Nov. 16, 1943. J. J. McCULLOCH 2,334,426

LATCH

Filed Dec. 1, 1942

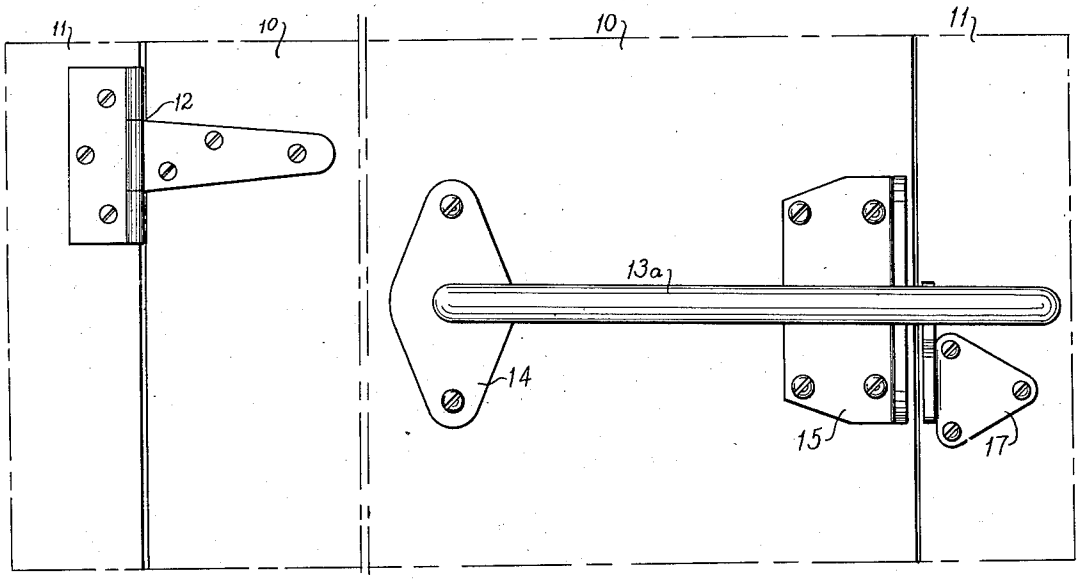


FIG. 1

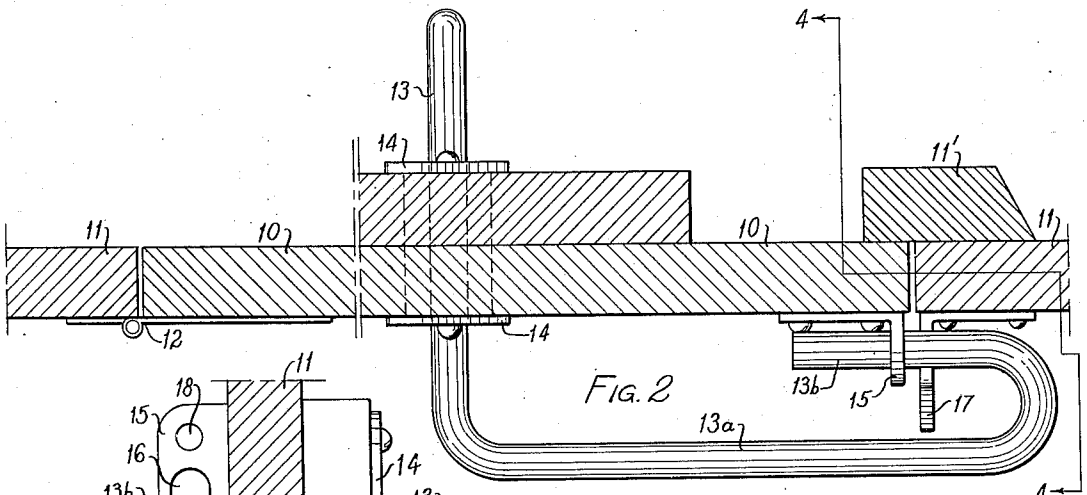


FIG. 2

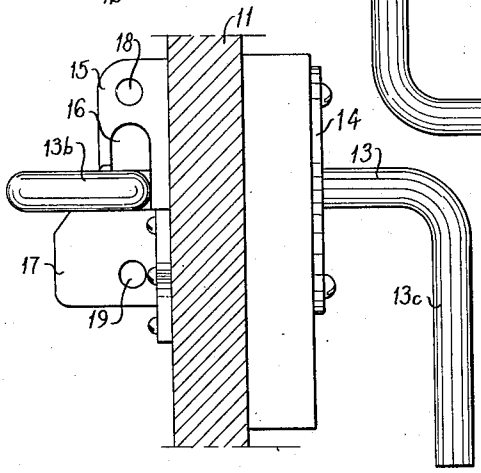


FIG. 4

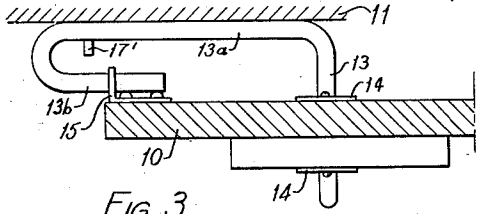


FIG. 3

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2,334,426

LATCH

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Application December 1, 1942, Serial No. 467,528

3 Claims. (Cl. 292—238)

This invention relates to latches, and more particularly to latches of that type wherein the functions of handle and latch are combined in a single assembly especially adapted for use on doors of barns, sheds, garages, shops, and on similar hinged closure members, and has as an object to provide an improved latch of the character set forth.

A further object of the invention is to provide an improved latch of the character described susceptible of facile installation on closure members to provide a latch-operating handle on each side of such closure member.

A further object of the invention is to provide an improved latch and handle assembly susceptible of operative installation on closure members irrespective of the thickness of said members or the relative position or direction of opening motion of the free margin of such members.

A further object of the invention is to provide an improved latch and handle assembly operable to latch a closure member in either open or closed relation with the opening served thereby.

A further object of the invention is to provide an improved latch and handle assembly that is simple and inexpensive of manufacture and installation, positive and efficient in operation, durable in use, and adapted to specific application throughout a wide field of varying constructions.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawing, in which—

Figure 1 is a fragmentary front elevation of my improved latch as operatively installed on a conventionalized closure member, certain portions of the showing being broken away to conserve space. Figure 2 is a top plan view, partly in section, of the showing of Figure 1. Figure 3 is a detail plan, partly in section and on a reduced scale, illustrating the manner in which the improvement functions to latch its closure member in open position. Figure 4 is a fragmentary, detail section taken on the indicated line 4—4 of Figure 2.

In the construction of the improvement as shown, a conventionalized closure member, such as a door or the like, is designated generally by the numeral 10 and is shown in closing relation with an opening formed in a conventionalized wall construction 11, said closure member having one margin hinged, as at 12, to the wall 11 for engagement of the free margin of said member against a fixed stop 11' carried by the wall 11, all of which is common and well-known practice.

Adjacent and spaced somewhat from the free margin of the closure member 10, a straight bore is formed perpendicularly through said member to loosely receive an intermediate straight portion 13 of a cylindrical metal rod which extends through and projects at each end beyond the surfaces of said member. A pair of bearing plates 14, each formed with a central hole of a size to fit closely about the rod portion 13, is arranged one on each side of the member 10 in fixed covering relation with the ends of the bore therethrough and receive the rod portion 13 through their alined holes, thus mounting said rod portion for rotation and axial reciprocation relative to the closure member 10 and bearing plates 14. On the latch side of the closure member 10, an extension of the rod portion 13 is bent through an angle of substantially ninety degrees to provide a handle portion 13a disposed in spaced parallelism with the surface of the closure member and extending across and beyond the free margin thereof. At a point well beyond the free margin of the closure member the rod forming the handle portion 13a is bent through an angle of substantially one hundred and eighty degrees to dispose the terminal portion of said rod in spaced parallelism with said handle portion 13a and in a plane common to the rod portion 13 and handle portion 13a, in which position said rod terminal portion constitutes a latch bar 13b closely adjacent the surface of the closure member 10 and extending axially across the free margin of said member. The extension of the rod portion 13 on the stop side of the closure member projects perpendicularly from said member for a distance, then is bent, preferably downwardly, through an angle of substantially ninety degrees to form a straight handle portion 13c in spaced parallelism with the surface of the closure member and in substantially perpendicular relation with the plane common to the rod portions 13, 13a and 13b. With the arrangement of rod portions shown and described, both handle portions 13a and 13c are available to rotate the rod portion 13 in its journaled relation through the closure member and bearing plates 14 and thereby move the latch bar 13b through a limited arc along the free margin of the closure member.

A limiting guide or keeper for the latch bar 13b is formed as an angle plate 15, one web of which is adapted to be secured to the closure member 10 so as to position its other web in alinement with and projecting outwardly from the free margin of said closure member, said projecting web being formed with a longitudinally-disposed, elongated slot 16 wherethrough the latch bar 13b is loosely received for guided oscillation between the end limits of said slot, said latch bar naturally resting, due to the unbalanced weight of the elements 13a and 13b, against the lower end of said slot.

For engagement by the latch bar 13b, a strike plate 17 is fixed to the wall 11 closely adjacent

the lower portion of the angle plate 15, said strike plate 17 being illustrated as an angle plate disposed with one web secured to the wall and its other web projecting at right angles therefrom to lie parallel and in closely spaced relation with the slotted web of the angle plate 15, the projecting web of the strike plate 17 extending outwardly beyond the parallel web of the angle plate 15 and being formed with a downwardly and outwardly inclined upper margin leading to an upwardly-opening notch registering with a lower portion of the slot 16 wherein the latch bar 13b may be received when the closure member is closed, the inclined margin of the strike plate 17 being positioned for engagement by said latch bar as the closure member approaches closed position and acting to move said latch bar upwardly against the influence of gravity to permit full closing of the closure member, said latch bar dropping into latching engagement within the notch of the strike plate when the closure member engages its stop 11'. Manual pressure applied to either of the handle portions 13a or 13c in a direction to move the latch bar 13b upwardly through the slot 16 acts to disengage said latch bar from the notch in the strike plate and thereby permit opening of the closure member. Holes 18 are formed through outer corners of the slotted web of the angle plate 15, one of which, in any given installation of the device, is arranged to register with a similar hole 19 formed through the notched web of the strike plate 17, said registering holes being thus positioned in closely adjacent relation when the closure member is closed and latched so that locking means, such as the hasp of a padlock, may be inserted through said registering holes to securely lock the closure member in its closed position. A second strike plate, 17', identical with the strike plate 17 save in that the mounting web of the angle extends oppositely from the notched web, is included in the assembly of the improved latch so that the assembly may be operatively installed irrespective of the location or direction of opening of the free margin of the closure member, and said second strike plate may be mounted on the wall 11 in position to engage and latch about the handle portion 13a when the closure member is in full open position, as is indicated in Figure 3, thus providing means for positively latching the closure member in either its open or closed relation.

As will be clear from the foregoing, the improved latch may be reversed, inverted, and variously combined with the strike plates for operative installation on closure members hinged for actuation through horizontal arcs in any given direction of opening, thus providing a simple and efficient latch assembly having a wide range of useful application.

Since changes in the specific form, arrangement and combination of the elements shown and described may be had without departing from the spirit of the invention, I wish to be understood as being limited solely by the scope of the appended claims, rather than by any details of the illustrative showing and foregoing description.

I claim as my invention—

1. In a closure member latch, a combined latch bar and handle unit formed from and by bending a cylindrical rod of uniform diameter, said unit comprising a straight intermediate portion adapted to perpendicularly and rotatably intersect a closure member, a straight terminal portion on one end of and in perpendicular relation with said intermediate portion to form a handle disposable in spaced, parallel relation with one side of a closure member, another straight portion on the other end of and in perpendicular relation with said intermediate portion to form a second handle disposable in spaced parallelism with the other side of a closure member to project beyond the free margin of said member and at a right angle to the direction of said first handle, and a U-shaped bend defining the free end of said second handle to dispose the associated terminal portion of the rod as a latch bar lying in spaced parallelism with said second handle in the plane common to said second handle and intermediate portion and extending in close adjacency with and across the closure member free margin; together with a keeper on and adjacent the free margin of said closure member cooperating with said latch bar to limit movement of the latch bar and handle unit relative to its closure member.

2. In a closure member latch, a combined latch bar and handle unit formed from and by bending a cylindrical rod of uniform diameter, said unit comprising a straight intermediate portion adapted to perpendicularly and rotatably intersect a closure member, straight handle portions extending perpendicularly from the ends of said intermediate portion and at a right angle with each other for disposition in spaced, parallel relation with the opposite sides of a closure member, and a U-shaped bend defining the free end of one of said handle portions to dispose the associated terminal of the rod as a latch bar lying in spaced parallelism with its handle portion in the plane common to said handle portion and intermediate portion and extending in close adjacency with and across the closure member free margin; together with a keeper on and adjacent the free margin of the closure member and engaging about said latch bar to limit angular movement of said handle portions and axial displacement of said intermediate portion relative to the closure member.

3. In a closure member latch, a straight, cylindrical rod rotatably and perpendicularly intersecting a closure member, a terminal portion of said rod on one end of and at a right angle with the journaled rod portion to form a handle in spaced parallelism with one side of the closure member, a straight portion of said rod extending from and at a right angle with the other end of said journaled rod portion to form a second handle in spaced parallelism with the other side of the closure member and perpendicular to the first handle portion, a U-shaped bend defining the free end of the second handle portion beyond the closure member free margin and arranged to position the corresponding rod terminal as a latch bar closely adjacent and across the closure member free margin in spaced parallelism with the second handle portion, and a slotted keeper on and adjacent the free margin of the closure member engaging about said latch bar to limit angular movement of said handle portions and axial displacement of said journaled rod portion relative to the closure member.

JOHN J. McCULLOCH.