No. 647,418. Patented Apr. 10, 1900.

H. KUNZ.

SLIDING BOLT.

(Application filed Feb. 23, 1899.)

(No Model.)

Fig. 1

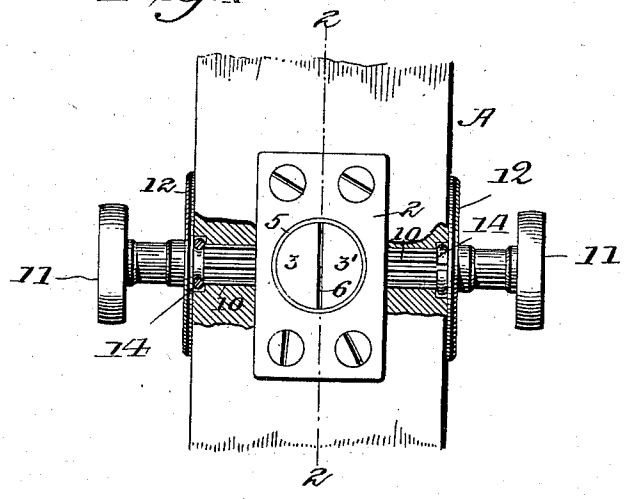


Fig. 2.

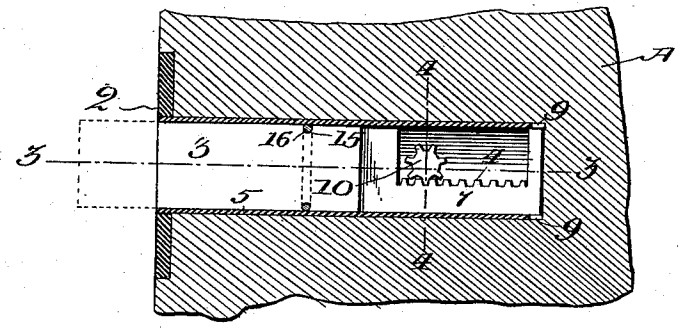


Fig. 3.

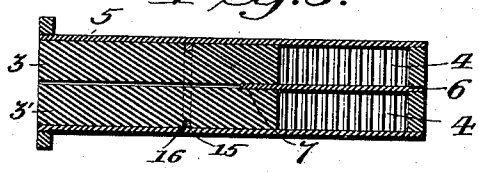


Fig. 6.

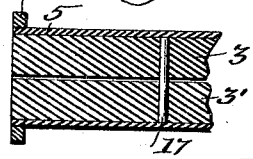


Fig. 4.

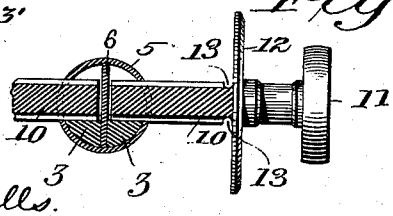
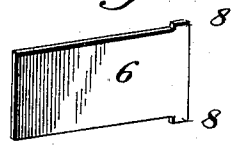


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY KUNZ, OF ALAMEDA, CALIFORNIA.

SLIDING BOLT.

SPECIFICATION forming part of Letters Patent No. 647,418, dated April 10, 1900.

Application filed February 23, 1899. Serial No. 706,549. (No model.)

To all whom it may concern:

Be it known that I, HENRY KUNZ, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Sliding Bolts, of which the following is a specification.

My invention relates to sliding bolts for doors and the like of the kind in which independent bolt-sections and independent operating mechanisms for each section are employed, such operating mechanisms being arranged upon opposite sides of the door in which the bolt is mounted; and the invention consists in the improvements in such a bolt device to be hereinafter pointed out.

In the drawings, Figure 1 is an elevation of the edge of a portion of a door with my invention applied thereto. Fig. 2 is a vertical longitudinal section taken on the line 2 2 of Fig. 1. Fig. 3 is a horizontal longitudinal section taken on the line 3 3 of Fig. 2. Fig. 4 is a transverse section taken on the line 4 4 of Fig. 2. Fig. 5 is a detail view of the parting strip or plate. Fig. 6 is a transverse section of a different embodiment of one feature of my invention from that shown in the other views.

The door A is prepared to receive my invention in the manner usually followed in preparing for the ordinary sliding bolt, which is set into the lock-stile of the door.

2 is the face-plate set into the edge of the door and provided with an opening corresponding in shape with the cross-section of the bolt. The latter, which is preferably cylindrical in shape, is formed of two parts 3 and 3′, similar in shape except that they are right and left handed. The plane of separation between the two parts when applied to a door, as shown, is vertical. The forward portion of each bolt-section is semicylindrical, while the rear part is provided with a toothed rack 4. The two bolt-sections are mounted close side by side in a tube or casing 5, in which they closely fit and in which they are free to slide either independently or together. The rack-sections 4 of the bolts are opposite to each other, but are adapted to be separated by a parting plate or strip 6, Fig. 5, the bolt-sections being rabbeted at the rear on their contiguous flat faces, as indicated at 7, to permit the plate 6 to be inserted between them without interfering with their free movements in the casing 5. The strip 6 has shoulders 8 at its ends, which are adapted to enter recesses 9 in the casing 5, thus holding the strip and the bolt-sections in proper positions.

In order that the bolt-sections may be operated independently and from opposite sides of the door, I provide a toothed or gear spindle 10 for each bolt-section. Such toothed spindles engage, respectively, with the racks 4 and extend to the opposite sides of the door, where they are provided with operating-knobs 11. The plate or strip 6 is situated between the ends of the spindles 10 and when in place insures that the gear-spindle shall engage with the rack of one bolt only.

12 12 are the face-plates secured to the sides of the door and through which the spindles pass. The hole in each plate 12 is of such size that the gear or toothed portion of the spindle will pass freely through it. The spindle is held from accidental withdrawal when in place by a split elastic ring 14, adapted to encircle the spindle and to rest in a circumferential groove 13 therein just outside the plate 12. Should it be desired at any time to withdraw the spindle entirely—as, for instance, to prevent manipulation of the bolt-section with which it engages—it may be done by exerting a sufficient outward endwise pull upon the spindle to force it past the yielding ring 14. The spindle can be put back in operative position by forcing it past the ring until the latter enters the groove 13. It will thus be seen that while the spindle is held in working position with sufficient firmness, yet it may be withdrawn from the door and replaced again without necessitating the removal of the face-plate 12.

It is sometimes desirable that both sections of a divided bolt should be operated together. This may be secured in various ways. Thus, as represented in Figs. 2 and 3, the semicylindrical portions of the bolt-sections are grooved, as at 15, and into these grooves is set an elastic or spring-divided ring 16. When this ring is thus made to encircle the bolt-sections and they are inserted into the casing

5, the two sections will be caused to move together whichever of the spindles 10 is operated. In Fig. 6 a pin 17, adapted to enter apertures in the bolt-sections, is shown as the means for connecting the bolt-sections.

My invention is particularly intended for use in doors between communicating rooms in hotels, and, as will be understood, it is so constructed that the several adjustments of the device may be made easily and without removing any of the parts which are permanently fastened to the door, such as the face-plates and the casing 5. Thus should the bolts be applied to the doors leading to a bath-room situated between two apartments the parts would be arranged as shown in Figs. 1, 2, 3, and 4, except that the ring 16 would be removed, thereby permitting each bolt-section to be operated independently. Should it be desired to prevent the lock from being operated, one or both of the spindles 10 would be removed. Should it be desired that the bolt as a whole be operated from either side, the ring 16 or the pin 17 would be applied, as described, and both spindles allowed to remain, as represented in Fig. 1. Should it be desired that both sections should be operated together, but only from one side of the door, then the sections are connected so as to move together and one of the spindles 10 is removed. The separating or parting strip 6 operates to prevent either bolt-section from being tampered with or operated from the opposite side of the door.

What I claim is—

1. The combination of independent bolt-sections, an imperforate separating-strip between them, and independent means for operating the said bolt-sections respectively arranged upon opposite sides of the said separating-strip and extending in opposite directions, substantially as set forth.

2. The combination of a casing adapted to be set into a door, independent bolt-sections mounted side by side therein, an imperforate parting-strip mounted between the said bolt-sections, and rotary spindles for operating the bolt-sections arranged to extend to the opposite sides of the door, substantially as set forth.

3. The combination of independent bolt-sections, means independent of the means for operating the sections for uniting them whereby they will be caused to move together, and means for operating the said sections, substantially as set forth.

4. The combination of independent bolt-sections, means independent of the means for operating the sections for uniting them whereby they will be caused to move together, and independent operating means engaging with each bolt-section, substantially as set forth.

5. A door-bolt device comprising independent bolt-sections adapted to be inserted into a door, separate operating means for each bolt-section adapted to extend to opposite sides of the door, an imperforate separating-strip between the bolts, and means for uniting the bolt-sections whereby they are caused to move together, substantially as set forth.

6. The combination of independent bolt-sections, a casing in which they are mounted, means for operating the same, and a divided ring 16 adapted to encircle and to unite the bolt-sections, substantially as set forth.

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Witnesses:
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