J. M. HOGGAN.

LATCH.

No. 2,376. PATENTED NOV. 25, 1841.

Fig: 2.

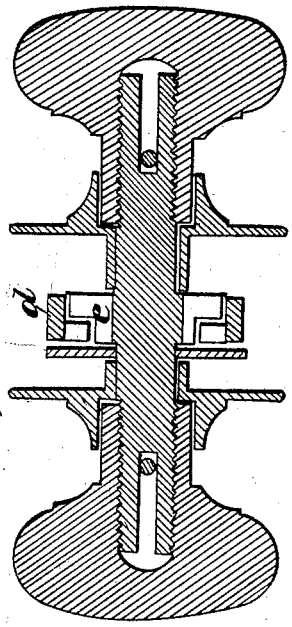


Fig: 4.

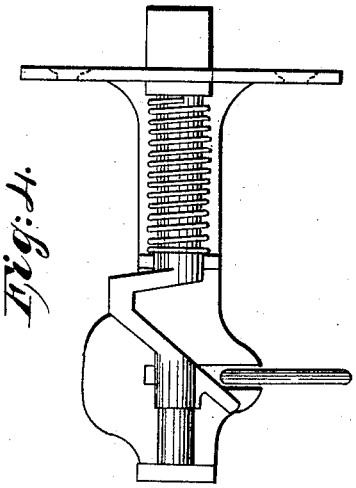


Fig: 1.

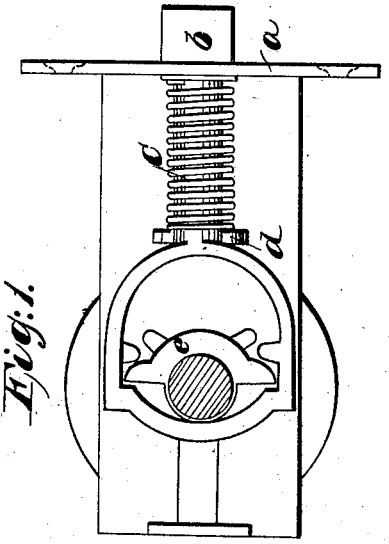
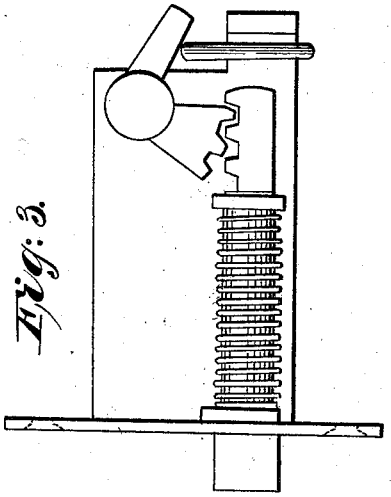


Fig: 3.



UNITED STATES PATENT OFFICE.

JAMES M. HOGGAN, OF NEW HAVEN, CONNECTICUT.

DOOR-LATCH.

Specification of Letters Patent No. 2,376, dated November 25, 1841.

To all whom it may concern:

Be it known that I, JAMES M. HOGGAN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Mode of Making and Withdrawing the Bolt in Door-Latches; and I do hereby declare that the following is a full and exact description.

a. The plate.—This plate is cast of suitable metal one and two fourths of an inch wide and three and three fourths of an inch long. The end of the plate that is made fast to the edge or side of the door by two screws is seven eighths of an inch wide and two and three fourths of an inch long. In the center of said end there is a hole about half an inch square that the head of the bolt plays in. One and two fourths of an inch from the said hole there is a forked projection that projects from the inside of the plate *a*, and from the forked projection to the center of a round hole that is through the plate that the segment or pinion shaft passes through is one inch one eighth. Seven eighths of an inch from the center of the said hole there is a projection that projects from the end or inside of the plate which has a round hole through it that the round end of the bolt plays in. The projection from the end or inside of the plate, the round hole that the segment or pinion shaft passes through, the forked projection and the hole that the head of the bolt plays in, are on a line with each other.

b. The bolt, is of cast metal. The head of the bolt is half an inch square and is cut to an angle of forty five degrees, the neck is round and is one fourth of an inch in diameter and two fourths of an inch long. The rim is one eighth of an inch thick and three eighths of an inch wide, which arches off from the neck of the bolt, forming part of a circle which extends about half an inch, then the rim shoots out straight, right opposite from the insides, and on one half of the rim from each side, one tooth projects from each side toward each other. After leaving a space the size of a tooth, the rim projects in from each side the length of a tooth, the said projections answer as two teeth when the teeth that are on the segment or half pinion shaft are applied to them. The rim arches shoot off from the projections and on the outside and on the center of the arch the end of the bolt is formed round, and is three fourths of an inch long, that plays in the round hole that is in the projection that projects from the end or inside of the plate, *a*.

c. A spiral spring that is formed on the neck of the bolt *b* and plays on the same.

d. A forked projection that projects from the inside of the plate, *a*, that the arch formed from the neck of the bolt, *b*, rests against, and on the other side the spiral spring presses against it and against the head of the bolt which throws it out when drawn back.

e. Is a segment or pinion shaft. In the center of the shaft there is a half of a pinion that is three eighths of an inch thick, and one and one sixteenth of an inch in diameter, having four teeth on its periphery which operates on the teeth in the rim of the bolt *b*. The two first are on one half of the thickness of the pinion and are on a line with the base of the segment and projecting from each other after leaving a space the size of a tooth, two teeth are on the other half of the thickness of the pinion. It will be seen that the two last teeth are not in the same plane with the first, and that two are on the right and two on the left side of the pinion. The segment shaft has a slit or mortise in each end, also a male screw on each end. The segment shaft and the half pinion may be cast separate, if so, the shaft should be square in the middle having a shoulder on one side; and the segment or half pinion should have a square hole through it. When put to its place, one side of the segment or half pinion would come against the inside of the plate, *a*, and the other against the shoulder on the shaft which would keep it to its place.

The escutcheon has a hole in its center, a flange on the outside that the neck of the knob sets in, and on the other side there is a projection that projects one fourth of an inch which is let into the door and is the segment shaft bearing. The knobs have in their necks a female screw, also a hole through their necks that a pin is put in when the latches are put together.

The plate and bolt are connected in the following manner. When the spiral spring is on the neck of the bolt the round end of the bolt is passed through the round hole that is in the projection from the end of the plate, *a*, and is put back until the neck of

the bolt passes between the two prongs of the forked projection, *d*, and the head of the bolt gets into its place.

The above latch is put into a mortise made in the side or edge of the door, there is also a hole made through the door that the segment or pinion shaft enters in and through the round hole that is in the plate, *a*, and the segment or half pinion enters from the inside of the door until it comes against the inside of the plate, *a*, and the two first teeth that are on the half pinion that are on a line and projecting from each other, set in against the projection that projects in from the sides of the rim of the bolt, *b*. They are not on a line with the other teeth so that they do not interfere with each other when the bolt is withdrawn. The escutcheons are put on the ends of the segment or half pinion shaft, and are made fast on the sides of the door by screws; the knobs are screwed on the ends of the segment shaft up to the escutcheons, there being a hole through the neck of the knob, a pin is put in the hole, passing through the slits that are in the ends of the said shaft, and the pins keep the knobs from turning on the shaft. By having the knobs screw on the shaft the same latch will answer various thicknesses of doors. When the bolt is withdrawn the teeth on the segment or half pinion come in contact with the inside of the rim that arches off from the neck of the bolt. If the bolt is pushed in the teeth again come in contact with the rim so that the bolt cannot be drawn in too far nor pushed in too much.

What I claim as my invention and desire to secure by Letters Patent is—

1. The formation of the rim of the bolt with cogs therein in combination with the arrangement of cogs on the segment or half pinion, for the purpose and in the manner described.

2. I also claim the combination of the screw attachment of the knobs and segment or knob with the slits in the ends of the said shaft for the purpose of accommodating the space between the knobs to any thickness of doors, as described.

JAMES M. HOGGAN.

Witnesses:

THOS. BONNATT,

C. T. SHELTON.