

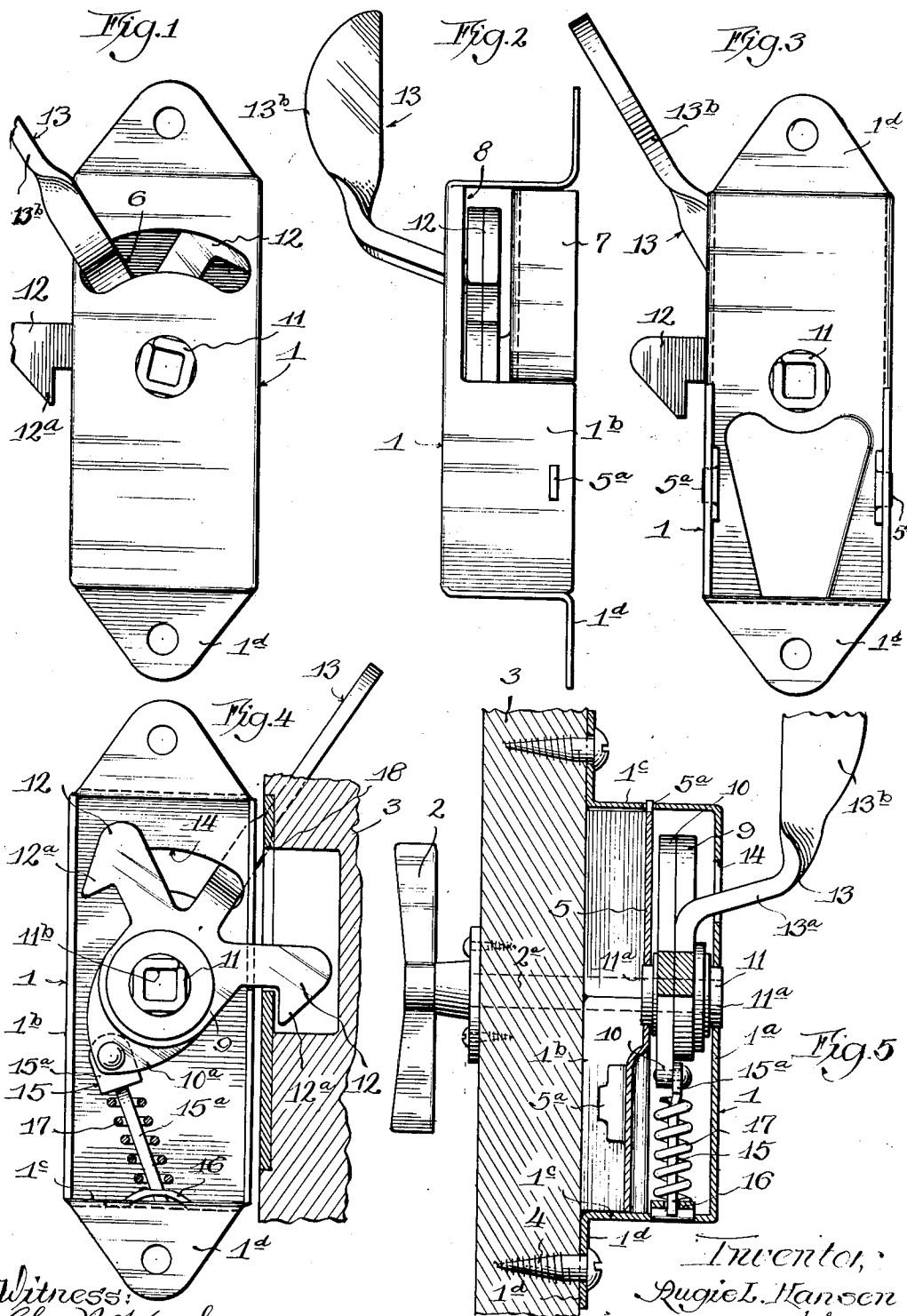
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SLIDING DOOR LATCH

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UNITED STATES PATENT OFFICE.

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SLIDING-DOOR LATCH.

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To all whom it may concern:

Be it known that I, AUGIE L. HANSEN, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Sliding-Door Latches, of which the following is a specification.

This invention relates to improvements in sliding door latches and more particularly to latches adapted for use for the sliding doors of cabs or driving compartments of commercial motor vehicles.

The object of the invention is to provide a latch of practical and inexpensive construction and one readily applied to the sliding door without mortising or blocking, as is ordinarily required in the application of latches.

In its general characteristics the latch embodying the present invention is similar to that disclosed in application filed by Edward E. Collison, Serial Number 23,470, filed April 16, 1925, namely a latch so designed as to lock the door in either open or closed position. Several distinctive improvements have been incorporated in the latch disclosed herein, among which may be mentioned the fact that the latch is almost completely made of sheet metal stamping, which contributes greatly to the lower cost of production by the elimination of machined parts, and further by the addition of a handle forming an integral part of the latching member and serving to operate the latch from the inside of the cab or enclosure.

A preferred embodiment of the latch is disclosed in the accompanying drawings, in which:

Figure 1 is a view in front elevation of the latch;

Figure 2 is a view in side elevation of the latch;

Figure 3 is a view in rear elevation of the latch;

Figure 4 is a view in rear elevation with the rear plate removed to show the construction of the latching member; and

Figure 5 is a view in vertical section of the latch showing its application to a sliding door.

The latch is designed to be mounted at the forward edge and against the inner face of a sliding door, as clearly shown in Figure 5, and operates from the outside by a

T-handle 2, having a square shank 2^a extending through a hole bored through the door-frame to the latch.

The latch comprises the usual latch casing 1, enclosing the latching parts, and is preferably formed from sheet metal stamped in blank form and bent to form front, side and end walls 1^a, 1^b and 1^c, respectively, together with ears 1^d extending outwardly in opposite directions from the end walls 1^c, and in the plane of the rear edges of the side and end walls. Screw holes are stamped in these ears 1^d, through which screws 4 pass for fastening the latch casing to the door-frame. Spaced inwardly from the front wall 1^a, a distance of substantially half the depth of the latch casing, is a rear wall 5 which forms with the front wall the compartment containing the latch member 6. The rear wall 5 is fixed within the latch casing by means of lugs 5^a and 5^b, said side walls having their upper portions cut away, as clearly shown in Figure 2, this cut away portion being partially closed by side flanges 7 extending throughout the upper portion of the rear plate 5, and thus providing vertically extending slots 8, through which the latching heads of the latching member project, as will presently be described.

The latching member 6 is preferably made of two stampings, 9 and 10, of sheet metal assembled in flatwise contact on a hub 11, likewise of sheet metal, and having annular bearing portions 11^a at each end, which engage and turn within circular openings formed in the front wall 1^a and rear wall 5 of the latch casing. A square bore 11^b extends lengthwise of the hub and receives the end of square shank 2^a of the T-handle 2. The two plates, 9 and 10, forming the latching member, have corresponding portions projecting radially from the hub in a general outward and upward direction and form a pair of latching heads 12—12. These latching heads are of the usual shape having a downwardly extending detent 12^a which forms a shoulder which engages the striker plates in the door frame. Formed integral with the outermost plate 9 and extending radially from the hub midway between the latching heads 12—12 is a handle 13 bent substantially at right angles immediately above the hub to form a shank 13^a which passes through a curved

slot 14 in the front wall 1^a of the latch casing. Beyond the shank 13^a the handle is twisted to form the handle proper 13^b extending above the latch casing. As clearly shown in Figure 4, the plate 9 terminates below the hub in a rounded extremity eccentric with the axis of the hub, whereas the inner plate 10 projects below the outer plate 9 in a more pointed extremity 10^a. Pivotaly connected to the downward projecting end 10^a of the plate 10, is a pin 15 consisting of a head 15^a and a shank 15^b extending downward with its lower end passing through an aperture 16 in the lower end wall section 1^c of the latch casing, the metal immediately around the opening 16 being pressed upwardly and into the latch casing, as clearly shown in Figure 5, so that the end of the pin may slide in the slot without projecting below the end wall 1^c.

Surrounding the pin 15 is a coil spring 17, bearing at its lower end against the end wall 1^c and at its upper end against the head 15^a of the pin 15. The spring is under compression and thus exerts pressure against the movement of the latching member in either position. Thus, in Figure 1, the latching member is shown as swung to the left in which the left-hand latching head 12 is in a horizontal position. In Figure 4 the latching member is shown as swung to the right with the right-hand latching head in a horizontal position and projecting from the side of the latch casing, engaging the striker plate 18, mounted in the door-frame. Thus it may be assumed that the latching member in one position (Figure 1) latches the door in closed position and in the other position (Figure 4) latches the door in open position. In either case when one locking head is in locking position the other is withdrawn into the latch casing, and, therefore, entirely enclosed. The movement of the latching member from one side to the other is accomplished by the toggle-like action of the pin and spring at the lower end thereof, so that as the latching member is turned, either by the T-handle 2 or the inside handle 13, the spring opposes the movement until the pin reaches a vertical dead center position and then as the toggle breaks the spring acts to throw the latch from the dead center into the latching position. Thus, it will be seen that by turning the latching member so as to unlatch one latching head it is shifted to bring the other latching head into latching position, so that when the door comes to a stop in either open or closed position, the latching takes place automatically.

Having disclosed the preferred embodiment of the invention, I claim:

1. A latch comprising a latch casing, a latch member mounted in said latch casing

for oscillatory movement and comprising oppositely disposed latching heads, adapted to be alternately shifted into latching position in the movement of said latching member, and a handle integral with said latching member and extending through one side of said latch casing.

2. A latch comprising a latch casing adapted to be fastened to one face of a sliding door, a latching member journaled in said latch casing for limited oscillatory movement in opposite directions and comprising a pair of angularly disposed latching heads adapted to be alternately thrown into latching position on opposite sides of said casing, a handle extending through said door for shifting said latching member from one side of said door, and a handle integral with said latching member and extending from said latch casing for actuating said latching member from the opposite side of said door.

3. A latch comprising a latch casing adapted to be fastened on one side of a sliding door, a latching member journaled in said latch casing for limited oscillatory movement in opposite directions and comprising a pair of angularly disposed latching heads adapted to be alternately thrown into latching position on opposite sides of said casing, tension means acting on said latching member in its movement in opposite directions, and a handle integral with said latching member and extending from said latch casing for actuating said latching member from the same side of said door.

4. A latch comprising a latch casing adapted to be mounted on the inside of a sliding door, a latching member mounted in said latch casing and comprising a hub portion, a pair of latching heads extending laterally from said hub portion, and a handle extending radially and laterally from said hub portion substantially midway between said latching heads, and projecting through a slot in said latch casing.

5. A latch comprising a latch casing adapted, to be mounted on the inside of a sliding door, a latching member mounted in said latch casing and comprising a hub portion, a pair of latching heads extending laterally from said hub, and a handle intermediate said latching heads and extending from said casing and radially from said hub portion intermediate said latching heads, a pin hinged to said lock member and extending radially therefrom in substantial alignment with said handle, the end of said pin engaging an aperture formed in said latch casing, and a compression spring mounted on said pin and bearing against said latch casing around said aperture.

6. A latch comprising a latch casing adapted to be mounted on the inside of a sliding door, a latching member journaled in

said latch casing and comprising a hub portion, a pair of latching heads extending radially in opposite directions from said latching heads, a pin hinged to said latching member, the free end of said pin engaging an aperture in the adjacent wall of said latch casing, and a compression spring surrounding said pin and having its ends opposite the hinged end of said pin and the latch casing adjacent the free end of said pin.

7. A latch comprising a latch casing adapted to be mounted on the inside of a sliding door, a latching member journaled in said latch casing and comprising a hub portion, a pair of latching heads extending radially in opposite directions from said latching heads, a pin hinged to said latching member at a point intermediate said latching heads and extending radially therefrom

with its free end engaging an aperture in a depressed portion of the adjacent wall of said latch casing, and a compression spring mounted on said pin.

8. A sliding door latch lock comprising a latch casing adapted to be fastened against one side of a sliding door, a latching member journaled for limited oscillatory movement in said latch casing and comprising a hub portion, an angularly disposed pair of latching heads, and an integral handle projecting through a slot in said latch casing, and a handle mounted on the opposite side of said door and having a shank extending through said door and engaging the hub portion of said latching member.

Signed at Chicago, Ill., this 5th day of June, 1925.

AUGIE L. HANSEN.