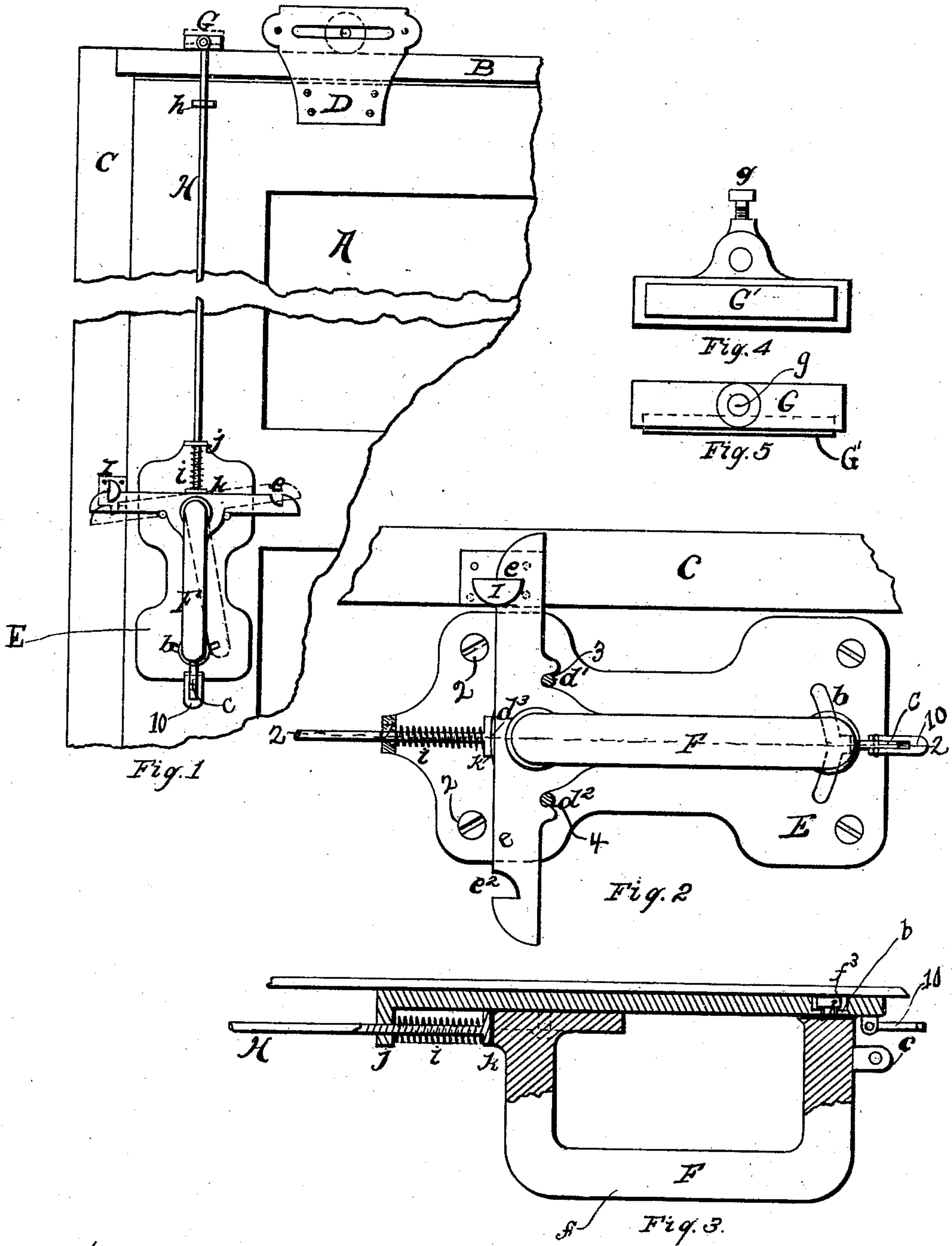


No. 842,535.

PATENTED JAN. 29, 1907.

W. H. DURANT.  
SLIDING DOOR FASTENER.

APPLICATION FILED AUG. 7, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. DURANT, OF CONCORD, NEW HAMPSHIRE.

## SLIDING-DOOR FASTENER.

No. 842,535.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed August 7, 1905. Serial No. 273,022.

*To all whom it may concern:*

Be it known that I, WILLIAM H. DURANT, a citizen of the United States, residing at Concord, in the county of Merrimac and State of New Hampshire, have invented new and useful Improvements in Sliding-Door Fasteners, of which the following is a specification.

This invention has for its object the production of novel means whereby a sliding door may be held more or less open or be latched when the door is closed, provision also being made for locking the closed door when desired.

My invention is applicable to sliding doors of mail, baggage, or express cars, wherein the door is frequently maintained partially open and wherein when the car is stopped quickly the door is liable to close, due to the momentum of the car, and in closing the door it frequently does injury to any one in its path. My invention is applicable, however, to any doors where it is desired to hold the same in open position and to latch the same closed.

I have illustrated my invention as applied to part of a railway-car.

Figure 1 shows my improvements applied to a railway-car. Fig. 2 is a plan view of the latch and locking devices, being shown partly in section. Fig. 3 is a section on the line 2 2, Fig. 2, part of handle *f* and rod *H* being shown in elevation. Fig. 4 is a side elevation of the check-block. Fig. 5 is a plan view of the check-block.

Referring to the drawings, *A* represents a car-door; *B*, a track; *C*, a door-jamb connected with the side of the car, and *D* the hanger of any usual roller-hanger that is free to roll over the track *B* in opening and closing the door.

In accordance with my invention I provide a latch-support *E*, made as a casting, that may be attached in any suitable manner to the door near its edge and at a short distance above its lower end, as by screws 2.

The latch-support is shown as having a slot *b* near its lower end, while at its upper end the support has a guiding-lug *j* in a hole, in which is located the lower end of a rod *H* to be described.

The support near its upper end is shown as provided with two studs *d'* *d''*, that serve as fulcrums for a latch device *F*, comprising a hand-piece *f* and oppositely-projecting arms *e e*, each having at its upper side, near its end, a notch *e'* to engage a notch at the under side of

a plate or projection *I*, suitably sustained by the door-jamb or side of the car. The under side of the arms *e e* are notched, as shown at 3 4, and these notches when the latch device engages the plate or projection *I* and the door is latched embrace the two studs *d'* *d''*, but when the lower end of the latch device is turned away from the door-jamb the arm *e* that engaged the plate or projection tips on one or the other of the studs *d'* or *d''*.

The handpiece *f* of the latch device has a stud *f'*, that enters the slot *b* and by contact with the ends of the said slot limits the extent of movement of the latch device. The upper end of the handpiece *f* is so shaped, as at *d'*, that when said handpiece occupies a vertical position, as shown in Fig. 2, the lower end of the rod *H* nearly or substantially contacts therewith. The rod *H* is further guided, near its upper end, by being passed loosely through an eye *h*, connected with the door, and to the upper end of said rod is shown as adjustably connected by a screw *g* a check block or shoe *G*, it having preferably attached thereto at one side a wearing-face *G'*, which may be of leather, said wearing-face acting normally against the upper side of the track *B* and being held down in contact with said track by a suitable spring *i*, the upper end of which contacts with the under side of lug *j*, while the lower end of said spring is sustained on a suitable washer *k*, mounted on the rod *H* near its lower end. Providing the latch device with oppositely-extended arms *e* makes it possible to use the same latch device with doors that slide either right or left. The lower end of the handpiece *f* has an extension or ear *C*, that may be engaged by a hasp 10, and a lock may be used to lock the latch device in position by fastening the hasp 10 over the ear *C* to hold the car-door closed, so that it cannot be opened without unlocking the lock. Cars used for carrying mail, baggage, or express are usually run at a high rate of speed, and frequently the jarring of the car opens the door and results in loss of merchandise and baggage from the car, and frequently when a car is stopped suddenly the door, due to momentum of the car, is closed, and sometimes the closing of the door is so sudden and with such force as to injure a person standing in the doorway or to catch the hands or fingers of a person resting with one hand against the door-jamb.

The block or shoe, rod, and spring consti-



tute friction means acting normally to hold the door in whatever position it may be left ajar with sufficient force that the door will not be moved accidentally or through momentum, and to move the door it is necessary to raise the block or shoe to relieve its pressure from the track. For this purpose the upper end of the handpiece *f* is rounded or suitably shaped, so that when the handpiece is turned aside from its vertical position, Fig. 1, the end *d*<sup>3</sup> of the handpiece will act upon the lower end of the rod *H*, move the same vertically, compressing the spring, and removing the block or shoe from contact with the track. Whenever, however, the handpiece is returned to its vertical position, the spring on the rod *H* immediately depresses the rod and block or shoe, causing the latter to contact with the track with such force as to maintain the door in any position, where it may be left ajar.

I am not aware prior to my invention that a sliding door sustained by rollers has ever had combined with it friction means whereby the accidental sliding of the door might be obviated, and I desire to claim this feature broadly.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A sliding door provided with hangers, and friction means in addition thereto acting normally to engage the track from which the door is suspended.

2. A sliding door provided with hangers and with friction means to hold the door partially open, said friction means acting normally to engage the hanger-track, a latch-piece for holding the door in closed position, and connections between the friction means and latch-piece for releasing the friction means when the latch-piece is operated.

3. A sliding door provided with hangers and with friction means to hold the door partially open, said friction means acting normally to engage the hanger-track, a latch-piece to hold the door at the end of its sliding movement, connections between the friction means and latch-piece for releasing the friction means when the latch is operated, and means for holding the latch-piece to prevent its operation.

4. A sliding door provided with hangers and with friction means acting normally to engage the hanger-track, a latch-piece mount-

ed to swing upon its support, and devices normally engaging the latch-piece for releasing the friction means when the latch-piece is operated.

5. In a sliding-door fixture, a swinging latch device presenting a handpiece and provided with an arm projecting at an angle therefrom, said arm being notched both on its upper and under sides, a latch-support having a stud embraced by the notched under side of said arm and acting as a fulcrum for said latch device, a projection adapted to be engaged by the notch on the upper side of said arm, and means acting normally to keep the latch device seated upon said stud.

6. A latch device comprising oppositely-projecting arms provided each with engaging notches, a plate or projection adapted to be engaged thereby, a handpiece connected to said oppositely-projecting arms, a latch-support provided with fulcra, one for each of said arms, and means for normally maintaining the latch device seated on said fulcra.

7. In a sliding-door fixture, a block or shoe having a depending rod, a latch-support having near its upper end a fulcrum, a latch device comprising a handpiece having an arm resting on said fulcrum and presenting a surface to contact with the lower end of said rod when the latch device is turned on said fulcrum, and a spring acting normally to depress said rod and with it said block or shoe.

8. A sliding door provided with roller-hangers, a track on which said rollers travel, a friction device connected with said door and coacting with said track, a latch device presenting a handpiece having a projection at its lower end and a projecting arm at its upper end, a latch-support having a fulcrum on which is seated the arm of the latch device, a spring acting normally to keep the friction device in contact with the track and maintain the arm of the latch device seated upon its fulcrum, said latch-support having a slot that is entered by the projection from the lower end of the handpiece, said projection and slot limiting the extent of movement of the latch device.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WILLIAM H. DURANT.

Witnesses:

A. L. CUSHMAN,  
V. I. CATON.