Aug. 26, 1941. J. C. KUCKHOFF 2,254,040

DOOR HANDLE

Filed Nov. 7, 1940

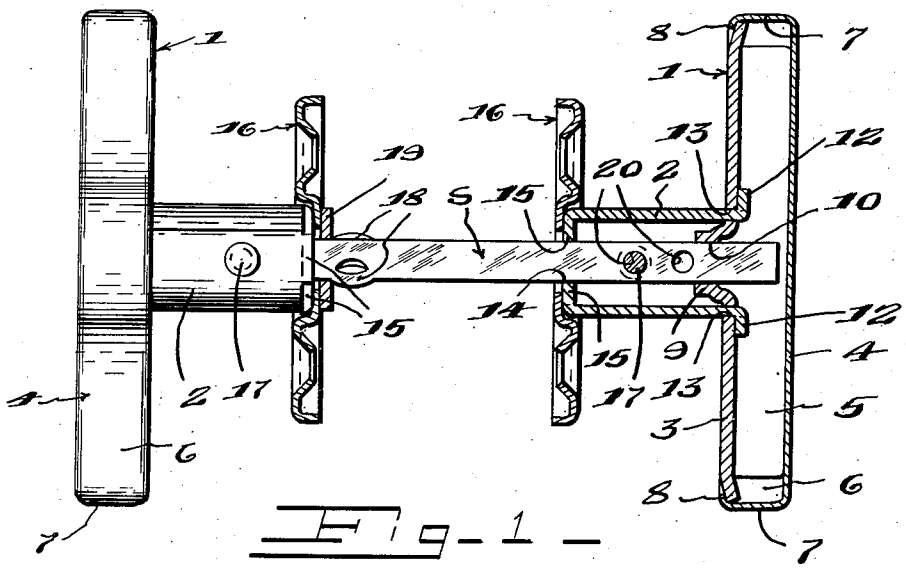


Fig-1

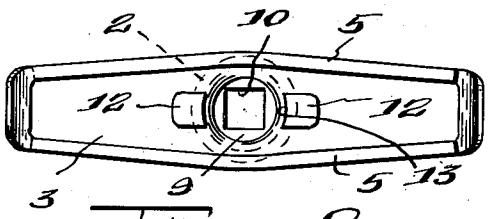


Fig-2

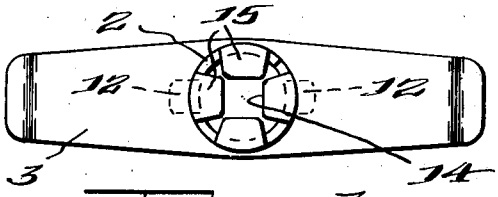


Fig-3

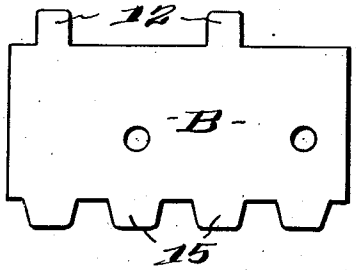


Fig-4

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DOOR HANDLE

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3 Claims. (Cl. 292—347)

This invention relates to door handle structures and has for its object a door handle formed up of sheet metal and so formed that it is extremely strong and rigid and at the same time economical to manufacture; and at least as strong and rigid as cast or molded door handles.

The door handle here illustrated is particularly adapted for hard usage as in connection with overhead garage doors and the like. It is also usable or adapted for use in other situations.

More specifically, it has for its object a door handle construction comprising a hollow sheet metal handle grip or cross bar and a tubular sheet metal hub secured to the cross bar or handle grip by interlocking means, as tangs and slots, and a sheet metal hub having its outer end formed with a non-circular shank receiving passage and the handle grip formed with a nipple projecting into the hub and formed with a non-circular shank receiving passage, so that the non-circular shank of the entire door handle assembly transmits the torque to or receives the torque from the door handle at the outer end of the hub, and by the cross bar or handle grip at the inner end of the hub.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is an elevation, partly in section, of an entire door handle assembly including door handles at opposite ends of a non-circular shank.

Figure 2 is a plan view of the boxlike base of the handle grip or cross bar, the cover being removed.

Figure 3 is an end elevation looking toward the outer end of the hollow hub.

Figure 4 illustrates the blank from which the hollow hub is formed.

1 designates the hollow sheet metal handle grip mounted on each end of a non-circular shank S, of a complete door handle assembly or unit; 2 the hollow sheet metal hub. The handle grip 1 includes a boxlike base portion 3 and also a boxlike sheet metal cover portion 4. The base portion is formed with side walls 5 and the cover portion with side walls 6 telescoping over the side walls 5 and also with end walls 7 lapping the ends of the boxlike base, the side and end walls of the cover being compressed, as at 8, inwardly at their margins around the edges of the bottom of the base 3. The handle grip is also formed with a projecting nipple, this being preferably struck from or integral with the bottom of the boxlike base and projecting outwardly therefrom. 9 designates the nipple, and it is formed with a non-circular passage 10.

The hub 2 is cylindrical and abuts at one end against the outer side of the bottom of the boxlike base and is provided with tangs 12 extending through slots 13 in the bottom of the boxlike base, the tangs being clinched over onto the inner face of the bottom of the boxlike base to secure the hub 2 in rigid abutting relation to the grip handle or the base thereof. The hub which is provided at its outer end, that is, its end remote from the grip handle, with a non-circular passage 14 alined with a non-circular passage 10 of the nipple. The non-circular passage 14 is formed by inwardly extending lugs 15 at the outer end of the hub 2. These passages 10 and 14 are square. The hub is formed up from a flat sheet metal blank B (Figure 4) shaped to provide the tangs 12 and the lugs 15. 16 are the usual escutcheon plates.

The door grips 1 at opposite ends of the shank are of the same construction and are secured to the shank S in the usual manner, as by transverse pins or screws 17 extending through the hubs and through holes in the shank S. One handle, as that shown in the left end of Figure 1, is fixedly or permanently secured in position by the pin 17 and is located in position by shoulders 18 struck up from the shank against which the adjacent escutcheon plate thrusts through a washer, as 19. The other grip handle, that is, that shown at the right end of Figure 1, is adjustable into a plurality of axial positions, here shown as two, to adapt the door handle to doors of different thicknesses. The shank is shown as provided with two holes 20 for receiving pin 17. In either axial adjustment of the handle, the inner end of the shank is located in the non-circular passage of the nipple 9 so that the torque is transmitted to or received by the hub 2 at the outer end thereof and transmitted to or received by the grip handle at the inner end of the shank.

This construction results in a light, rigid, durable sheet metal door handle construction which is extremely economical in manufacture.

What I claim is:

1. A door handle and the like comprising a hollow sheet metal handle grip provided with an outwardly projecting nipple on the inner side thereof, the nipple being formed with a non-

circular passage, and a sheet metal tubular hub surrounding the nipple and secured to the handle grip on opposite sides of the nipple, the hub being formed at its end remote from the handle grip with a non-circular passage alined with the passage of the nipple, said non-circular passages receiving the non-circular shank of a door handle assembly.

2. A door handle and the like comprising a hollow sheet metal handle grip provided with an outwardly projecting nipple on the inner side thereof, the nipple being formed with a non-circular axial passage, the handle being provided with slots on opposite sides of the nipple adjacent the base thereof, and a sheet metal hub surrounding the nipple and having tangs at one end extending through said slots and secured therein with the adjacent end of the hub abutting against the handle grip around the nipple, the hub being formed at its end remote from the handle grip with inturned lugs, the inner edges of which form a non-circular passage alined with the passage of the nipple, said non-circular passages receiving the non-circular shank of the door handle assembly.

3. A door handle and the like comprising a hollow sheet metal handle grip including a boxlike base and a boxlike cover telescoping with the side and end wals of the boxlike base, and a tubular sheet metal hub secured to the bottom wall of the boxlike base, the tubular hub at its end remote from the handle grip being provided with angular inturned lugs forming a non-circular passage, the grip handle being formed with a projecting nipple alined with the non-circular passage of the hub and formed with a non-circular passage, said non-circular passage receiving the non-circular shank of a door handle assembly, said nipple being provided on the bottom of the boxlike base and extending into the hollow hub, the bottom of the boxlike base being provided with slots on opposite sides of the nipple and the hub abutting at one end against the bottom of the boxlike base and having tangs extending through the slots and secured to the boxlike base within the hollow handle grip.

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