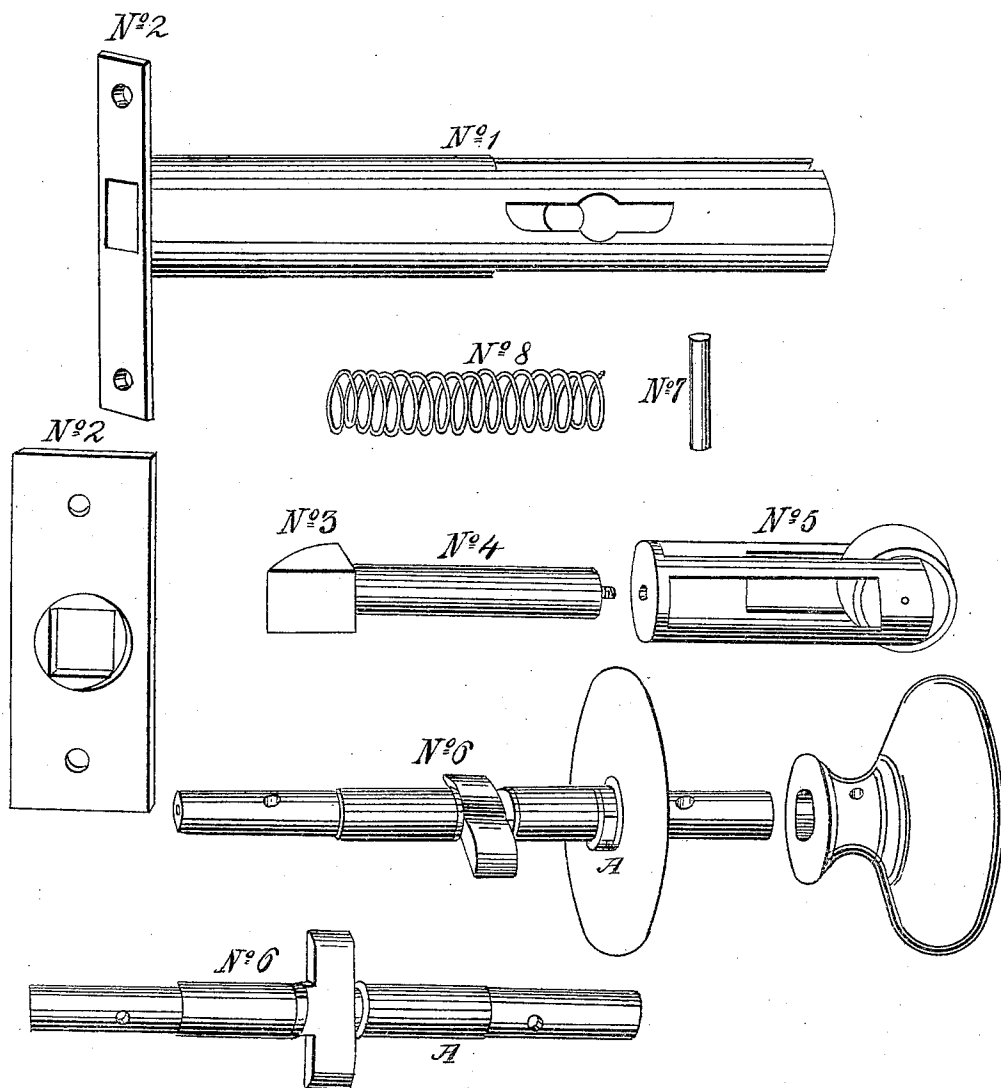


H. Duntze,
Latch,
N^o 1,220, *Patented July 6, 1839.*



Witnesses

Osborne
James H. Osborne

Inventor

Henry Duntze

UNITED STATES PATENT OFFICE.

HENRY DUNTZE, OF NEW HAVEN, CONNECTICUT.

DOOR-LATCH.

Specification of Letters Patent No. 1,220, dated July 6, 1839.

To all whom it may concern:

Be it known that I, HENRY DUNTZE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new, useful, and Improved Door-Fastening, called "Duntze's Friction-Roller Latch."

The object of my invention and improvements is, a latch to be inserted into the stile of a door, in a round mortise, and to work with less friction, than any now in use. This I effect by incasing the bolt in a hollow cylinder. I hold it in place by a spiral spring, governed by a tumbler playing on a friction roller, in a follower connected with the bolt, thereby combining ease in the movement, compactness in the form, and durability of the parts.

To enable others skilled in the art to make and use my invention, I describe the several parts, and their connection, and the mode of insertion and the operation as follows, premising that the latch described is calculated for doors one and a half inch thick, but that it may be proportionally enlarged or diminished to suit the thickness of any door in use.

I make a tube or hollow cylinder three fourths of an inch in diameter and about four and a half inches long, of brass or any other suitable metal. I make a mortise in the side of this case to admit the tumbler hereafter described and another mortise on the top and bottom to give it free play when in place as represented in the accompanying drawings by No. 1. This cylinder when inserted in the door is covered by a front-plate having a square mortise for the head of the bolt, as represented separately and in place by No. 2. The bolt when in place projects through the front plate about half an inch with a square head, having the usual slant, to slide upon the striking plate as seen by No. 3. The shank of the bolt from the head is round about two inches in length and one fourth in diameter with a screw in the back end, by which it is connected with the head of the follower, as seen in No. 4.

The follower is an inner tube or slide, about two inches long, having a head at one end to receive the screw of the shank, embracing at the other end a friction-roller three fourths of an inch in diameter and one fourth thick, turning upon a pin or axis passing through the sides of the follower behind the tumbler. The follower is pierced with a mortise on the top and bottom from

the head to the end, that it may give free play to the tumbler, and a mortise on each side to receive the shaft and tumbler and to allow the follower to pass back and forth without obstruction from the shaft, as seen in the drawings No. 5.

The tumbler is connected with its shaft and is cast or forged with it, making one piece. The shaft is to pass through the door and receive an escutcheon and a knob on each end in common form, having the tumbler in the center, within the follower, somewhat in the shape of two segments of a circle, their chords uniting on the surface of the shaft, in a line one and a quarter inches long crossing the shaft, at right angles, and thus forming arms to the shaft one fourth of an inch broad and five eighths long from the center of the shaft, and each presenting a circular surface to the roller. The substance of the shaft on the side opposite to its junction with the tumbler is removed, so as to admit the roller to recoil nearly to the line of the center of the shaft, as seen in the drawings marked No. 6^b.

The shank of the bolt has a mortise through the center about three fourths of an inch long, commencing near its junction with the follower, as seen in No. 4, and when in place a pin or stud No. 7 passes through the cylindrical case and through this mortise and is riveted to the case. The bolt moves freely on this stud, and is controlled by it and the mortise to half an inch play. A spiral spring as seen by No. 8 surrounds the shank of the bolt, pressing upon this stud and upon the square shoulder of the head of the bolt. Its tendency is to project the head of the bolt, but by depressing the spring the bolt may be drawn, each half an inch when the stud will strike the end of the mortise.

This latch is put together and attached to the door in a very easy and simple manner as follows: The bolt with the spiral spring upon it is screwed into the head of the follower having the friction roller in place, and being placed within the cylinder case, the pin or stud is passed through the case and through the mortise in the shank of the bolt and riveted to its place in the case, and is then ready for insertion into the door. To do this I bore a hole into the front edge of the side of the door the full length of the cylinder, with a bit or auger of the same diameter as the cylinder, and another hole

at right angles with the first, with a bit one
and a quarter inches in diameter, at the
proper place for the entrance and move-
ment of the tumbler. This hole is bored to
5 the opposite side of the hole for the case,
and is thence continued through the door
with a bit of suitable size for the shank and
its escutcheon collar. The case containing
the bolt is then inserted into the first made
10 hole, and the bolt being forced back, the
tumbler with its shaft is inserted horizon-
tally by means of the other hole, through the
mortises in the case and in the follower to
its place forward of the roller. It is then
15 turned to its perpendicular position and the
roller by force of the spring is brought into
contact, with the curving side of the arms.
The hole through the door is then covered
by an escutcheon made fast to the door on
20 each side, which embrace and hold the shaft
in place, armed with a knob at each end. I
also insert a check pin in the shaft to strike
a lip in the collar of the escutcheon to pre-
vent its turning too far, as seen at letter A
25 in No. 6. I then cover the end of the cyl-

inder case with the front plate, embracing
the head of the bolt. This plate is to be
embedded its thickness and made fast with
screws in the edge of the door.

The operation of this machinery when 30
thus inserted is this. The uncontrolled tend-
ency of the spiral spring is to project the
bolt. This is overcome by turning the knob
either way, which brings a circular arm of
the tumbler to bear upon the roller, and 35
thereby rolls it back without friction, carry-
ing with it, the follower which carries back
the bolt.

What I claim as my invention and desire
to secure by Letters Patent is, 40

The follower as herein described, and pro-
vided with a friction roller in combination
with the bolt and tumbler, all as herein de-
scribed.

In testimony whereof I subscribe these 45
presents, this 27th day of June 1839.

HENRY DUNTZE.

Witnesses:

SIMEON BALDWIN,
S. M. P. STAPLES.