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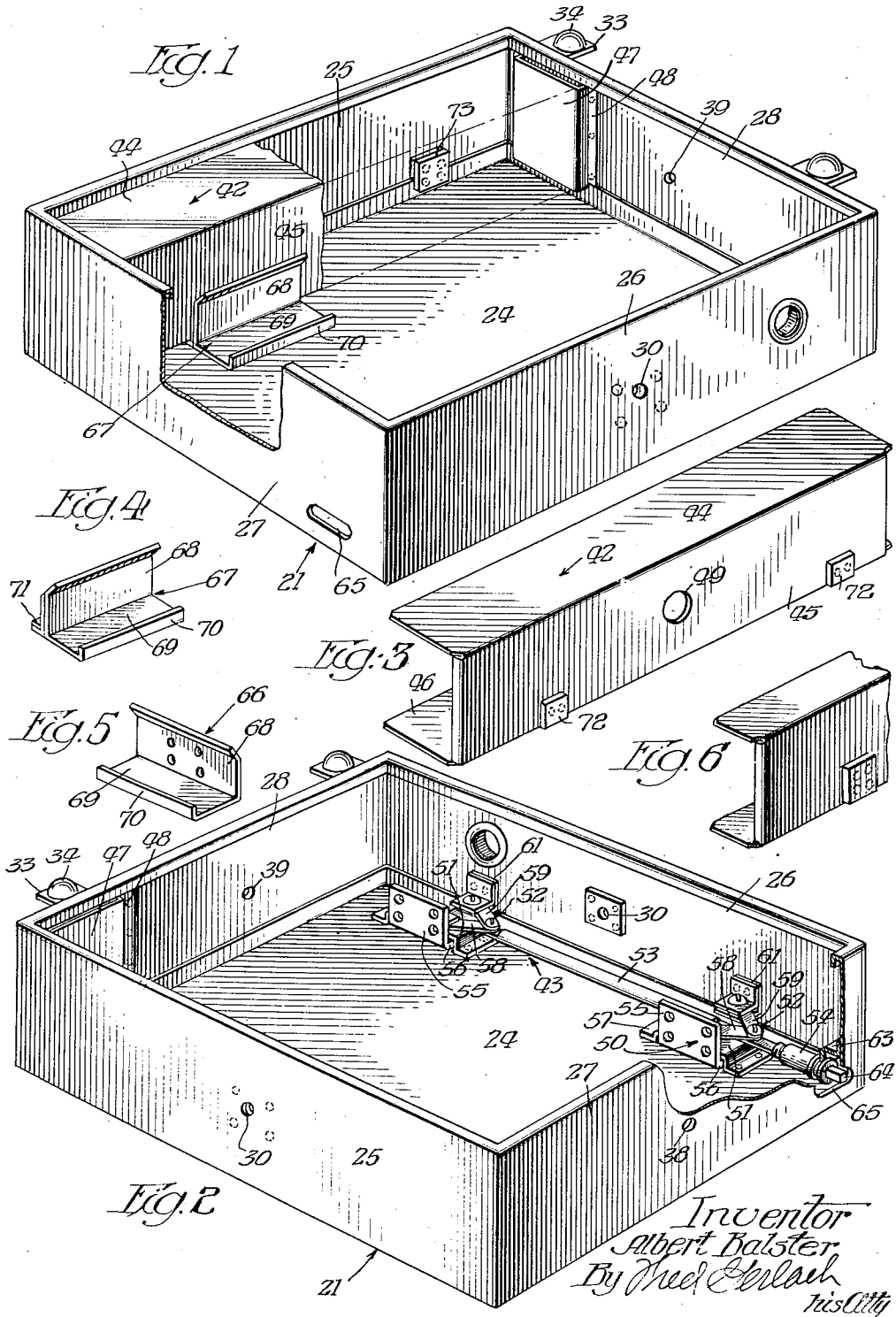
A. BALSTER

2,230,443

TABLE MOUNTING FOR CALCULATING MACHINES

Filed April 7, 1939

2 Sheets-Sheet 1



Feb. 4, 1941.

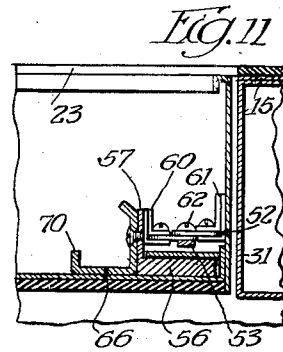
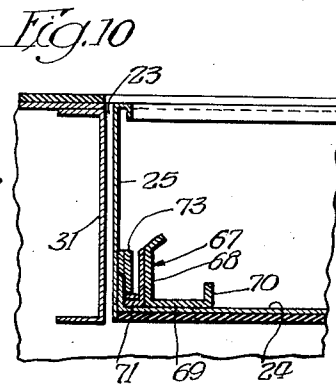
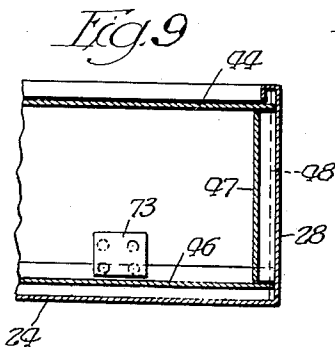
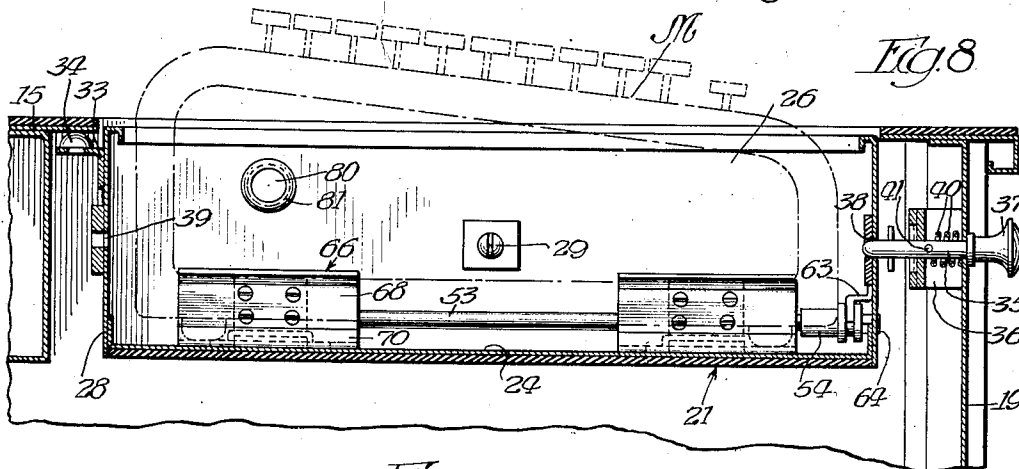
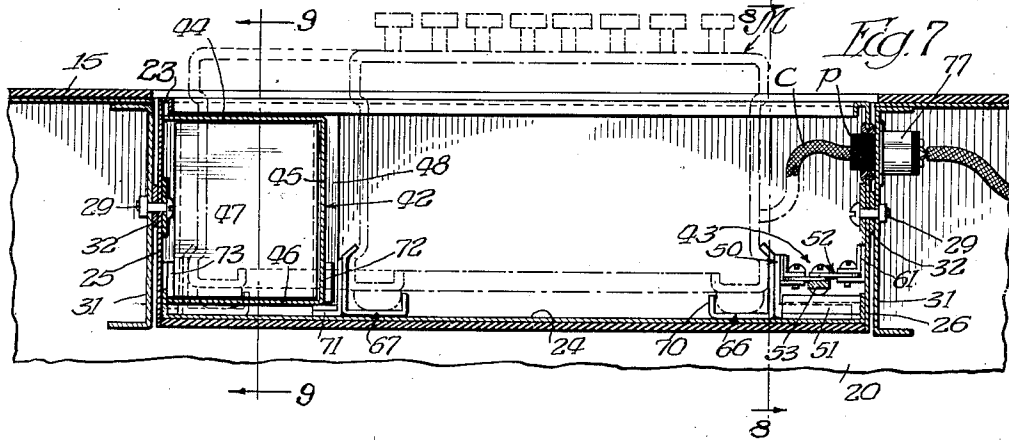
A. BALSTER

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TABLE MOUNTING FOR CALCULATING MACHINES

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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TABLE MOUNTING FOR CALCULATING MACHINES

Albert Balster, Chicago, Ill.

Application April 7, 1939, Serial No. 266,489

4 Claims. (Cl. 248—25)

The present invention relates generally to mountings for calculating machines. More particularly the invention relates to that type of mounting which is especially designed for use in connection with a table having a rectangular opening in the top thereof and a pair of laterally spaced depending side members at the sides of the opening, and consists of an open top box-like container which embodies a removable filler member inwardly of one of its sides and clamping mechanism inwardly of its other side for clamping therebetween a calculating machine and is adapted to be positioned between the depending side members and in addition to be pivotally connected to such members in such manner that it may be swung back and forth between a normal position wherein the top margins of the sides, front, and back thereof are substantially flush with the table top and the keys of the machine project above the table top and are manipulable from above, and an inoperative position wherein the machine is inverted and the container bottom is flush with and completes the top of the table.

One object of the invention is to provide a calculating machine table mounting of this type which is generally an improvement upon and has certain advantages over that which is shown in and forms the subject matter of United States Letters Patent No. 2,044,559, granted to me June 16, 1936.

Another object of the invention is to provide a mounting of the type under consideration in which the filler member is of novel design and construction and is so mounted with respect to the container that it may be readily slid out of connected relation with the latter in order to adapt the container to accommodate a calculating machine of large size.

A further object of the invention is to provide a calculating machine table mounting of the aforementioned type and character which comprises a set of four shoes two of which are associated with the clamping mechanism and are adapted to receive the adjacent lower corners of the calculating machine and the other two of which are adapted to receive the other two lower corners of the machine and to interlock with the bottom of the filler member or a pair of lugs on the adjacent side of the container.

A still further object of the invention is to provide a calculating machine table mounting which is simple in design and efficiently and effectively fulfills its intended purpose and in addition embodies a novel form or type of clamp-

ing mechanism for releasably holding the calculating machine within the container.

Other objects of the invention and the various advantages and characteristics of the present mounting will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawings which accompany and form a part of this specification or disclosure and in which like numerals of reference denote corresponding parts throughout the several views:

Figure 1 is a fragmentary perspective of a calculating machine mounting embodying the invention, illustrating in detail the construction and design of the filler member at one side of the container;

Figure 2 is a fragmentary perspective of the other side of the container of the mounting showing in detail the construction and design of the clamping mechanism for the calculating machine;

Figure 3 is a perspective of the removable filler member;

Figure 4 is a perspective of one of the shoes for interlocking the filler member with the adjacent side of the calculating machine;

Figure 5 is a perspective of one of the shoes for connecting the other side of the machine to the clamping mechanism;

Figure 6 is a fragmentary perspective of a smaller sized filler member for use in adapting the container to hold an intermediate sized calculating machine;

Figure 7 is an enlarged vertical section of the container and the portion of the table with which the container is associated;

Figure 8 is an enlarged vertical transverse section taken on the line 8—8 of Figure 7;

Figure 9 is a section taken on the line 9—9 of Figure 7 and exhibiting the manner in which the filler member is releasably secured in place; and

Figures 10 and 11 are sections showing the manner in which a calculating machine of large size is secured removably in the container.

The mounting which is shown in the drawings constitutes the preferred embodiment of the invention. It is for a calculating machine M and is designed for use in connection with a table comprising a rectangular top 15, and a front 19. As one of its primary parts the mounting embodies a box-like container 21 for the calculat-

ing machine M. The top 15 of the table has a top facing of linoleum or like material. It is adapted to be used as a work space or surface and has a rectangular opening 23 which extends completely through it, as shown in Figures 9 and 10.

The container 21 forms an open top compartment for the calculating machine M and corresponds in shape to and fits in the rectangular opening 23 in the top 15 of the table. It is preferably formed of sheet metal and consists of a bottom 24, a pair of sides 25 and 26, a front 27 and a back 28, all of which are suitably secured together and form the open top compartment for the machine M. The container is normally positioned so that the top margins or edges of the sides, front and back are substantially flush with the top facing of the table and is pivotally supported, as hereinafter described, so that it may be swung back and forth between a normal or operative position wherein the calculating machine M is accessible and the keys thereof project above the table top and are manipulable from above and an inoperative position wherein the machine is inverted and the container bottom is flush with and completes the top of the table. The depth of the container is substantially equal to the depth of the body of the housing of the machine so that when the machine is in place and the container is in its normal position ready access may be had to the keys of the machine. The bottom 24 of the container is provided on the underface thereof with a pad of linoleum or like material and this pad when the container is in its inoperative or inverted position fills the rectangular opening 23 in the top of the table and completes the work space which is afforded by the top of the table.

The pivotal support whereby the container 21 may be swung back and forth between its normal position and its inoperative or closed position comprises a pair of bolts 29. The latter extend through holes 30 in the central portion of the sides of the container and are carried by a pair of laterally spaced side members 31. These members are fixed to and depend from the portions of the table top 15 which define the sides of the rectangular opening 23. They are substantially the same in height as the sides 25 of the machine container 21 and have out-turned bottom margins for reinforcing purposes. Washers 32 are mounted on the central portions of the bolts 29 and serve to space the sides of the container from the side members 31. Two L-shaped brackets 33 with rubber pads 34 are fixed to the outer face of the back 28 of the container and serve to prevent rotation of the container in one direction when it is in its normal position. These brackets, as shown in Figure 8, are so arranged that when the container is in its normal position the pads 34 thereof abut against the portion of the table top which defines the back of the rectangular opening 23. The container is adapted to be locked in its normal and inoperative positions by means of a plunger 35. The latter extends horizontally and is slidably mounted in the central portion of a U-shaped bracket 36 on the inner face of the table front 19. The outer end of the plunger extends through a hole in the table front and is provided with a finger piece or knob 37 whereby the plunger may be manipulated from the front of the table. The inner end of the plunger is rounded and is adapted when the plunger is slid inwards to fit in a hole 38 in the central portion of the container front 27 when the

container is in its normal or operative position. It is also adapted to fit within a hole 39 in the container back 28 when the container is in its inverted or inoperative position. A compression spring 40 surrounds the central portion of the plunger and extends between the front 19 of the table and a pin 41 on the plunger. This spring urges the plunger inwards and serves to hold the latter in interlocked relation with the hole 38 or the hole 39. When it is desired to release the container so as to swing or rotate it from its normal position into its inoperative position the plunger 35 is slid outwards. This disengages the inner end of the plunger from the hole 38 and frees the container so that it, together with the machine, may be rotated clockwise as viewed in Figure 8. After 180° rotation of the container and release of the plunger, the plunger moves inwards in response to the action of the compression spring and its inner end becomes lodged within the hole 39 and thus serves to lock the container in its inoperative position.

The calculating machine M is of the manually manipulable electrically actuated or driven variety and has a short conductor c with a removable plug p for supplying it with current or electrical energy from a current supplied socket 88 on one of the side members 31. The plug p is connected to one end of the conductor, as shown in Figure 7, and the other end of the conductor leads to the electrically actuated operating mechanism within the body or housing of the machine M. The machine is clamped in the container 21 between a removable filler member 42 and a clamping mechanism 43. The filler member 42 is positioned adjacent to the side 25 of the container and is formed of sheet metal. It consists of a top wall 44, a side wall 45 and a bottom wall 46, and is releasably or removably secured in place by means of a pair of rectangular brackets 47. These brackets are spaced inwardly from the front and back of the container and have inwardly extending L-shaped flanges 48 along the vertical margins thereof. The flanges 48 are welded or otherwise fixedly secured to the inner faces of the container front and back and serve to space the brackets inwardly from such faces. The top and bottom walls 44 and 46 of the filler member are substantially equal in length to the sides of the container and are adapted to have the ends thereof engage slidably the upper and lower edges of the brackets 47. The side wall 45 of the filler member has in the central portion thereof a finger hole 49 whereby the member may be readily gripped in connection with either sliding the member in place or removing it from its operative position. The end margins of the side wall are bent inwards so that they terminate inwardly of the brackets 47 when the filler member is in its operative or proper position. When in such position (see Figures 1, 7 and 9) the top and bottom walls 44 and 46 of the filler member abut against the inner face of the side 25 of the container and the end margins of such walls overlap or lap respectively the top and bottom edges of the brackets 47. The brackets because of the overlapping arrangement of the ends of the top and bottom walls of the filler member serve to hold the member against vertical displacement with respect to the container. When it is desired to remove the filler member from the container in order to adapt the container for use with a large sized calculating machine, it is only necessary by insertion of a finger through the hole 49 to grip the member and then by sliding

the member inwards towards the central portion of the container disconnect it from the brackets 47. The brackets 47 constitute simple and novel means for releasably securing the filler member 42 in its operative position. If it is desired to employ an intermediate sized calculating machine in connection with the container 21 the filler member 44 is removed and a filler member like that shown in Figure 6 is employed. Such filler member differs from the member 44 in that the top and bottom walls are of less width than the walls 44 and 46. If it is desired to employ a large sized machine instead of the normal sized calculating machine M the filler member 44 is dispensed with and the machine, as shown by dotted lines in Figure 7, is arranged so that one side of the body is positioned adjacent to the side 25 of the container.

The clamping mechanism 43 is located adjacent to the side 26 of the container and operates to urge the machine M toward the filler member 42. It is of the releasable manually manipulable variety and comprises a pair of L-shaped clamp members 50, a pair of slideway forming brackets 51, a pair of toggle linkages 52, a shift rod 53, and a sleeve 54. The clamp members 50 are movable transversely of the container in response to longitudinal movement of the rod 53, as hereinafter described, and comprise vertical legs 55 and horizontal legs 56. The horizontal legs fit flatly against the top face of the container bottom 24 and are formed integrally with and project outwardly from the bottom margins of the vertical legs 55. They fit slidably within the bracket formed slideways and are so confined or held within such slideways that they are limited to rectilinear movement to and from the side wall 25 of the container. The brackets 51 which form the slideways for the horizontal legs of the clamp members 50 overlie the top faces of the legs 56 and have depending L-shaped flanges 57 along the end margins thereof. These flanges are welded or otherwise fixedly secured to the container bottom 24 and form with the brackets 51 and the subjacent portions of the container bottom the aforementioned slideways. The toggle linkages 52 overlie the brackets 51 and consist of outer links 58 and inner links 59. The outer links 58 are pivotally connected to brackets 60 on the vertical legs 55 of the clamp members and the inner links 59 are pivotally connected to brackets 61 on the inner face of the side 26 of the container. The rod 53 is positioned in parallel relation with, and inwardly of, the container side 26 and has upstanding screws 62 to which are pivotally connected the distal ends of the outer and inner links constituting the linkages 52. When the rod 53 is shifted in one direction the linkages 52 operate to shift the clamp members 50 towards the container side 25 and when the rod is shifted longitudinally in the opposite direction the linkages operate to shift the clamp members away from the side 25 and toward the side 26. The front end of the shift rod 53 is externally threaded and fits within an internal screw thread in the sleeve 54. The front end of the sleeve is journaled in a bracket 63 and is held by the bracket against longitudinal displacement. When the sleeve is turned in one direction it operates to shift the rod 53 rearwards and when it is rotated in the opposite direction it serves through the medium of the screw thread connection to shift the rod in a reverse direction. A polygonal lug 64 is formed on the front end of the sleeve 54 and extends through a hole 65 in

the front 27 of the container. By applying a key (not shown) with a polygonal socket to the lug 64 the sleeve 54 may be turned so as to effect shift of the rod 53. By having the clamp members 50 L-shaped and provided with horizontal legs 56 and by employing bracket-formed slideways the members are effectively held against movement away from the container bottom.

In order to assist the clamping mechanism 43 in holding the calculating machine M in place a pair of L-shaped shoes 66 and a pair of L-shaped shoes 67 are provided. These shoes constitute a set of four and are shaped to receive the lower corner portions of the machine M. They are preferably in the form of metal stampings and comprise vertical legs 68 and horizontal legs 69. The vertical legs are adapted to lap the lower side portions of the machine body and have the upper margins thereof bent inwards so as to overlie the usual bead formations along the sides of the machine body. The lower legs 69 of the shoes fit flatly against the bottom 24 of the container and have up-turned flanges 70 along their inner margins. These flanges form with the legs 68 channels for the rubber feet or pads under the body of the machine M. The legs 68 of the shoes 66 are bolted or otherwise fixedly secured to the vertical legs 55 of the clamp members 50 with the result that said shoes 66 move conjointly with the members. The shoes 67 are adapted for association with the side of the machine body which is in opposed relation with the side wall 45 of the filler member 44 and have secured to the vertically extending legs 68 thereof outwardly extending L-shaped brackets 71. The latter, as shown in Figure 7, are adapted to underlie a pair of lugs 72 on the side wall 45 of the filler member 44 and form interlocking connections between the shoes 67 and the filler member whereby the shoes are held against movement away from the container bottom 24. The lugs 72 are in the form of plates and are welded to the lower portions of the side wall 44 of the filler member 42. The calculating machine M is secured in place within the container by lowering it onto the shoes 66 and 67. As soon as the machine is in place on the shoes the clamping mechanism 43 is manipulated so as to shift the clamp members 50 toward the side 25 of the container. With such shift of the clamp members the machine is moved towards the filler member 42 and the brackets 72 of the shoes 67 are brought into interlocked relation with the plate-like lugs 72 on the filler member. When the member is shifted toward the container side 25 as far as possible it is held in fixed relation with the container as a result of the clamping action between the clamp members 50 and the filler member. Because of the design of the shoes the machine cannot become dislodged with respect to the container when the latter is swung into its inoperative or inverted position. In order to secure the shoes 67 in interlocked relation with the container when a large sized calculating machine is disposed in the container and the filler member 42 is dispensed with two plate-like lugs 73 are provided. These lugs are secured to the lower portions of the side 25 of the container in alignment with the clamp members 50 of the clamping mechanism 43 and are adapted to interlock with the L-shaped brackets 72 of the shoes 67, as shown in Figure 10.

The operation of the mounting is as follows: To install the calculating machine M in the pivotally supported container 21 the container is

first swung into its normal position. Thereafter the clamp members 50 and the shoes 66 are moved outwards by applying a key to the polygonal lug 64 and through the medium of the key turning the sleeve so as to shift the shift rod 53 in the proper direction. After this step the machine M is lowered into the container and at the same time is manipulated so as to bring the corner portions thereof into interlocked or connected relation with the shoes 66 and 67. At the conclusion of this operation the sleeve 54 is reversely rotated by way of the aforementioned key in order to shift the clamp members 50 together with the machine toward the filler member 42. During shift of the machine toward the filler member the bracket 71 on the vertically extending legs 68 of the shoes 67 are brought into interlocked relation with the plate like lugs 72 and the bottom wall 46 of the filler member.

When the mechanism 43 is in its fully clamped position the machine is held in fixed relation with the container. When it is desired to use the machine M, it is only necessary while the container is in its normal position to insert the plug p at the end of the conductor c into the socket 77. As soon as the plug is in the socket 77 the machine M is energized with current and is capable of being manipulated. When it is desired to swing the machine into its inoperative or inverted position so as to render the entire top of the table available for working purposes the plug p is removed from the socket 77 and the plunger 35 is pulled outwards. Thereafter the container is swung through an arc of 180° into its inoperative position. As soon as it reaches this position the plunger is released so that the spring urges it inwards into the hole 39. When it is desired to mount a large sized calculating machine in the container in place of the calculating machine M the clamping mechanism 43 is released and the machine M withdrawn. Thereafter the filler member 42 is removed by sliding it inwards in the direction of the side 26 of the container. After this operation the shoes 67 are removed from the filler member and are placed in interlocked relation with the plate like lugs 73 on the container side 25. If it is desired to place an intermediate sized calculating machine in the container the filler member of Figure 6 is employed.

The herein described table mounting effectively and efficiently serves its intended purpose and may be built at a comparatively low and reasonable cost. It is characterized by the fact that the filler member 42, the shoes 66 and 67 and the locking mechanism 43 coact to secure the machine in place in an extremely effective manner.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. A calculating machine mounting comprising an open top box-like container for the machine consisting of a bottom for supporting the machine and a pair of sides and a front and back connected together and extending upwardly from the margins of the bottom, a pair of brackets positioned adjacent to one side of the container and secured respectively to the adjacent ends of the front and back, a filler member

sisting of top, side and bottom walls substantially coextensive with and extending longitudinally of said one side and having the ends of the top and bottom walls thereof in sliding engagement with the top and bottom portions of the brackets respectively, so that it is removably supported in place, and clamping mechanism adjacent the other side of the container for urging the machine into clamped relation with the filler member.

2. A calculating machine mounting comprising an open top box-like container for the machine consisting of a bottom for supporting the machine and a pair of sides and a front and back connected together and extending upwardly from the margins of the bottom, a pair of rectangular brackets with outwardly extending L-shaped flanges along the side margins thereof positioned adjacent to the ends of one side of the container and having the flanges thereof fitting against and secured to the adjacent end portions of the front and back respectively, a filler member consisting of top, side and bottom walls substantially coextensive with and extending longitudinally of said one side and having the ends of the top and bottom walls thereof in sliding engagement with the top and bottom portions of the brackets respectively, so that it is removably supported in place, and clamping mechanism adjacent the other side of the container for urging the machine into clamped relation with the filler member.

3. A calculating machine mounting comprising an open top box-like container for the machine consisting of a bottom for supporting the machine and a pair of sides and a front and back connected together and extending upwardly from the margins of the bottom, a pair of L-shaped shoes disposed in the container adjacent one side thereof and adapted to receive the bottom corners at one side of the body of the machine, interlocking means for securing said shoes in connected relation with the container, a second pair of L-shaped shoes positioned adjacent the other side of the container and adapted to receive the bottom corners at the other side of the machine body, and clamping mechanism for releasably securing the machine in place in the container disposed adjacent to and inwardly of said other side of the container and including a pair of laterally movable clamp members to which said second pair of L-shaped shoes are connected respectively.

4. A calculating machine mounting comprising an open top box-like container for the machine consisting of a bottom for supporting the machine and a pair of sides and a front and back connected together and extending upwardly from the margins of the bottom, and mechanism for releasably securing the machine in place in the container comprising a slideway forming bracket disposed adjacent to the bottom of the container and arranged so that the slideway thereof extends transversely of the container, an L-shaped clamp member having a bottom horizontally extending leg fitting slidably within the slideway so that it is confined to movement transversely of the container toward and away from the adjacent side of the machine, and manually controlled means for shifting said clamp member toward and away from the machine.

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