Feb. 9, 1926. 1,572,293

M. H. JUDGE

DOOR LATCH

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Fig. 1.

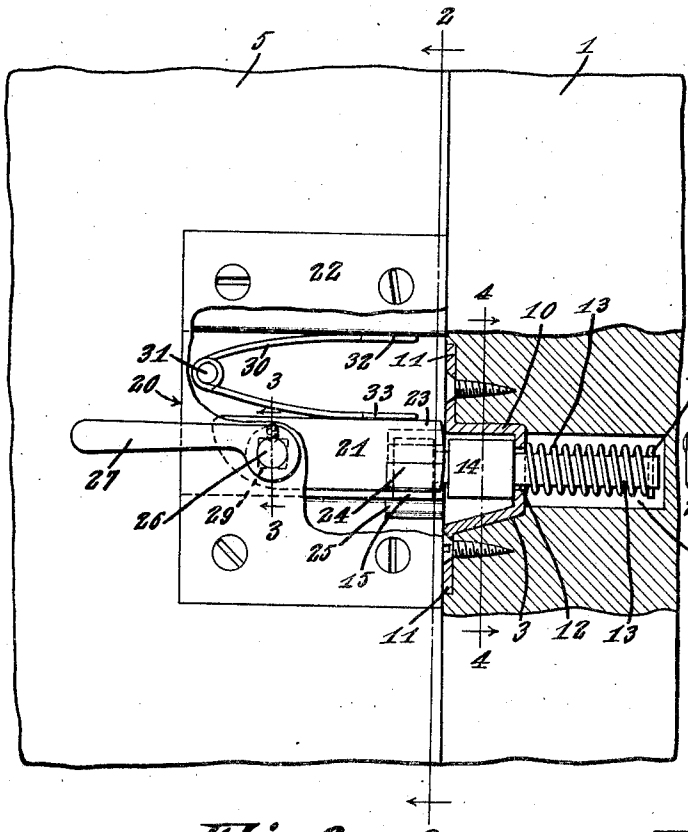


Fig. 2.

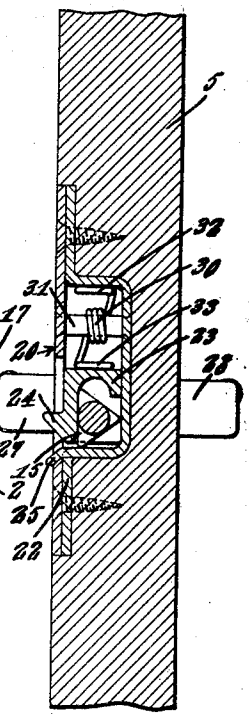


Fig. 3.

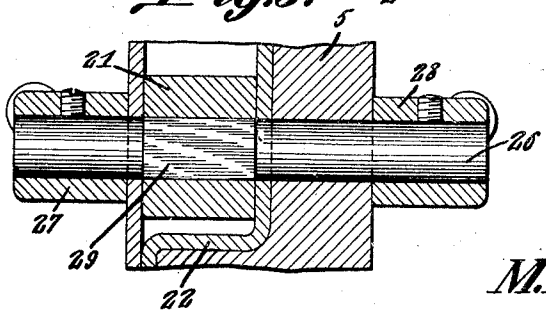
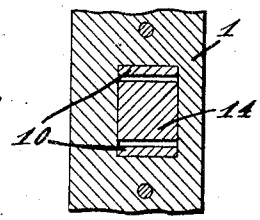


Fig. 4.



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DOOR LATCH

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Fig. 5.

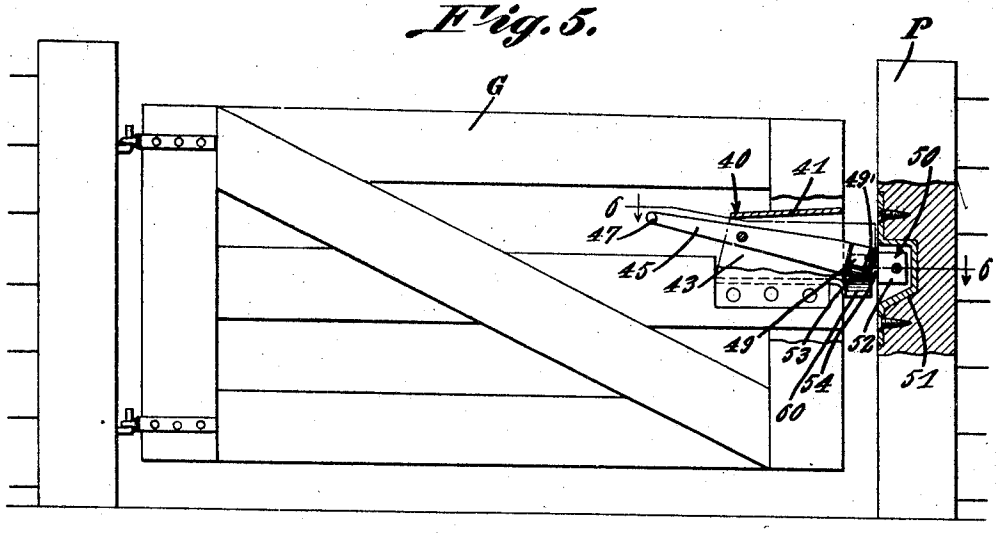


Fig. 6.

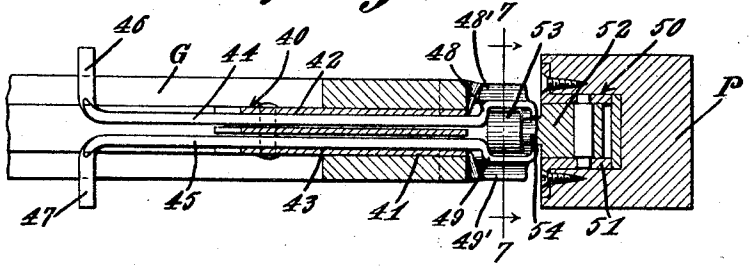
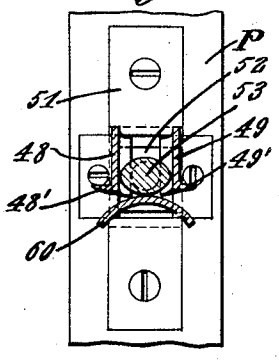


Fig. 7.



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Patented Feb. 9, 1926. 1,572,293

UNITED STATES PATENT OFFICE.

MICHAEL H. JUDGE, OF GREELEY, NEBRASKA.

DOOR LATCH.

Application filed October 11, 1923. Serial No. 667,962.

To all whom it may concern:

Be it known that I, MICHAEL H. JUDGE, a citizen of the United States, residing at Greeley, in the county of Greeley and State of Nebraska, have invented a new and useful Door Latch, of which the following is a specification.

This invention relates to latches for doors, gates and the like.

The object of the invention is to provide a latch of this character which is simply constructed and easily operated and may be closed by a gentle pressure and when closed will not open by jolts and jars and in which there is no strain on either the latch or housing during its operation.

Another object is to provide a latch of this character in which the catch is reversible to adapt the door or other closure carrying the cooperating latch to open from either side.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 represents a front elevation with parts broken out and in section of a door and its jamb equipped with this improved latch;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a detail transverse section taken on the line 3—3 of Fig. 1;

Fig. 4 is a similar view taken on the line 4—4 of Fig. 1;

Fig. 5 is a view similar to Fig. 1 showing the application of the invention to a gate;

Fig. 6 is a horizontal section taken on the line 6—6 of Fig. 5; and

Fig. 7 is a detail transverse section taken on the line 7—7 of Fig. 6.

In the embodiment of the invention illustrated in Figs. 1 to 4 a door jamb 1 is shown with which a door 5 cooperates, and which may be the door of an automobile. The jamb 1 has a socket 2 extending transversely thereof with its front portion enlarged at 3 to receive a housing 10 constituting a part of the latch mechanism. This housing has oppositely extending flanges 11 countersunk in the edge of the jamb and secured by screws. The rear wall of the housing has an opening 12 through which extends the shank 13 of the catch member the body portion 14 of which is mounted in the housing 10. The front end of the catch has a triangular head 15 which projects beyond the jamb 1 into the path of the latch 20 on the door 5 and which will be presently more fully described.

A coiled spring 16 is mounted on the shank 13 of the catch between the housing 10 and a stop 17 on the inner end of the shank and exerts its tension to hold the catch retracted and prevents its rattling and yet permits it to pivot in the opening 12.

The latch member proper comprises a vertically movable member 21 mounted in a housing 22 housed in the door 5 and opening through the edge thereof. This member 21 has a recessed head 23 to fit over the head 15 of the catch when the door is closed as shown in Fig. 1. This head 23 has an upturned beveled lip 24 on its lower side edge which cooperates with a downturned lip 25 on the housing 22 to provide a mouth having flared lips for the entrance of catch head 15 on the closing of the door.

A pin 26 extends transversely through the housing 22 and projects on opposite sides of the door to which ends are fixed handles 27 and 28 to adapt the latch to be opened from either inside or outside the automobile. This pin has an angular portion 29 to which the member 21 is fixed so that on the turning of the pin 26 through either handle the member 21 will be lifted against the tension of spring 30 to release catch head 15 and permit the door to open.

The spring 30 as shown is made in the form of a heavy wire wound intermediate its ends around a pin 31 mounted in the housing 22, the ends 32 and 33 of said wire extending in the same direction being spaced apart and one bearing on the upper edge of member 21 and the other against the housing, said spring exerting its tension to force member 21 into locking position permitting it to rise on the entry of the nose of the triangular head 15 on the closing of the door.

In the use of this latch the parts being in the position shown in Fig. 1 with the door 5 closed, when it is desired to open the door

the handle on either side of the door is moved down thereby raising member 21 against the tension of spring 30 releasing the head 23 from head 15 thus permitting the door to be readily swung open. The door may be closed by a gentle inward pressure which will cause latch head 15 to enter between lips 44 and 45 thereby raising member 21 automatically which will drop back into closed position under action of spring 30 after the head 15 passes into the recess in head 23 thus automatically locking the door in closed position.

It will thus be seen that the door may be easily opened or closed and when closed cannot open until manually released.

In the form shown in Figs. 5 to 7 the latch embodying the invention is shown applied to a gate G of ordinary construction the latch member 40 being carried by the gate and the catch member 50 by the post P.

A housing 51 similar to the housing 10 of the other figures is mounted in a recess in the inner face of the post P and in which is pivotally mounted the body 52 of the catch while the head 53 thereof projects beyond the post and is connected with said body by a neck 54. The head 53 is elliptical in cross section, (see Fig. 7) to facilitate its engagement with the catch on the closing of the gate from either side.

The latch member 40 includes a housing 41 mounted in the front portion of the gate and which is divided into two compartments 42 and 43 in each of which is pivotally mounted a latch member numbered 44 and 45. These latches project at their rear ends through the housing 41 and are bent laterally in opposite directions to form hand grips 46 and 47 to be engaged from opposite sides of the gate. The front ends of these members 44 and 45 merge into catch engaging heads 48 and 49 between which the head 53 of the catch is designed to be held when the gate is closed as shown in Fig. 6. These heads 48 and 49 are provided on their lower edges with outwardly extending upturned lips 48′ and 49′ designed to cooperate with downturned curved lips 60 carried by the lower wall of the housing 41 which extends in advance of the gate and between which and the latch lips the head 53 will enter on the closing of the gate without necessitating manual lifting of the latch members.

It will be obvious that either latch member may be raised to release head 53 and the gate swung in either direction.

The flexible mounting of the catch members in both forms of the invention provides for their easy working up and down without strain on the latch or housing.

I claim:

1. The combination of a pivotally mounted catch member having a head, and a latch member having a hollow head to fit over said catch head, said latch being pivoted to swing into and out of engagement with said catch.

2. The combination of a pivotally mounted catch member having a head, and a latch member pivoted intermediate its ends with one end shaped to fit over and enclose said catch head and its other end provided with a handle, a spring firmly holding said latch member engaged with said catch head, and means to permit the entrance of said catch head within said latch member.

3. The combination with a fixed and a movable member, a vertically movable catch member carried by said fixed member, a latch pivoted intermediate its ends on said movable member and having a recessed head to fit over said catch member and interlockingly engage therewith, said latch head and movable member having flared lips for the entrance of the catch between them.

4. The combination with a door and its jamb, the jamb having a socket opening through its front face; of a housing mounted in said socket and having an opening in its rear wall, a catch member having a body portion mounted in said housing with a shank extending through the opening therein and projecting into said socket, a coiled spring on said shank to hold it yieldably in operative position, a head on the front end of said catch body, and a latch carried by the door and having a hollow head to fit over the catch head to secure the door in closed position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

MICHAEL H. JUDGE.