March 26, 1957 J. D. CARROLL 2,786,229

HINGE

Original Filed June 13, 1950

Fig. 1

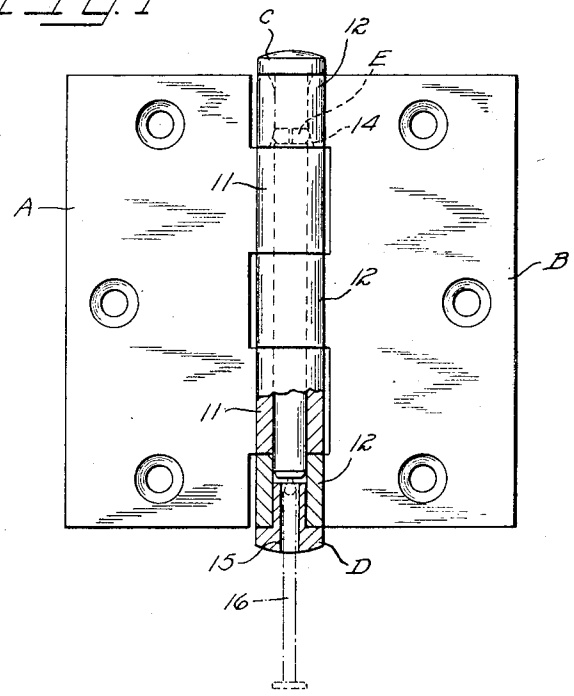
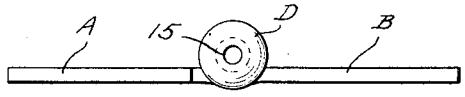


Fig. 2



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2,786,229

HINGE

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Continuation of abandoned application Serial No. 167,873, June 13, 1950. This application February 23, 1954, Serial No. 411,620

1 Claim. (Cl. 16—169)

This invention relates to hinges or butts of the type having a pair of leaves with interfitting knuckles provided with aligned bores, a removable pin extending downwardly through the knuckles for pivotally connecting the leaves together, and a tip or closure member permanently secured to the lower end of the bottommost knuckle and covering the bore thereof.

In a hinge or butt of this type, the pin or pintle, while permitting relative pivotal movement of the leaves, sometimes becomes stuck in the knuckles. In some instances, hinges of this sort are provided with means for preventing the pins from gradually working up from their seated positions upon repeated operations of the hinge. It is usually the custom to remove the pin by applying a tool to the head of the pin and then exert an upward force on the tool. For example, attempts may be made to remove the pin from the knuckles by pulling the pin upwardly by means of a pair of pliers applied to the head or upper end of the pin; or by driving the pin upwardly by applying the upper end of an inclined blade or tool to a generally downwardly facing portion of the head and striking the lower end of the tool with a hammer; or by driving the edge of a tool between the head and the upper surface of the uppermost knuckle and then using the tool as a pry or lever. In any event, with hinges of this sort, difficulty has been experienced in removing the pin when it is desired to disassemble the leaves, and in the operation of removing the pin, damage to and marring of the head thereof and the adjacent members to which the hinge leaves are connected result.

The object of the present invention is to provide an improved arrangement whereby the pin may be quickly, easily, and conveniently driven upwardly from its operative or seated position without any likelihood, or in fact possibility, of damaging any portion of the hinge or any portions of the members to which the hinge leaves are connected.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

In the drawing:

Fig. 1 is a side view of an open hinge, the two lower knuckles being illustrated in longitudinal cross section so as to reveal the internal construction, and

Fig. 2 is an elevational view of the bottom or lower edge of the hinge.

Referring to the drawing in detail, A and B are ordinary hinge leaves formed of sheet metal and respectively having rolled knuckles **11** and **12**. The knuckles of the two leaves are interfitted so that the bores thereof are in aligned relation. The pin is designated by the letter C. It has, at its upper end, a head **13** the under surface of which seats against the upper end of the uppermost knuckle **12**. Driven in, or otherwise permanently secured to, the lower end of the bottom knuckle **12** is a tip D which serves the usual purpose of giving a finished and pleasing appearance to the hinge. In the present illustrative disclosure, the bottom tip member is shown as having a stud portion snugly fitted in the bore of the lowermost knuckle and a head portion engaging against the lower edge of the knuckle.

If desired, any suitable means may be provided for preventing the pin C from gradually working up from its seated position. For illustrative purposes, I have shown here this means as comprising a spring ring E positioned in a groove in the pin and arranged to engage a downwardly and outwardly flared portion **14** of the lower end of the bore of the uppermost knuckle **12**. An arrangement of this sort is shown in the Morse Patent No. 2,154,860, issued April 18, 1939.

With the construction so far described, it is apparent that if it were attempted, as has heretofore been necessary, to withdraw the pin from the knuckles by engaging the head of the pin with a tool, as by a pair of pliers and pulling upwardly or by means of a tool applied against the edge of the head and driving or prying upwardly, the aforementioned disadvantages and difficulties would be experienced. In accordance with the present invention and in order to avoid these and other difficulties and disadvantages, the tip D is provided with a small central bore or aperture **15** arranged to permit the insertion of a nail **16** or the like into the tip and the engagement of the upper end of the nail against the bottom end of the pin C. The nail having been so inserted, the pin may be forced up sufficiently to permit the head thereof to be conveniently gripped by the fingers by tapping the lower end or the head of the nail. It will thus be observed that the pin may be quickly, easily, and conveniently raised from its seat and removed without any danger of injuring the pin, marring its head, or marring or damaging the door jamb or door or the finish on the knuckles. At the same time the aperture or bore **15** in the tip D is of relatively small diameter so that the finish or pleasing appearance given to the hinge by the tip is in no way detracted from.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claim is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

The present application is a continuation of my copending application, Serial No. 167,873, filed June 13, 1950, now abandoned.

I claim:

In a hinge of the type comprising a pair of hinge leaves having a plurality of integral knuckles along one edge of each of the leaves, said knuckles being in interfitting relation and having aligned bores, a removable pintle engaged in said bores provided with a button-like head having a single downwardly facing surface in the form of a flat base engaging against the upper end of the uppermost knuckle and substantially covered by said knuckle, and means between the pintle and one of said knuckles for impeding removal of the pintle; a closure member permanently secured to the lower end of the bottommost knuckle having a stem fixed in the bore of the lowermost knuckle and a button-like head having a configuration similar to that of the head of said pintle including a single upwardly facing surface in the form of a flat base engaging against the lower end of the lowermost knuckle, said closure member being provided with an elongated axial throughbore of smaller diameter than the pintle extending through the head and stem to receive and slidably support a nail or other pintle knockout tool of smaller

diameter than the pintle centrally of the closure member for engagement with the pintle in spaced relation to the bore walls.

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