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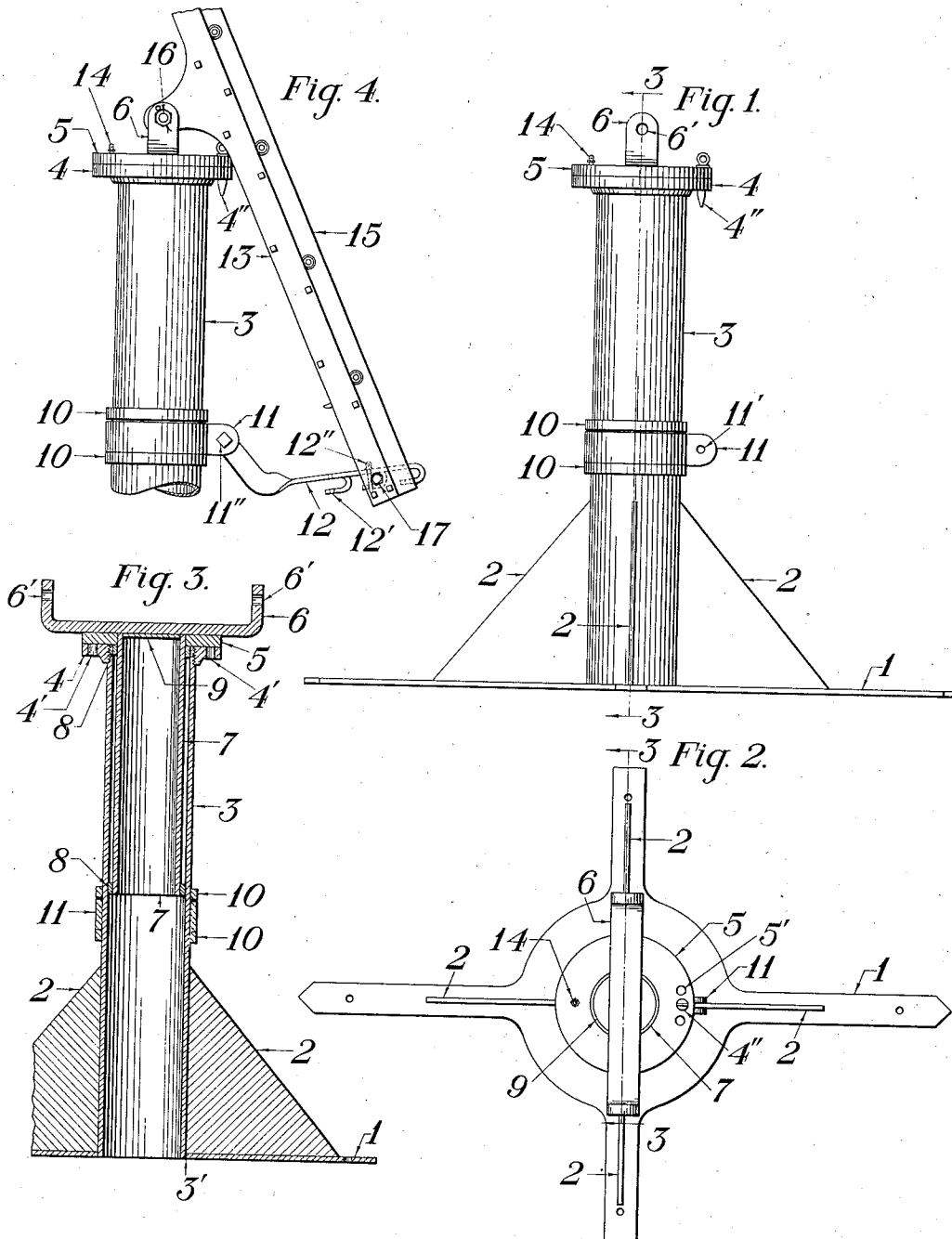
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2,026,535

LADDER MOUNT

Filed April 1, 1933

2 Sheets-Sheet 1



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Fig. 5.

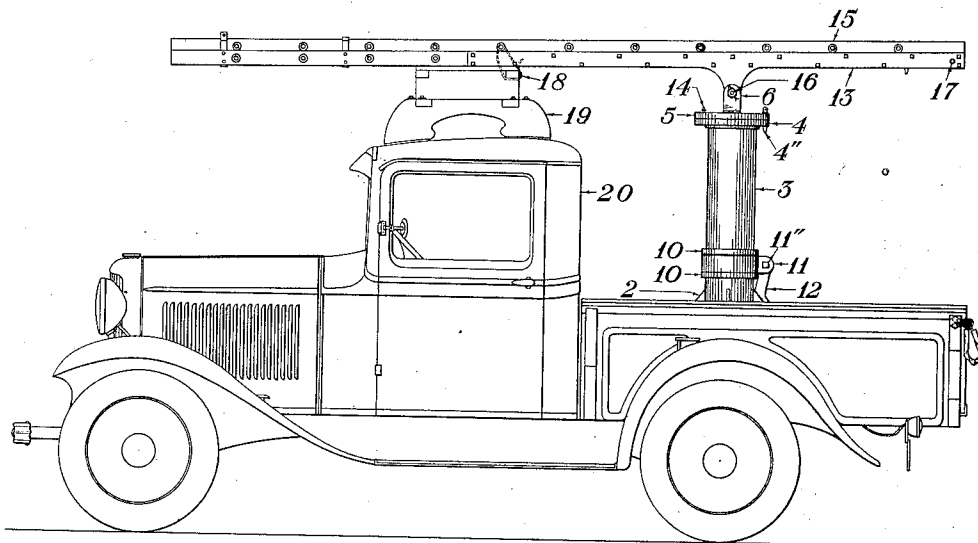
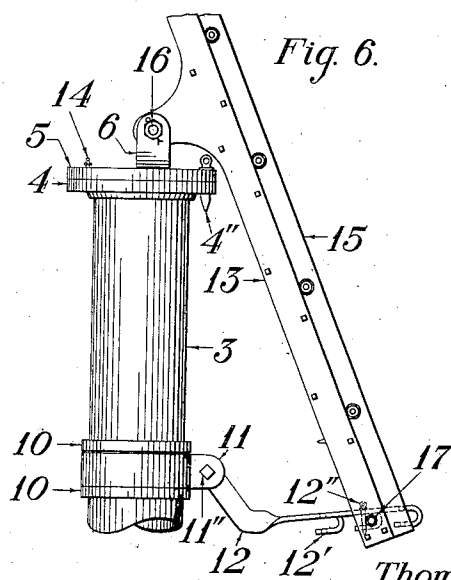


Fig. 6.

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LADDER MOUNT

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4 Claims. (Cl. 228—6)

This invention relates to the art of ladders, and more particularly to an improved ladder mount assembly.

While many methods of mounting ladders have been devised, all of those with which I am familiar are complicated and heavy, they usually require more than one man to operate unless power operating mechanism is employed, and they are not sufficiently simple and effective to render them suitable for general use, as for highway lighting repair trucks, and similar uses.

It is therefore an object of this invention to provide a new and improved ladder mount which is simple and easy to operate so that it can be operated by one man without the aid of power mechanism.

It is another object of this invention to provide a new and improved ladder mount which is adapted for attachment to a light truck and, when so mounted, can be conveniently carried thereon and elevated into position at will.

It is also an object of this invention to provide a new and improved ladder mount which is rotatable to any desired position when elevated, in order to enable the operator to reach over a parked vehicle or other obstruction.

With the above and other objects in view, which will be apparent as the description proceeds, I have set forth my invention in the following specification and have illustrated it in the accompanying drawings, in which:

Fig. 1 is an elevation of my improved turret ladder mount assembly.

Fig. 2 is a plan view thereof,

Fig. 3 is a central vertical section on the line 3—3 of Figs. 1 and 2.

Fig. 4 is a partial elevation showing details of the ladder attachment with the ladder in elevated position,

Fig. 5 is a side elevation of the complete ladder mount assembly positioned on a truck with the ladder in the carry position, and

Fig. 6 is a partial elevation corresponding to Fig. 4, but showing the ladder mounted off-center.

Referring to the accompanying drawings, and particularly to Figs. 1—3 thereof, my improved ladder mount preferably comprises a perforated steel base plate 1, which may be conveniently cut away for the sake of lightness to form spaced ribs, by means of which the entire self-contained ladder mount may be conveniently bolted to any desired supporting means. Mounted on said base, with the aid of steel gusset plates 2, is the main turret support for my ladder assembly,

which comprises a hollow column 3 formed of a standard steel pipe section. This is preferably seated in an orifice 3' in the base 1, and is preferably welded to said base. The gusset plates 2 are also preferably welded to both the base 1 and the column 3.

At its upper end, column 3 is externally threaded to receive a correspondingly threaded collar 4, which may conveniently be formed of a steel pipe flange. This provides a wide bearing friction surface for engagement with the rotative ladder attachment assembly.

The latter preferably comprises a mating steel collar 5 that is in turn provided with a yoke member 6 secured thereto in any desired manner, as by welding, and provided with aligned orifices 6' in its ends to receive a ladder pivot 16. Collar 5 is provided with a plurality of orifices 5' that are adapted to register with one of a series of orifices 4', in collar 4, to permit the secure fastening of the ladder in a desired rotative position. In practice I prefer to provide 12 of the orifices 4', spaced apart equally, and 3 of the orifices 5' spaced 15° apart at the rear of collar 5. The collars 4 and 5 are locked in any desired position by inserting a tapered pin 4'' in registering orifices 5' and 4'.

Collar 5 is also provided with a steel sleeve member 7 welded thereto and adapted to be telescoped into column 3, with which a tight fit is secured as thru the aid of two or more steel spacing collars 8 that are welded to the upper and lower portions of the sleeve member 7, thus preventing play between column 3 and the sleeve member 7. This also provides a snug fit for the ladder assembly and permits the securing of the maximum strength of the assembled parts. To render the interior of the rotative ladder attachment assembly waterproof, one or more plates 9 are welded to the sleeve 7 and to the yoke 6. These may be of any desired form, as a pair of segments or a single disc.

Two steel collars 10 are preferably spot welded to the external column 3, said collars being spaced apart to accommodate a rotatable split steel collar 11 snugly therebetween, said rotatable collar being preferably formed with clamping jaws having aligned orifices 11' to receive a pin 11'' for retaining a pivoted attachment link 12. The latter is preferably provided with a plurality of apertured hooks 12', either integral therewith or welded thereto, to permit a limited adjustment of the angle of elevation of a ladder 15, which may conveniently be bolted between a pair of steel side plates 13. The ladder assem-

bly, comprising the ladder 15 and the side plates 13, is pivotally secured to the yoke 6 by means of a pivot rod 16, and is secured to the link 12, when the ladder is in elevated position, by causing one of the hooks 12' to engage a rod 17 on the ladder assembly, against which it is securely held by inserting a pin 12'' through the hook apertures. Rod 17 is preferably a special steel rung securely fastened to the ladder frame 13, to give added strength, but it may be a rung of the ladder where desired.

A grease coupling 14 is provided in the collar 5 for lubrication of the bearing surfaces between the latter and the collar 4.

As indicated in Fig. 5, the ladder assembly is normally maintained in the carry or horizontal position by the weight of the ladder, although a strap 18 is provided for securing the ladder assembly to any convenient part of the supporting vehicle. In the present case the supporting means comprises a saddle 19 on a truck 20.

When it is desired to move the ladder to elevated position it is only necessary to undo the strap 18 and pull down on the short end of the ladder, to rock it on the pivot 16, and then secure it at the desired elevation by causing one of the hooks 12 to engage the rod 17 and securing it in this position with pin 12''. The ladder 15, which is of any desired type, may then be extended in any well known way, the details of the ladder itself and its method of extension forming no part of the present invention.

Owing to the rotatability of the ladder attachment assembly, including the ladder 15, side plates 13 and collars 5 and 11 on column 3, the ladder in the elevated position may be rotated to any desired point, thus enabling the operator to reach points forward, rearward or side ways of the supporting vehicle, regardless of obstructions which may be encountered adjacent and immediately beneath the overhead point which it is desired to reach.

The ladder attachment assembly may be locked in any desired rotative position in the construction illustrated at 15° intervals by means of the tapered pin 4''. It will be obvious, however, that I am not limited to any particular number or relation of the orifices 4' and 5', and that these may be varied to permit of securing any desired degree of adjustment. The locking of the ladder in a desired rotative position is of particular importance, both from a safety and an operating standpoint, where the supporting vehicle is not resting on level ground, as the resulting tilting of the column 3 would tend to cause a rotation of the extended ladder. This is prevented by the engagement of the pin 4'' with the orifices 4' and 5'.

Although various movable parts of my ladder mount are described herein as preferably made of steel, they may be made of any other suitable material. In practice, however, I prefer steel because of its availability in commercial forms, as well as its strength and durability.

I also prefer to make the column 3 and sleeve 7 out of standard seamless steel pipe sections because these are well adapted for the purpose and are readily obtainable, but other materials, including specially fabricated parts, may be used where desired.

As shown in Fig. 6, the ladder may be mounted on the central column or turret in off-center position, i. e., toward the rear of the column. This not only forms a more steady construction

when the ladder is in extended position, with the operator near the top thereof, but it facilitates the securing of the ladder at a higher angle of elevation.

It will thus be apparent that I have developed a new and useful ladder mount which is extremely simple in design and economical in construction. It is also easily operated by one man owing to its compactness and lightness, as well as simplicity, and provides a relatively inexpensive unit which may easily be attached to light weight trucks or other vehicles, to secure a means of speedy and economical patrolling, as in the case of the proper inspection and maintenance of street lights, highway lights and traffic lights.

My improved construction also provides a neat, compact and efficient structure which does not interfere with the driver's rear vision in a side mirror.

While welding, as by the use of acetylene or electricity, has been referred to herein as the preferred method of permanently uniting certain parts of my ladder mount, I do not wish to be limited thereto.

It will also be apparent that I have devised a self-contained ladder mount which is adaptable for 360° operation, and one in which the weight of the ladder in the operating position is entirely taken up on the central column or turret.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that I do not limit myself to the foregoing details of construction, except as indicated in the following patent claims.

I claim:

1. A ladder mount comprising a circular supporting column, a sleeve rotatably mounted on said column, a ladder pivotally secured to said rotatable sleeve, and means for removably securing the lower end of said ladder to said column, said means comprising a collar, means for limiting the raising and lowering of said collar without restricting its rotative movement, and rigid means for connecting the ladder to the collar.

2. A ladder mount comprising a circular supporting column, a bearing surface secured to the upper end thereof, a sleeve rotatably supported in said column and provided with a bearing surface for rotative engagement with said first mentioned bearing surface, means for pivotally securing a ladder to said second mentioned bearing surface, and means for locking said ladder in a desired rotative position.

3. A ladder mount comprising a circular supporting column, a sleeve rotatably mounted on said column, a ladder pivotally secured to said rotatable sleeve, and means for removably securing the lower end of said ladder to said column, said means comprising a split collar, means for limiting the raising and lowering of said collar without restricting its rotative movement, and rigid means for connecting the ladder to the split collar.

4. A ladder mount comprising a circular supporting column, a bearing surface secured to the upper end thereof, a sleeve rotatably supported in said column and provided with a bearing surface for rotative engagement with said first mentioned bearing surface, and means for pivotally securing a ladder to said second mentioned bearing surface.

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