

March 7, 1961

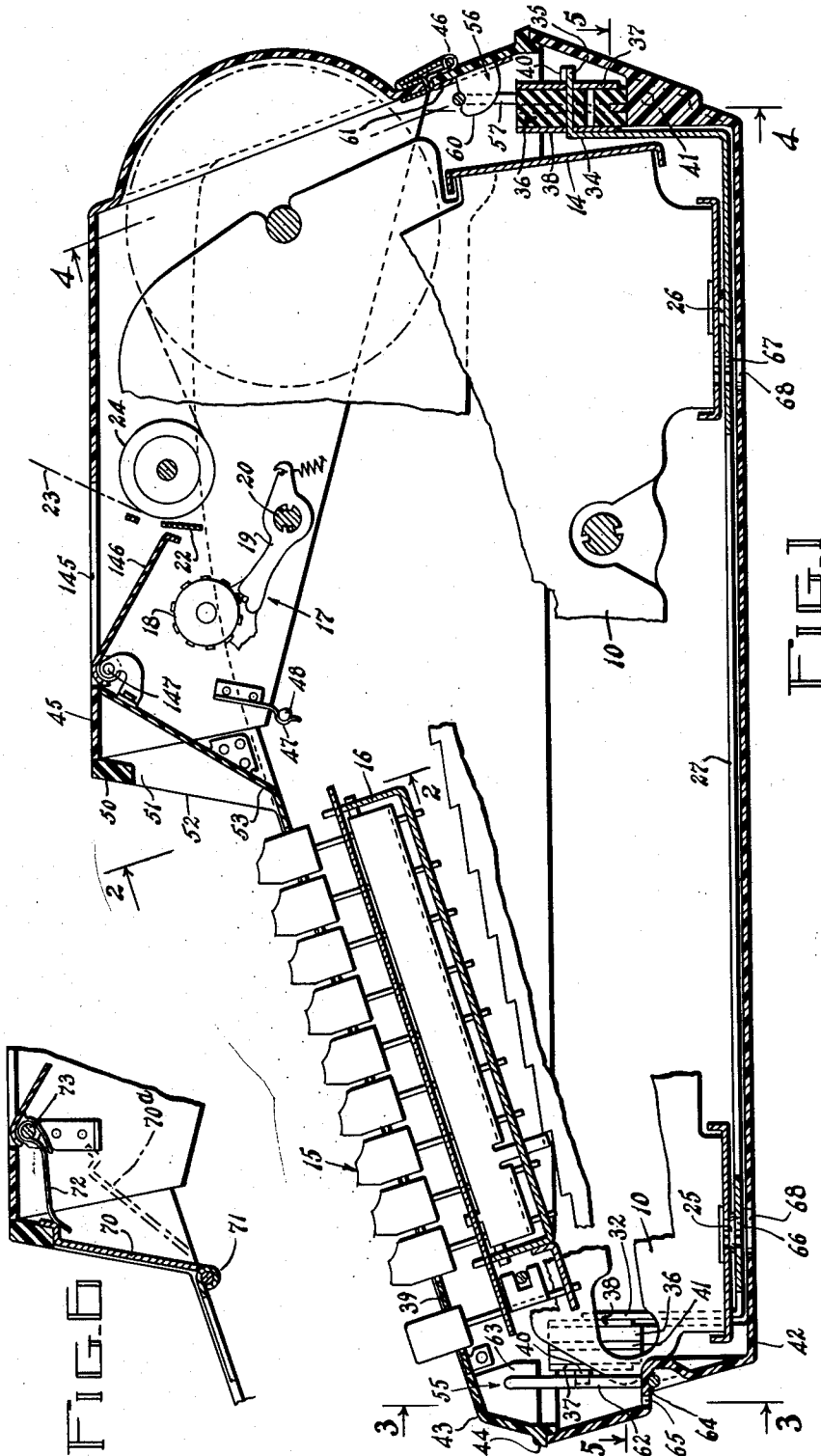
J. M. NESSEL

2,973,602

HANDLE AND COVER CONSTRUCTION FOR CALCULATING MACHINES

Filed March 7, 1958

3 Sheets-Sheet 1



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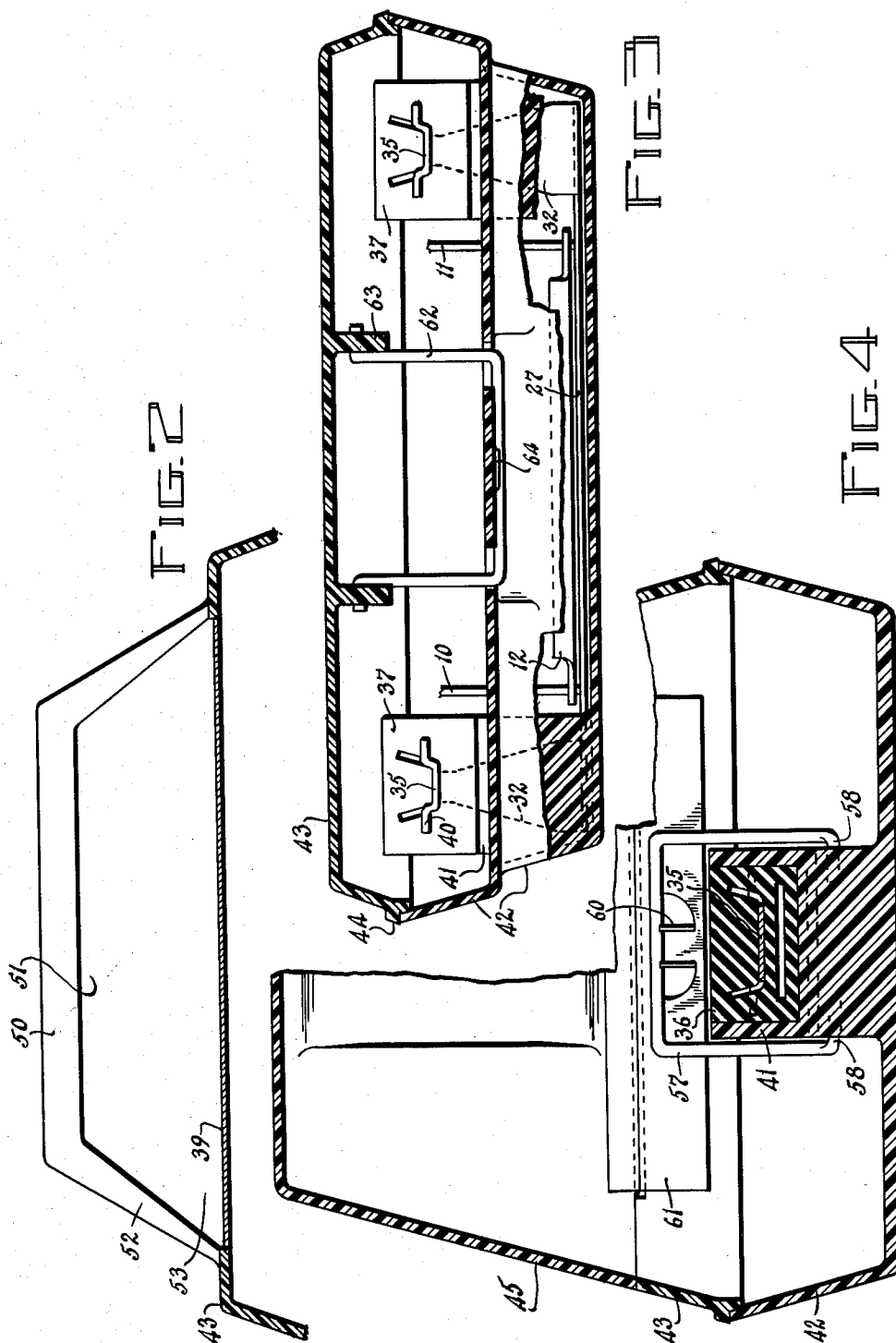
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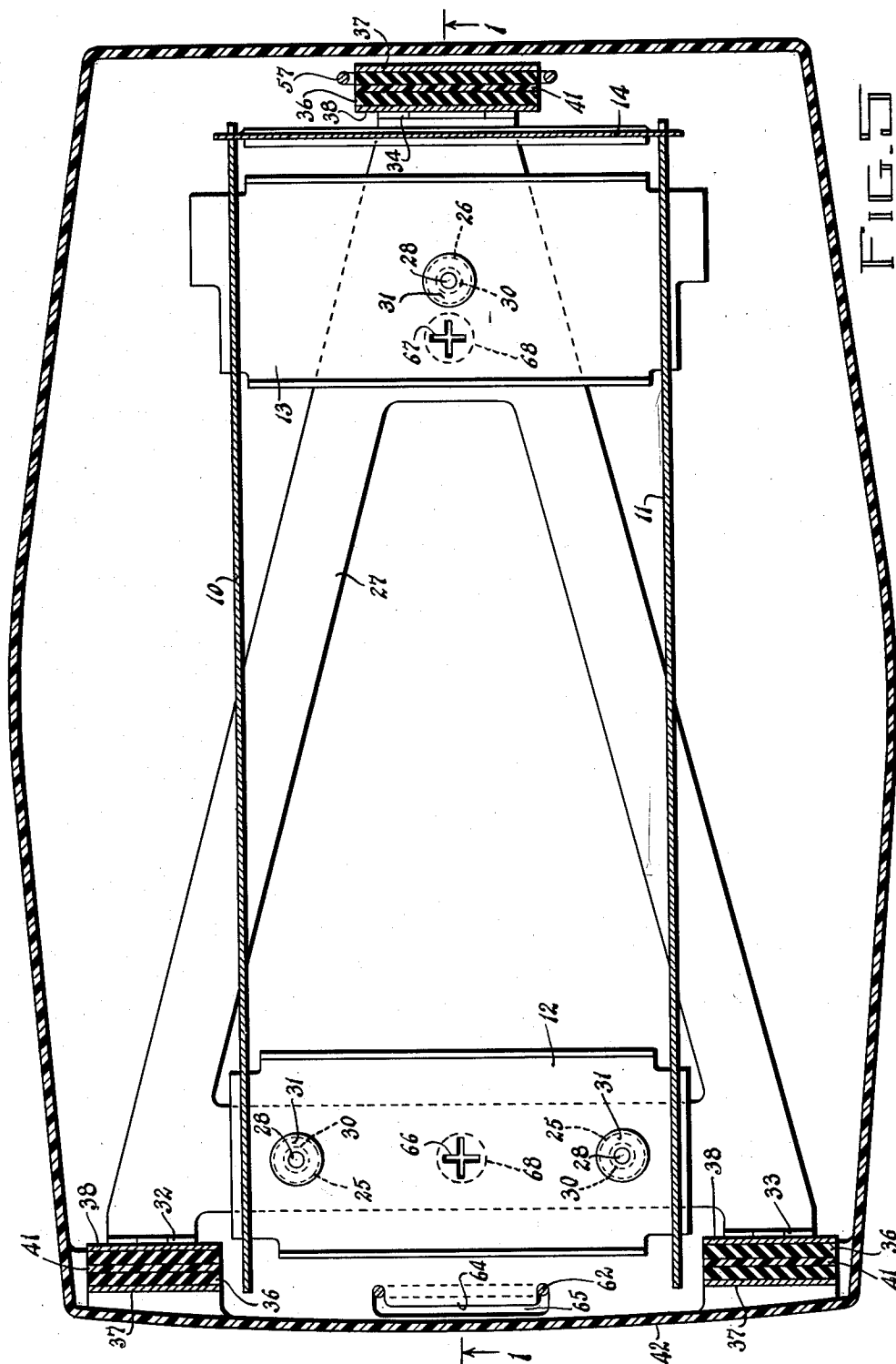
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HANDLE AND COVER CONSTRUCTION FOR CALCULATING MACHINES

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HANDLE AND COVER CONSTRUCTION FOR CALCULATING MACHINES

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2 Claims. (Cl. 45—68.1)

This invention relates to calculating-listing machines which include a keyboard for entering factors of a calculation and a printer located at the rear of the keyboard for printing factors and results of a calculation performed by the machine.

Machines of the above type are generally considered portable and are intended to be carried from one place or desk to another. Although such machines are normally light enough for most persons to carry about, their shape is such that they are awkward to carry, normally requiring a person to use both hands in order to transport them.

Although carrying cases having handles thereon are often utilized to carry such machines, the cases are often misplaced since they are only used when the machines are to be carried. Also, such carrying cases are generally considered a nuisance because the machines must be inserted therein before carrying and must thereafter be removed in order to effectively operate the machines. In those instances where a machine is to be moved only a short distance, as from one desk to another, the use of a carrying case is not warranted.

It therefore becomes a principal object of the present invention to facilitate carrying of a calculating-listing machine of the above type.

Another object is to arrange the housing of a calculating machine of the above type to form a handle permitting a person to conveniently carry the machine by one hand.

Another object is to arrange a calculating machine housing to form a handle permitting carrying of the machine in its normal operating attitude.

The manner in which the above and other objects of the invention are accomplished will be readily understood on reference to the following specification when read in conjunction with the accompanying drawings, wherein:

Fig. 1 is a sectional elevation view of a calculating-listing machine embodying a preferred form of the present invention and is taken substantially along the line 1—1 of Fig. 5.

Fig. 2 is a transverse sectional view of the upper housing part and is taken substantially along the line 2—2 of Fig. 1.

Fig. 3 is a transverse sectional view through the forward portion of the machine and is taken substantially along the line 3—3 of Fig. 1.

Fig. 4 is a transverse sectional view, with parts broken away, taken through the rear portion of the machine and is taken substantially along the line 4—4 of Fig. 1.

Fig. 5 is a sectional plan view of the machine and is taken substantially along the line 5—5 of Fig. 1.

Fig. 6 is a fragmentary sectional view, similar to that of Fig. 1, illustrating a modified form of the present invention.

Although the housing and handle construction comprising the present invention may be used in conjunction with any form of portable calculating-listing machine,

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it is disclosed in conjunction with the well known and commercially available Clary adding machine which is generally disclosed and claimed in the R. E. Boyden Patent No. 2,583,810, issued on January 29, 1952. Accordingly, only those portions of the machine which directly cooperate with or form part of the present invention are disclosed herein and reference may be had to the above patent for a complete disclosure of the machine proper.

The machine, in general, comprises spaced side frame plates 10 and 11, held in rigid spaced relation by cross braces 12, 13 and 14.

A keyboard, generally indicated at 15, comprises a plurality of depressible amount entry and control keys carried by a key frame 16 suitably secured (in a manner not shown) between the machine side plates.

A printer, generally indicated at 17, is incorporated in the machine and comprises a plurality of type wheels 18 carried on arms 19 pivoted upon a printer control shaft 20. During a printing phase of a machine cycle, the arms 19 are swung clockwise to carry the type wheels 18, which have been rotatably set to present appropriate type characters thereon to a printing line, into contact with a printing ribbon 22 and a paper tape 23 fed over a platen 24.

The cross braces 12 and 13 of the machine frame rest on bosses, i.e. 25 and 26, formed in an A-brace 27. Bolts 28 each extend through an enlarged hole 30 in the associated boss and is threaded in a nut 31 welded to the upper surfaces of the respective cross brace.

The A-brace has three upwardly extending brackets 32, 33 and 34 which terminate in horizontally extending U-shaped projections 35. The latter are embedded in blocks 36 of rubber or other resilient material. Metal plates 37 and 38 are located on opposite ends of each block of resilient material to retain the same in place. The outer ends of the U-shaped projections are slit, forming tabs, i.e. 40, which are bent outwardly to retain the A-frame in place on the resilient blocks.

Grooves are formed on opposite sides of each block and are fitted in openings formed in upwardly extending brackets 41 formed on a bottom housing part 42, surrounding the lower portion of the machine, whereby to resiliently support the machine on the bottom housing part.

A top housing part 43, surrounding the upper portion of the machine, is provided with a ledge 44 fitted over the sides of the bottom housing part 42.

The keyboard 15 extends through an opening in the housing part 43, the latter having secured thereto a keyboard plate 39 fitted in this opening and closely surrounding the tops of various keys in the keyboard.

It will be noted that the printer 17 is located to the rear of and at a higher level than the keyboard 15. Accordingly, the upper housing part 43 is extended upwardly to form a printer cover 45 surrounding the printer. The cover 45 is separate from the remaining portion of the upper housing part proper and is hinged thereto at 46 to enable access to the interior of the upper portion of the machine for servicing, etc.

A spring detent 47 carried by the cover is engageable with a stud 48 on the upper housing part whereby to detent the printer cover in place.

The top of the printer cover 45 lies coextensive with a bridge 50 defining an upwardly extending wall between the keyboard and the printer frame and having an opening 51 therein. The bridge forms a handle permitting a person to grasp the same with one hand and thus transport the machine without having to move it from its normal operating attitude.

The cover 45 has an opening 145 in the top thereof aligned with a dust cover 146 pivotally supported at 147.

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Suitable means (not shown) raises the cover 146 just prior to a printing operation and thereafter returns the cover to its illustrated position.

It will be noted that the horizontally extending portion of the bridge 50 is relatively thicker vertically than its width in order to impart sufficient strength for carrying purposes. The sides 52 of the bridge flare outwardly and downwardly as seen in Figs. 1 and 2 to retain sufficient strength while tapering to a thickness approaching the general thickness of the upper housing part.

The keyboard plate 39 is deflected upwardly at 53, terminating adjacent the top wall of the printer cover whereby to permit one to place his fingers under the bridge to carry the machine while shielding them from the operating parts of the machine.

The upper housing part 43 is normally held over the bottom housing part 42 by front and rear latching devices, generally indicated at 55 and 56, respectively. The rear latching device 56 comprises a bail 57 (Figs. 1 and 4) whose inwardly extending ends 58 are journaled in bearings formed in the rear bracket 41 of the lower housing part. The bail is arranged to be swung over projections 60 formed on a hinged piece 61 comprising part of the hinge 46. Upon opening the printer cover 45, access may be had to the bail 57 to latch or unlatch the rear portion of the top housing part.

The front latching device comprises a bail 62 (Figs. 1, 3 and 5) whose opposite ends are extended outwardly to form journals pivoted in bearings formed in bosses 63 integral with the top housing. The bail 62, when in latching position, extends under a tongue 64 in the lower housing part. When the bail is swung forwardly into an opening 65 surrounding the tongue, the forward portion of the top housing part is unlatched, permitting it to be removed.

Means are provided for facilitating adjustment of the machine and its keyboard in proper relation to the openings in the keyboard plate 39 and to other parts of the housing. For this purpose, cross shaped openings 66 and 67 (Figs. 1 and 5) are formed in the cross braces 12 and 13 of the machine. Similar aligned openings are formed in the A-frame 27 and these are aligned with access openings 68 in the lower housing part. By loosening the clamp screws 28 and inserting a screw driver or other suitable tool in aligned ones of the cross shaped openings, the machine may be shifted in any desired direction relative to the housing, after which the screws 28 are again tightened to maintain the machine in proper position.

Fig. 6 illustrates a modified form of the invention wherein the upwardly extending portion 53 of the keyboard plate 39 is removed and a cover plate 70 is hinged at 71 to the remaining part of the keyboard plate 39. A spring 72 anchored at 73 normally holds the cover

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plate in a position covering the opening formed by the bridge, but allows the plate to be swung toward its full open position indicated by the dot-dash lines 70a when it is desired to lift the machine.

Although I have described my invention in detail and have therefore used certain terms and languages herein, it is to be understood that the present disclosure is illustrative rather than restrictive and that changes and modifications may be made without departing from the spirit or scope of the invention as set forth in the claims appended hereto.

Having thus described my invention, what I desire to secure by United States Letters Patent is:

1. A housing for a calculating machine or the like, said housing comprising a first substantially horizontal top wall portion, a second substantially horizontal top wall portion located rearwardly of said first wall portion and above the level thereof, a third upwardly extending wall portion extending between said first and said second wall portions to seal off the interior of said housing from the exterior, said second wall portion extending forwardly beyond said third wall portion, a handle extending upwardly from first wall portion and contiguous with the forward end of said second wall portion to form a hand hold for carrying said housing in a substantially normal attitude, and a means mounting said second wall portion on said first wall portion for movement away from said handle and said third wall portion to permit entrance to the interior of said housing.

2. A housing for a calculating machine or the like, said housing comprising a first substantially horizontal top wall portion, a second substantially horizontal top wall portion located rearwardly of said first wall portion and above the level thereof, a third upwardly extending wall portion extending between said first and said second wall portions to seal off the interior of said housing from the exterior, said second wall portion extending forwardly beyond said third wall portion, a handle integral with said first wall portion and extending upwardly therefrom, said handle being contiguous with the forward end of said second wall portion to form a hand hold for carrying said housing in a substantially normal attitude, and pivot means on said first wall portion for supporting said second wall portion for upward swinging movement away from said handle and said third wall portion to enable access to the interior of said housing.

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