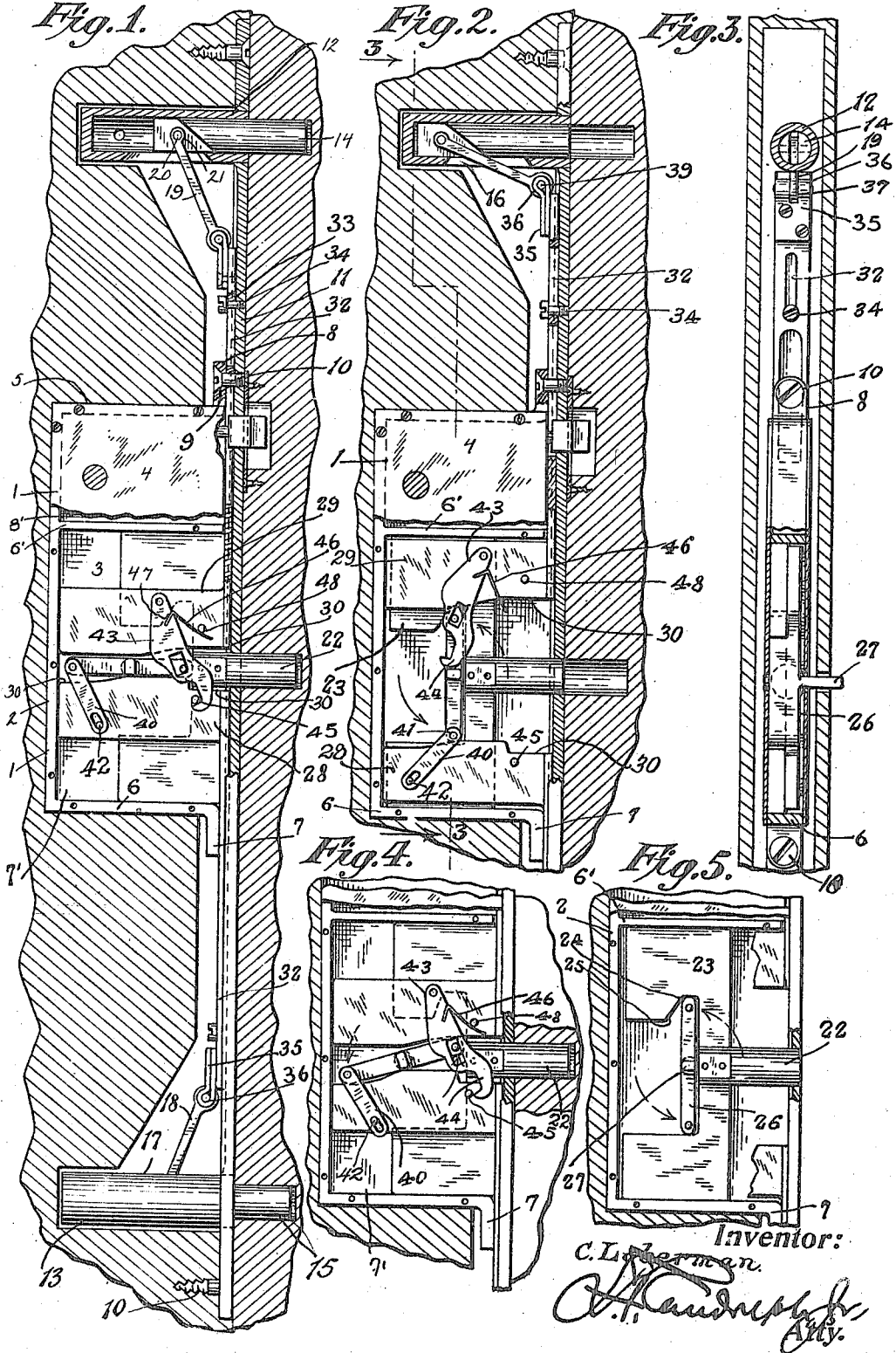


C. LIBERMAN.
 MULTIPLE BOLT LOCK.
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1,237,794.

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UNITED STATES PATENT OFFICE.

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MULTIPLE-BOLT LOCK.

1,237,794.

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To all whom it may concern:

Be it known that I, CHARLES LIBERMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Multiple-Bolt Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in multiple bolt locks, and the principal object of the invention is to provide a novel means for actuating a plurality of bolts of a lock simultaneously.

Another object of this invention is to provide a lock and casing for the lock whereby it may be readily and quickly attached to a door with little effort on the part of the person applying the same.

A still further object of the invention is to provide an efficient and simple lock, capable of being readily operated and also being of such construction as to be easily and cheaply manufactured and assembled.

A still further object of this invention is to provide a simple, practical, and comparatively inexpensive structure, which may be easily assembled, and applied to use.

With these and other objects in view, the invention consists in the novel combination and arrangement of parts hereinafter more fully described and pointed out in the claims hereto appended.

In the drawings:

Figure 1 is a vertical sectional view through the lock illustrating my improved lock in place in a door,

Fig. 2 is a vertical sectional view showing the bolt in an inoperative or unlocked position,

Fig. 3 is a sectional view taken on the line 3-3 of Fig. 2,

Fig. 4 is a sectional view showing part of the casing removed to clearly illustrate the details of construction carried by the casing, and

Fig. 5 is a similar view with parts of the lock removed and the mechanism removed to more clearly set forth the details of construction.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

Referring more particularly to the drawings by the characters of reference, the numeral 1 designates the casing in its entirety which is embedded in a door. The casing 1 comprises in its construction the rear wall 2, side walls 3 and 4, and the top and bottom walls 5 and 6, and the partition wall 6' which divides the casing in two chambers 7' and 8'.

The casing is provided at the forward edges of the top and bottom walls with the attaching members 7 and 8, which members are arranged at right angles to the top and bottom walls and are provided with the openings 9 in which are the screws 10 which secure the casing 1 to the face plate 11.

The face plate 11 is provided near its upper and lower ends with the end bolt casings 12 and 13 in which are slidably mounted the end bolts 14 and 15. The walls of the end casings are provided with elongated slots 16 and 17 through which extends the upper ends of the links 18 and 19. The ends of the links are pivotally connected to the rear ends of the bolts 14 and 15 as at 20. The inner ends of the end bolts are slotted and provided with transversely extending pins 21 to which are pivotally secured the ends of the links 18 and 19.

Slidably mounted in the chamber 7' is the central bolt 22 which is supported on the U-shaped frame 23. One arm of the frame 23 is provided with a recess 24 having one of its walls inclined as at 25. The recess is adapted to receive one end of the key actuating bar 26 therein, which bar is pivotally mounted centrally in the side walls 3 and 4 of the casing 1. The key actuating bar 26 is provided centrally with a rectangular lug 27 which extends through one side wall of the casing and is designed to be engaged by the key to rotate the actuating bar to move the bolts into a locked or unlocked position.

Slidable laterally within the casing 1 and upon the frame 23 are the plates 28 and 29, having their opposed edges cut away as at 30. Formed integrally with the front edges of the plates 28 and 29 are the rods 32, which rods have their free ends extending in the direction of the end bolt casing carried by the face plate.

The rods 32 are provided intermediate their ends with guide slots 33, through which pass the screws 34. The screws 34 pass through the slots 33 and have their in-

ner ends fitted in the face plate 11 to hold the rods against lateral movement. Secured to the ends of the rods 32 are the straps 35, which are bent back upon themselves to provide barrels 36. The barrels 36 are bifurcated as at 37 and are adapted to receive the free ends of the links 18 and 19 therein. The links 18 and 19 are pivotally mounted between the arms formed by the bifurcating of the barrels 36 and are pivotally secured therein by the transversely extending pins 39.

A link 40 has one end pivotally secured to one end of the key actuating bar 26 as at 41, and its opposite end is pivotally secured to the plate 28 as at 42 to urge the plates 28 and 29 away from one another to withdraw the end bolts 14 and 15 and the central bolt 22 out of locked position or to move the same into locked position.

Pivotally mounted upon the plate 29 by one end is the lock dog 43, the opposite end of which is provided with the hook 44 which is adapted to engage the locking lug 45 carried by the plate 28. A spring 46 has one end bent angularly and secured to the locking dog as at 47, and its other end engaging the stop lugs 48 carried by the plate to normally urge the hooked end of the dog into engagement with the locking lugs to hold the bolts against accidental withdrawal.

It being understood that a suitable latch mechanism is arranged in the chambers 8' of the casing 1.

In operation:

Upon fitting the key upon the squared portion carried by the key actuating bar and turning the same it will be seen that the plates of the frame will be forced outwardly bringing the central bolt inwardly and moving the plates away from one another forcing the rods upwardly which move the links rearwardly thereby moving the bolts into an unlocked position. By reversing the movement of the rod the key bar will be moved to a horizontal position and the plates drawn toward one another forcing the bolts into locked position.

From the foregoing it will be apparent that a peculiar, simple and efficient lock is provided which is capable of being readily and quickly actuated, and can be accommodated in a comparatively small amount of space.

What is claimed is:

1. A bolt of the class described including

an elongated plate, a rectangular casing removably secured to one face of the plate centrally thereof, a partition wall arranged in the rectangular casing dividing the same into separate chambers, one of said chambers defining a latch chamber, a pair of circular casings secured to the face of the plate adjacent each end thereof, bolts arranged in the circular casings, a bolt arranged in the other chamber of the rectangular casing, bolt mechanism operating in said central casing and connected to the central bolt and rods and links connected to the bolt mechanism and end bolts for moving the bolts simultaneously with the operation of said bolt mechanism.

2. A bolt of the class described including a plate, a rectangular casing removably secured to one face of the plate centrally thereof, a bolt operating mechanism arranged in said casing, a bolt associated with the operating mechanism and extending out through the plate centrally thereof, circular casings secured to one face of the plate adjacent each end thereof, bolts slidably arranged in the circular casing, rods having one end secured to the bolt mechanism and their opposite ends pivotally secured to the bolts in the circular casings, whereby upon operation of the operating means the bolts will all be operated simultaneously.

3. A bolt of the class described comprising a plate, a rectangular casing removably secured to one face of the plate centrally thereof, circular casings secured adjacent each end of said plate, a U-shaped frame slidably mounted in said central casing, a locking bolt carried by the web of said frame and extending out through said plate, locking bolts slidably mounted in each of the casings near the ends of the plates, a pair of plates slidably mounted in the casings and arranged upon the first named plates, rods having one end connected to the forward ends of the last named plates, links connecting the ends of said rods with the bolts in the end casings, operating means located in the central casing and secured to the plate, and means for operating the operating means for moving the bolts and plates simultaneously.

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Witnesses:

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