March 1, 1927. 1,619,097

T. P. ARCHER

HANDLE ASSEMBLY

Filed Aug. 24, 1925 2 Sheets-Sheet 1

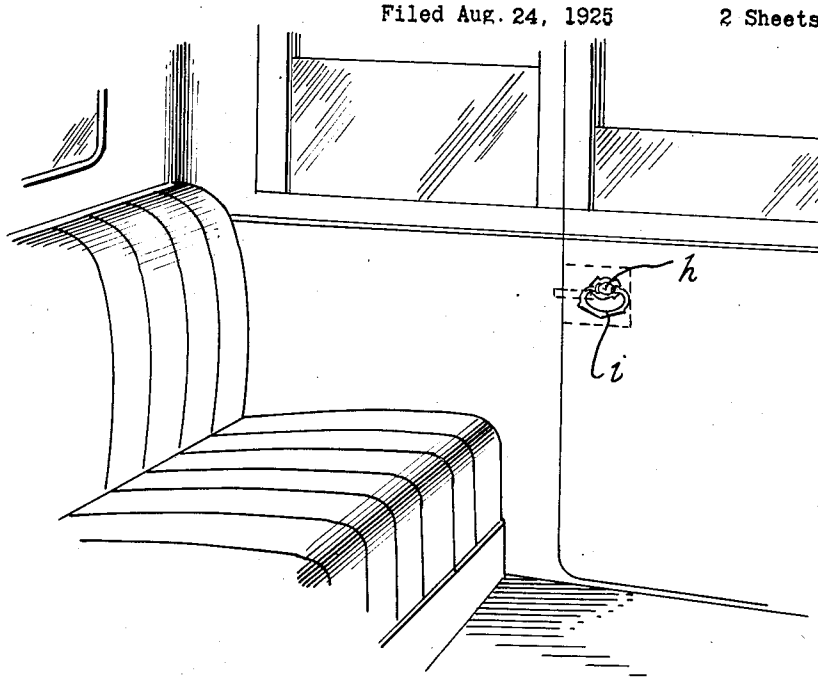
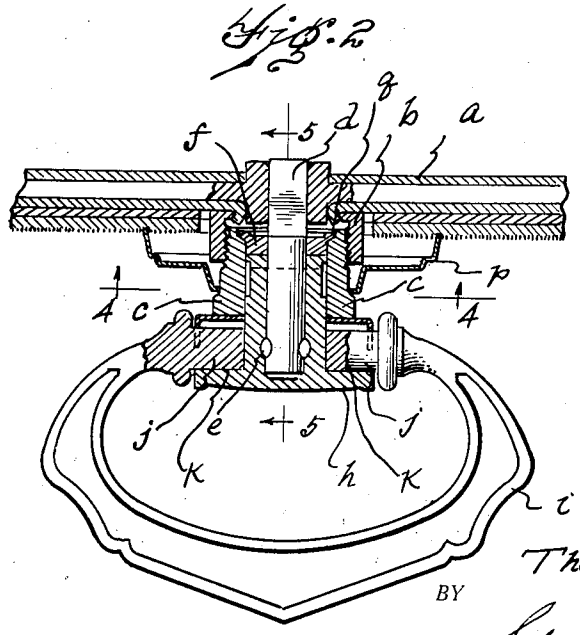


Fig. 1

Fig. 2



INVENTOR.
Thomas P. Archer
BY
Stuart G. Barnes.
ATTORNEY.

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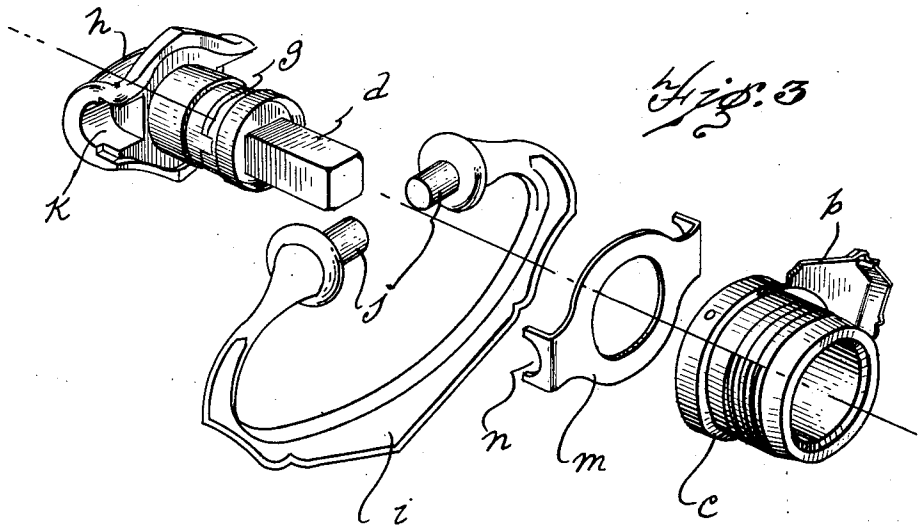


Fig. 3

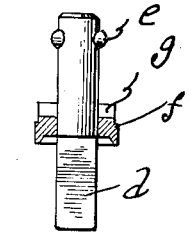


Fig. 6

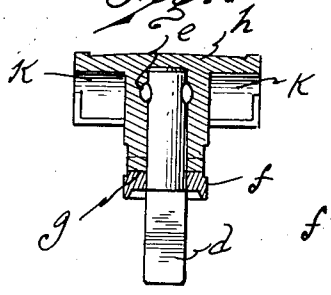


Fig. 7

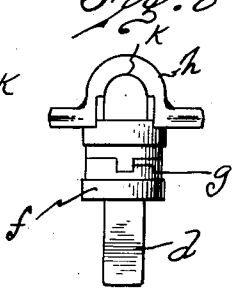


Fig. 8

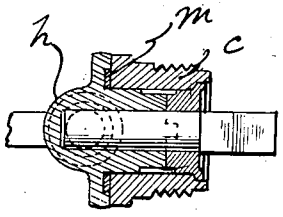


Fig. 5

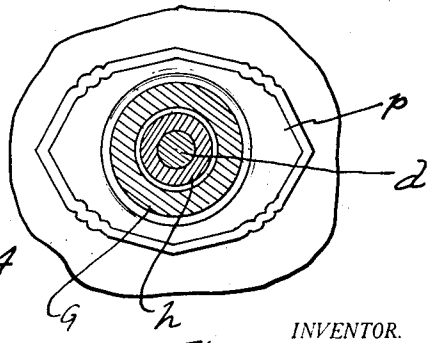


Fig. 4

INVENTOR.
Thomas P. Archer

BY

Stuart G. Barnes

ATTORNEY.

Patented Mar. 1, 1927. 1,619,097

UNITED STATES PATENT OFFICE.

THOMAS P. ARCHER, OF DETROIT, MICHIGAN, ASSIGNOR TO TERNSTEDT MANUFACTURING COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

HANDLE ASSEMBLY.

Application filed August 24, 1925. Serial No. 51,984.

This invention relates to handle assemblies, and has for its object a handle assembly intended primarily for drop handles used on the interior of vehicles. Drop handles may be used for operating the latch bolt, for a combined remote lock control, and pull-to handles, or for window regulators.

It is the object of the present invention to provide an efficacious non-rattling and ornamental assembly for this type of handle. This will be more fully explained hereinafter.

Referring to the drawings:

Fig. 1 is a fragmentary inside perspective of an automobile body, showing the drop handle used for the inside handle of the lock.

Fig. 2 is a cross section of the same through the operating spindle.

Fig. 3 is a composite view of the parts, showing how they are assembled.

Fig. 4 is a section taken on the line 4—4 of Fig. 2.

Fig. 5 is a section taken on the line 5—5 of Fig. 2.

Fig. 6 is a detail of the spindle sub-assembly.

Figs. 7 and 8 are, respectively, a section and an elevation of a complete spindle sub-assembly.

a designates a case such as a lock case or window regulator casing, to which is secured the adaptor bushing *b*. This is arranged to receive the nut *c*, which completes the assembly. First, however, we must describe the spindle. This is a screw machine product in the form of a stud, round in cross section at one end and square in cross section at the other end. The spindle is designated *d*, and has portions punched up to form the projections *e*, but this is done after the washer *f* has been threaded over the rounded portions. This washer is provided with a key slot *g*. These parts are then put into a die-casting machine die and the ornamental head *h* is cast thereon, the key slot *g* serving to tie the parts together, as also the projections *e*. This forms the sub-assembly shown in Figs. 6, 7 and 8.

The loop-like handle, or grip member, *i* is preferably a die casting and this is provided with a pair of journals *j* arranged to fit into the sockets *k* in the spindle head. Next the stamped brass spring *m* is fitted over the enlarged diameter of the spindle and the semi-circular recesses *n* fit over the journals *j*. Next, the nut *c* fits over the enlarged diameter of the spindle, and finally, the ornamental escutcheon plate *p*. Then the rim of the washer is spun out as at *q*, fitting into the countersunk portion in the end of the nut. This completes the assembly.

It will therefore be apparent that the nut is rotatably supported upon the assembly. That portion of the head which is fitted into the nut is properly speaking a journal, while the nut is a journal bearing. The nut may now be turned into the adaptor bushing *b* and this will automatically force the squared end of the spindle into the roll back or other operating part with which it is intended to be connected. The brass spring *m* will prevent any of the parts rattling due to any looseness.

It will be apparent that the square spindle portion might be on the operating part of the lock, regulator, or the like, and the enlarged diameter be provided with a square hole to receive it. I desire this modification to be understood as within the scope of my claims, although they may be worded, for the sake of clearness, to specifically refer to the square portion as on the handle assembly.

What I claim is:

1. In a handle assembly, the combination of a spindle having at its outer end an enlarged head provided with journal bearing recesses open on the inside, a nut rotatably supported on the spindle, means for locking the nut from endwise movement off the spindle, and a grip member having journals supported in the bearing sockets by the nut when it is locked under the spindle.

2. In a handle assembly, the combination of a spindle having an enlarged diameter on one end and provided also with a head having journal bearing sockets open toward the inner end of the spindle, a grip member having journals insertable in said sockets, a nut rotatably supported on an enlarged diameter of the spindle, and means for supporting the nut on an enlarged portion of its diameter preventing its removal endwise therefrom, thereby locking the journals in the journal bearings.

3. In a handle assembly, the combination of a spindle and having an enlarged diameter and provided further with a head having laterally extending journal bearing sockets, a grip member provided with jour-

nals insertable in the sockets which are open toward the inner end of the spindle, a nut fitting rotatably over the enlarged diameter of the spindle, an escutcheon fitting over the nut, and means for preventing the nut from escaping endwise from the enlarged portion of the spindle.

4. In a handle assembly, the combination of a spindle having an enlarged diameter, one end of the spindle being formed into a head with bearing sockets extending laterally and open towards the inner end of the spindle, a grip member provided with journals arranged to rotatably turn in the bearing sockets, a nut rotatably supported on the enlarged diameter of the spindle and prevented from endwise movement thereon by reason of spreading the shoulder on the end of the enlarged portion of the spindle.

5. In a handle assembly, the combination of a spindle having an enlarged diameter and provided at its inner end with a head having bearing sockets opening toward the inner end of the spindle, a grip member provided with journals adapted to be assembled into said bearing sockets, a spring fitting over the enlarged diameter of the spindle and engaging also over the journals of the grip member, a nut fitting on the enlarged diameter and abutting against the spring, and means on the inner end of the enlarged portion of the spindle for preventing the nut from escaping endwise from the enlarged portion of the spindle.

6. In a handle assembly, a sub-assembly comprising a stud, a washer fitting thereover provided with a rim or flange that may be spun outwardly, and a head cast over the end of the stud and into locking arrangement with the washer forming a journal and arranged to carry a grip member and a swinging grip member pivotally supported by said head.

7. In a handle assembly, a sub-assembly comprising a stud square at one end and round at the other end with mutilations in the rounded portions, a washer threaded over the rounded portions before the same is mutilated provided with a rim or flange that may be spun outwardly, and a head cast onto the rounded portion and into locking arrangement with the washer.

8. In a handle assembly, a sub-assembly comprising a stud provided with mutilations, a washer threaded over the stud before the same is mutilated and provided with a rim which may be spread outwardly, and also having a key slot, and a head cast onto the stud and unto interlocking relation with the washer by means of the key slot.

9. In a handle assembly, a sub-assembly comprising a stud, a washer positioned on the stud and provided with a rim that may be spun outwardly, and a head cast onto said stud and into locking arrangement with the washer.

10. In a handle assembly, a sub-assembly comprising a stud having a mutilated surface and a head cast over the end of the stud, said head having a journal bearing socket for receiving a pivoted grip member and having a journal portion adapted to be rotatably supported.

11. In a handle assembly, the combination of a spindle forming a journal and provided with journal bearing recesses, a nut rotatably mounted on said spindle, and a grip member having journals positioned to rotate in said bearing recesses by said nut.

12. In a handle assembly, the combination of a spindle forming a journal and having at its outer end a recessed head for receiving a grip member, and means forming a part of the handle assembly for resiliently positioning the grip member in said recess.

In testimony whereof I affix my signature.

THOMAS P. ARCHER.