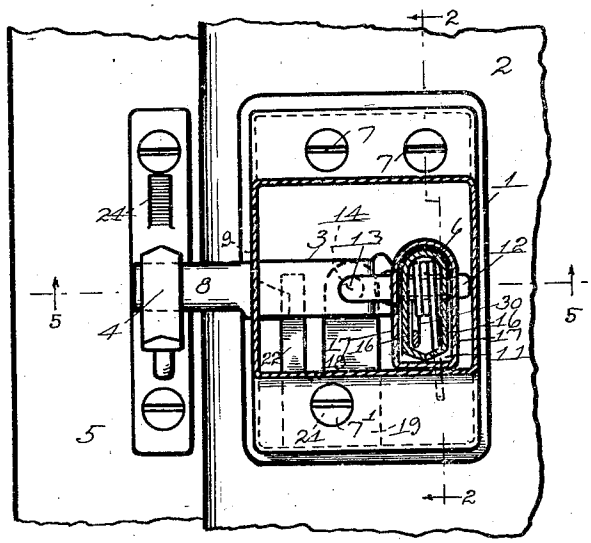
Jan. 5, 1932. G. E. ROEDDING 1,839,265

LATCH

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Fig. 1.



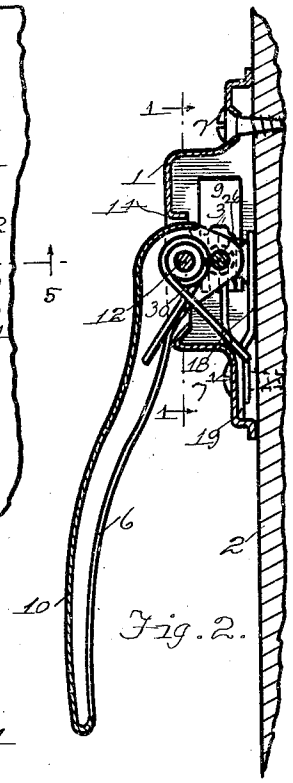


Fig. 2.

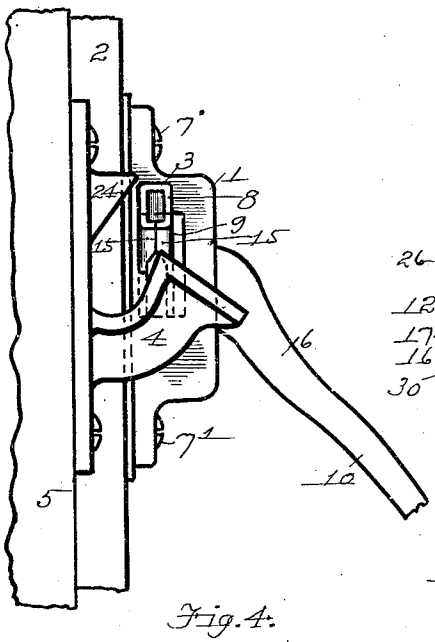


Fig. 4.

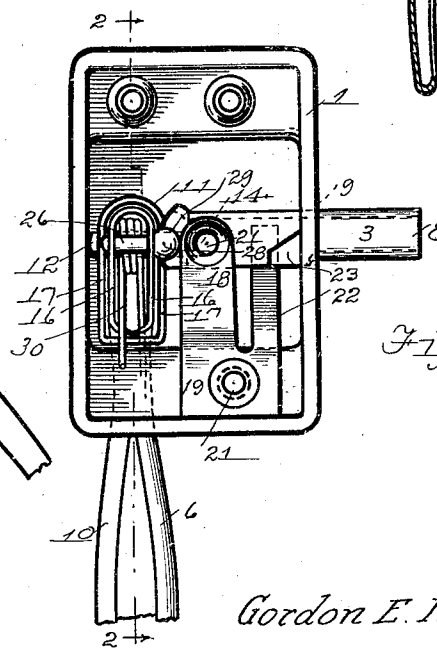


Fig. 3.

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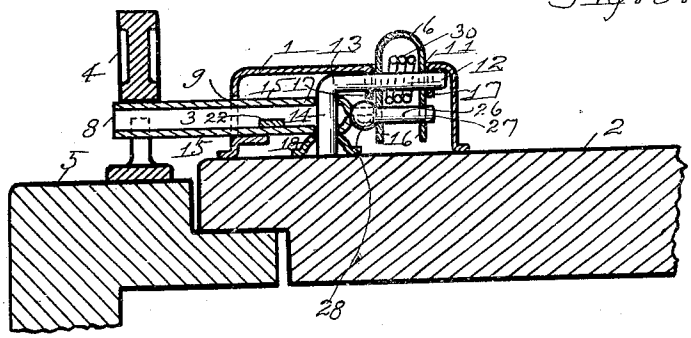
Attorneys

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Fig. 5.



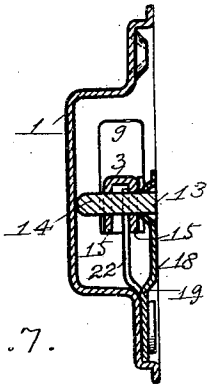
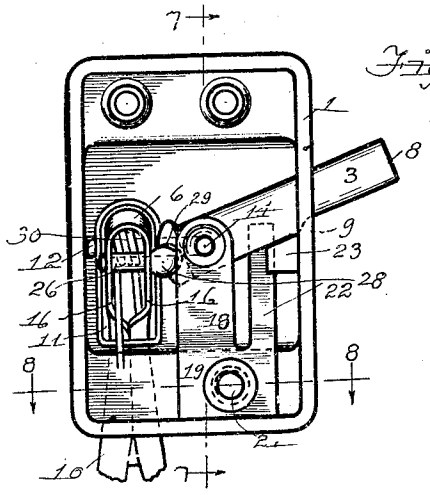


Fig. 7.

Fig. 6.



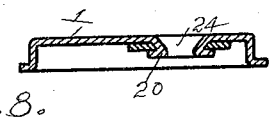


Fig. 8.

Inventor

Gordon E Roedding.

By Rice and Rice

Attorneys

Patented Jan. 5, 1932 1,839,265

UNITED STATES PATENT OFFICE

GORDON E. ROEDDING, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO GRAND RAPIDS BRASS COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF MICHIGAN

LATCH

Application filed June 25, 1930. Serial No. 463,626.

The present invention relates to latches; and its object is to provide an improved latch structure having a swingable latch bolt and a swingable operating lever handle therefor, fulcrumed respectively on angularly disposed arms of a pintle member anchored on the casing of the structure; and further, to provide improved connections between said bolt and lever handle; and further, to provide simple and economical constructions of the parts of said structure; and further, to provide improved bearing parts and mountings for the members of the structure; and further, to provide an improved spring member for urging the latch bolt to its held retracted position and an improved mounting for said spring member, etc.

These and any other and more specific objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the latch structure particularly described in the body of this specification and illustrated by the accompanying drawings, in which

Figure 1 is a face view of a latch structure and keeper mounted on a swinging door and the jamb thereof respectively, the latch casing being sectioned vertically on line 1—1 of Figure 2;

Figure 2 is a vertical sectional view of said structure taken on line 2—2 of Figures 1 and 3;

Figure 3 is an inner side view thereof;

Figure 4 is a left-hand side view of said structure and keeper, the door being shown partially open;

Figure 5 is a horizontal sectional view of the same taken on line 5—5 of Figure 1;

Figure 6 is an inner side view of the latch structure, the latch bolt being swung to unlatching position;

Figure 7 is a vertical sectional view thereof taken on line 7—7 of Figure 6; and

Figure 8 is a horizontal sectional view of the same taken on line 8—8 of Figure 6.

The latch structure illustrated by these drawings comprises a casing 1 (mounted on a door 2), a swingable bolt 3 (latchingly engaging the keeper 4 on the door jamb 5) and an operating lever handle 6. These parts carried by the door are desirably made of sheet metal pressed or bent into the illustrated shapes. The casing 1 (open at its inner side as seen in Figures 3, 6, etc.) is shown secured by screws 7, 7^1 to the door, and houses the bolt 3 whose outer end 8 extends through the vertical slot 9 in the side wall of the casing to engage the keeper, and houses also the lever handle 6 whose handle portion 10 extends through an opening 11 in the casing's front wall. The latch bolt 3 is pivotally mounted on one arm 14 of a pintle member 13, this arm extending perpendicularly to the door, the spaced sides 15, 15 of said bolt being bored in alignment to provide bearings for the bolt on said arm 14. The lever handle 6 is pivotally mounted on the other arm 12 of the pintle member, this arm extending at right angles to arm 14 and parallelly with the door, the spaced sides 16, 16 of the lever handle being bored in alignment to provide bearings for the lever handle on arm 12. Arm 12 of the pintle member is anchored on and just inside the front wall of the casing being received in bores through the inturned flanges 17 at the opposite sides of the opening 11 through said wall; and the end of the pintle member's other arm 14 is anchored in a bore through one member 18 of a metal strip 19 mounted on the inner side of the casing by its inwardly turned flange 20 which surrounds the opening 21 through which the screw 7^1 extends.

The other member 22 of strip 19 is a spring pressing the bolt 3 laterally (when raised to unlatching position seen in Figure 6) on the retaining shelf 23 of the casing, from which shelf the bolt is moved and permitted to fall, by striking the projection 24 of the keeper in shutting the door.

The sides 16, 16 of the inner end or short arm of the lever handle are bored to receive the shank 26 of a pin 27 whose globular end 28 seats in a bearing 29 in the inner or short arm of the latch bolt, so that the swinging of the lever handle outwardly raises the outer end 8 of the bolt 3 to unlatching position. A spring 30 coiled around arm 12 of the pintle member and between the sides 16, 16 of the lever handle urges the lever handle's outer

arm 10 inwardly and the bolt 3 to latching position.

It will be seen that this latch structure comprises few parts which may be economically made of pressed sheet metal and readily assembled to form a stable device.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore described.

I claim:

1. In a latch structure: a casing; a pintle member mounted on the casing and having angularly disposed arms; a swingable latch bolt fulcrumed on one of said arms; a swingable lever handle fulcrumed on the other arm of the pintle member for operating said bolt.

2. In a latch structure: a casing having an opening therethrough with inwardly extending flanges on the opposite sides of said opening; a pintle member mounted on the casing and having angularly spaced arms one of which is mounted on said flanges; a swingable latch bolt fulcrumed on the other arm of the pintle member; a swingable lever handle for operating said bolt, extending through said opening and fulcrumed on the first-mentioned arm.

3. In a latch structure: a casing having an opening therethrough with inwardly extending flanges on the opposite sides of said opening; a swingable latch bolt having side flanges with bearing openings therethrough; a swingable lever handle for operating said bolt, extending through the opening in the casing and having side flanges with bearing openings therethrough; a pintle member having angularly disposed arms one of which extends through the openings in the flanges of the casing and the openings of flanges of the lever handle and forms the fulcrum of the lever handle, the other arms of the pintle member extending through the openings of the flanges of the latch bar and forming the fulcrum of the latch bar.

4. In a latch structure; a casing having an opening therethrough with inwardly extending flanges on the opposite sides of said opening; a swingable latch bolt having side flanges with bearing openings therethrough; a swingable lever handle for operating said bolt, extending through the opening in the casing and having side flanges with bearing openings therethrough; a pintle member having angularly disposed arms one of which extends through the openings in the flanges of the casing and the openings of flanges of the lever handle and forms the fulcrum of the lever handle, the other arm of the pintle member extending through the openings of the flanges of the latch bar and forming the fulcrum of the latch bar; a spring coiled around that arm of the pintle member which forms the fulcrum for the lever handle and between the side flanges thereof for urging the lever handle to one position.

5. In a latch structure: a swingable latch bar member and a swingable operating lever handle member therefor fulcrumed on angularly disposed axes respectively, one of said members having a socket bearing and the other of said members having a transversely extending pin provided with a globular end portion bearing in said socket.

6. In a latch structure: a casing having a shelf and a member comprising two arms; a latch bolt swingably mounted on one of said arms and having a lateral movement to and from retracted supported position on the shelf, the other arm of said member being a spring urging said bolt to supported position on the shelf.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 19th day of June, 1930.

GORDON E. ROEDDING.