

R. EICHMULLER.

DOOR-BOLT.

No. 189,438.

Patented April 10, 1877.

Fig. 1.

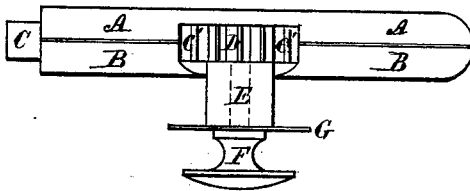


Fig. 2.

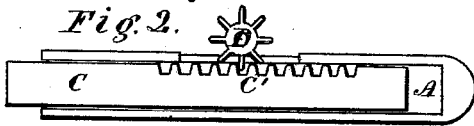
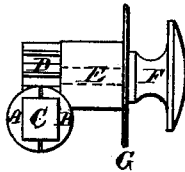


Fig. 3.



Witnesses.

Willard Eddy
Wilmot Horton

Inventor.

Robert Eichmuller
by Theo. G. Ellis Attorney.

UNITED STATES PATENT OFFICE.

ROBERT EICHMULLER, OF THOMASTON, CONNECTICUT, ASSIGNOR OF ONE-HALF HIS RIGHT TO AARON C. SANFORD, OF SAME PLACE.

IMPROVEMENT IN DOOR-BOLTS.

Specification forming part of Letters Patent No. 189,438, dated April 10, 1877; application filed January 26, 1877.

To all whom it may concern:

Be it known that I, ROBERT EICHMULLER, of Thomaston, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Door-Bolts; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to bolts adapted to be mortised into the thickness of a door or shutter, and operated by a knob or handle upon the outside.

It has for its object the production of a mortise-bolt of greater simplicity and strength than is now commonly used, and one which can be more readily and easily placed in its position.

My invention consists in a bolt operated by means of a rack-and-pinion movement, the working parts of which are contained within and held in place by two cylindrical auger-holes of the same diameter bored into the thickness of the door, and which requires no other cutting or fitting.

In the accompanying drawing, Figure 1 is a top view of my improved bolt removed from the door, having the bolt-bar slightly thrown out to show the construction more plainly. Fig. 2 is a side view of the interior, with the handle and front half of the shell removed. Fig. 3 is a front-end view, with all the parts in their proper positions.

A and B are the two halves of a cylindrical shell, which, when placed together, as shown in Figs. 1 and 3, form a rectangular chamber, in which slides the bar C. C is the bolt-bar. It is furnished upon its top side with the rack C', in which works the pinion D. E is a socket or ferrule, through which passes the axis of the pinion D to the handle F. The pinion D and the handle F turn together upon a bearing in the socket E. G is an escutcheon or plate, intended to rest against and attached to the side of the door.

The several parts of my improved door-bolt can be made of cast or malleable iron, or any other suitable metal.

The operation of my invention is as follows: A cylindrical hole is bored in the edge of the door, with a common auger-bit of the proper diameter, to a sufficient depth to contain the shells A B. A hole is then bored in the side of the door of the proper depth to contain the socket E and the pinion D. This hole is intended to be made with the same bit, the socket E and the shell A B being of the same diameter. The shell A B is then driven into its place, and the bar C placed within it. The parts D E F G are then driven into the hole in the side of the door, so that the socket E rests in the wood, and the plate G against the face of the door. The plate G can then be attached to the door with screws, if desired. The bolt-bar is then moved out or in, so as to lock or unlock the door, in the usual manner, by turning the handle F. The bar is prevented from being pushed entirely out of the socket, as the rack does not extend quite to the end of the upper side, and thereby forms a stop for the pinion.

I am aware that the rack-bolt and operating-pinion have been used in door-bolts, when the auger-holes to contain them have varied in size. I therefore do not claim those devices as heretofore used.

What I claim as my invention is—

The combination of the shells A B, the bolt C, with its rack C', the pinion D, the socket E, and the handle F, constructed and arranged so that the stationary sockets and shells for containing and holding the working parts are all contained within the space formed by two auger-holes of the same diameter bored into the thickness of the door, substantially as herein described.

ROBERT EICHMULLER.

Witnesses:

THEO. G. ELLIS,
WILMOT HORTON.