H. P. PETERS.

LOFT DOOR ATTACHMENT.

APPLICATION FILED MAR. 3, 1916.

1,237,377.

Patented Aug. 21, 1917.

Fig. 2.

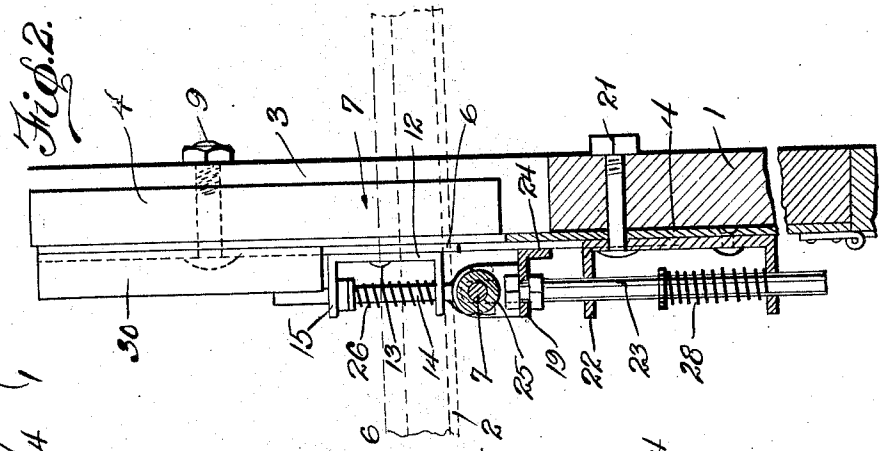


Fig. 3.

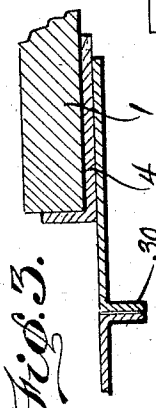
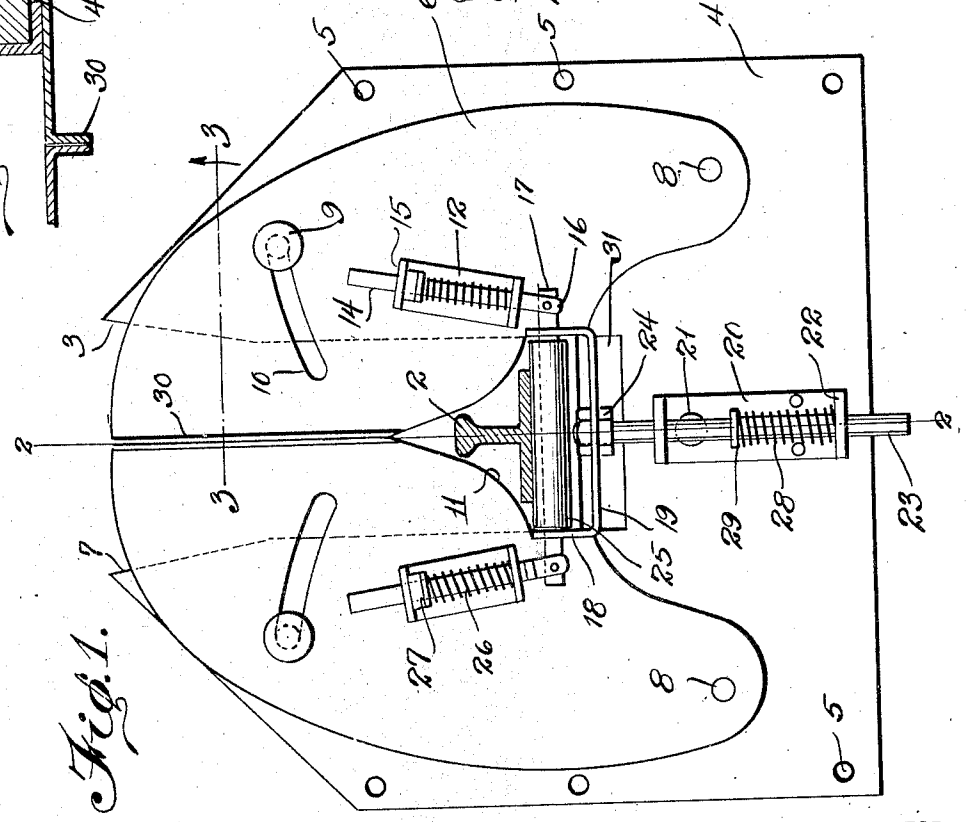


Fig. 1.



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LOFT-DOOR ATTACHMENT.

1,237,377. Specification of Letters Patent. Patented Aug. 21, 1917.

Application filed March 3, 1916. Serial No. 81,928.

To all whom it may concern:

Be it known that I, HENRY P. PETERS, a citizen of the United States, residing at Lester, in the county of Lyon and State of Iowa, have invented certain new and useful Improvements in Loft-Door Attachments, of which the following is a specification.

My invention relates to door attachments and contemplates primarily an improved construction, combination and arrangement of parts whereby the space ordinarily found in the loft door above the extended portion of the loft rail or track may be automatically closed as the door swings shut and automatically opened as the door swings open.

In describing my invention in detail reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which;—

Figure 1 is an elevation of the door attachment, illustrating the manner in which the shutters engage above the loft rail in the closed position of the door;

Fig. 2 is a section on the line 2—2 of Fig. 1, and

Fig. 3 is a section on the line 3—3 of Fig. 1.

Referring now to the drawings by numerals, 1 designates a loft door mounted for swinging movement in a vertical plane toward and from the loft rail 2, the latter being mounted to extend without the loft in a manner common to the art.

An opening 3 is formed in the door 1 to afford an operating space for the loft rail 2. A metallic protector plate 4 is fastened as indicated at 5 to the door 1 in proximity to said opening so that the shutters 6, hereinafter described may engage therewith. The said plate 4, like the door 1, is cut away as indicated at 7.

The shutters 6 are of duplicate construction and located for relative pivotal movement against the outside face of the protector plate 4, each shutter having pivotal connection as indicated at 8 at the opposite sides of the mentioned plate. Pins 9, rigid with the plate 4, operate in arcuate slots 10 therefor formed in the respective shutters 6 so that movement of said shutters, occasioned by opening and closing movement of the loft door 1, may be limited. Each shutter is of a special formation, the peculiarity in formation leading to the provision of an opening 11 through which the loft rail 2 extends in the closed position of the door 1 and the shutters 6. The opening is best illustrated in Fig. 1.

Brackets 12 are pivotally fastened as indicated at 13, one to each shutter 6, and one at each side of the opening 11. Rods 14 penetrate the angularly extended terminals 15 of the respective brackets, each rod having a pivotal connection as indicated at 16 with a rod 17 in turn mounted to penetrate angular terminal extension 18 of a bracket 19 mounted for vertical movement with respect to the protector plate 4. A third bracket 20 is fastened as indicated at 21 to the protector plate 4 beneath the opening 7 therein, said bracket like the brackets 12 and 19 being equipped with right angle terminal extensions 22. A reciprocable rod 23 is mounted to slide in the respective extensions 22 of the bracket 20, one end of said rod having a rigid connection as indicated at 24 with the bracket 19, aforesaid. A roller 25 is mounted on the rod 17 to engage with the under side of the loft rail 2 in the closed position of the shutters 6. The function of the roller 25 will be hereinafter more fully described.

Springs 26 embrace the rods 14, each spring abutting at one end an abutment member 27 adjustable upon its associate rod and at its opposite end the remote angular extension 15 of its associate bracket. Said bracket 12 being fixed against vertical movement with respect to the shutters 6, and the rods 14 being reciprocable with respect to the brackets 12, it is evident that such movement of said rod will be against the pressure of the mentioned springs.

A main spring 28 is arranged to embrace the rod 23 and to abut respectively an adjustable abutment member 29 mounted on said rod and the angular terminal extension 22 at the lower end of the bracket 20, said spring, by means of its location, at all times exerting an upward pressure on said rod 23 to thus cause the roller 25 to firmly engage

with the under side of the loft rail 2 in the closed position of the loft door 1.

Flanges 30 may be formed along the abutting edges of the shutters 6 to preclude movement of said shutters into overlapping relation and the resulting tendency to bind. If desired, the bracket 19 may be braced as indicated at 31 in that said brackets, during the operation of said door loft attachment receive the greatest strain.

In operation, and assuming that the loft door is closed and the shutters accordingly in a position illustrated in Fig. 1, it is but necessary to separate the shutters 6, to open or lower the said door 1. As the said door 1 swings open, roller 25 will ride against the under side of the rail 2 until springs 25 shall have expanded sufficiently to cause the said shutters to separate, motion being imparted to said shutters primarily by the spring 28 and secondarily by the springs 26, through the intermediaries 23, 19, 17 and 14. Movement of the shutters is limited by the slots 10 as aforesaid. The door 1, were the shutters fixed, would be incapable of movement since the loft rail or track is ordinarily extended without the loft. In closing the door 1, the shutters remain inactive until the roller 25 comes into contact with the under side of the loft rail whereupon the rod 23 is moved against pressure of the spring 28 and the rods 14 accordingly moved. Movement of the rods 14 against pressure of the springs 26 will operate the brackets 12 and at the same time draw the shutters 6 into engaging proximity or into the position illustrated in Fig. 1.

From the foregoing taken in connection with the accompanying drawings, it is quite evident that the space ordinarily found above the loft rail 2 is closed automatically to preclude the admission of sparrows, pigeons, and so forth into the loft, that the opening and closing movement of the shutters 6 is governed by movement of the loft door 1 entirely without manual aid; and that by the arrangement indicated, operation of the shutters 6 will be as described without regard to the manner in which the door is attached.

In reduction to practice, I have found that the form of my invention, illustrated in the drawings and referred to in the above description, as the preferred embodiment is the most efficient and practical; yet realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required, without sacrificing any of the advantages of my invention, as defined in the appended claims.

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

1. The combination of a movably mounted door having a marginal opening adapted to receive a stationary track rail when closed, a closure for said opening including relatively movable sections, means for releasably retaining the sections in separated relation, and means adapted to engage the track rail when the door closes for moving the sections to closed position, about the rail.

2. The combination of a movably mounted door having a marginal opening adapted to receive a stationary track rail when closed, a closure for said opening including relatively movable sections, resilient means for retaining the sections in separated relation, and means mounted upon the door and adapted to engage the track rail when the door is moved to closed position to move the sections to closed position about the rail.

3. The combination of a movably mounted door having a marginal opening adapted to receive a stationary track rail, a closure for said opening, including sections pivotally mounted upon the door for movement relative to each other, resilient means for normally retaining the sections in separated relation, and means on the door adapted to engage the track rail when the door is moved to closed position, to move the sections toward closed position, and about the rail.

4. The combination of a movably mounted door having a marginal opening adapted to receive a stationary track rail, a closure for said opening including sections pivotally mounted upon the door for relative movement to cover or uncover the opening and to partially encircle the track rail, means mounted upon the door and engageable upon the track rail when the door is moved to closed position, means connecting said last mentioned means with the closure sections for moving the same, and resilient means engaging the rail engaging means.

5. An attachment for a track door having an opening adapted to receive a stationary track rail, comprising relatively movable closure sections adapted to be mounted on the door to cover and uncover the opening, said sections having recesses to receive the rail, brackets pivoted to the sections, rods slidably movable therein, a shaft connecting certain ends of the rods, springs encircling the rods to form a resilient connection between said rods and the brackets, a roller on the shaft for engaging the said rail, a bearing bracket partially supporting the shaft, a rod secured to the bearing bracket, a bracket for slidably supporting the last mentioned rod, and a spring acting upon said rod to urge the roller toward an

outward position whereby to retain the sections in separated relation, and whereby when the door is moved to closed position, the roller may engage the track rail and thereby move the door sections to closed position.

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

HENRY P. PETERS.

Witnesses:
S. S. DAVENPORT,
LAURENCE SCHUBERT.