges of the side clamping members 10 and 11. As the hand wheels 15 are rotated upon one side of the clamping frame, the posts will be moved towards each other, forcing the ends of the panels snugly within the slotted portions of the posts. The downwardly-bent members 30 will be drawn up tight against the bottom edge of the lower panel, while the respective furniture engaging members located upon the opposite ends of the frame will be drawn up tight against the ends of the post as the hand wheel 20 is rotated.

By reason of the movement of the several clamping members in directions which are at right angles to each other, it will be seen that the panel of the furniture will be properly squared and held true, and the posts of the panel will not be displaced when nails or screws are applied in the necessary places.

In placing the panel in the clamping frame, the clamping member 11 may be properly positioned by rotating the hand wheels 15, so that it will be only necessary to operate the side hand wheels for moving the clamping member 10 into engaging position with one post of the panel, the other post of the panel having been placed in engagement with the clamping member 11.

If it be desired to clamp panels in posts which have a considerably shorter length than the clamping frame, the hand wheel 20 may be rotated, whereby the floor bars 37 and 38, and likewise the floor bar 32 by reason of its connection with the blocks 24, 25, will be moved towards the end of the frame where the hand wheel 20 is located, thus shortening the space between that end of the frame and the end clamping member. The blocks 24 and 25 being slidably mounted on the guides 22 and 23 of the clamping frame, will be moved with the block 21, since the blocks 21, 24 and 25 and the guides 22 and 23 form the end clamping frame. As the screw shaft 18 is rotated by the hand wheel 20, it will engage the threads of the threaded passage in the block 21 and thereby cause the block 21 and the end clamping frame to move toward the other end of the clamping frame. The side clamping members 10 and 11 are moved towards each other by the hand wheels 15 in the same manner as has been described. The side clamping members 10 and 11 may approach each other and move the furniture engaging members towards the center of the frame, since these side clamping members are sufficiently thin to slide between the transverse guides 22 and 23.

The particular advantage of this clamp resides in the movable bed made up of the spaced bars 32, 37, 38 and 39, which bed always leaves free the feet on the post of the article of furniture. A clamp with a solid stationary bed does not possess this advantage, but has to be built up with pieces under the post to hold the foot of the post off of the bed of the clamp.

Another advantage of this is that by rotating wheel 20, the post and panel of a dresser or chiffonier end are clamped level and square at top, without the use of a hammer. This clamp, if made larger, will also clamp beds.

What is claimed is:—

1. A furniture clamp comprising a pair of oppositely-disposed side clamping members, an end clamping member movable between the pair of side clamping members, and a movable base composed of a series of spaced bars which are arranged for movement toward and from each other, one of said bars being connected to and movable by the end clamping member.

2. A furniture clamp comprising a pair of oppositely-disposed side clamping members, an end clamping member movable between the pair of oppositely-disposed clamping members, and a base member movable

longitudinally of the side clamping members, said base member including a plurality of transverse horizontal bars, one of said bars being connected with the end clamping member.

3. A furniture clamp comprising a pair of oppositely-disposed side clamping members, an end clamping member movable between the pair of side clamping members, and a base member movable longitudinally of the side-clamping members and simultaneously with the end clamping member, said base member including a plurality of transverse horizontal bars spaced from the end clamping member and from each other, one of said bars being independently adjustable toward and away from the end clamping member.

4. A furniture clamp comprising clamping members mounted on a frame for clamping the sides of a piece of furniture, a supporting base comprising a plurality of spaced bars, and a longitudinal screw upon which said bars are mounted, said base being movable as a unit longitudinally of the frame by the rotation of said screw, and one of the bars being independently adjustable toward and away from the other members.

5. A furniture clamp comprising a pair of oppositely-disposed side clamping members, an end clamping member movable between the side clamping members at a right angle to the movement of the side clamping members, a supporting base comprising a plurality of bars, means for moving said bars simultaneously with the end clamping member and in the same direction, one of said bars being movable independently of the end clamping member, and means for maintaining said bar in spaced relation with the end clamping member.

6. A furniture clamp comprising a pair of oppositely-disposed side clamping members, an end clamping member movable between the side clamping members at a right angle to the movement of the side clamping members, a supporting base comprising a plurality of bars, means for moving said bars simultaneously with the end clamping member in the same direction, and means for moving one of said bars independently of the end clamping member.

7. A furniture clamp comprising clamping members mounted on a frame for clamping the ends of a piece of furniture, a supporting base comprising a plurality of bars, means for moving said bars simultaneously with one of the clamping members, one of said bars being movable independently of the clamping member, and means for adjusting the position of the movable bar of the base member relative to the end clamping member.

8. In a furniture clamp, a frame comprising end bars and side bars having their adjacent ends connected together, a pair of oppositely-disposed side clamping members movable transversely of the frame, an end clamping member movable between the side clamping members, furniture gripping means slidably mounted on the end clamping member and adjusted inwardly by the inward movement of the side clamping members are moved toward each other, resilient means tending to restrain movement of the side clamping members towards each other and to return said side clamping members to their outer position, and a base member connected to the end clamping member and movable thereby longitudinally of the frame.

9. In a furniture clamp, a frame comprising end bars and side bars having their adjacent ends connected together, a pair of oppositely-disposed side clamping members movable transversely of the frame, an end clamping member movable between the side clamping members, resilient means tending to restrain movement of the side clamping members towards each other and to return said side clamping members to their normal position, a base member comprising a plurality of bars slidably mounted for longitudinal movement on the side members of the frame, means for moving all of said bars simultaneously with the end clamping member, and means for independently adjusting the bar nearest the end clamp toward and away from said clamp.

10. In a furniture clamp, a frame comprising end bars and side bars having their adjacent ends connected together, a pair of oppositely-disposed side clamping members movable transversely of the frame, an end clamping member movable between the side clamping members longitudinally thereof, a base member movable longitudinally of the frame, said base comprising a plurality of bars slidably mounted for movement longitudinally of the side members of the frame, means for moving all of said bars simultaneously with the end clamping member, and means for independently adjusting the bar nearest the end clamp toward and away from said clamp.

11. A furniture clamp, comprising a frame, side clamping members, an end clamping member movable between the side clamping members, means slidably mounted on the end clamping member for engaging the feet of the posts of a panel of furniture, and means on the end clamping member movable transversely of the sliding movement of the feet-engaging means for engaging an edge of the panel of the furniture.

12. A furniture clamp, comprising a frame, side clamping members, an end clamping member movable between the side clamping members and mounted on the frame, means slidably mounted on the end

clamping member for engaging the feet of furniture, and resilient means on the end clamping member movable transversely of the sliding movement of the feet-engaging means for engaging an edge of the panel of the furniture, the feet-engaging means and the panel-engaging means being movable with the end clamping member and independently of each other and also independently of the end clamping member.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature.

JETER M. LANCASTER.