

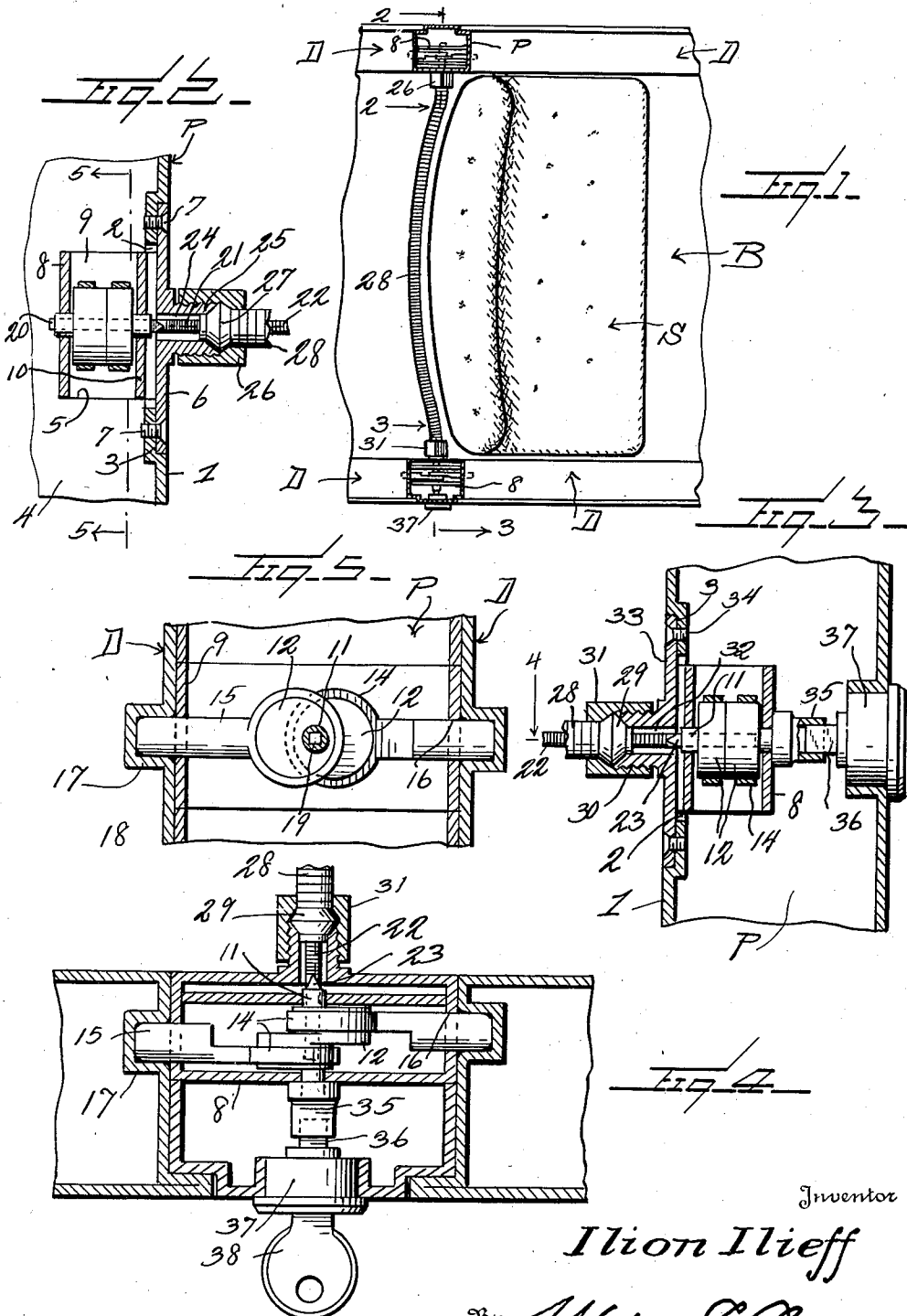
March 24, 1942.

I. ILIEFF

2,277,231

LOCK MECHANISM

Filed Jan. 4, 1941



Inventor

Ilion Ilieff

Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE

2,277,231

LOCK MECHANISM

Hion Ilieff, Tarrytown, N. Y.

Application January 4, 1941, Serial No. 373,176

1 Claim. (Cl. 70—264)

This invention relates to a locking mechanism and has relation more particularly to a mechanism of this character for use in connection with the doors comprised in the body of an automobile, and wherein means are provided to either lock or unlock all of the doors of a car body from a single point.

It is an object of the invention to provide a mechanism of this kind which is associated with the door posts at the opposite sides of a car body or the like and wherein is employed a flexible shaft to cause both of said mechanisms to operate in unison and from a single point of operation.

Furthermore, it is an object of the invention to provide a mechanism of this kind wherein the flexible shaft comprised therein may be employed to advantage as a hanger for articles of clothing or the like.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved lock mechanism whereby certain important advantages are attained, as will be hereinafter more fully set forth.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein

Figure 1 is a fragmentary view, partly in top plan and partly in section, and also of a somewhat diagrammatic character, illustrating a lock mechanism constructed in accordance with an embodiment of my invention;

Figure 2 is an enlarged fragmentary sectional view taken substantially on the line 2—2 of Figure 1, with certain of the parts in elevation;

Figure 3 is an enlarged fragmentary sectional view taken substantially on the line 3—3 of Figure 1 with certain of the parts in elevation;

Figure 4 is a fragmentary sectional view taken substantially on the line 4—4 of Figure 3; and

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 2.

As disclosed in the accompanying drawing P denotes the posts or mullions of a general character employed in connection with an automobile car body of a four-door type and with which the doors D contact when swung into fully closed position. The inner wall 1 of each of the posts or mullions P at a desired point therealong is provided with a relatively large opening 2 which extends entirely thereacross. The portions of the wall 1 defining the upper and lower edges of the opening 2 are pressed inwardly to provide the

rabbets 3 for a purpose to be hereinafter more particularly referred to. Each of the side walls 4 of the posts are provided with an opening 5 of substantially the same vertical dimension as the opening 2 and extending inwardly of the wall 4 a material distance.

Closing the opening 2 in the inner wall 1 of one of the posts or mullions P is a plate 6, the upper and lower marginal portions of which snugly fitting in the rabbets 3 to allow the outer face of the plate 6 to be flush with the outer surface of the wall 1. This plate 6 is held in applied position by the stud bolts 7 or otherwise as may be preferred. It is desired, however, that such securing means be of a character to allow the plate 6 to be readily applied or removed to facilitate the assembly of the locking mechanism, or to conveniently allow for replacement or repair.

The plate 6 has secured to the inner face thereof a substantially U-shaped bracket, the intermediate member 8 of which being spaced from and substantially parallel with the plate 6. The side plates 9 of this bracket as herein disclosed are directly attached to the plate 6. Interposed between the side plates 9 and in close proximity to the plate 6 is a bearing plate or member 10, this plate or member 10 being suitably secured to the plates 9. The plate or member 10 and the intermediate member or plate 8 of the bracket provide mountings for outstanding trunnions 11 carried by the oppositely disposed but integrally connected eccentric disks 12. These disks 12 have substantially the same throw and are snugly surrounded by the circular straps 14 carried by the inner end portions of the oppositely disposed bolts 15. These bolts slidably travel through the suitably positioned openings 16 in the side plates 9 of the bracket carried by the plate 6. When extended these bolts 15 are received within the keepers 17 carried by the edge walls 18 of the doors D when, of course, the doors D are fully closed. Upon requisite rotation of the eccentrics 12 about their trunnions 11 the bolts 15 will be retracted within the post or mullion P a distance to release both of the doors D associated with the post or mullion P.

It is to be particularly pointed out at this time that when the plate 6 is in applied position the plate 9 of the bracket carried thereby snugly fits within and closes the openings 5 in the side walls 4 of the post or mullion P.

The trunnions 11 are provided therethrough with an angular bore 19 which is also continued through the eccentrics 12, and this bore 19 has removably and snugly inserted therein an angu-

lar shaft 20. The outer end portion of this shaft 20 is coupled as at 21 in any desired manner with an end portion of a flexible shaft 22. This shaft 22 is of a length to extend across the car body B for co-action with the shaft 23 associated with the lock mechanism carried by the post or mullion P at the opposite side of the car body B.

The shaft 22 extends outwardly of the plate 6 through an opening 24 herein disclosed at substantially the axial center of said plate. This opening 24 is defined by an outstanding nipple 26 through which the shaft 22 is also disposed and threading upon this nipple 25 is a clamping nut 26. This nut 26 firmly holds to the outer end of the nipple 25 the surrounding enlargement or head 27 carried by an end portion of the flexible conduit 28 through which the shaft 22 is disposed. The opposite end portion of this flexible casing 28 is also provided with a surrounding enlargement or head 29 which is clamped to the outer end of a nipple 30 by the clamping nut 31. This nipple 30 defines a central opening 32 disposed through the plate 33 which closes the opening 2 in the inner wall 1 of the second post or mullion P and has its upper and lower marginal portions fitting within the rabbets 3. This plate 33 as herein embodied is removably held in position by the stud bolts 34. The angular shaft 23 hereinbefore referred to is removably and snugly disposed through the trunnions 11 of a second set of oppositely disposed eccentrics 12, and associated with these eccentrics 12 are the straps 14 associated with a second set of bolts 15 and operating in the same manner and for the same purpose as hereinbefore set forth with respect to the locking mechanism first described. The flexible shaft 22 connects the shafts 20 and 23 so that said shafts will operate in unison, thus making it possible to lock or unlock the doors at both sides of the car body from a single point of operation.

As is particularly illustrated in Figures 3 and 4 the shaft 23 extends beyond the intermediate member or plate 8 of the bracket carried by one of the plates 6 and said extended portion of the shaft is provided with a socket 35 with which detachably interlocks the spindle 36 of a conventional cylinder lock 37. By turning the spindle 36 under the action of an inserted key 38 it will be at once obvious that the doors at both sides of the car will be locked or unlocked.

While the shaft 22 and its conduit 28 may be disposed across the car body B in any manner desired, I find it of advantage to have this shaft

22 and its casing 28 positioned rearwardly of and in relatively close proximity to the back 4 of the seat S so that the conduit 28 may be conveniently used as a hanger for articles of clothing or the like.

From the foregoing description it is thought to be obvious that a lock mechanism constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated.

I claim:

In a lock for a vehicle body having double doors at the respective sides of the vehicle and having oppositely disposed rectangular hollow post members arranged between the doors, the said post members having substantially rectangular aligned openings within their inner faces and side walls respectively, closure plates each having an opening at the axial center thereof surrounded by an outstanding nipple being exteriorly threaded, substantially rectangular shaped brackets carried by the closure plates and adapted to be positioned within the openings of the side walls of the post members when the closure plates are in applied position, said brackets including side plates having guide openings therethrough and inner and outer plates having aligned bearing openings therethrough which register with the openings of the closure plates, oppositely disposed eccentrics supported by trunnions rotatably mounted within the aligned bearing openings of the brackets, the said eccentrics and trunnions having an angular opening therethrough, oppositely directed sliding bolts operatively connected with the eccentrics and having their free ends extending through the guide openings of the brackets, angular shafts extending through the eccentrics and trunnions, the inner ends of the angular shafts terminating at points slightly beyond the inner faces of the inner plates of the brackets, a substantially straight flexible shaft whose terminals are adapted for clutching engagement with the inner ends of the angular shaft, a flexible conduit surrounding the flexible shaft and having its terminals provided with enlargements, interiorly threaded clamping nuts enclosing the enlargements of the conduit, and adapted to hold the said conduit in position against the outstanding nipples and means associated with one of the locking members for simultaneously turning the eccentrics to project or retract the bolts.

ILION ILIEFF.