June 10, 1930. B. S. MOORE 1,762,559

MEANS FOR FACILITATING SHIPMENT OF DOOR HANDLES AND THE LIKE

Filed July 9, 1928 2 Sheets-Sheet 1

Fig. 1.

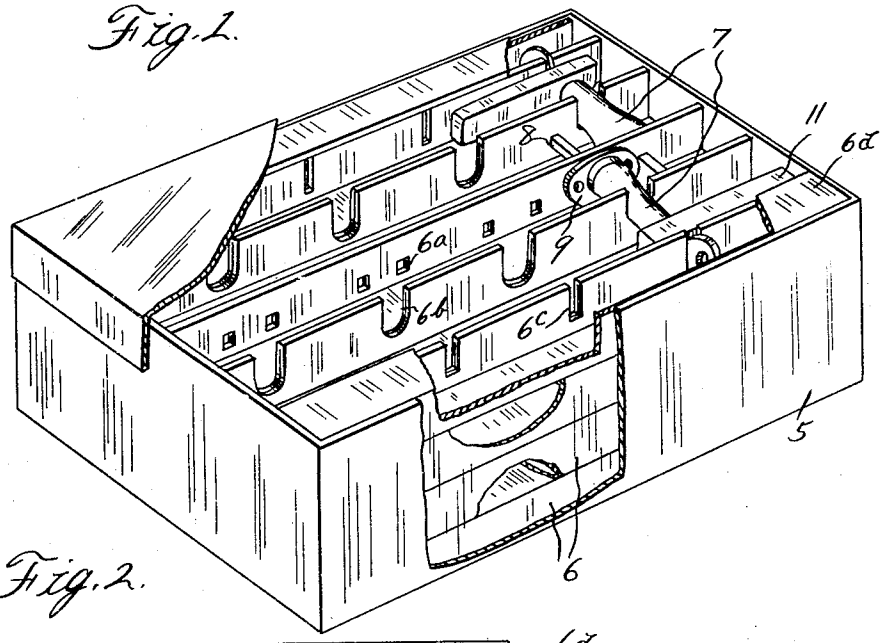
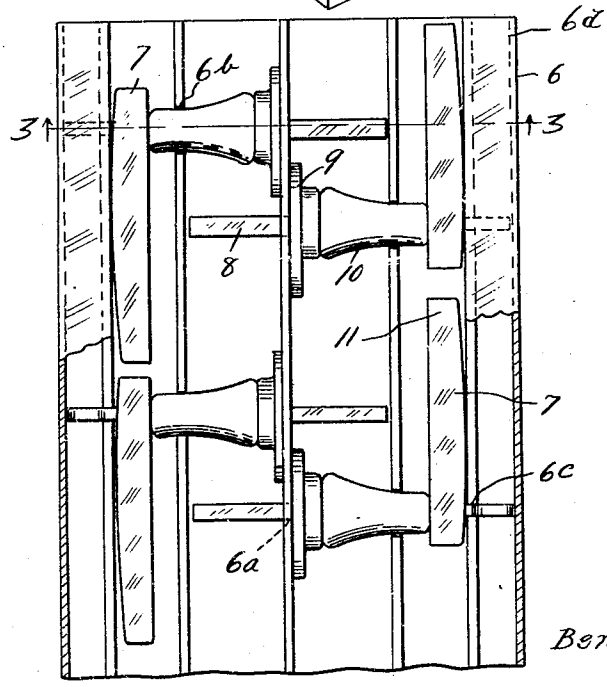


Fig. 2.



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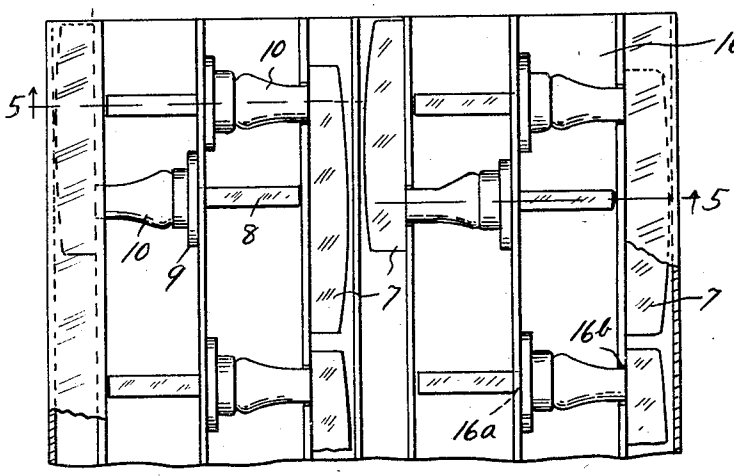


Fig. 4.

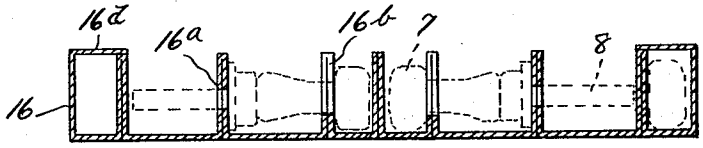


Fig. 5.

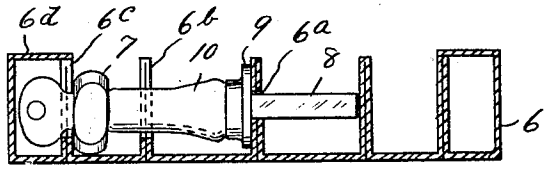


Fig. 3.

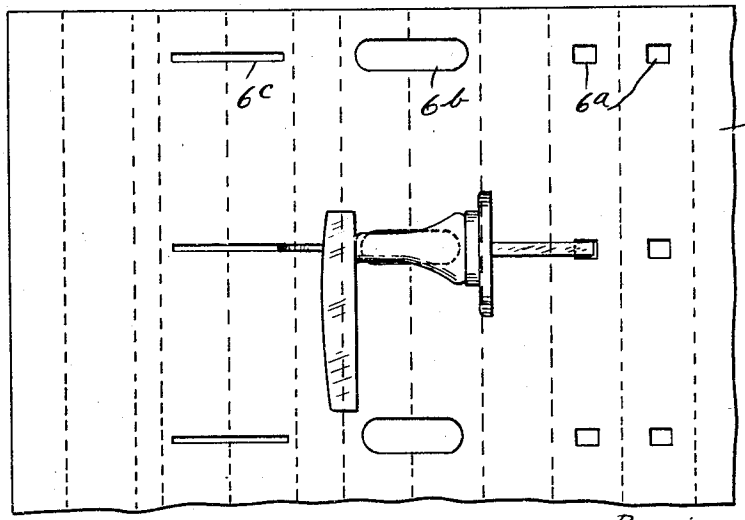


Fig. 6.

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UNITED STATES PATENT OFFICE

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MEANS FOR FACILITATING SHIPMENT OF DOOR HANDLES AND THE LIKE

Application filed July 9, 1928. Serial No. 291,186.

This invention relates to means for facilitating shipment of door handles for automobiles, or similar fragile objects, and has for its principal object the provision of means whereby plated and polished door handles or the like may be conveniently handled during shipment, while being protected against damage by scratching, crushing and other causes.

Another object of my invention is the arrangement of a plurality of door handles for automobiles within a protecting carton housing a series of foldable mounts in which the handles are maintained in spaced relation horizontally or vertically, or both.

A further object of my invention is the provision of a special foldable and collapsible mount for door handles and the like having slots and apertures therein in predetermined relation to enable the compact positioning of the handles in sets or groups as long as the mounts remain folded, and which mounts may be quickly collapsed, as by straightening their folds, to simultaneously release all the handles held thereby.

Other objects and advantages will be apparent from the following description, wherein reference is made to the accompanying drawings illustrating a preferred embodiment of my invention and wherein similar reference numerals designate similar parts throughout the several views.

In the drawings:

Figure 1 is a perspective view with parts broken away, of a carton housing a plurality of foldable and collapsible mounts in each of which may be positioned a plurality of door handles.

Figure 2 is an enlarged plan view of a portion of one of the foldable mounts.

Figure 3 is a cross-section taken substantially on the line 3—3 of Figure 2.

Figure 4 is a view similar to Figure 3, showing a foldable mount arranged to position door handles not provided with keys.

Figure 5 is a cross-section taken substantially on the line 5—5 of Figure 4, and

Figure 6 is a plan view of a portion of a foldable carton when collapsed, and showing the position assumed by a door handle when released from the mount through the collapsing thereof.

Referring now to the drawings, the numeral 5 designates a carton of wood, pulp board, or the like, in which are arranged a plurality of superimposed mounts 6, in each of which mounts may be positioned in compact spaced relation a plurality of automobile door handles 7 or the like. The door handles 7 are conventionally shown with their several parts assembled and ready for immediate installation within the built-in latches or locks of the usual automobile doors. As so assembled, the door handles comprise polygonal shafts 8, escutcheons 9, ornamental spacer tubes 10, and offset hand-engaging members 11. Within the spacer tube 10 and adjacent portion of the member 11, may be arranged a tumbler lock for connecting or disconnecting the shaft 8 with the hand-engaging member 11 or otherwise serving to permit the rotation of the shaft only when desired, in the usual manner of automobile door locks. It is customary, however to provide on each automobile only one, or, at the most, two door handles in which locks are embodied, the remaining doors of the vehicle being provided with operating handles for enabling the opening and closing of the door, which handles are arranged with lever or spring latches operable other than by keys. With this arrangement the occupants of the vehicle can latch all of the doors of the car except one from the inside, and then after emerging from the car, lock the last door with the key. Accordingly, it is customary to ship locks in sets or groups comprising one, or possibly two, key operating lock handles, and the remainder of the handles for that car provided with latches only. This makes an awkward group for shipment, and the present invention has been designed to enable compact and ready shipment of such groups of handles. Moreover, when the door handles are being supplied to manufacturers making automobiles in large quantities, it is customary to arrange the handles so that any one of them can be fitted into a door of a vehicle in the line of assembly. Accordingly, door handles shipped to such manufacturers

need not be in a set for a single car, but may be more conveniently arranged in groups of say one dozen key operated lock handles and three dozen latch controlled door handles, whereby the needed door handles for a dozen automobiles of the four-door type may be shipped in a single carton and interchangeably used by a group of workers. For purposes of exemplification, I have illustrated herein a carton packed with mounts for the latter type of shipments, all of the key locking door handles being arranged in one mount, and the latch controlled door handles being arranged in other mounts in the same carton. Thus in Figure 2 is illustrated the positioning of the key-operated door handles within a folded mount, and in Figure 4 is arranged the positioning of latch controlled door handles not employing keys or locks in their assembly.

The mount 6 illustrated in Figures 1, 2 and 6 comprises a sheet of material such as cardboard or the like, sufficiently stiff to enable its maintaining a desired position but capable of flexing for purposes of folding when desired. The sheet is preferably scored in parallel lines to enable the ready folding of the sheet at the places desired, and is also provided with series of aligned apertures, slots and slits for cooperation in positioning a single door handle. As best shown in Figure 6, a pair of apertures 6^a of the same shape and of slightly greater area than the polygonal shafts 8, are arranged in spaced relation to meet when the sheet is correctly folded to form guides for the shaft of a door handle. In line with this pair of apertures 6^a is arranged a comparatively wide slot 6^b, adapted when the sheet is correctly folded to provide a guide of sufficient width to receive the spacer sleeve 10 of a door handle, and in alignment with both the apertures 6^a and the slots 6^b, is a comparatively narrow slit 6^c, arranged when the sheet is correctly folded to provide a support for the key of a door handle. A plurality of such sets of apertures 6^a, slots 6^b and slits 6^c are arranged in a single sheet at predetermined distances to enable the compact spacing of the door handles on such sheet. The folding of the sheet is preferably as shown in the sections in Figures 3 and 5. The apertures 6^a being thereby swung into aligned position on opposite sides of a single upstanding fold, and the slots 6^b and slits 6^c being half in each of the two sides of similar upstanding folds. As long as these folds remain in the upstanding position shown in Figure 3, the door handles guided thereby will remain in the desired position, but when it is desired to release the door handle from the mount, it is only necessary to collapse the folds, as by moving the sides of the sheet away from each other to straighten the folds from their upstanding positions. This will simultaneously release all the handles on such collapsed mount and leave them merely resting upon the upper face of the mount, whence they can be conveniently lifted as desired. The mounts are then ready for refolding for further use in shipping door handles or the like.

In Figures 4 and 5, I have shown a somewhat similar arrangement of mounts 16, but inasmuch as the handles positioned thereby do not contain keys, it is unnecessary to form in the mount 16 the slits corresponding to the slits 6^c of the mounts 6. Instead, I provide only apertures 16^a of polygonal cross-section for positioning the shafts 8 of the door handles and comparatively wide slots 16^b for guiding the spacer sleeves 10 of the door handles. Otherwise the construction of the mounts 16 may be identical with the construction of the mounts 6. In practice, however, I prefer to provide a greater number of folds, apertures and slots in the mounts 16 to thereby utilize to the fullest these mounts by positioning thereon a greater number of door handles than on the mounts 6, thereby conserving space within the carton 5 and enabling the shipment of a comparatively large number of door handles within the carton.

The mounts are arranged one above the other within the carton 5 and to aid in preventing crushing of the mounts from their folded positions by the weight of those above, I preferably provide flaps 6^d and 16^d at the side edges of the cartons to be folded inwardly until their free edges rest upon the adjacent upstanding folds, substantially as shown in Figures 3 and 5. These inwardly folded flaps provide comparatively broad supports for the edges of the mount directly above.

The simplicity and effectiveness of the foldable and collapsible mounts, in positioning the handles during shipment and enabling the ready disassembling of the handles from the mounts after shipment is believed to be apparent. The handles are held against movement in any direction as long as the mounts remain in folded positions, and accordingly the handles cannot be scratched by contact with each other or adjacent portions of the carton. Moreover, the folded mounts carry the weight of those above in such a manner as not to permit crushing of the handles. After removal of the supported handles from the several mounts, they can be returned to the same carton and again utilized for further shipment of handles and the like.

While it will be apparent that the illustrated embodiment of my invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarily stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

What I claim is:

1. Means for facilitating shipment of articles having aligned portions of circular and polygonal cross-sections, comprising a foldable mount having a plurality of apertures therein corresponding in cross-sectional shape to and of slightly greater area than the polygonal portions of the articles and also being formed with slots in aligned relation to said apertures for supporting the portions of the articles of circular cross-section as long as the mount remains in folded position.

2. A mount for supporting articles during shipment comprising a flexible sheet having portions punched with series of aligned apertures and slots and scored to permit the folding of the punched portions of the sheet into spaced upstanding positions relatively to the remainder of the sheet, the upstanding portions serving to maintain said apertures and slots above the unfoldable portions of the sheet while the sheet is folded.

3. A mount for supporting articles during shipment comprising a foldable sheet punched with series of aligned apertures and slots and scored to permit the folding of portions of the sheet into spaced upstanding positions relatively to the remainder of the sheet, the upstanding portions serving to maintain said apertures and slots above the unfoldable portions of the sheet while the sheet is folded, said sheet being also formed with side folds terminating in flaps foldable inwardly to have their free edges rest upon the adjacent upstanding portions of the sheet to provide supports for a superimposed mount.

4. Means for facilitating shipment of door handles of the character described comprising a carton and a plurality of superimposed folded mounts arranged within the carton, each mount being formed with parallel upstanding folded portions in which are provided aligned apertures and slots arranged to receive and support portions of the door handles as long as the mount remains in folded position.

5. Means for facilitating shipment of door handles having portions of different cross sectional shape and area comprising a carton and a plurality of superimposed folded mounts arranged within the carton, each mount being formed with parallel upstanding folded portions in which are provided apertures and slots arranged respectively to receive and support portions of the door handles as long as the mount remains in folded position, the apertures and slots being of different cross-sectional shape and area.

In testimony whereof I sign this specification.

BENJAMIN S. MOORE.