

Sept. 4, 1951

R. E. BOYDEN

2,567,098

CARRYING MEANS FOR OFFICE MACHINE

Filed Oct. 4, 1949

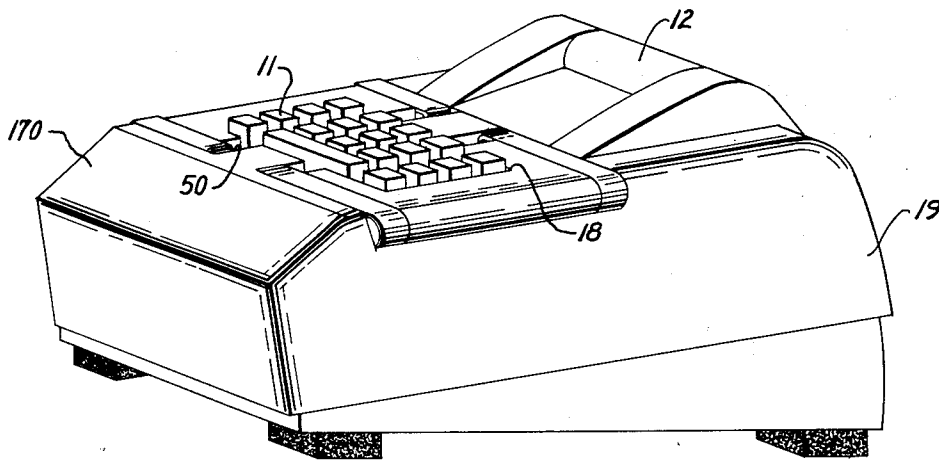


FIG. 1.

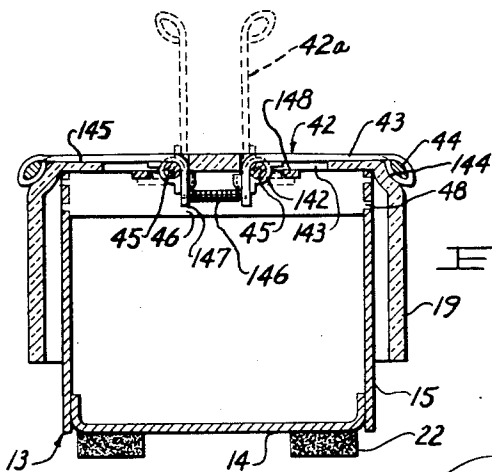


FIG. 2.

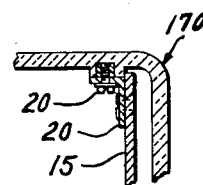


FIG. 3.

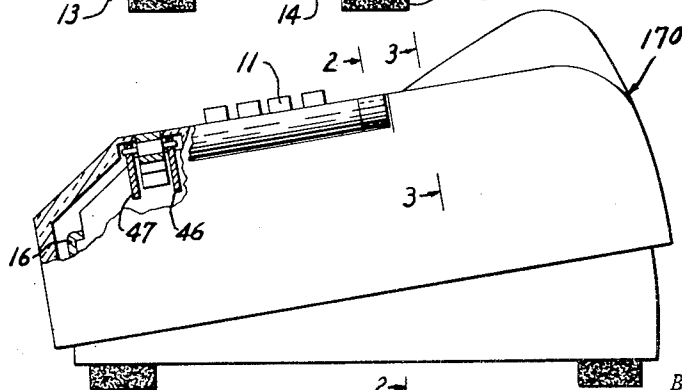


FIG. 4.

INVENTOR.
ROBERT E. BOYDEN

BY

Fred M. Schwan
ATTORNEY

UNITED STATES PATENT OFFICE

2,567,098

CARRYING MEANS FOR OFFICE MACHINE

Robert E. Boyden, Los Angeles, Calif., assignor to
Clary Multiplier Corporation, San Gabriel,
Calif., a corporation of California

Application October 4, 1949, Serial No. 119,517

7 Claims. (Cl. 235—1)

1

This invention relates to office machines such as adding, calculating, check writing, stenographic and the like machines, and has particular reference to an arrangement for transporting such machines.

Office machines of the so-called "portable" type are intended to be, and generally are, often carried from place to place to be used in different places or by different operators. Although such machines are light enough to be carried by a single person, their bulk and contour often leaves much to be desired in regard to the necessity of carrying the same.

To facilitate carrying such machines, carrying cases have heretofore been provided, having handles thereon for carrying purposes. However, such carrying cases take up space and are often in the way since, normally, their use is only needed when the machine is to be carried.

It therefore becomes the principal object of the present invention to facilitate carrying an office machine of the above type.

Another object is to provide carrying handles for an office machine, which handles are permanently carried thereby and which, when not in use, are rendered inconspicuous and out of the way of the operator.

Another object is to provide carrying handles for an office machine, which handles are mounted on the machine independently of the machine cover or housing.

Another object is to provide carrying handles for an office machine, in which the machine cover or housing is removable independently of the handles.

Another object is to provide retractable transporting handles for an office machine which, when in transporting position, are rigid with the machine so as to eliminate any free swinging of the latter while being transported.

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 perspective view of an adding machine embodying the present invention.

Fig. 2 is a transverse sectional view taken along the line 2—2 of Fig. 4 and illustrating the pivotal connection for the carrying handles.

Fig. 3 is a fragmentary sectional view taken along the line 3—3 of Fig. 4 and illustrating the means for attaching the housing to the machine chassis.

2

Fig. 4 is a side view of the machine with parts in section.

As is shown particularly in Fig. 1, the machine is illustrated as an adding machine embodying a series of depressible keys 11 for the purpose of entering selected amounts and for conditioning and controlling the computing and operating mechanisms as desired. A rotatable platen 12 is provided adjacent the rear of the machine to carry a paper strip past a printing mechanism (not shown) for the purpose of recording various factors and amounts on the paper strip. It is to be understood, however, that the machine may be of the ten key type (as shown) or the full key keyboard type, either hand driven or motor driven, and may alternatively be a calculating machine, check writer or the like since the present invention is not limited to any particular type of keyboard equipped office machine but can be applied to any of the above types with equal advantages.

Generally, in all such machines, however, the computing and operating mechanisms thereof are carried by a machine frame or chassis generally indicated at 13. In the present instance, the frame 13 comprises a floor plate 14 and sides 15 integral therewith. End braces, one of which is partially shown at 16 (Fig. 4) extend across and are secured to the ends of the frame sides 15, thus forming a rigid box-like frame unit for containing and supporting the operating mechanisms. Since the latter mechanisms are not necessary for an understanding of the present invention they have been omitted from the present disclosure.

A housing 17 of plastic or similar material extends over the machine proper, having an opening 18 in the top thereof through which the keys 11 extend, permitting the latter to be selectively depressed by the operator. The housing includes a skirt or sides 19 which extend downwardly therearound to cover at least the major part of the chassis.

The housing 17 is removably secured to the chassis 13 through brackets 20 (Fig. 4) attached to the frame sides 15. Screws 21 removably secure the housing to the brackets 20 from the under side of the former so as to be invisible from the exterior of the machine. The latter screws may be removed by a screwdriver extended through suitable openings (not shown) formed in the floor plate 14.

Feet 22 of rubber or the like are mounted on the floor plate 14 to support the machine.

According to the present invention, carrying

handles, generally indicated at 42, are provided for carrying the machine from place to place. These handles are permanently mounted on the machine and are retractable to positions within wells 145 formed in the housing 170 so as to lie flush with the upper surface of the housing and thus present an unbroken surface which will be inconspicuous and will not catch the operator's fingers or fingernails while operating the machine. Also, the handles, although extending over the platen housing 170, are pivotally carried by the chassis, thus reducing the possibility of breaking the plastic housing material while carrying the machine.

The handles are U-shaped in form and comprise rigid legs 43 of strip metal wrapped at their outer ends around and permanently attached to oval rods 44 forming the handles proper. The inner free ends of the various legs 43 extend through openings 143 in the housing 170 and are each pivoted on a frame pin 45 extending between transverse frame plates 46 and 47. For the latter purpose, bearing pieces 142 are suitably secured, as by welding, to the legs 43 and partially surround the associated pin 45. The plates 46 and 47 are provided with tenons 48 fitting within openings in the sides 15 of the machine chassis to thus hold the plates rigid with the chassis.

It will be noted that the handles 42 straddle the keyboard and that the inner pivoted ends of the legs 43 are located adjacent the longitudinal centerline of the machine but the legs of one handle are spaced apart laterally from the legs of the other handle for reasons to be described presently. It will also be noted that the handle rods 44 when in their retracted positions fit partially into concave wells 144 which reduces the projection of the handles beyond the sides of the housing but still enables the handles to be readily grasped when preparing to swing them into their extended carrying positions shown by the dotted lines 42a (Fig. 2). The handles 42 are normally held in retracted positions by a spring 146 tensioned between feet 147 extending at right angles to the legs 43 proper and into the housing.

As the handles 42 are moved to their upper carrying positions, the feet 147, each engages an ear 148 extending inwardly from one or the other of the adjacent frame plates 46 and 47, thereby limiting movement of the handles beyond this carrying position wherein the handles extend vertically, in parallel, spaced apart relation, to each other. Thus, when the operator grasps the handles, in order to carry the machine, the handles will form a rigid unit and will act as an integral part or an extension of the machine, so as to eliminate any free swinging or pendulum action while the machine is being carried.

Upon releasing the handles, the spring 146 will become effective to return the same into their retracted positions.

In order to permit removal and replacement of the housing 170 without removing the handles 42, slots or openings 59 (Fig. 1) are provided in the top of the housing between the openings 143 and the keyboard opening 18. Thus, when it is desired to remove the housing, the handles 42 are swung upward to their carrying positions whereupon the outer portions of each of the handle rods 44 become aligned with the openings 50 so that the housing may be raised vertically off of the chassis.

From the foregoing description, it can be seen that the machine, in effect, becomes its own

carrying case, thereby eliminating the necessity of using a carrying case or other accessory in order to easily transport the machine from place to place.

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

1. In an office machine, the combination of a machine chassis, a housing for said chassis, said housing extending over the top and sides of said chassis, means mounting said housing on said chassis, a pair of U-shaped carrying handles, and means at the top of said chassis pivotally carrying said handles adjacent their free ends and with said free ends spaced apart from each other, said handles extending through openings in said housing, said housing having wells in the top thereof communicating with said openings to normally receive said handles, and said handles being pivotal from retracted positions wherein they extend outwardly substantially in the plane of the upper surface of said housing to carrying positions wherein they extend upwardly from said housing.

2. In an office machine, the combination of a machine chassis, a housing for said chassis, said housing extending over the top and sides of said chassis, means mounting said housing on said chassis, a pair of U-shaped carrying handles, means at the top of said chassis pivotally carrying said handles adjacent their free ends and with said free ends of one of said handles spaced apart from said free ends of the other of said handles, said handles extending through openings in said housing, said housing having wells in the top thereof communicating with said openings to normally receive said handles, and said handles being pivotal from retracted positions wherein they extend outwardly substantially in the plane of the upper surface of said housing to carrying positions wherein they extend upwardly from said housing, and means for maintaining said handles in spaced apart relation when in said carrying positions.

3. In an office machine, the combination of a machine chassis, a housing carried by said chassis and extending over the top and sides of said chassis, a pair of U-shaped carrying handles, means on said chassis pivotally carrying said handles adjacent their free ends, said handles extending through openings in said housing, said housing having wells in the upper surface thereof communicating with said openings to normally receive said handles, the opposite ends of said handles extending outwardly beyond the sides of said housing, and said handles being pivotal upwardly into carrying positions.

4. In an office machine, the combination with a machine chassis, a housing carried by said chassis and extending over the top and sides of said chassis, and a keyboard carried by said chassis and extending through an opening in said housing; of a pair of U-shaped carrying handles, means on said chassis pivotally carrying said handles adjacent their free ends and with said free ends of one of said handles spaced apart from said free ends of the other of said handles, said legs of each of said handles straddling a part of said keyboard, said handles extending through openings in said housing, said housing having wells in the top thereof communicating with said openings to normally receive said handles, and said handles being pivotal from retracted positions wherein they extend outwardly substantially in the plane of the upper surface

of said housing to carrying positions wherein they extend upwardly from said housing.

5. In an office machine, the combination of a machine chassis, a housing for said chassis, means mounting said housing on said chassis, a pair of U-shaped carrying handles, and means on said chassis pivotally carrying said handles adjacent their free ends and with said free ends of one of said handles spaced apart from said free ends of the other of said handles, said handles extending through openings in said housing, said housing having wells in the top thereof communicating with said openings to receive said handles, and said handles being pivotal from retracted positions wherein they extend outwardly in proximity to the surface of said housing to carrying positions wherein they extend upwardly from said housing, means on each of said handles forming an extension located below said housing, and a spring tensioned between said extensions for urging said handles into said retracted positions.

6. In an office machine, the combination with a machine chassis, and a keyboard carried by said chassis; of a pair of carrying handles, said handles each comprising a handle element and a pair of legs integral at one end of each thereof with one of said handle elements; means on said chassis pivotally carrying said handles adjacent the free ends of said legs thereof, said legs of each of said handles straddling said keyboard, and said free ends of said legs of one of said handles being spaced apart from said free ends of said legs of the other of said handles, said handles being pivotal from a retracted position wherein they extend outwardly relative to each other to a carrying position wherein they extend upwardly from said chassis, and means carried by said chassis for maintaining the outer ends of said handles in spaced apart relation to each other when in said carrying positions.

7. In an office machine, the combination with a machine chassis, a housing carried by said chassis and extending over the top and sides thereof, and a keyboard carried by said chassis and extending through an opening in said housing; of a pair of carrying handles, said handles each comprising a handle element and a pair of legs integral at one end of each thereof with one of said handle elements; means on said chassis pivotally carrying said handles adjacent the free ends of said legs thereof with said free ends in spaced apart relation to each other, said legs extending through openings in said housing and said legs of each of said handles straddling a part of said keyboard, said housing having wells in the upper surface thereof communicating with said openings to normally receive said handles, said handles being pivoted from a retracted position wherein they extend substantially flush with the upper surface of said housing to a carrying position wherein they extend upwardly from said housing, and means on each of said handles forming an extension located below said housing, said extensions being adapted to engage a part of said chassis upon movement of said handles to said carrying positions whereby to maintain said handles in spaced apart relation with each other.

ROBERT E. BOYDEN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,230,443	Balster	Feb. 4, 1941
2,311,928	Buehler	Feb. 23, 1943
2,432,365	Allen	Dec. 9, 1947
2,467,471	Goldstein	Apr. 19, 1949