

Jan. 4, 1949.

E. AUDET

2,458,046

KEY CONTROLLED LOCK

Filed Aug. 26, 1947

2 Sheets-Sheet 1

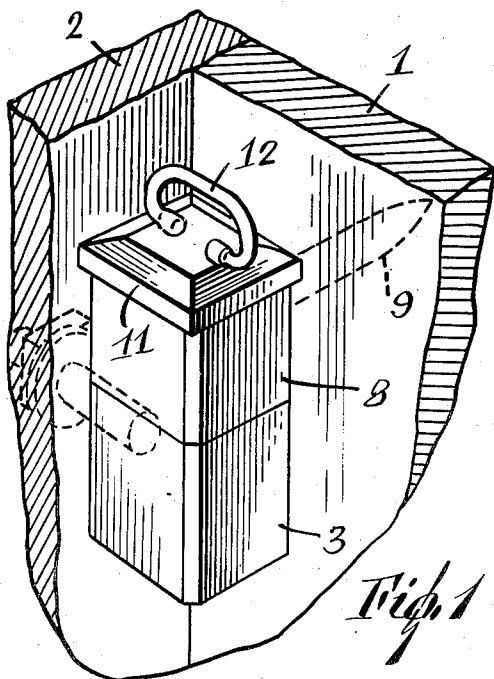
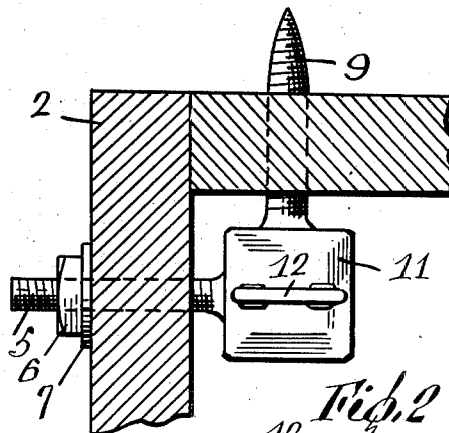
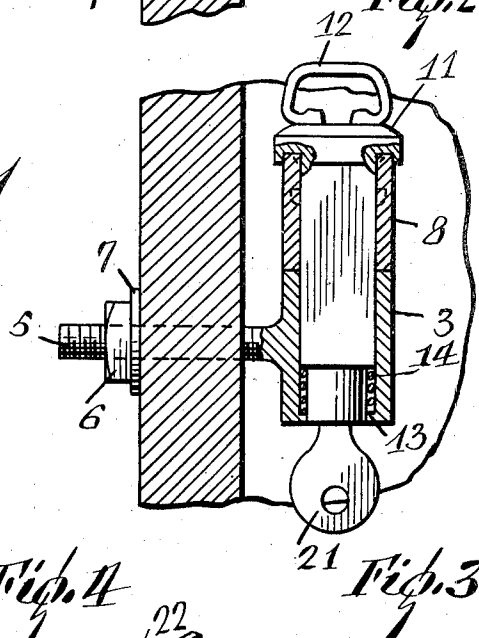
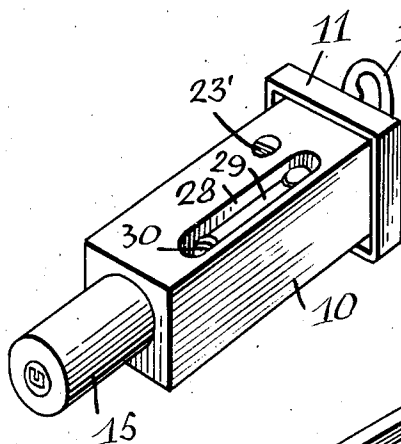
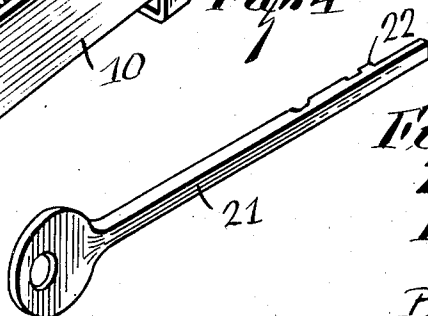


Fig. 5

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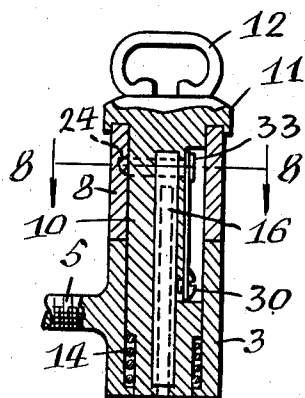
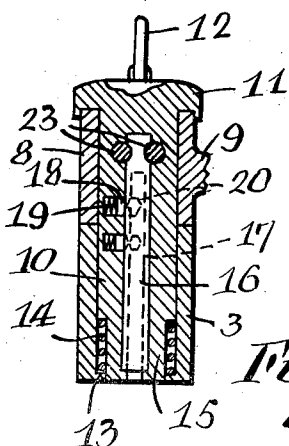
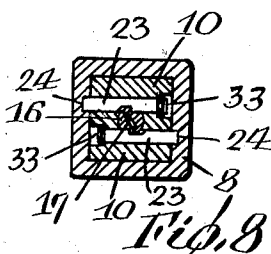
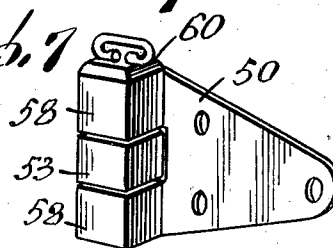
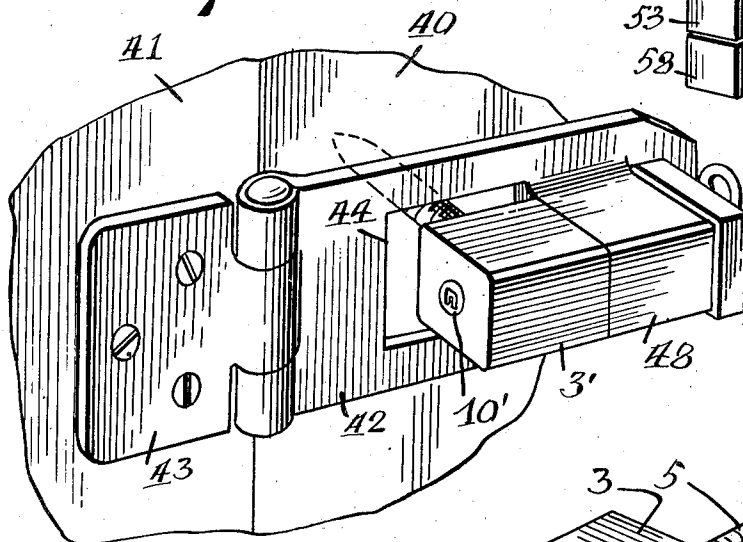
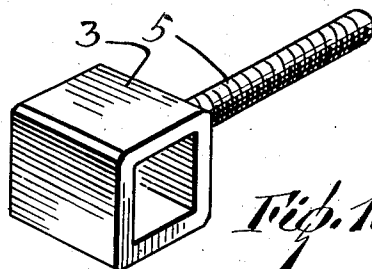
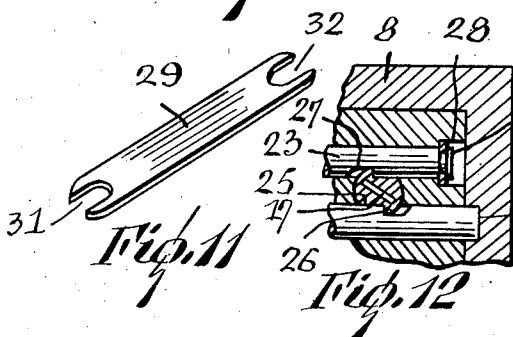
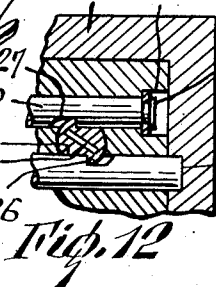
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KEY CONTROLLED LOCK

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7 Claims. (Cl. 70-77)

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The present invention pertains to a novel key controlled lock for various types of closures, and particularly one that is to be exposed out of doors as in the case of garage doors and the like.

The principal object of the invention is to provide such a lock that is sufficiently rugged to withstand the elements and which at the same time is inexpensive and relatively simple to manufacture.

Another object of the invention is to provide a lock including a pair of similar keepers carried respectively by the relatively movable parts of the door assembly and adapted to be aligned with each other to receive a bolt designed to be locked to one of the keepers by a combination lock mechanism.

In the accomplishment of these objects the aforementioned keepers are in the form of loops having a substantial wall area, while the bolt is a relatively heavy member adapted to fit slidably in the aligned keepers. The bolt receives an axially mounted and rotatable lock cylinder normally held against rotation by tumbler pins extending into it from the body of the bolt and released by a key inserted in the cylinder as in a conventional key controlled lock. The tumbler pins do not lock into either of the keepers, but the bolt carries a pair of slidable locking pins mounted transversely therein and receivable for locking engagement in opposite walls of one of the keepers. These pins are connected to the cylinder for actuation thereby, preferably by means of a connecting pin mounted transversely in the cylinder and having its ends joined to the respective locking pins. The non-locking ends of the locking pins are backed by springs that normally force these pins into the keeper. On insertion of the proper key and on turning the cylinder with the key, the locking pins are withdrawn from the keeper against the action of the backing springs. The bolt may then be withdrawn from the keepers, to break the connection between the keepers, whereupon the door may be swung in its frame.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a perspective view of the lock applied to a door structure;

Figure 2 is a plan view thereof;

Figure 3 is a vertical longitudinal section;

Figure 4 is a perspective view of the locking bolt;

Figure 5 is a perspective view of the key;

Figure 6 is a longitudinal section of the locking bolt;

Figure 7 is a longitudinal section of the bolt, to a right angle to Figure 6;

Figure 8 is a section on the line 8-8 of Figure 6;

Figure 9 is a perspective view of a modified installation;

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Figure 10 is a perspective view of one of the keepers;

Figure 11 is a perspective view of one of the locking springs;

Figure 12 is an enlarged detail of Figure 8; and

Figure 13 is a perspective view of another modified form of installation.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figure 1 is shown a door 1 adapted to swing or slide in a frame structure designated by the numeral 2. A collar or keeper 3, shown in detail in Figure 10, is fastened to the frame 2 by a bolt 5 extending from the keeper through the frame 2 and secured in the latter by suitable means such as a nut 6 and washer 7. The door 1 carries similar loop or keeper 8 adapted to align with the member 3 when the door is closed, as shown in Figures 1 and 3. The member 8 is held by suitable means such as a screw 9 extending rigidly therefrom and fastened in the door 1 as shown in Figure 2.

The aligned members 3 and 8 are held together by a bolt 10 that slides therein from one end and is formed at that end with a stop head 11 and a finger piece 12. At the opposite end the keeper is formed with an inward flange 13 which constitutes a seat for a coil spring 14 received in the space provided by the reduced end 15 of the keeper 10. The spring 14 exerts an outward pressure on the bolt 10 to expel the bolt partially on release of the locking pins that will presently be described.

In the axis of the bolt 10 is rotatably mounted a cylinder 16 of the conventional key controlled lock type. The cylinder has a longitudinal key slot 17 which is open and exposed at the end of the bolt opposite the finger piece 12. The bolt 10 carried a suitable number of tumblers 18 (Figure 7) lying transversely and normally moved by coil springs 19 into appropriate recesses 20 in the cylinder 16. The key 21 (Figure 5) is formed with teeth 22 adapted to engage the projected pins 18 and move them out of the cylinder 16, whereupon the key may rotate the cylinder, as well known in the combination lock art.

At opposite sides of the cylinder 16, the bolt 10 carried a pair of slidable locking pins 23 having bevelled ends 23' (Figure 4) receivable in recesses 24 formed respectively in opposite inner walls of the keeper 8 as shown in Figures 7 and 12. The locking pins are connected to the bolt 16 by notches 25 forming head 26 received in sockets 27 in the locking pins 23. At the non-locking end of each pin 23, the bolt 10 is formed with a longitudinally extending recess or slot 28 in which is mounted an elongated flat spring 29, as shown in Figures 4, 6, 8, 11 and 12. One end

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of each spring bears against the adjacent end of the corresponding pin 23, while the opposite end is fastened to the body of the bolt 10 by suitable means such as a screw 30 passed through a recess 31 in the spring. The opposite end of the spring, if desired, may also be formed with a similar recess 32 straddling the corresponding pin 23 against a head 33 on the latter.

In the operation of the device, it is apparent that the springs 29 normally project the locking pins 23 into their recesses 24, thereby locking the bolt 10 to the keeper 8. The door 1 cannot be swung open until the pins 23 have been withdrawn and the bolt 10 removed from the keepers 3 and 8. For the latter purpose, the key 21 enables rotation of the cylinder 16 in the manner already described, to withdraw the locking pins 23 from their recesses 24. In the modified installation shown in Figure 9, the door 40 swings in the frame 41 on a hinge comprising leaves 42 and 43 fastened respectively to these parts. A loop or keeper 48, corresponding to the keeper 8, extends from the leaf 42 and lies on a horizontal axis. Adjacent to the member 48, the leaf 42 is formed with a recess 44 adapted to pass over a keeper 3' fastened to the door 40 and alined with the keeper 48. A bolt 10' is passed through both keepers and is equipped with locking mechanism similar to that described and connected with the previous construction.

In the modification shown in Figure 13, the door or the frame carried a bracket 50 which in turn carries a pair of spaced and alined keepers 53 corresponding to the keeper 8 of Figures 1-8. The other part of the door assembly carries a keeper 53 receivable between and in alinement with the member 58 and corresponding to the keeper 3 or 3'. A bolt 60 similar to the bolt 10 is adapted to be inserted in the alined keepers 53, 53, and is equipped with locking mechanism similar to that previously described. However, the ejecting spring for the bolt 60 would obviously be seated in the lower keeper 58 rather than in the member 53.

Although specific embodiments of the invention have been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim as my invention is:

1. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder and receivable in opposite sides of one said keeper, and a connection from said cylinder to said pins for actuating the latter in unison.

2. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder and receivable in opposite sides of one said keeper, and a pin mounted transversely in said cylinder and having its ends connected respectively to said locking pins.

3. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt

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adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder and receivable in opposite sides of one said keeper, and a connection from said cylinder to said pins for actuating the latter in unison, and springs mounted in said bolt and bearing on said locking pins to move them into said keeper.

4. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder and receivable in opposite sides of one said keeper, and a pin mounted transversely in said cylinder and having its ends connected respectively to said locking pins, and springs mounted in said bolt and bearing on said locking pins to move them into said keeper.

5. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder, said keeper having recesses in opposite walls thereof to receive an end of each of said pins, a connection from said cylinder to said pins for actuating the latter in unison, and springs in said bolt and bearing against the remaining ends of said pins to move said pins into said recesses.

6. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder, said keeper having recesses in opposite walls thereof to receive an end of each of said pins, pin mounted transversely in said cylinder and having its ends connected respectively to said locking pins, and springs in said bolt and bearing against the remaining ends of said pins to move said pins into said recesses.

7. A lock comprising a pair of keepers adapted to be carried by relatively movable members and adapted for alinement with each other, a bolt adapted to be passed through said keepers, a rotatable key cylinder in said bolt, a pair of locking pins slidable transversely in said bolt at opposite sides of said cylinder, said keeper having recesses in opposite walls thereof to receive an end of each of said pins, a connection from said cylinder to said pins for actuating the latter in unison, said bolt having a longitudinal recess in each of its sides at the remaining ends of said pins, a flat spring mounted in each of the last named recesses, each spring having one end fastened to said bolt and its other end bearing on the adjacent end of the corresponding pin.

ESDRAS AUDET.

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The following references are of record in the file of this patent:

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