



June 7, 1955

P. R. GRAHAM

2,709,855

DOOR AND DOOR JAM MORTISING JIG

Filed May 22, 1952

2 Sheets-Sheet 2

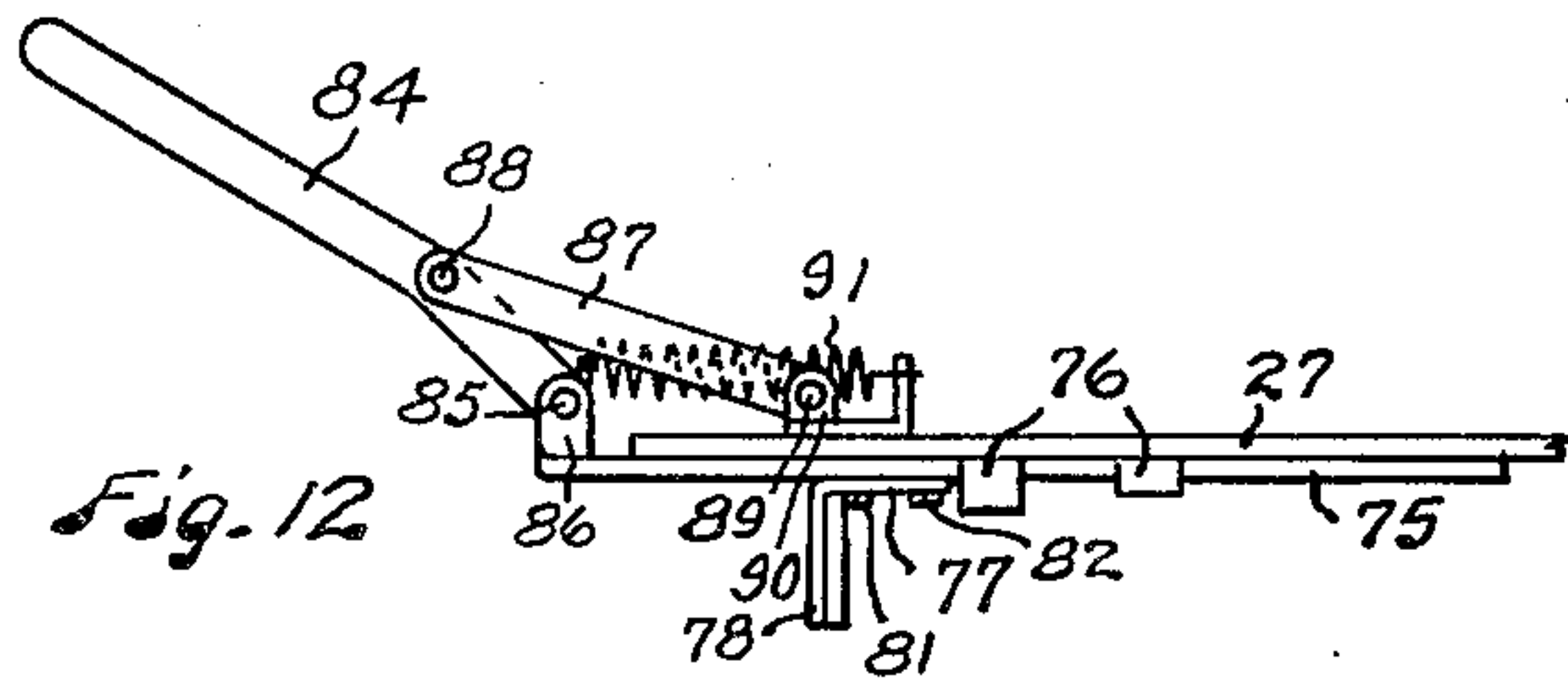


Fig. 12

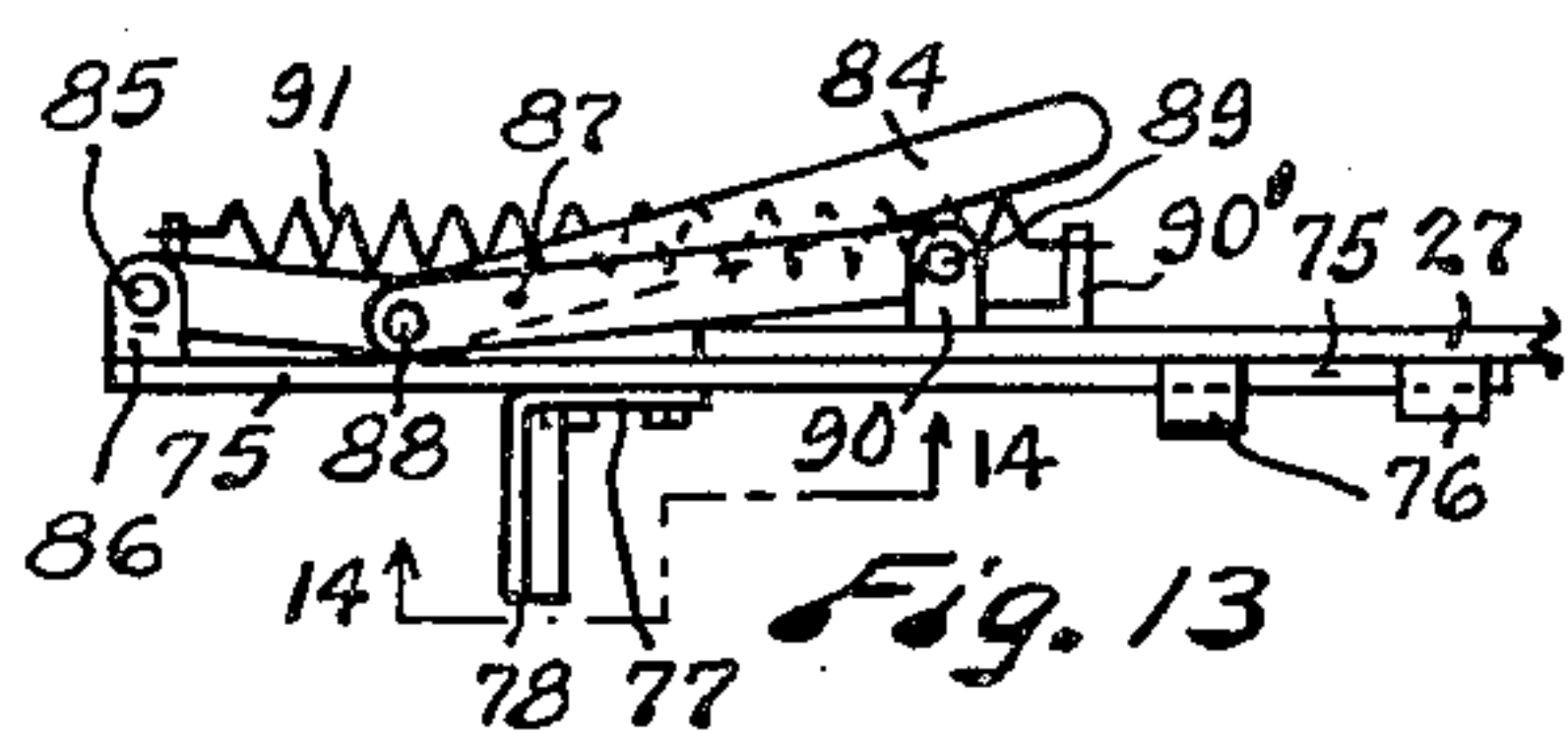


Fig. 13

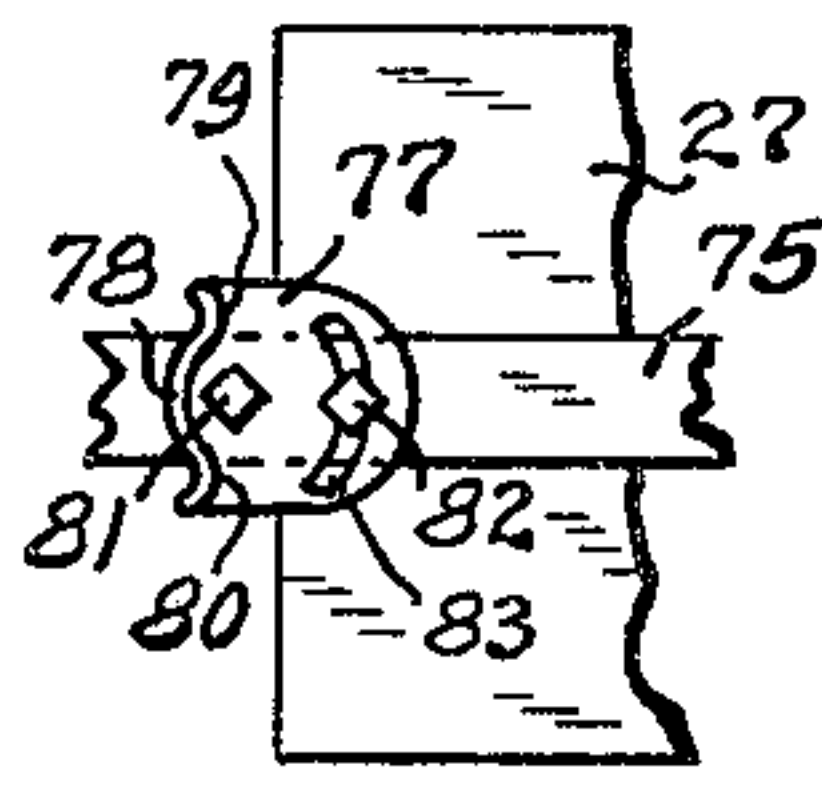


Fig. 14

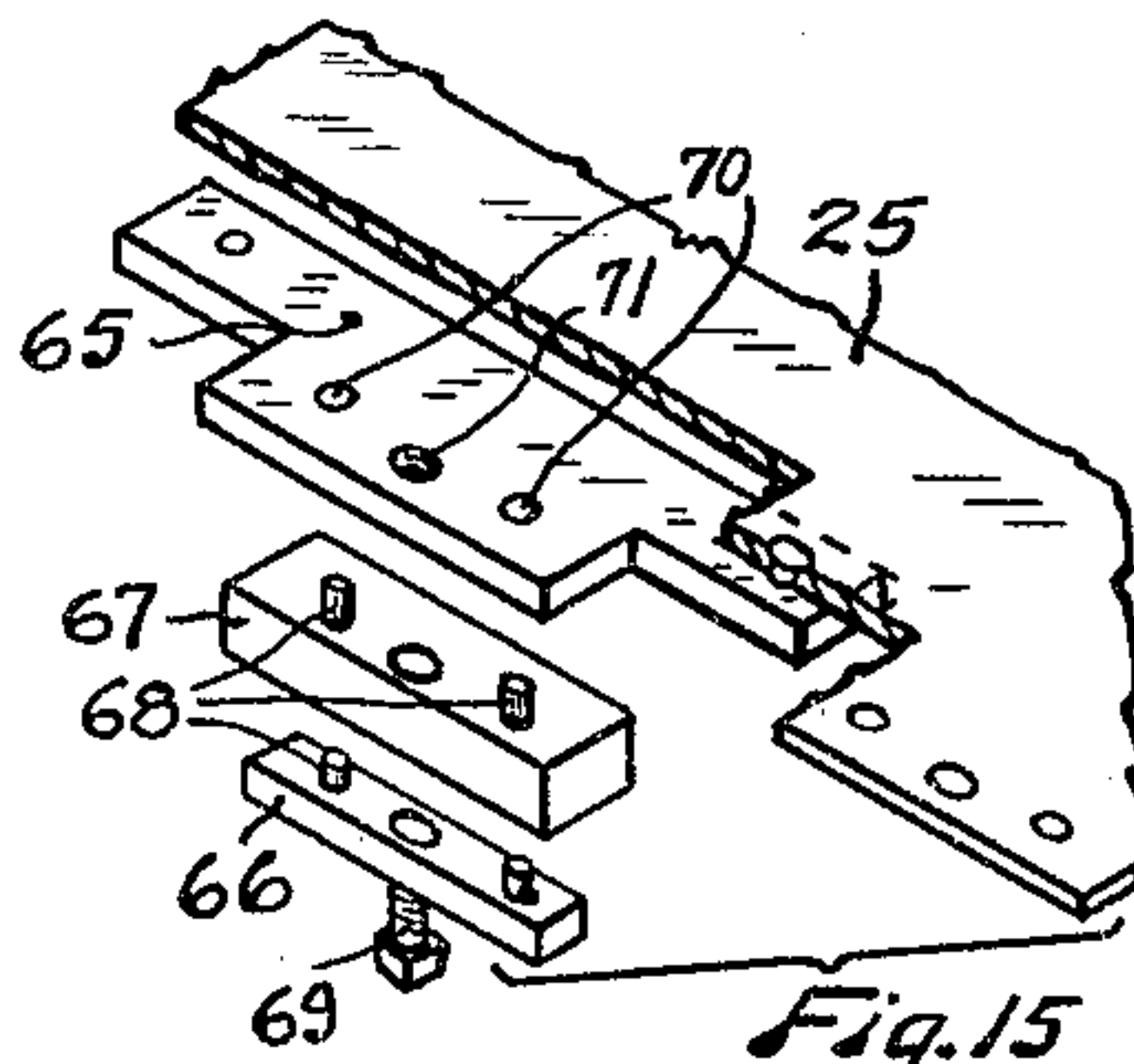


Fig. 15

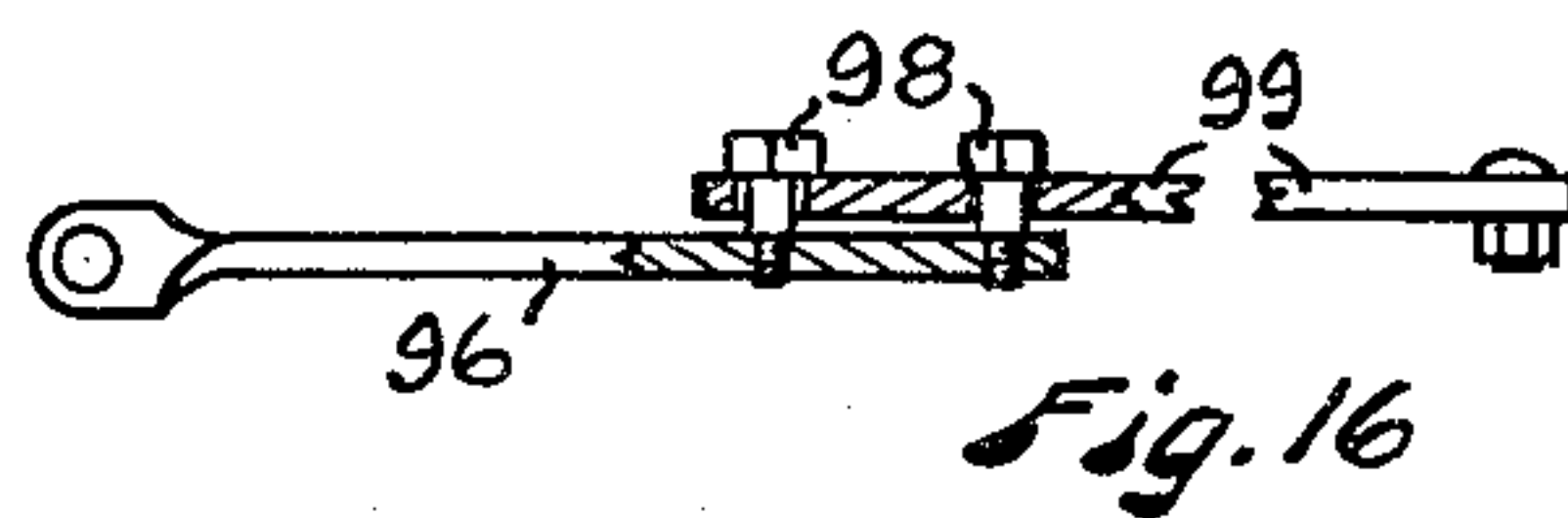


Fig. 16

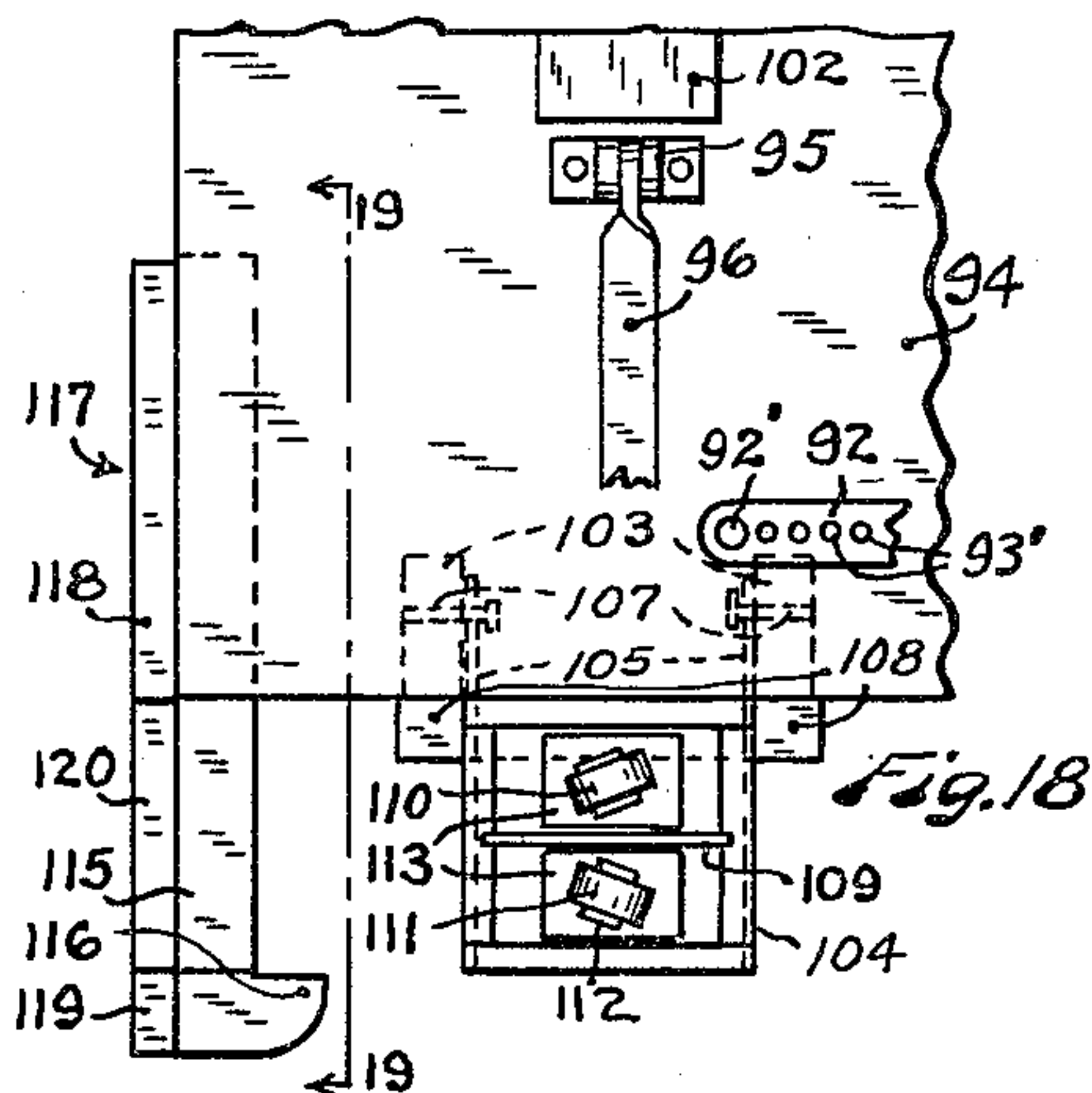


Fig. 18

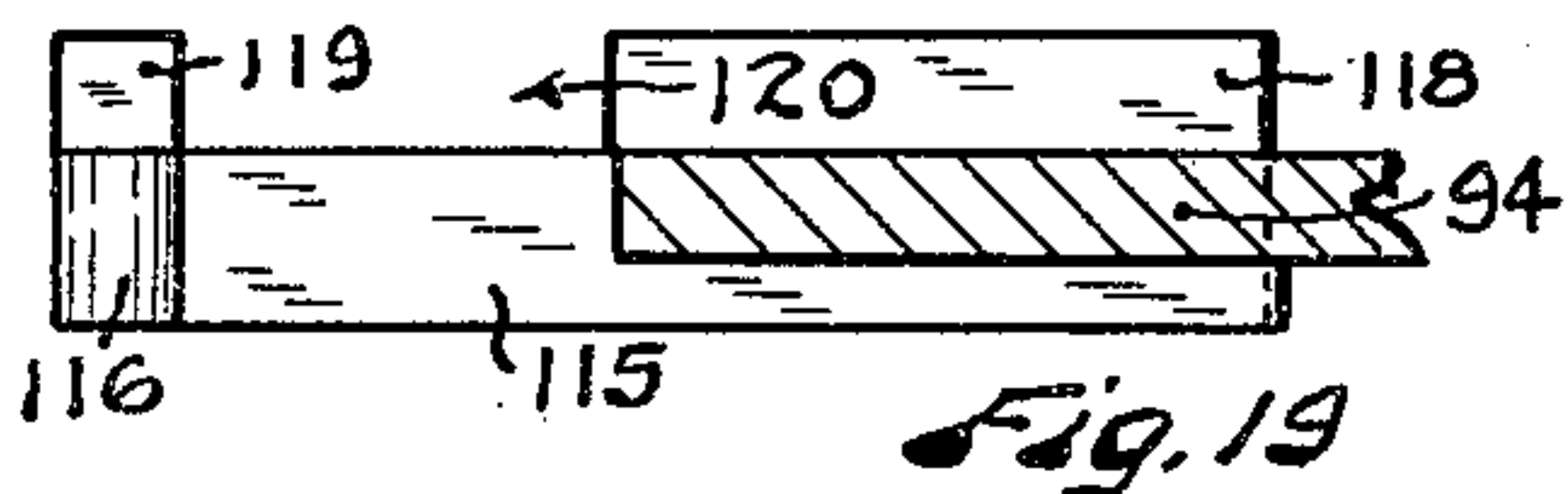


Fig. 19

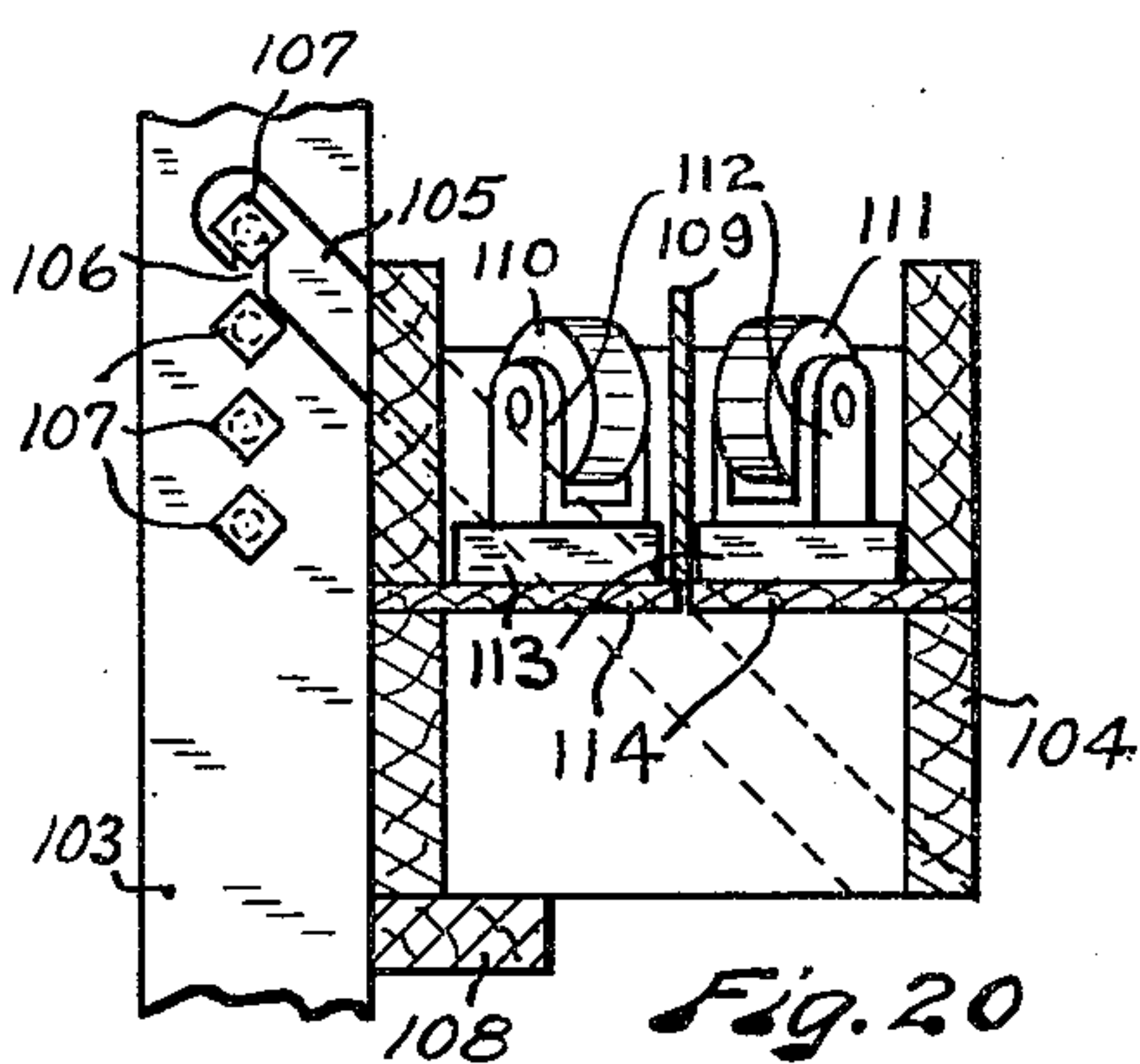


Fig. 20

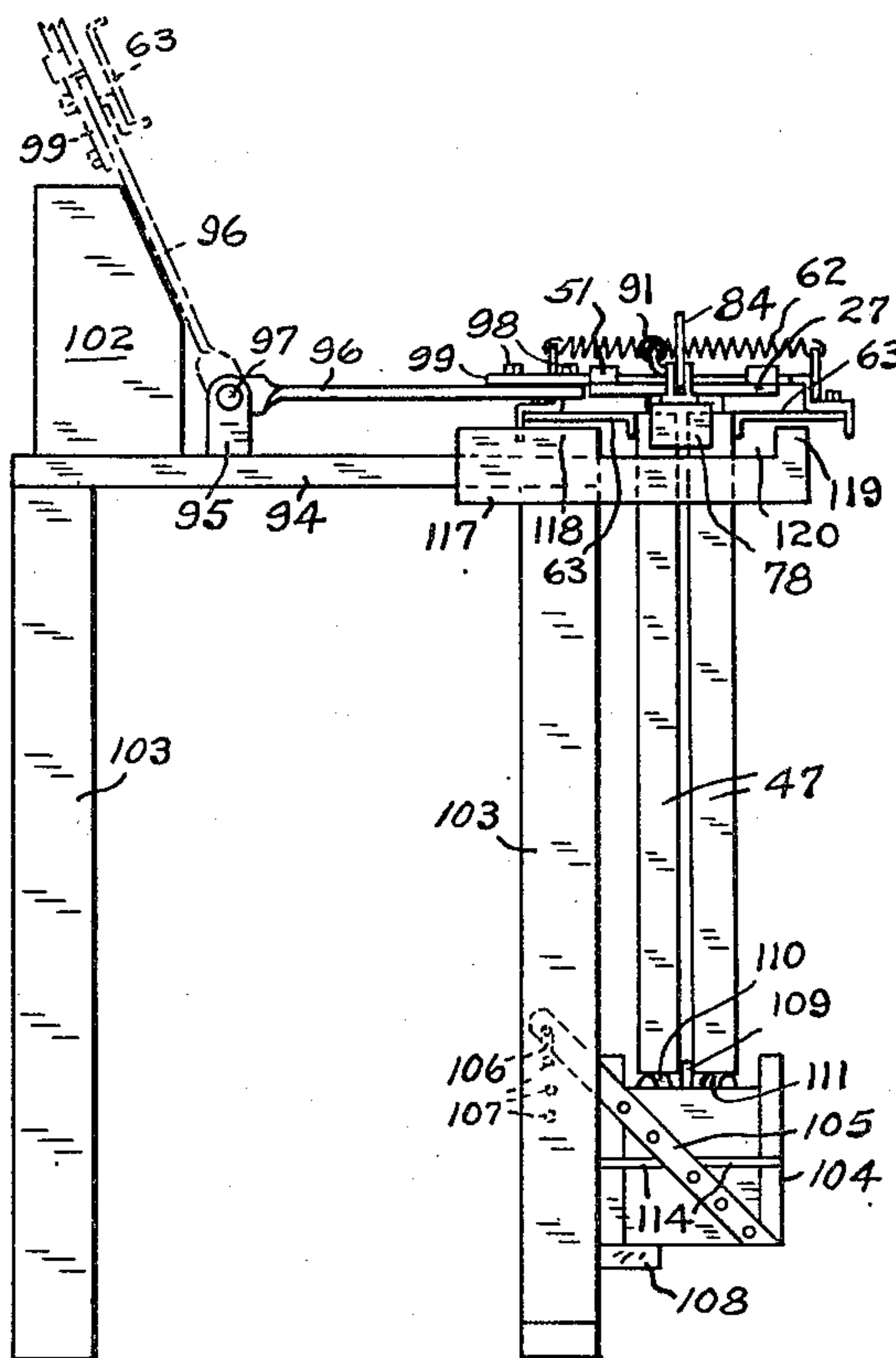


Fig. 17

INVENTOR.

Percy R. Graham  
BY Fred C. Matheny  
ATTORNEY



2,709,855

## DOOR AND DOOR JAM MORTISING JIG

Percy R. Graham, Seattle, Wash.

Application May 22, 1952, Serial No. 289,303

12 Claims. (Cl. 33—197)

This invention relates to a mortising jig for use in mortising wooden doors and door jams to receive butt hinges.

An object of this invention is to provide a jig of simple and efficient construction which makes it possible to quickly and easily mortise wooden doors and door jams preparatory to their use in a building and at a location remote from the location where the doors and door jams are being used and with a degree of accuracy sufficiently high to provide interchangeability of parts thus doing away with much of the cutting and fitting usually necessary in the installation of door jams and doors.

Another object of the invention is to provide a mortising jig which can be used to accurately mortise two doors or two door jams at a single mortising operation, thus saving much time and expense in the installation of wooden doors in building structures.

Another object of this invention is to provide a mortising jig for wooden doors and door jams which makes it possible for an unskilled operator using only a power driven routing tool to rapidly mortise wooden doors and door jams with a degree of accuracy which makes them interchangeable in use and eliminates much cutting and fitting in installation.

Another object is to provide a mortising jig of this type which is quickly and easily adjustable to doors and door jams of the different lengths or heights ordinarily used in buildings.

Another object is to provide novel and efficient means for mounting this mortising jig and for supporting doors and door jams to which this jig is applied.

The fitting and hanging of doors by the method and with the tools ordinarily used by carpenters necessitates the fitting of each door to its particular frame and requires considerable skill and takes a substantial amount of time and calls for a good deal of measuring and a good deal of heavy work in handling and fitting the doors. My present invention minimizes these objections and at the same time insures greater accuracy in the fitting and hanging of the doors.

Other objects of this invention will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings

Figure 1 is a top plan view, with parts broken away, showing a mortising jig constructed in accordance with this invention and showing the same apart from the mounting means and work supporting means with which it is usually associated.

Fig. 2 is an edge view, with parts broken away, of the mortising jig shown in Fig. 1.

Fig. 3 is a view partly in cross section and partly in elevation, taken substantially on broken line 3—3 of Fig. 1 and on a larger scale than Fig. 1, showing this mortising jig applied to the edge portions of two doors, the jig supporting means and door supporting means being omitted.

Fig. 4 is a view similar to Fig. 3 showing the jig plate

applied to two door jams and showing fragmentarily means for supporting the door jams.

Fig. 5 is a fragmentary sectional view similar to Figs. 3 and 4 showing this mortising jig applied to a one piece single rabbeted jam which is narrower than the jams shown in Fig. 4 and only has one edge thereof rabbeted.

Fig. 6 is a fragmentary sectional view similar to Figs. 3, 4 and 5 showing this mortising jig applied to a narrow two piece jam of a type which is adapted to have a door stop nailed thereto.

Fig. 7 is a detached perspective view of an insert plate which has a work piece separator member attached thereto.

Fig. 8 is a detached perspective view of a pair of work clamping members used in this mortising jig.

Fig. 9 is a fragmentary sectional view taken substantially on broken line 9—9 of Fig. 1 and on a larger scale than Fig. 1 showing adjusting means for the main bed plate of the jig and showing insert plate holding means.

Fig. 10 is a fragmentary exploded isometric view showing a part of an insert plate and a part of a jig plate together with means to compel the correct positioning of the insert plate in the jig plate.

Fig. 11 is a detached top plan view of a closure plate for closing a mortise opening in an insert plate.

Fig. 12 is a detached view in side elevation showing work equalizing devices which are provided at one end of the jig plate, said work equalizing means being shown in a retracted position.

Fig. 13 is a side elevation of the work equalizing devices shown in Fig. 12 with the work equalizing devices in a wide open position in which they would be placed preparatory to applying the jig plate to the work.

Fig. 14 is a fragmentary bottom plan view looking in the direction of broken line 14—14 of Fig. 13.

Fig. 15 is an exploded isometric view, with parts broken away and parts in section, showing work stop means provided at one end of this jig plate.

Fig. 16 is a fragmentary detached sectional view showing jig plate mounting means.

Fig. 17 is a view partly in section and partly in elevation showing this jig plate mounted on a bench and applied to two side by side parallel doors.

Fig. 18 is a fragmentary plan view showing one end portion of the bench on which this jig plate is mounted and showing work stop means on this end of the bench.

Fig. 19 is a view partly in section and partly in elevation looking in the direction of broken line 19—19 of Fig. 18.

Fig. 20 is a side view of a door supporting device shown in Fig. 18 together with a fragment of a bench leg to which the said supporting device is attached, parts being shown in section.

Like reference numerals designate like parts throughout the several views.

This mortising jig comprises a relatively long narrow flat jig plate made up of three jig plate members 25, 26 and 27 adjustably secured together in end to end relation by adjusting plates 28 and 29. The adjusting plate 28 has one end portion welded or otherwise rigidly secured to the jig plate member 25 and has its other end portion adjustably secured to the adjacent jig plate member 26 as by cap screws 30 which pass through suitable registering holes 31 in the parts 26 and 28. Similarly the adjusting plate 29 has one end portion welded or otherwise rigidly secured to the jig plate member 26 and its other end portion adjustably secured to the jig plate member 27 as by cap screws 32 which pass through registering holes 23 in said plates 27 and 29.

In the jig plate herein shown three pairs of holes are provided in each of the respective adjusting plates 28 and



29 and in the parts of the jig plate members 25 and 27 overlapped thereby. The pairs of holes 31 are respectively spaced one inch and two inches apart and the pairs of holes 33 are respectively similarly spaced one inch and two inches apart. This makes possible an adjustment of one inch or two inches or three inches by each adjusting plate or a total over all adjustment of six inches in the length of the jig plate. The adjustment thus provided makes possible the use of this mortising jig on doors of the four standard lengths ordinarily used, namely doors having a length of six feet six inches, six feet eight inches, six feet ten inches and seven feet.

The jig plate members 25, 26 and 27 each have a rectangular opening 34 provided therein. Three insert plates 35, 36 and 37 are respectively adapted to be inserted into and secured within the openings 34 in the respective jig plate members 25, 26 and 27. The insert plate 36 of the medial jig plate member 26 has a rectangular mortise opening 38 therein to receive and guide a mortising tool, such as a router bit. This mortise opening 38 is positioned one inch closer to one end than to the other end of said plate 36 so that when said plate 36 is turned end for end in the opening 34 of the jig plate member 26 the longitudinal position of the opening 38 in the insert plate 36 will be moved one inch for the purpose of adjustment for a door or jam of a different length.

The insert plate 36 of the medial jig plate member 26 is the only insert plate which is reversed for the purpose of adjustment. The other two insert plates 35 and 37 are not reversible end for end but are herein shown as having mortise openings 38 which are nearer to one end than to the other of said plates.

To prevent each insert plate 35 and 37 from being inserted in a wrong opening 34 or in an end for end reversed position in its proper opening 34 I preferably provide on each insert plate 35 and 37, Figs. 1 and 10, a dowel pin 39 which must register with and fit into a properly positioned notch 39' in one of the jig plate members 25 or 27. The pins 39 and notches 39' are in different positions for each insert plate 35 and 37 and help to prevent errors in mortising by compelling proper positioning of the insert plates 35 and 37.

Obviously the openings 38 in insert plates 35 and 37 may be positioned medially of these plates provided the openings 34 in the jig plate members 25 and 27 are correspondingly changed in position to secure the correct spacing of the mortise openings.

In mortising doors and door jams of the lengths hereinbefore referred to it is common practice to space the upper edge of the uppermost mortise seven inches down from the top of the door and to space the lower edge of the lowermost mortise eleven inches up from the bottom edge of the door and to position the medial mortise mid way between the upper and lower mortises.

When the mortising jig is to be used for mortising doors or jams six feet six inches long for standard butt hinges then all of the jig plate members 25, 26 and 27 will be coupled close together and the medial insert plate 36 will be in the position shown in Figs. 1 and 2. For doors or jams six feet eight inches long each adjusting plate 28 and 29 is lengthened one inch and the medial insert plate 36 is left in the position shown in Fig. 1. For doors or jams six feet ten inches long the adjusting plate 28 is set for a one inch extension and the adjusting plate 29 is set for a three inch extension and the medial insert plate 36 is reversed end for end as respects the showing in Fig. 1. This reversal of plate 36 compensates for the unequal adjustments of the adjustment plates 28 and 29 and positions the medial mortise opening 38 half way between the top and bottom mortise openings. For doors or jams seven feet long both adjustment plates 28 and 29 are set for a three inch extension and the medial insert plate 36 is placed in the same position in which it is shown in Fig. 1. Thus the insert plate 36 is only

reversed for one length of door and jam, namely for a six foot ten inch length.

Only two different sizes of butt hinges are ordinarily used in hanging doors and a set of insert plates 35, 36, 37, with openings 38 of the proper size for each of these different size hinges is ordinarily provided with each jig plate.

In some instances the medial hinge may be omitted in hanging a door and only the top and bottom hinges used. In such instances the opening 38 in the medial insert plate 36 of the jig plate member 26 may be closed or blanked out by the use of a closure plate 23, Fig. 11, to prevent inadvertent mortising at this location. The closure plate 23 has overhanging stop members 21 on its top side and has a pivoted cross bar 22 on its bottom side which serves as a latch button and cooperates in holding the closure plate.

Two work rest bars 40 are welded or otherwise rigidly secured to the bottom side of each jig plate member 25, 26, and 27 adjacent the respective ends of the openings 34 in said jig plate member and with their edges underlapping or extending beyond the ends of said openings 34. These work rest bars 40 are adapted to rest on the work which is being mortised and said work rest bars 40 serve as supports for insert plates 35, 36 and 37. Preferably additional work rest bars 40' are also provided about mid way between each of the end insert plates 35 and 37 and the medial insert plate 36.

The insert plates 35, 36, and 37 are secured in place by screws 41, Fig. 9, which are threaded into the work rest bars 40 flush with the ends of the openings 34. Preferably the heads of the screws 41 are flattened on one side so that the insert plates 35, 36 and 37 can be removed and replaced without entirely removing the screws 41 from the bars 40 and jig plate members 25, 26 and 27.

Each insert plate 35, 36 and 37 carries a divider plate 42 which is of channel shape in side elevation. Each divider plate 42 is perpendicular to its insert plate and extends longitudinally of the insert plate medially thereof across the opening 38 in said insert plate. Each end portion of each divider plate 42 is rigidly attached to its insert plate, as by a bracket 43, which may be welded or otherwise rigidly secured to both the divider plate and the insert plate. The downwardly arched portion of each divider plate 42 spans the adjacent insert plate opening 38 and provides clearance for the operation of the bit of a conventional router tool by which the mortise recesses in the doors and jams are formed. Preferably the upper edge of this downwardly arched portion of each divider plate carries a thick layer 46 of solder or like soft metal which will not dull a router bit if the bit contacts the same. The router bit and tool are guided and positioned in well known manner by the insert plates.

At least two sets of double acting work clamping devices are mounted on the jig plate to clamp work pieces, such as doors 47 or jams 48, 45, or 72, Figs. 3, 4, 5 and 6, against the divider plates 42. Each work clamping device comprises two side by side transversely positioned clamp bars 49 and 50 extending across the top of the jig plate and slidably connected therewith by two keeper members 51. Opposite end portions of the bars 49 and 50 overhang opposite edges of the jig plate and each of said overhanging bar portions is bent or otherwise formed to provide a downwardly offset vertical part 52 and a normally horizontal part 53 and a downwardly offset normally vertical terminal work piece engaging part 54.

The bar 49 of each set has one end portion of a lever arm 55 connected therewith by a pivot member 56, which preferably is a shouldered and threaded set screw similar to the shouldered set screws 98 shown in Fig. 16. The screw 56 is selectively insertable into different threaded holes 57, Fig. 8, in the bar 49 for adjustment purposes. The other bar 50 of the set is pivotally connected with the lever arm 55 by a link 58. A shouldered and threaded set screw 59 insertable into different threaded holes 60



5

of bar 50 provides an adjustable connection of link 58 with bar 50. Each lever arm 55 is movable into engagement with a fixed stop 61 which is rigidly secured to an adjacent part of the jig frame. Each pair of clamp bars 49 and 50 is yieldingly urged into clamping engagement with doors 47 or jams 48, 45 or 72 by a tension spring 62 which has its two end portions connected respectively with plates 62' which are secured to the vertical offset parts 52 of the respective bars 49 and 50. The lever arms 55 serve as quickly and easily operated means for moving the clamp bars 49 and 50 into a fully retracted or released position relative to the work. The springs 62 urge said clamp bars into a work holding position.

When the clamp means is to be used for holding doors 47 then a separable door clamp 63 is secured to the horizontal shelf portion 53 of each clamp bar 49 and 50, as by a set screw 64, Fig. 3. Each door clamp 63 extends toward the adjacent divider plate 42 and has a downwardly extending door engaging portion 65'.

When the clamp means is to be used for holding ordinary rabbeted door jams 48, Fig. 4, then the door clamps 63 are removed and the terminal end portions 54 of the clamp bars 49 and 50 engage directly with the outer edge portions of the door jams.

When the clamp means is to be used for holding narrow rabbeted door jams 45, Fig. 5, then the shouldered portions 52 of the clamp bars 49 and 50 engage directly with the outer edge portions of said jams 45.

For holding narrow two piece door jams 72, Fig. 6, clamps 73, which are shorter than the door clamps 63 are secured to the clamp bars similarly to the door clamps 63. Each shorter clamp member 73 has an overhanging rest member 74 rigid therewith which extends over and rests on the top of the narrow two piece jam 72.

In the use of this device the top ends of the doors and door jams are positioned at the end of the jig plate shown at the right in Figs. 1 and 2 and this end of the jig plate member 25 is provided stop members, some of which are removable, for each different type of work ordinarily encountered. For use as a stop for rabbeted jams a stop member 65 is non-removably secured to the jig plate member 25 adjacent the outer end thereof. For use as a stop member for two piece non-rabbeted jams which are adapted to have door stop strips nailed thereto a stop member 66 is provided. For use as a stop member for doors a removable stop member 67 is provided. Stop members 66 and 67 each have dowel pins 68, Fig. 15, secured thereto and positioned to fit into holes 70 in the stop plate 65. Stop plate 65 also has a threaded hole 71 to receive a cap screw 69 by which stop members 66 and 67 are held in place. Only one of the removable stop members 66 or 67 can be attached to the plate 65 at a time. The stop member 66 or 67 which is not in use may be taken care of by securing it to the upper side of the jig plate member 25, suitable holes being provided for that purpose, as shown in Figs. 1 and 15.

The stop member 67, see Fig. 2, is adapted to be used for doors 47. The stop member 66 is used as an end stop for non-rabbeted two piece jams 72 of the type shown in Fig. 6. The three stop members 65, 66 and 67 are respectively dimensioned and arranged so that they provide the correct positioning for rabbeted jams 48, doors 47 and non-rabbeted jams 72.

The lower end portions of the doors and jams are positioned at the end of the jig plate shown at the left in Figs. 1 and 2 and equalizer means is provided at this end of the jig plate to engage with doors and door jams and press the same against the stop members at the other end of the jig plate. This equalizer means, best shown in Figs. 12, 13 and 14, comprises a slide bar 75 extending under the jig plate member 27 and guided for longitudinal movement relative to said jig plate member by bracket or guide members 76. At least one of the guide members 76 is also a work rest member which

6

is adapted to rest on the work and properly position the jig plate.

The slide bar 75 carries an angle shaped work engaging member having a base 77 and a downwardly extending flange part 78. The flange part 78 has two vertical rib portions 79 and 80 which are adapted to engage with and press against the ends of two side by side doors or door jams. The base portion 77 of the work engaging member is connected with the slide bar 75 by a pivot screw 81 and by another screw 82. The screw 82 extends through a slot 83 in the base 77. Both of the screws 81 and 82 are preferably shouldered so as to leave the work engaging member 77, 78 free to oscillate on the pivot screw 81 and exert an equal pressure against each of two pieces of work to press the two pieces snugly against the head stops at the other end of the jig plate. Thus correct positioning of pieces of work which vary slightly in length is assured.

Movement of the slide bar 75 is controlled by a lever 84 which is connected by a pivot 85 with a bracket 86 on the end portion of the slide bar 75. A link 87 has one end connected by a pivot 88 with the lever 84 and the other end connected by a pivot 89 with a bracket 90 which is rigidly secured to the jig plate. A tension spring 91 is connected between the bracket 86 and an arm 90' of the bracket 90 so that it urges the several parts into the positions in which they are shown in Fig. 12. When the lever 84 is manually moved into a position as shown in Fig. 13 the spring 91 will be elongated and the work engaging member 77, 78 will be moved outwardly and the pivot member 88 will pass center as respects the pivot members 85 and 89 so that the parts are held in the position in which they are shown in Fig. 13 until said lever 84 is manually released.

A preferred means for mounting this mortising jig and a preferred means for supporting doors to which this jig is applied is shown in Figs. 16 to 20 inclusive. The jig mounting means comprises a bench 94 having thereon fixed brackets 95 to which the ends of jig plate supporting arms 96 are connected by pivots 97. The jig plate supporting arms 96 are secured as by cap screws 98 to bars 99 and the bars 99 are attached to the jig plate members 25 and 27 by securing them under the bracket members 51 by which the clamp bars 49 and 50 are slidably held. Preferably the screws 98 are shouldered, as shown in Fig. 16, and the holes in the bars 99 through which these screws pass are larger than the screws so that a substantial amount of lost motion in all directions is allowed between the jig plate supporting means including arms 96 and the bars 99 and this movement allows some desirable longitudinal and tilting adjustment of the mortising plate assembly relative to the work to which it is applied. A set screw 100 is provided in a bracket member 51 which holds each bar 99 and spaced apart depressions 101, Fig. 1, are provided in each bar 99 to receive the ends of the set screws 100 so that the bars 99 may be adjusted crosswise of the jig plate and held in adjusted positions.

Jig plate supporting and stop members 102 are provided on the bench 94 to support the jig plate assembly in a raised and inoperative position in which it is shown by dot and dash lines in Fig. 17.

At least two door jam supporting arms 92 are swingingly attached to the bench 94 by pivot members 92' and are adapted to be swung outwardly, Figs. 4, 5 and 6, to support door jams 48, 45 and 72. When doors 47 are being mortised these arms 92 are swung back over the bench 94, see Fig. 18. Each arm 92 has spaced holes 93' near each end thereof to receive removable door jam guide pins 93. The guide pins 93 are adjustable for jams of different width and these pins serve as side guides to facilitate positioning jams 48, 45 or 72, Figs. 4, 5 and 6, on the arms 92 in the proper positions to receive the jig plate.

To support doors 47 two door supporting members,



one of which is shown in Figs. 17, 18 and 20, are adjustably supported from legs 103 of the bench 94. Each door supporting member comprises a rectangular frame 104 having two diagonal hanger bars 105 secured to opposite walls thereof. The bars 105 extend above and to the rear of the frame 104 and are received between two bench legs 103. The upper end portion of each bar 105 has an upwardly extending notch 106. Vertically spaced apart pegs 107 in legs 103 receive the notches 106 and support the frames 104 in different vertical positions. A cross bar 108 is rigidly secured to the bottom part of frame 104 and extends outwardly beyond the sides of said frame 104 and engages the bench legs 103 and cooperates in supporting frame 104 and holding it upright.

A medial spacer or divider plate 109 is provided in the frame 104 in a suitable position so that two doors 47 may be placed on opposite sides thereof. The spacer plate 109 and the side walls of frame 104 which are parallel with said spacer plate extend above the other two side walls of said frame 104 and serve as guide and positioning means for the doors 47. Two inclined rollers 110 and 111 are rotatively mounted in brackets 112 and are positioned within the frame 104 on opposite sides of the divider plate 109 and the doors 47 rest on these rollers. To provide resiliency the brackets 112 are preferably set on rubber blocks 113 and the blocks 113 are supported on base pieces 114 which have some resiliency. Also preferably rollers 110 and 111 are of rubber composition to provide resiliency and avoid marring the edges of the doors 47. When doors 47 are placed on the inclined rollers 110 and 111 and moved to the left, Fig. 18, these doors will transversely moved toward and against the divider plate 109. The incline of the rollers 110 and 111 provides this transverse movement.

A door stop bar 115 is rigidly secured to the end of the bench 94 which is shown in Figs. 17, 18 and 19 and extends transversely across the plane in which the doors are adapted to be positioned. The doors may be pushed against this stop in properly positioning them for mortising. A door stop member 116 is provided on the outer end of the bar 115 to hold the doors in the event they tend to lean outwardly away from the bench 94. The above described bar 115 and member 116 are below the plane of the door jams when the door jams rest on the members 92. For this reason a door jam stop plate 117 is secured to the outer side of the stop member 115 and has parts 118 and 119 which extend high enough to function as door jam stops. Part of the plate 117 between members 118 and 119 is cut away as indicated by 120 to provide clearance for the operation of the slide bar 75, shown in Figs. 12, 13, and 14, together with the equalizing member 77, 78.

In the use of this mortising device on doors 47 the frame 104 is properly positioned for the doors to be mortised. The mortising jig will be in the raised position shown by dot and dash lines in Fig. 17 when not in use. The doors are then placed on the rollers 110 and 111 and moved against the stop bar 115. This also moves the lower edges of said doors against the divider plates 109. The doors 47, when thus placed may lean against the bench 94 or against the stop member 116. The mortising jig is then lowered onto the doors and positioned so that the work rest bars 40 and 40' rest on the upper edges of the doors. The lever 84 is then moved counter-clockwise from the position in which it is shown in Fig. 13 to cause the equalizer member 77, 78 to engage with the ends of the doors 47 and position both doors firmly against the stop 67, Figs. 2 and 15, at the other end of the mortising jig. The levers 55 are then released so that the clamping members 63, 65, Fig. 3, will clamp the upper edge portion of each door against the divider plates 42. All of the mortises in the doors may then be quickly and easily and accurately made while the

doors are thus held. The divider plates function as spacers for the two doors and the end of the mortising tool, which preferably is a router bit, works close to the soft metal edges 46 of said divider plates and said divider plates support the side surfaces of the doors close to the end of the mortising tool and prevent splitting or splintering of the doors at the edges of the mortises.

The mortising of the door jams is accomplished in a manner similar to the mortising of the doors except that the jams are supported on the swinging support members 92 and are pressed against different stop members 65 or 66, depending on the type of jam being mortised, by the equalizer means shown in Figs. 12, 13 and 14.

The foregoing description and accompanying drawings clearly disclose a preferred embodiment of this invention but it will be understood that this disclosure is merely illustrative and that changes may be made within the scope of the following claims.

I claim:

1. A mortising jig for doors and door jams comprising a relatively long narrow flat metal jig plate having spaced apart openings therein; mortising plates disposed within said openings, each of said mortising plates having a tool guiding opening therein; and a divider plate secured to the bottom side of each mortising plate and positioned perpendicular to the mortising plate and extending longitudinally of the mortising plate across the tool guiding opening therein and with the portion of its upper edge which spans the mortising plate opening spaced below the plane of a mortising plate.

2. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation to provide a relatively long narrow flat jig plate of adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; and a divider plate secured to the bottom side of each mortising plate and positioned perpendicular to the mortising plate and extending across the tool accommodation opening in the mortising plate, the edge portion of the divider plate which spans the tool accommodation opening being spaced a substantial distance below the plane of the mortising plate, whereby a tool guided by said mortising plate may operate clear of said divider plate with the divider plate providing support for the side of material on which the tool operates.

3. A mortising jig for doors and door jams comprising a relatively long narrow flat jig plate having mortising plate receiving openings therein; a mortising plate disposed in each mortising plate receiving opening in said jig plate, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom side of each mortising plate and positioned perpendicular to the mortising plate and extending across the tool accommodation opening in the mortising plate, the upper edge of each divider plate being spaced below the plane of the mortising plate providing clearance for the operation of a tool; and movable work clamp means carried by said jig plates and having work engaging jaws movable toward said divider plates, whereby work pieces may be clamped against the sides of the divider plates.

4. A mortising jig for doors and door jams comprising a relatively long narrow flat jig plate having longitudinally spaced apart mortising plate receiving openings therein; mortising plates disposed in said mortising plate receiving openings, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom side of each mortising plate perpendicularly thereof and extending across the tool accommodation opening of the mortising plate in spaced relation below the mortising plate; movable work clamp means carried by said jig plate and having work engaging jaws overhanging the edges of said jig plate and movable toward said divider



plates, whereby work pieces may be clamped against said divider plates; and spaced apart work rest bars attached to the lower side of said jig plate in alignment with the mortise plate receiving openings in the jig plate, whereby said work rest bars will rest on work pieces to which the jig plate is applied.

5. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation providing a long narrow flat jig plate of adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom of each mortising plate and positioned perpendicularly thereto and extending longitudinally of the jig plate across the tool accommodation opening in the mortising plate, the upper edge of each divider plate being spaced below the plane of its mortising plate providing tool clearance; movable work clamp means carried by said jig plate and having work engaging jaw members movable toward said divider plate, whereby work pieces may be clamped against opposite sides of said divider plates; spaced apart work rest bars secured to the bottoms of said jig plate members in alignment with the openings in said jig plate members; and downwardly extending work stop means attached to the lower side of said jig plate adjacent one end thereof providing stop means for work pieces to which the jig plate is applied.

6. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation providing a long narrow flat jig plate of adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom of each mortising plate and positioned perpendicularly thereto and extending longitudinally of the jig plate across the tool accommodation opening in the mortising plate, the upper edge of each divider plate being spaced below the plane of its mortising plate providing tool clearance; movable work clamp means carried by said jig plate and having work engaging jaw members movable toward and away from said divider plates; spaced apart work rest bars secured to the bottoms of said jig plate members in longitudinal alignment with the tool accommodation openings in the mortising plates; lever operated work equalizer means mounted on one end portion of said jig plate and having a pivotally mounted longitudinally movable work engaging member extending below the plane of the jig plate into alignment with work pieces to which the jig plate is applied, whereby work pieces may be moved lengthwise relative to the jig plate; and stop means rigid with the other end portion of the jig plate in the path of work pieces to which the jig plate is applied.

7. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation to provide a jig plate of adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom of each mortising plate perpendicularly thereof and extending longitudinally across the tool accommodation opening and with its upper edge spaced below the plane of the mortising plate providing tool clearance; and spring loaded movable work clamp means carried by said jig plate and having opposed work engaging jaws resiliently urged toward the plane of said divider plates, whereby work pieces will be resiliently clamped against opposite sides of said divider plates.

8. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation providing a jig plate of

adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom of each mortising plate perpendicularly thereof and extending longitudinally across the tool accommodation opening of the mortising plate with its upper edge spaced below the plane of the mortising plate providing tool clearance; spring loaded movable work clamp means carried by said jig plate and having opposed work engaging jaws resiliently urged toward the plane of said divider plates; spaced apart work rest bars secured to the lower side of said jig plate members in alignment with the openings therein, whereby said work rest bars will rest on work to which the jig plate is applied; lever operated work equalizer means mounted on one end portion of said jig plate and having a pivotally mounted longitudinally movable work engaging member extending below the plane of the jig plate into alignment with work pieces to which the jig plate is applied, whereby work pieces may be moved lengthwise relative to the jig plate by said equalizer means; and stop means rigid with the other end portion of the jig plate in the path of work pieces to which the jig plate is applied.

9. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation providing a jig plate of adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom of each mortising plate perpendicularly thereof and extending longitudinally across the tool accommodation opening in the mortising plate with its upper edge spaced below the plane of the mortising plate providing tool clearance; a plurality of pairs of work clamping bars guided for movement crosswise of said jig plate; a work engaging jaw member on each work clamping bar, the jaw members of the two bars of each pair being positioned in opposed relation at opposite sides of the jig plate and extending below the plane of the jig plate; a spring connecting the two work clamping bars of each pair resiliently urging the jaw members thereof toward each other, whereby two work pieces may be clamped against opposite sides of said divider plates; and a work clamping bar retracting lever connected with each pair of work clamping bars.

10. A mortising jig for doors and door jams comprising a plurality of jig plate members each having an opening therein; means adjustably connecting said jig plate members together in end to end relation providing a jig plate of adjustable length; a mortising plate disposed in the opening in each jig plate member, each mortising plate having a tool accommodation opening therein; a divider plate secured to the bottom of each mortising plate perpendicularly thereof and extending longitudinally across the tool accommodation opening in the mortising plate with its upper edge spaced below the plane of the mortising plate providing clearance for a tool to operate through said tool accommodation opening; and spaced apart work rest bars secured to the lower side of said jig plate members in under lapped relation as respects each end of each mortising plate receiving opening in the jig plate members and with a work rest bar forming a mortising plate supporting member at each end of each mortising plate receiving opening.

11. A mortising jig for doors and door jams comprising a long flat metal jig plate having spaced apart mortising plate receiving openings therein; and mortising plates removably disposed within said openings in said jig plate, said mortising plates having tool accommodation openings therein and at least one of said mortising plates having its tool accommodation opening positioned nearer one end than the other of said mortising plate, whereby end for end reversal of said mortising plate will adjust the position of its tool accommodation opening longitudinally of the jig plate.



**11**

12. A mortising jig for doors and door jams comprising a long flat metal jig plate formed of three relatively longitudinally adjustable sections connected together end to end, each jig plate section having a mortising plate receiving opening therein; and a mortising plate disposed within the opening in each jig plate section, each mortising plate having a tool accommodation opening therein, the mortising plate in the medial jig plate section being reversible end for end and having its tool accommodation opening positioned nearer one end of said mortising plate than the other, whereby end for end reversal of said mortising plate will adjust the position

**12**

of its tool accommodation opening longitudinally of the jig plate.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

607,841	Flegel	July 26, 1898
1,623,621	Kelley	Apr. 5, 1927
1,644,666	Carter	Oct. 11, 1927
2,355,603	Zern	Aug. 8, 1944
2,400,862	Zern	May 21, 1946
2,576,485	Schwandt	Nov. 27, 1951