

A. W. WALKER.  
LATCH MOUNTING.  
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1,154,676.

Patented Sept. 28, 1915.

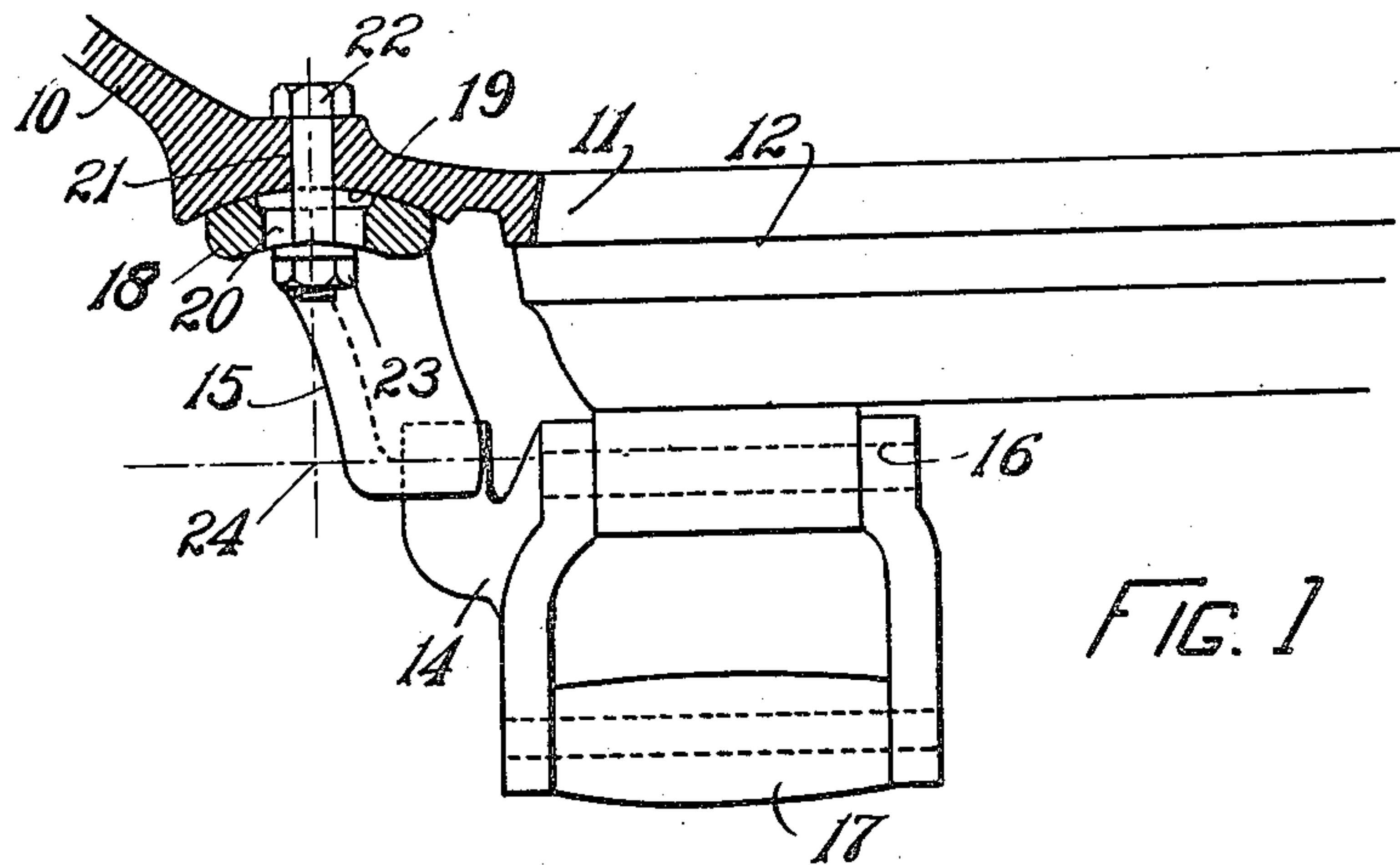


FIG. 1

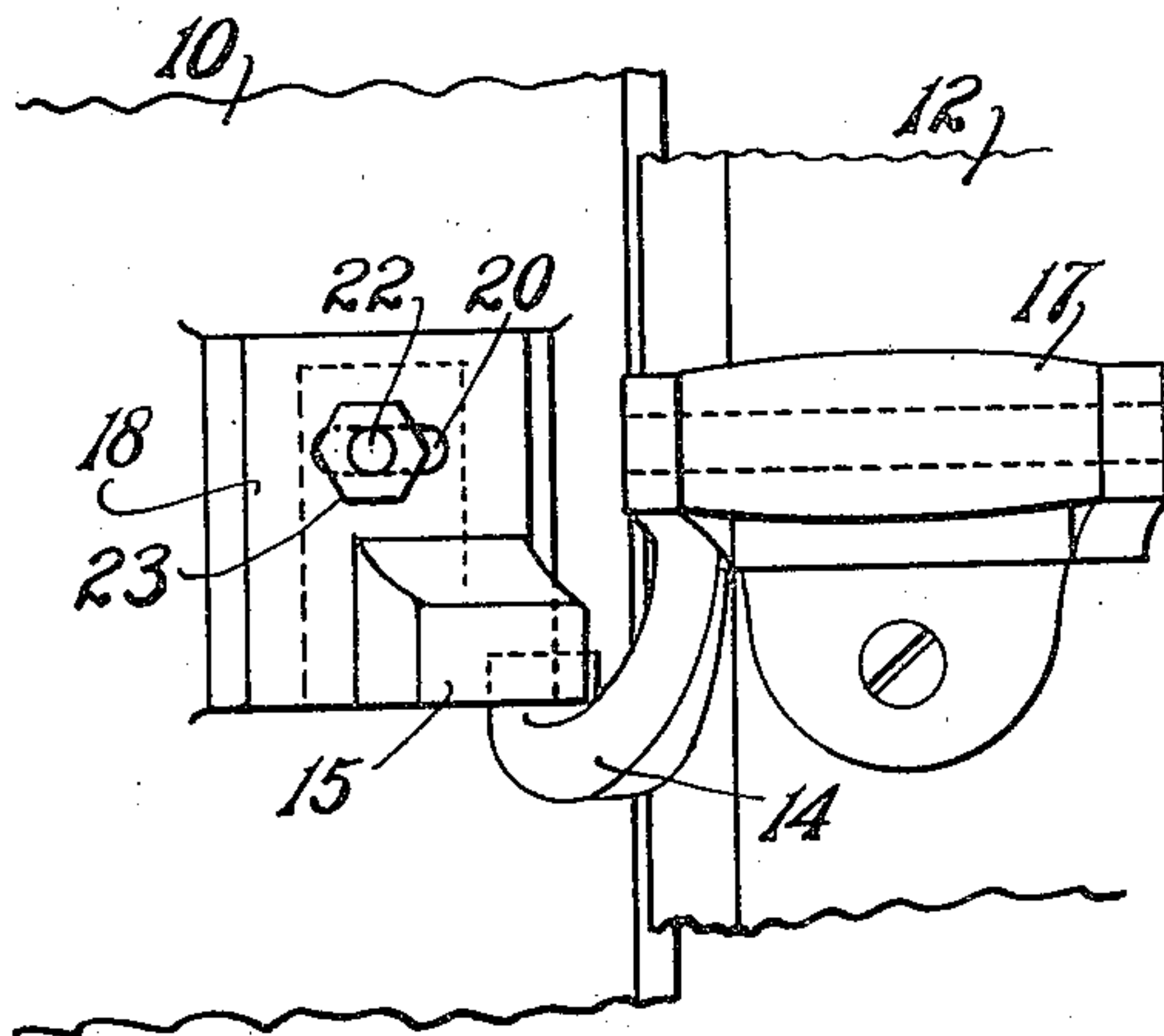


FIG. 2

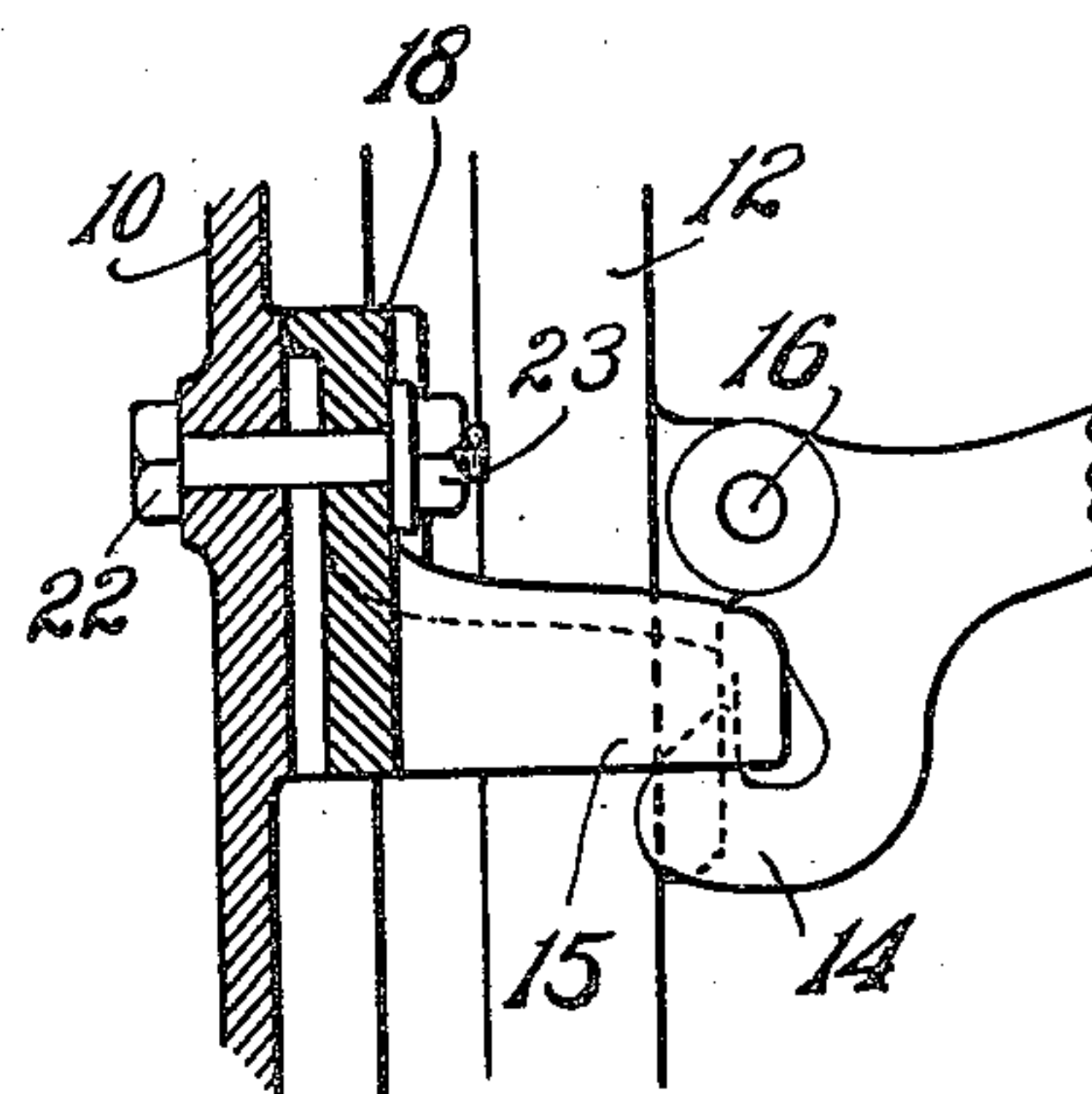


FIG. 3

WITNESSES

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# UNITED STATES PATENT OFFICE.

ARTHUR W. WALKER, OF MALDEN, MASSACHUSETTS.

## LATCH-MOUNTING.

1,154,676.

Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed January 26, 1914. Serial No. 814,312.

*To all whom it may concern:*

Be it known that I, ARTHUR W. WALKER, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Latch-Mountings, of which the following is a specification.

This invention relates to improvements in latch mountings.

More particularly it relates to means for providing adjustability of one member of the latch of a door, in a direction perpendicular to the plane of the door, under circumstances that do not permit the latch member as a whole to be moved in that direction.

Some means of adjusting the latch member in the direction perpendicular to the plane of the door and of the furnace front is desirable, but no method of doing that has heretofore been known so far as I am aware which does not involve cumbersome or otherwise unsatisfactory arrangements, particularly owing to the thinness of the parts and the fact that the adjustment is to be made in the direction in which the parts are so thin, and also to the fact that the presence of holes through the parts are undesirable.

It is the object of the present invention to provide a simple and inexpensive latch member which can be adjusted toward or from the furnace front by movement of a part along the face of the furnace front, without moving the latch member itself materially along the face of the furnace front.

It is a further object of the invention to provide this adjustability without any complication of parts or disfigurement of the design and in such a way that the adjustment can be altered and the latch member fixed at any time quickly in the precise desired position.

Details of the manner in which the objects of the invention are accomplished will be hereinafter described and pointed out in the appended claims, the purpose of the patent being to cover whatever features of patentable novelty exist in the invention disclosed.

The construction is illustrated in the accompanying drawings, in which—

Figure 1 is a plan showing the application of the invention to the door of the furnace; Fig. 2 is a front elevation of the adjustable

member of the latch; Fig. 3 is a side elevation of the same showing it in place.

Referring to the drawings, 10 indicates the front wall of a furnace or other structure having an opening 11 which is closed by a door 12. The door is represented as having a latch member 14 which is adapted to engage with another latch member 15 on the furnace front. The latch 14 is represented as being of a type which is commonly used, in that it is pivoted at 16, and is formed at the short end of a lever whose other end consists of a handle 17 heavy enough to hold the end 14 normally raised. This construction is best seen in Fig. 3, where it will be understood that when a person lifts the handle 17 its latch end 14 swings downward and thus clears the stationary latch member 15, so that the door can be opened; and also that when the open door is swung toward closed position, the inclined backs of the two latch members engage each other, with the result that the latch 14 is forced downward against the slight opposition of the weighted end 17, until the door is closed tight enough for it to slip upward into latched position. It will be obvious however, that the application of the invention is not limited to latches of this type.

The particular feature of the invention is found in the mounting of one member of the latch, in this case the member that is on the furnace front. This member has a base 18 formed with a section of cylindrical surface adapted to bear against the cooperating section of cylindrical surface 19 that is formed on the face of the furnace front. The cylindrical surface 19 extends, preferably, a little beyond the distance covered by the portion of a cylindrical surface which is embodied in the plate 18, so that the latter can be slipped to the right or to the left, on the curve, while still bearing solidly against the surface 19. A slot 20 passing through the plate 18, and a hole 21 passing through the adjacent part of the furnace front, permit a bolt 22 to penetrate both the furnace front and the plate, so that by the aid of a nut 23 the plate 18 can be clamped in any position, to the right or left, on the curved surface 19 of the furnace front. The bolt substantially fills its hole, so that the tightness of the furnace front is not disturbed.

Whenever the nut 23 is screwed up, the cylindrical surface of the plate 18 is drawn



against the cylindrical surface 19 of the furnace front and is consequently made fast in a position in which the two axes coincide, because the two cylinder surfaces extend  
 5 vertically and have equal radii. The position where their axes coincide is located in front of the furnace front and is a line extending vertically and being approximately in a plane parallel to the closed door and  
 10 passing through the position the operative face of the latch 14 is expected to occupy when the apparatus is complete. The latch member 15 which is supported on the base 18 projects far enough therefrom so that  
 15 when the slot 20 is in a medial position with respect to the bolt 22, this latch member stands in or close to said plane. Whenever the cylindrical base 18 is moved to a different position and has been clamped upon the  
 20 furnace front by the bolt 22, the net result is equivalent to a rotation of a cylinder of which the plate 18 is a part about an axis at the position 24, because its final position when clamped is determined by the cylindrical surface 19 which is formed about the  
 25 same axis.

Inasmuch as the latch face 15 is integral with the base 18, any rotative movement of the base 18 about the axis 24 is accompanied  
 30 by a similar rotative movement of the face of the latch member 15 about the axis 24; and owing to the location of that face approximately in a plane parallel to the furnace door the initial part of its rotative  
 35 movement is in a direction approximately perpendicular to that plane. The departure of such movement from perpendicularity of direction is not great enough to be material in the small distances through a plane parallel to the furnace door which the adjustment is to be carried out. Thus the latch  
 40 member 15 may be adjusted toward or from the plane of the closed door, or of the furnace front, and fastened by bolt 22 in the precise position where it ought to be for co-  
 45 operation with the door and the latch member 14 thereon. The incidental lateral movement of the latch member 15, to the right or left in Fig. 1, is so slight as to be negligible.

50 Thus it will be seen that the invention provides a simple and effective means by which an adjustment of the latch member in a direction toward or from the plane of the door may be made by a lateral movement of the  
 55 plate on which the latch member is mounted in what is substantially a direction parallel to the plane of the door; and although not actually in such a parallel direction, the movement is to the right or left on a curved

part of the furnace front, practically as if it were to the right or left on a flat part. 60

While the invention is illustrated as it may be applied to the member of the latch which is mounted on the furnace front, it will be obvious that it is not limited to that  
 65 arrangement, and that variations may be made in other respects. Thus, although the surface of the plate 18 is spoken of as cylindrical and bearing on the cylindrical surface of the part 19, portions of the surface of the  
 70 part 18 may be cut away as illustrated clearly in the drawing, leaving only terminal ridges at the edges to bear on the surfaces 19; and although the curvature is referred to as cylindrical, that being the preferable  
 75 form, it will be noted that other forms of transverse curvature might be substituted while still embodying the essence of the invention and obtaining characteristic benefits  
 80 of the invention.

I claim as my invention:

1. The combination, with a wall and a door, of a latch, including a member mounted on the wall and having a base, the base and said wall being adapted to bear upon  
 85 each other in various positions along a surface of cylindrical curvature; and means to fix the two together in said various positions; the latch member supported by said base being approximately in a plane passing  
 90 through the axis of said curvature and parallel to the door when closed, whereby the corresponding various positions of the said latch member form a line of adjustability substantially perpendicular to the said plane. 95

2. The combination, with a wall and a door, of a latch, including one member on the wall and another member on the door and adapted to engage therewith, one of these being adjustably mounted on its support; there being a curved surface between it and its supports whereon the adjustment may occur; and means to clamp it to its support to prevent movement at said surface; the center of said curvature being approximately in a plane passing parallel to the closed door through the point of engagement between the two members of the latch, whereby the said position of engagement, when adjusted, is adjusted in a direction  
 100 approximately perpendicular to the said plane of the door. 110

Signed by me at Boston, Mass., this 7th day of January, 1914.

ARTHUR W. WALKER.

Witnesses:

EVERETT E. KENT,  
 JOSEPH T. BRENNAN.