Feb. 4, 1941. A. BALSTER 2,230,444

CALCULATING MACHINE TABLE

Original Filed April 7, 1939 2 Sheets-Sheet 1

Fig. 1

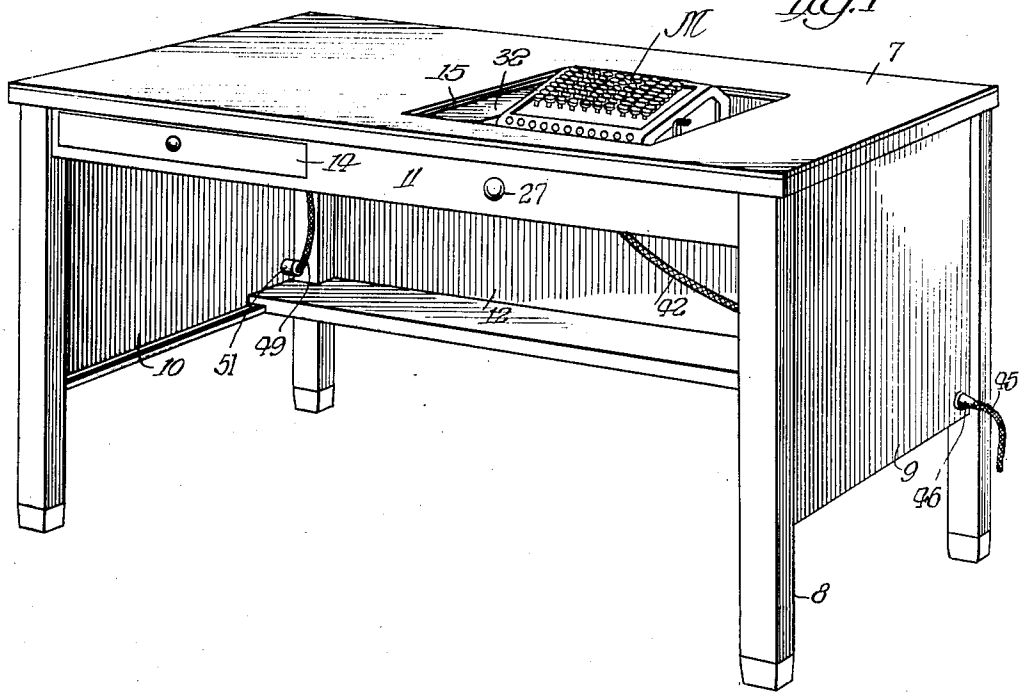
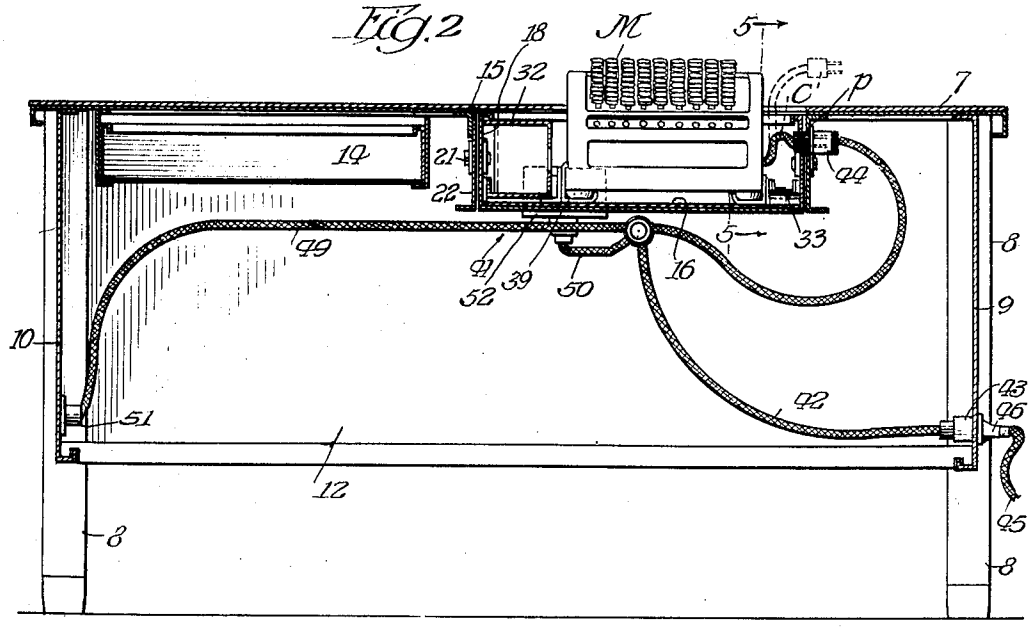


Fig. 2



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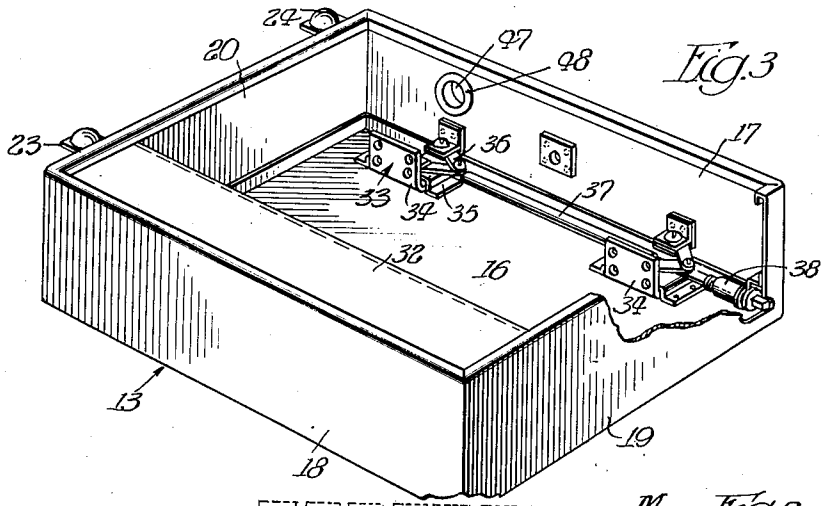


Fig. 3

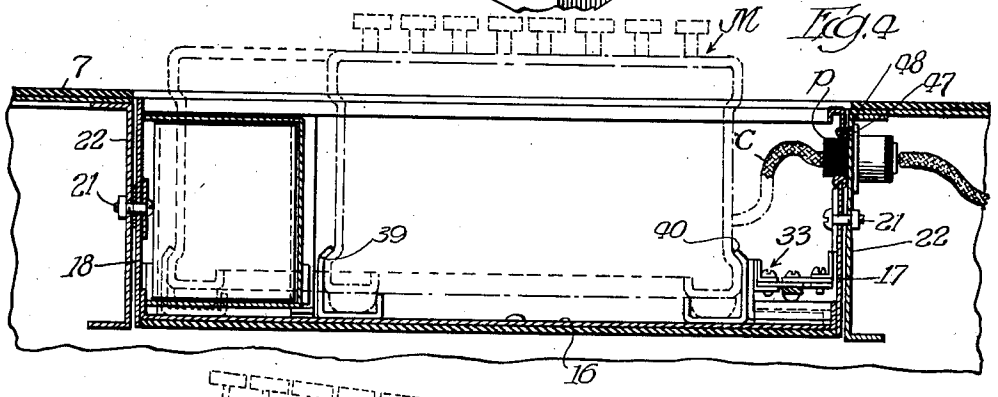


Fig. 4

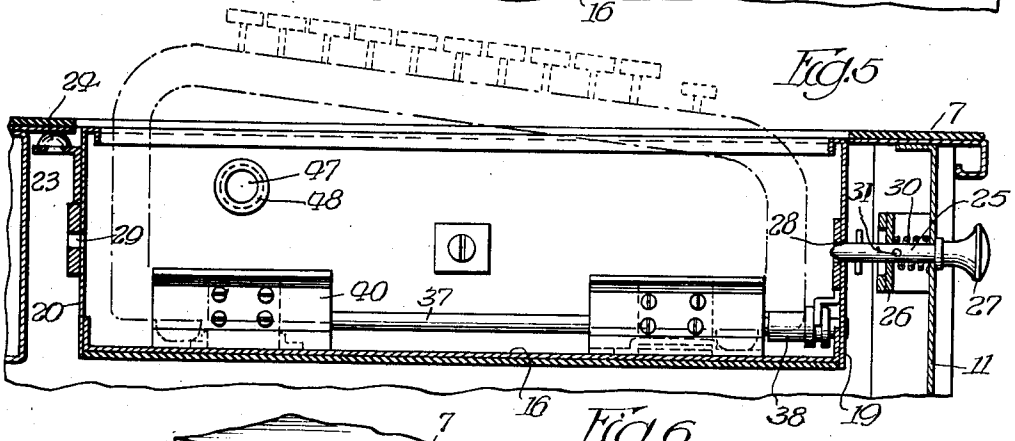


Fig. 5

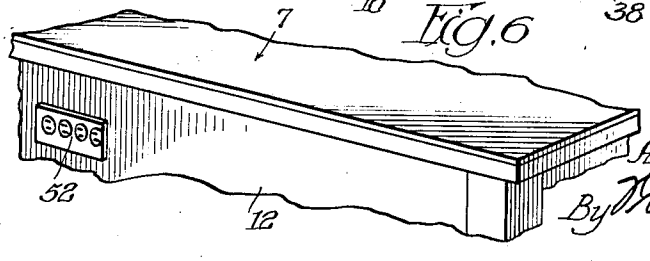


Fig. 6

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Patented Feb. 4, 1941 2,230,444

UNITED STATES PATENT OFFICE

2,230,444

CALCULATING MACHINE TABLE

Albert Balster, Chicago, Ill.

Original application April 7, 1939, Serial No. 266,489. Divided and this application September 11, 1939, Serial No. 294,292

5 Claims. (Cl. 45—6)

The present invention relates generally to tables. More particularly the invention relates to that type of table which has a rectangular opening in the top thereof and a pair of laterally spaced depending side members at the sides of the opening and in addition has beneath the opening an open top box-like container which embodies means for clamping a calculating machine within it and has pivots between its sides and the depending side members in order 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 table of the aforementioned type which is particularly designed for use in connection with a calculating machine of the manually controllable electrically actuated or driven variety and in which one of the depending side members has an electrical socket secured thereto and the adjacent side of the container has a hole which when the container is in its normal or operative position is disposed in registry with the socket and permits a plug on the conductor leading to the machine to be inserted into the socket in order to establish an electrical connection for supplying current to the machine from the socket and at the same time to lock the container in place.

A further object of the invention is to provide a calculating machine table which is simple in design and efficiently fulfills its intended purpose.

Other objects of the invention and the various advantages and characteristics of the present calculating machine table 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 front perspective showing a table embodying the invention with the container in its normal or operative position;

Figure 2 is a vertical longitudinal section;

Figure 3 is a fragmentary perspective of the container showing in detail the construction and design of the mechanism or means for clamping the calculating machine in place;

Figure 4 is an enlarged vertical longitudinal section of the portion of the table which is equipped with the container;

Figure 5 is an enlarged vertical transverse section taken on the line 5—5 of Figure 2 and illustrating the manner in which the container is releasably held in its normal or operative position; and

Figure 6 is a fragmentary rear perspective of the table.

The table which is shown in the drawings constitutes the preferred embodiment of the invention. It is adapted for use in connection with a calculating machine M and comprises a rectangular top 7, legs 8, a pair of sides 9 and 10, a front 11 and a back 12. In addition the table comprises a box-like container 13 for the calculating machine M. The top 7 of the table is preferably formed of sheet metal and has a top face of linoleum or like material. The legs 8 are four in number. They are located at the corners of the top 7 and serve to support the top at the desired elevation with respect to the floor on which the table rests. The sides 9 and 10 are disposed at and depend from the end margins of the top 7 and extend between the legs at the front corners of the table and the legs at the rear corners. The front 11 is provided at one side thereof with a rectangular opening for a drawer 14 and extends lengthwise of the table and between the two front legs. The back 12 depends from the rear margin of the top and extends between the rear legs of the table. The top 7 of the table is adapted to be used as a work space and has a rectangular opening 15 at one side of the drawer 14. As shown in the drawings, the opening 15 extends completely through the table top 7.

The container 13 forms an open top compartment for the calculating machine M and corresponds in shape to and fits in the rectangular opening 15 in the top 7 of the table. It is preferably formed of sheet metal and consists of a bottom 16, a pair of sides 17 and 18, a front 19 and a back 20, 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 or 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 16 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 15 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 13 may be swung back and forth between its normal position and its inoperative or closed position comprises a pair of bolts 21. The latter extend through holes in the central portions of the sides of the container and are carried by a pair of laterally spaced side members 22. These members are fixed to and depend from the portions of the table top 7 which define the sides of the rectangular opening 15. They are substantially the same in height as the sides 17 of the container 13 and have out-turned bottom margins for reinforcing purposes. Two L-shaped brackets 23 with rubber pads 24 are fixed to the outer face of the back 20 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 5, are so arranged that when the container is in its normal position the pads 24 thereof abut against the portion of the table top which defines the back of the rectangular opening 15. The container is locked in its normal and inoperative positions by means of a plunger 25. The latter extends horizontally and is slidably mounted in a bracket 26 on the inner face of the table front 11. The outer end of the plunger extends through a hole in the table front and is provided with a knob 27 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 28 in the central portion of the container front 11 when the table is in its normal or operative position. It is also adapted to fit within a hole 29 in the container back 20 when the container is in its inverted or inoperative position. A compression spring 30 surrounds the central portion of the plunger and extends between the front 11 of the table and a pin 31 on the plunger. This spring urges the plunger inwards and serves to hold the latter in interlocked relation with the hole 28 or the hole 29. 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 25 is slid outwards. This disengages the inner end of the plunger from the hole 28 and frees the container so that it, together with the machine, may be rotated clockwise as viewed in Figure 5. 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 29 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 plug *p* for supplying it with current or electrical energy. The plug *p* is connected to one end of the conductor as shown in Figures 2 and 4. 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 13 between a removable filler member 32 and a clamping mechanism 33. The filler member is positioned adjacent to the side 17 of the container and is suitably secured in place. The clamping mechanism is located adjacent to the side 18 of the container and operates to urge the machine M toward the filler member 32. It is of the releasable manually manipulable variety and comprises a pair of L-shaped clamp members 34, a pair of slideway forming brackets 35, a pair of toggle linkages 36, a shift rod 37 and a sleeve 38. The aforesaid parts are constructed and positioned as specifically set forth and described in my application for United States Letters Patent filed April 7, 1939, Serial No. 266,489, and are so arranged and designed that when the sleeve 38 is turned in one direction the push rod is shifted towards the back of the container and operates through the medium of the toggle linkages 36 to shift the clamp members 34 towards the container side 17 and into clamping relation with the machine M. When the sleeve is reversely rotated the shift rod 37 is shifted toward the front of the container and operates through the medium of the toggle linkages to shift the clamping members 34 away from the container side 17 and out of clamped relation with the calculating machine M. A pair of L-shaped shoes 39 and a pair of L-shaped shoes 40 serve to assist the clamping mechanism 33 in holding the calculating machine in place in the container. The shoes 39 are shaped to receive two of the lower corners of the housings of the calculating machine and are adapted to interlock with the filler member 32. The other two shoes, that is, the shoes 40 are shaped to receive the other two lower corners of the machine housing and are bolted or otherwise fixedly secured to the L-shaped clamping members 34 of the clamping mechanism 33.

In order to supply current to the conductor *c* for the calculating machine M when the container is in its normal position, a harness 41 is provided. This harness comprises a conductor 42 which leads from a socket 43 on the side 9 of the table to a socket 44 on the side member 22 which is adjacent to the side 18 of the container. The socket 43 extends through a hole in the table side 9 and is adapted to be connected to a source of current supply by way of a conductor 45 with a plug 46. The plug, as shown in Figure 2 is adapted to be inserted into the socket 43 in order electrically to connect the conductor 45 and the conductor 42. The socket 44 extends through, or is aligned with, a hole in the side member 22 that is opposite to the container side 17 and is secured to said side member by way of bolts or other attaching devices. The container side 17 has in the rear portion thereof a hole 47 and this hole is adapted to register with the socket 44 when the container 13 is in its normal position and permits the plug *p* on the conductor *c* to be inserted into connected relation with the socket 44 (see Figures 2 and 4). When the plug *p* is inserted through the hole 47 and into the socket 44 it coacts with the hole defining portion of the container side 17 to lock the con-

tainer in its normal position and serves electrically to connect the conductor *c* to the conductor 42 of the harness. The hole 47 is preferably insulated by way of a channelled ring 48 of rubber or like insulating material. The plug *p* when in place in the socket 44 assists the plunger 25 in holding the container in its normal position. Should the plunger be accidentally shifted forwards during use of the calculating machine M there is no likelihood of the container swinging or rotating to its inoperative position because of the locking effect or action of the plug *p* and the socket 44. In addition to the conductor 42, the harness 41 comprises a pair of branch conductors 49 and 50. The branch conductor 48 is electrically connected to and leads from the central portion of the conductor 42 and is connected to a socket 51 on the side 10 of the table. This socket 51 extends through a hole in the table side 10 and permits a calculating machine table of like design and in alignment with the table side 10 to receive current from the conductor 42. The branch conductor 49 leads from the central portion of the conductor 42 to a gang socket 52 on the back 12 of the table. This socket extends through a hole in the table back, as shown in Figure 6, and permits electrical devices on the top of the table to be connected electrically to the conductor 42.

The operation of the table is as follows: To install the calculating machine M in the pivotally supported container 13 the container is first swung into its normal position. Thereafter the clamp members 34 and the shoes 39 are moved outwards by turning the sleeve 38 so as to shift the shift rod 37 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 39 and 40. At the conclusion of this operation the sleeve 38 is reversely rotated in order to shift the clamp members 34 together with the machine toward the filler member 32. 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* through the hole 47 in the container side 18 and into the socket 44. As soon as the plug is in the socket 44 the machine M is energized with current from the conductor 42 and is capable of being manipulated. In addition the container is supplementally locked in its normal position. 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 44 and the plunger 25 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 29.

The herein described table effectively and efficiently fills its intended purpose and may be built at a comparatively low and reasonable cost. It tends to increase the efficiency of the user of the calculating machine M and is characterized by the fact that it is usable with an electrically actuated calculating machine and has provision whereby the plug of the machine serves to lock the container in its normal or operative position.

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.

This application is a division of the aforesaid application Serial No. 266,489 filed by me on April 7, 1939.

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

1. The combination of a table having a top with an opening therethrough, an open top container beneath the opening having a side wall with a hole therein and embodying means for releasably securing within it an electric calculating machine, means carried by the table for supporting the container so that it is movable back and forth between a normal position wherein the top thereof is exposed by said opening and the keys of the machine are manipulable from above the top and an inoperative position wherein the machine is inverted and the container bottom is substantially flush with and completes the top of the table, and means for supplying current to the machine comprising a connector having means associated therewith for supplying it with current and mounted beneath the top so that it is positioned in registry with and close proximity to the hole in the container side wall when the container is in its normal position, and a conductor leading to the machine and having a connector adapted when said container is in its normal position to be inserted through said hole into electrical engagement with the first mentioned connector and to coact with the latter and the hole forming portion of the side wall of the container in such manner as to hold or secure the container in its said normal position.

2. The combination of a table having a top with an opening therethrough, an open top container beneath the opening having a bottom and a continuous wall around the margin of the bottom and with a hole therein and embodying means for releasably securing within it an electric calculating machine, means carried by the table for pivotally supporting the container so that it may be swung back and forth between a normal position wherein the free margin of said wall is substantially flush with the table top and the keys of the machine are manipulable from above the top and an inoperative position wherein the machine is inverted and the container bottom is substantially flush with and completes the top of the table, and means for supplying current to the machine comprising a connector having means associated therewith for supplying it with current and mounted beneath the table top so that it is positioned in registry with and close proximity to the hole when the container is in its normal position and a conductor leading to the machine and having a connector adapted when said container is in its normal position to be inserted through said hole into electrical engagement with the first mentioned connector and to coact with the latter and the hole forming portion of said continuous wall in such manner as to hold or secure the container in its said normal position.

3. The combination of a table having an elevated top with an opening therethrough, an open top container beneath the opening having a side wall with a hole therein and embodying means for releasably securing within it an electric calculating machine, means carried by the table for supporting the container so that it is shiftable

back and forth between a normal position wherein the open top thereof is exposed by said opening and the keys of the machine are manipulable from above the top and an inoperative position wherein the machine is inverted and the container bottom is substantially flush with and completes the top of the table, means for supplying current to the machine comprising a socket having means for supplying it with current and suspended in a fixed manner from the top so that it is positioned in registry with and in close proximity to the hole in the container side wall when the container is in its normal position and a short conductor leading to the machine and having a plug adapted when said container is in its normal position to be inserted through said hole and into the socket and to coact with the latter and the hole defining portion of the container side wall in such manner as to hold or secure the container in its said normal position.

4. The combination of a table having a top with an opening therethrough and also having a depending side member at one side of the opening, an open top container beneath the opening having a side wall opposite to said side member and with a hole therein and embodying means for releasably securing within it an electric calculating machine, means including a pivotal connection between said container side wall and the side member for supporting the container so that it is permitted to swing back and forth between a normal position wherein the top thereof is exposed by said opening and the keys of the machine are manipulable from above and an inoperative position wherein the machine is inverted and the container bottom is substantially flush with and completes the top of the table, and means for supplying current to the machine comprising a connector having current supply means associated therewith and extending through and fixed to said depending side member in such manner that it is positioned in registry with and close proximity to the hole in the container side wall when the container is in its normal position and a comparatvely short conductor leading to the machine and having a connector adapted when said container is in its normal position to be inserted through said hole into electrical engagement with the first mentioned connector and to coact with the latter and the hole forming portion of said side wall in such manner as to hold or secure the container in its said normal position.

5. The combination of a table having a rectangular opening therethrough and also having a pair of depending side members at the sides of said opening, an open top box-like container beneath the opening consisting of a bottom of the same size as the opening and a pair of sides and a front and back connected together and extending upwardly from the margins of the bottom and having a hole in one of the sides thereof and in addition means for releasably securing within it an electric calculating machine, pivotal connections between the sides of the container and the depending side members of the table for supporting the container so that it is permitted to swing back and forth between a normal position wherein the top margins of the sides, front and back of the container is 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 table top, and means for supplying current to the machine comprising a socket having current supplying means associated therewith and fixed to the side member that is adjacent the container side with the hole therein so that it is positioned in registry with and in close proximity to the hole when the container is in its normal position, and a short conductor leading to the machine and having a plug adapted when said container is in its normal position to be inserted through said hole and into the socket and to coact with the latter and the hole forming portion of the container side in such manner as to hold or secure the container in its said normal position.

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