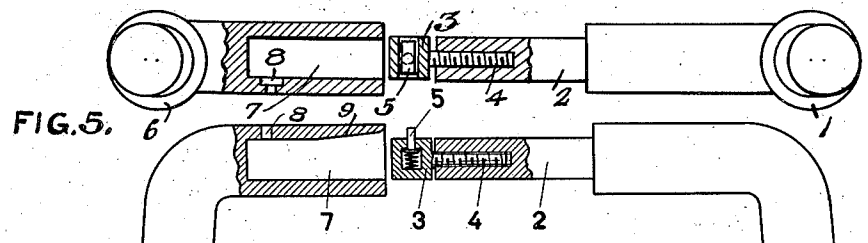
Nov. 3, 1936. A. DE VRIES 2,059,319

ADJUSTABLE DOOR HANDLE COUPLING

Filed Jan. 24, 1935



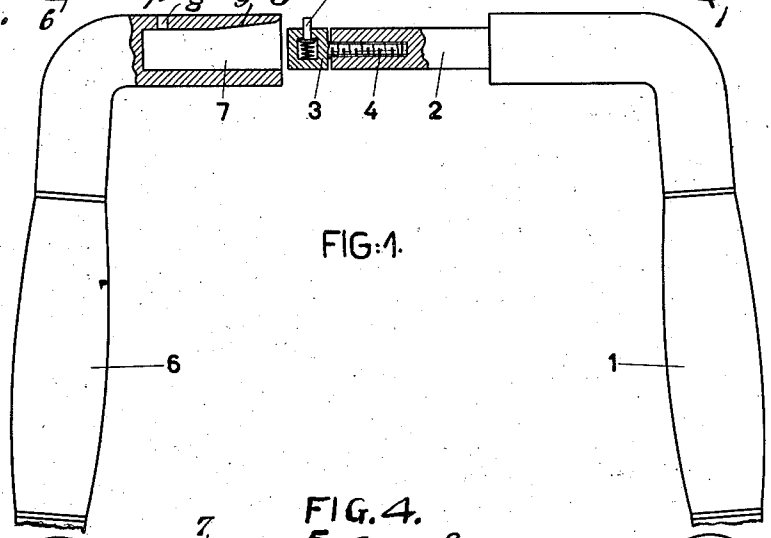
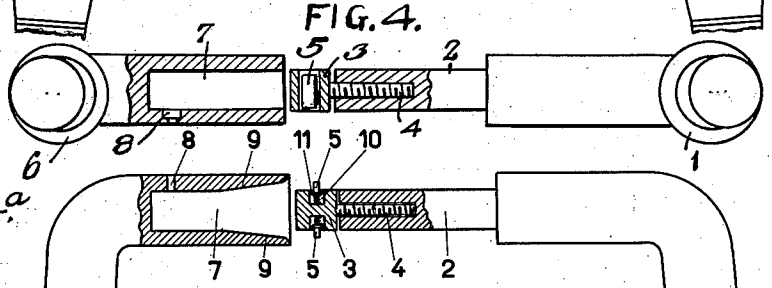


FIG:1.





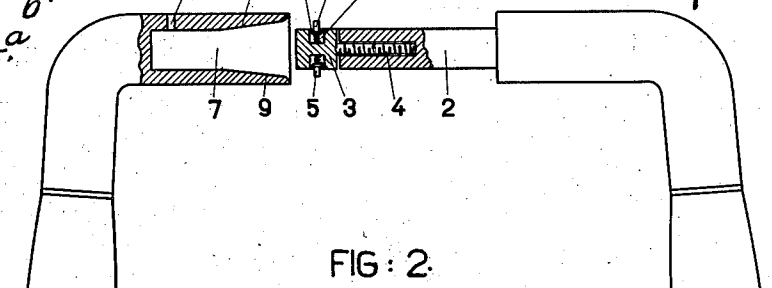


FIG: 2.

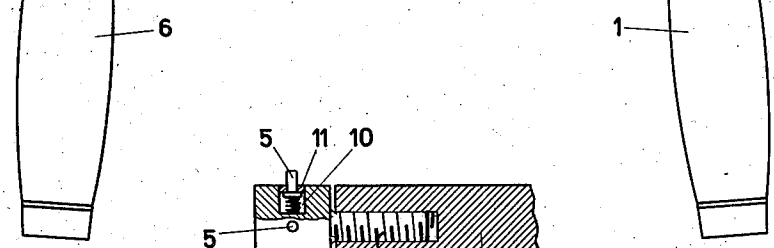


FIG.3.

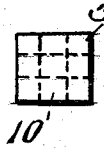


FIG.5a

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ADJUSTABLE DOOR HANDLE COUPLING

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6 Claims. (Cl. 292—352)

When effecting the coupling between door handles on both sides of a door the dimensions of the latter, especially its thickness, have to be taken into account. This thickness determines the mutual distance of the handles after same are coupled together.

The problem arises, especially with handle couplings, in which to avoid undesirable extensions, the coupling element is received in a bore of one of the handles into which a shaft of the other handle is inserted, that a coupling is desired which is adjustable according to the thickness of the door and which is lasting and proof against all shocks.

Likewise with another handle coupling, whereby special parts to be brought into the bore of one of the handles are abandoned, the difficulty of a simple and sure adjustment is felt.

According to the invention, a very simple and precise adjustable coupling is obtained which is not limited to a special sort of handle coupling.

The invention consists in the feature that the shaft of the one of the door handles comprises two mutually adjustable parts which form together a length of shaft which is adjustable according to the thickness of the door.

The invention will now be described with reference to the accompanying drawing in which is shown in Figure 1 a handle coupling with a resilient pin in the shaft of one of the handles and a transverse bore in the other handle. Any other coupling may be used, for example a loose and not resilient pin.

In Figures 2 and 3 a modified form of the locking-device is shown. Figures 4 and 5 show further modifications of the invention.

Figs. 4ª and 5ª are detailed end views of the member 3.

In the drawing the door handle 1 is shown provided with a shaft comprising two parts 2 and 3 of which the part 3 is formed with a threaded bolt 4 which is screwed into a recess in the part 2. The part 3 is provided with a pin 5 that projects laterally under spring pressure.

The door handle 6 has a bore 7 which is provided with a transverse or lateral aperture 8 and at the entrance a groove or bevelling 9.

The coupling of the two door handles 1 and 6 is obtained by inserting the shaft 2, 3 of the handle 1 into the bore 7 of the hande 6. Upon entering the bore 7 the pin 5 is pressed against the spring into part 3 by the bevelling 9 and stays in this position till the pin 5 reaches the aperture 8 whereupon it springs into same so that a fixed coupling of the two door handles is attained. Their mutual position is determined then by the position of the pin 5 on the shaft 2, 3 of the handle 1. By adjustment of part 3 relative to part 2 the position of the handles after their connection may be brought into accordance with the thickness of the door.

Although other methods may be adopted for mutual adjustment of the two shaft parts 2 and 3 the screw coupling shown in the example has the advantage that an absolutely precise adjustment to the thickness of the door is possible.

In a modified coupling instead of the resilient pin 5 a loose pin may be used, and in this case a hole 8 is drilled through the handle and likewise the corresponding hole in part 3, while the bevelling 9 is disposed of. This arrangement comprises a cheaper construction.

In the described example the axial adjustability is obtained by means of a screw-coupling of the shaft parts; hereby the difficulty arises that the adjustment is limited to full revolutions which often is not exact enough. A modified form aims at the removal of this drawback and consists therein that the foremost part of the adjustable door handle is provided on four sides with an aperture for insertion of a pin or similar locking-member.

In Figure 2 is shown a view of the door handle, with the coupling- and the locking-device in section.

Figure 3 shows the locking-device in view, partly in section and on an enlarged scale.

As in Figure 1, the door handle 1 is provided with the shaft 2 square or polygonal in cross section, of which the foremost part 3 is screwed therein by means of a screw threaded stem 4. According to Figures 2 and 3 this foremost part 3 has four apertures 10, in each of which a pin 5 is provided which is under spring action, and which apertures afterwards are closed at the periphery of the part 3 with filling-rings 11.

The door handle 6, which must be pushed over the shaft 2, has for this purpose a bore 7 preferably square in cross section with four bevellings 9 and, moreover, an aperture 8 into which the proper locking-pin enters upon effecting the coupling.

By this construction a fine adjustment to the thickness of the door in question may be obtained, and this to a fourth revolution of the part 3. It is to be understood that the adjustment of the parts 2 and 3 relative to each other is made before the handle 6 is locked to the part 3 by the pin 5.

Although in the illustration shown the part

3 is provided with four pins 5, which are under spring action, the invention is not limited hereto. Instead of adapting four resilient pins one may also use as in either Figs. 4 and 5 a single loose pin, which, at the desired adjustment, is brought into the aperture 10, whereby it must be taken into account that in this case the aperture 8 is provided at the bottom-side in the handle 6 and is narrowed, as the pin hereby must get into the aperture by means of gravity action.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In combination, a pair of door handles, one provided with a socket and the other having a shank extending into the socket and being non-rotatable relatively to the socket, a member secured to the end of the shank and axially adjustable relatively to the shank, said member being positioned within the socket, and means detachably connecting said member in the socket for preventing axial movement of the shank relatively to the socket.

2. In combination, a pair of door handles, one provided with a socket and the other having a shank extending into the socket and being non-rotatable relatively to the socket, a member secured to the end of the shank and axially adjustable relatively to the shank, said member being positioned within the socket, and a plunger carried by said member, said socket having an aperture to receive the plunger for locking said member in said socket.

3. In combination, a pair of door handles, one provided with a socket and the other having a shank extending into the socket and being non-rotatable relatively to the socket, a member having threaded connection with the end portion of the shank for movement axially of the shank, said member being positioned within the socket, and means detachably connecting said member in the socket for preventing axial movement of the shank relatively to the socket.

4. In combination, a pair of handle members, one of said members being provided with a rigidly connected socket having an angular bore provided with a flared mouth, the other handle member having a rigidly connected angular shank extending into the bore and preventing rotation of the shank relatively to the socket, a member having threaded connection with the end portion of the shank for movement axially of the shank, a plunger projecting from the member and adapted to engage the flared mouth of the bore for retracting the plunger when said member is introduced into the socket, said socket having an aperture to receive the plunger and lock the member to the socket.

5. In combination, a pair of handle members, one of said members being provided with a rigidly connected socket having an angular bore provided with a flared mouth, the other handle member having a rigidly connected angular shank extending into the bore and preventing rotation of the shank relatively to the socket, a member having threaded connection with the end portion of the shank for movement axially of the shank, a spring pressed plunger projecting from each side surface of a member and adapted to engage the flared mouth of the bore for retracting the several plungers when said member is introduced into the socket, said socket having an aperture to receive the adjacent plunger and lock the member to the socket.

6. In combination a pair of handle members, one of said members being provided with a rigidly connected socket having an angular bore the lower part of which is provided with a recess, the other handle member having a rigidly connected angular shank extending into the bore and preventing rotation of the shank relative to the socket, a member having a threaded connection with one end of the shank for movement axially of the shank and also provided with cross bores, and a coupling pin loosely arranged in one of the cross bores and adapted to engage the recess in the bore in the socket when said member is introduced into the socket.

ABRAHAM DE VRIES.