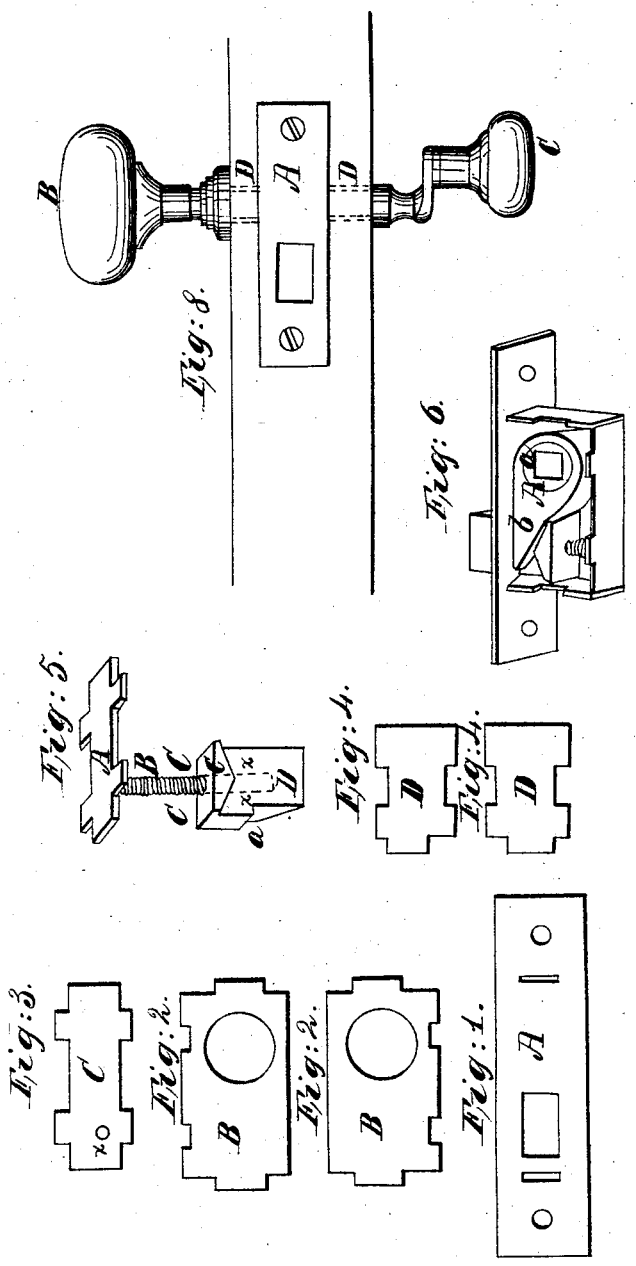
P. Alrorson,

Latch.

No. 666. Patented Apr. 2, 1838.



UNITED STATES PATENT OFFICE.

PETER ALVERSON, OF NEW HAVEN, CONNECTICUT.

SPRING-LOCK FOR COACH AND RAILROAD-CAR DOORS, &c.

Specification of Letters Patent No. 666, dated April 2, 1838.

To all whom it may concern:

Be it known that I, PETER ALVERSON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new, improved, and useful Spring-Lock for Coach and Railroad-Car Doors.

The object of my invention is a spring lock, easily managed and of sufficient strength to secure the door firmly, and yet in size and form so compact, as not to injure the pillar of the door, nor interfere with the run of the lights, and which may be opened or shut from within as well as from without.

This I effect by a mortise lock, the ordinary size of which, exclusive of the face plate, is less than two inches long, one inch deep and about $\frac{5}{8}$ of an inch thick, and consists of the following parts, viz: The face plate, the bolt, a double spiral spring, and stud, the tumbler, the base or shell, and the spindle with knobs or handles.

To enable others skilled in the art to make and use my invention, I describe the form of construction and operation of my lock as follows, referring to the drawings accompanying this my specification as part thereof, for a more full illustration.

No. 1 A represents the face plate, about three inches long, with mortises for the bolt, for the end plates of the case, and for screws to hold the lock in place. No. 2. B the side plates of the case, with an orifice in each for the ends of the tumbler to play in. No. 3. C exhibits the back plate of the case, with an orifice at X to receive a stud half an inch long to be firmly riveted in place, for the spiral spring to play upon. No. 4. D the end plates with tenons and dovetails. No. 5 represents the back plate, stud, spiral spring and bolt in connection A, the back plate. B, the stud within the spring C. C, spiral spring; this may be single, but I prefer a double spiral spring with reverse twists one within the other. D, the bolt one inch long $\frac{3}{4}$ broad and is an inch thick, armed with a shoulder, *a*, on one side to check its projection through the face plate and an other shoulder at *b*, forming the segment of a circle for the lever of the tumbler to operate upon. These shoulders permit the bolt to project through the plate half an inch, exhibiting a head $\frac{5}{8}$ broad and $\frac{3}{8}$ thick, with a face beveled to slide easily on the stretcher. From the center of the back end of the bolt I drill a hole half an inch or more deep of sufficient size the receive the spring with easy play as seen by the dotted lines *x*, *x*. No. 6 exhibits the inside of the lock incased (a side plate being removed) and thereby showing the tumbler A, and other parts in place, and their operation. The body of the tumbler is a shouldered cylinder passing through the lock, having the necks fitted to play in the orifice of the side plates, and having a square hole, *a*, in the center for the spindle and being carried with a wing-lever *b*, firmly attached to the body of the tumbler by brazing or otherwise, and fitted to play upon the circular shoulder of the bolt.

The several parts thus described are put together in the following manner. The side and end plates, inclosing the tumbler, are riveted and brazed to the face plate. The back plate with the stud, spring and bolt connected as seen in No. 5 is then put in place and firmly riveted as seen in No. 6, and the operation is as follows.

The double spiral spring is calculated for an expansion of about two inches and a contraction to half an inch, and is placed upon the stud of the back plate so that one end of the spring shall press upon the plate and the other end upon the bottom of the hole in the bolt and thereby force the head of the bolt to project. By turning the tumbler to the left, the lever will press upon the circular shoulder, and draw back the bolt to the bottom of the case. The body of the bolt passing over and embracing the contracted spring and stud, thereby depressing with little friction, the projected head of the bolt to the level of the face plate. The bolt is steadied in its movement and supported on three sides by the case and on the other by the body of the tumbler.

No. 8, exhibits the lock in place, in the pillar of the door, with spindle and knobs attached, viz: A, the face plate of the lock. B, the knob or handle on the outside. C, the inside knob attached to the spindle by a crank, thereby carrying the knob so far back as to prevent interference with the standing pillar when closing the door. The means of opening the door from within is not a necessary appendage to my lock. It may be used without, but when desired for the greater safety or convenience of passengers in cars or coaches, the mode suggested may be adopted. D, D, of No. 8 by dotted lines shows the place of thimble collars half

an inch or more deep, made with a screw thread and lip on the outside, to arm the hole in the pillar of the door for the spindle to play in, and when screwed in, are by the thread of the screw held firmly in place, and are an improvement on the collars in use.

For the materials of this lock, I propose to make the bolt and the body of the tumbler of brass, the case and lever of sheet iron. But all parts of the lock except the lever on the tumbler, which ought to be made of iron, and all the other parts may be made of brass, or any other suitable metal.

The superior advantages of this lock over any other coach lock in use, consists in its firmness, easy management, and its compact form adapting it to its appropriate use for coaches and railroad cars, but it may be applied to closet and other doors of houses.

I claim as my invention and improvement:

1. The mode or method of inserting the spring, so as to permit the body of the bolt to pass over it, thereby lessening the space required for the bolt, in the manner specified.

2. I claim the construction of the lever in combination with the bolt constructed as above described.

New Haven, March 9th, 1838.

PETER ALVERSON.

Witnesses:
SIMEON BALDWIN,
JULIUS AUSTIN.