Aug. 24, 1948. E. C. CHRISTENSEN 2,447,737

LATCH BOLT FOR TOWING POLES

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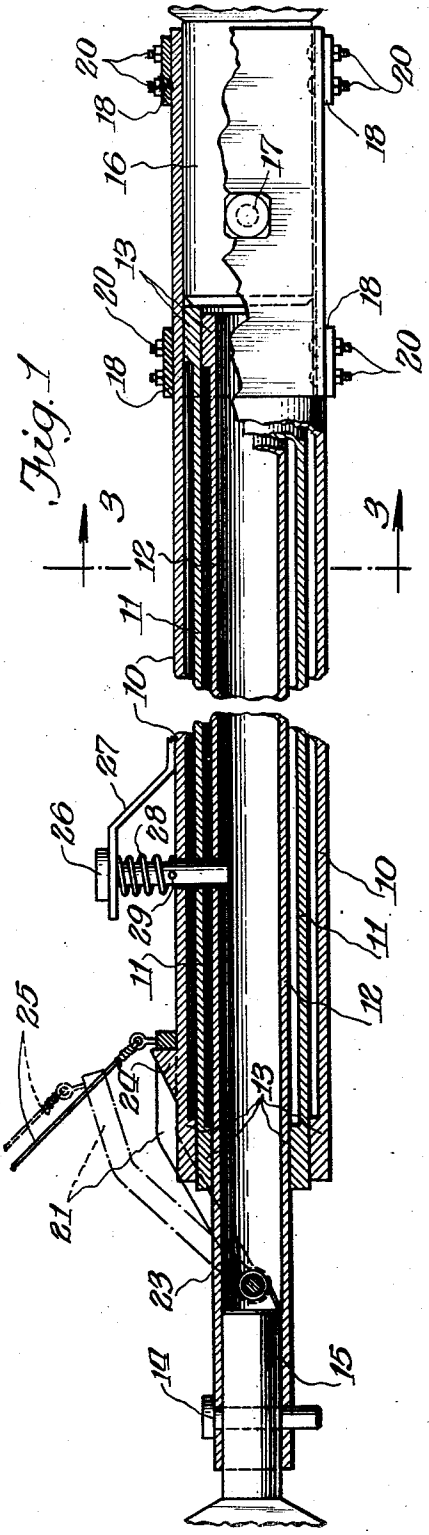


Fig. 1

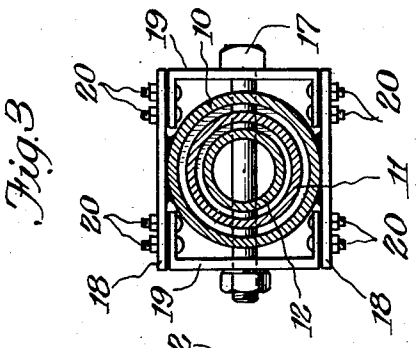


Fig. 3

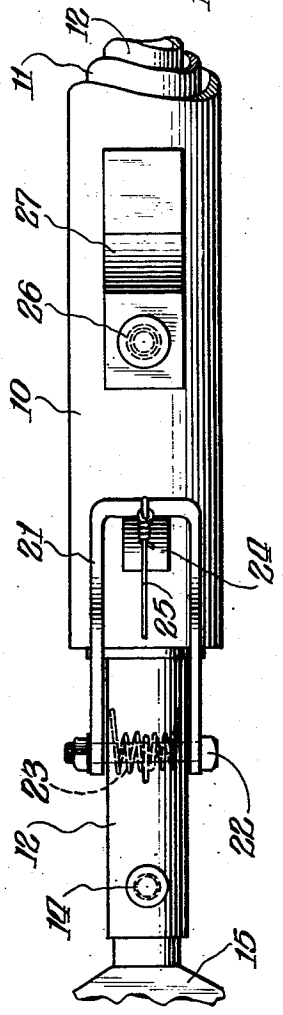


Fig. 2

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LATCH BOLT FOR TOWING POLES

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3 Claims. (Cl. 280—33.14)

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This invention relates to adjustable towing poles of the type disclosed by my Letters Patent No. 2,409,662, and has for its object the provision of a new and improved form and arrangement of parts by the use of which improved results may be had. It is one of the objects of the invention to provide improved latching means for holding the parts in their operative adjusted position, and improved means for locking the parts strongly together in such position for an effective application of power therethrough.

It is another object of the invention to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects are illustrated in the accompanying drawing, in which

Figure 1 is a central, vertical, sectional view through my improved mechanism;

Figure 2 is a top plan view of the portion of the device shown at the left in Figure 1; and

Figure 3 is a vertical sectional view taken substantially at the line 3—3 of Figure 1.

Referring now to the several figures of the drawing, in which corresponding parts are indicated by the same reference characters, 10, 11 and 12 indicate telescopically mounted tubes having shoulder portions 13 thereon, adapted by engagement with each other to limit the movement of the several tubes into their extended position with respect to each other toward the left in Figure 1. In the arrangement shown, the innermost tube 12 is connected by a pin 14 with a suitable hitch portion 15 of a tractor.

In the construction as illustrated, the outermost tube 10 is designed to be connected with a suitable traction member of a vehicle to be drawn, by means of a bolt 17, as shown at the right in Figure 1. For reinforcing and strengthening the construction, two pairs of plates 18 are secured in transverse position at the top and the bottom faces of said tube 10 by being welded in position. Channel bars 19 are secured in position between the end portions of the plates at opposite sides of the tube by means of bolts 20. The bolt 17 extends through suitable openings in the channel bars as well as through the walls of the pipe 10 and through the traction member 16.

Means is provided for latching the tubes 10, 11 and 12 in their shortened condition as shown in Figure 1, comprising a yoke 21 pivotally mounted on the innermost tube 12 by means of a bolt 22 which is non-rotatably connected with the arms of the yoke. A coiled spring 23 connected with the bolt and bearing on the wall of said tube 12 serves yieldingly to resist movement of the latch outwardly away from the end portion of the tube 10, serving thus normally to hold the latch releasably in operative engagement with a latch lug 24 on the outer face of such tube 10. The arrangement is such that, when the tubes 11 and 12 are moved toward the right in Figure 1 from extended position into retracted position as shown, the latch 21 rides up the inclined face of the lug 24, so as to snap into latching position for preventing the tubes from moving again to extended position. A cord 25 connected with the latch yoke 21 enables the operator readily to release the yoke from the lug 24 from his position on the tractor whenever it be desired.

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For locking the tube members 10, 11 and 12 rigidly in operative retracted position for preventing movement of one with respect to the others, I have provided a bolt 26 slidably mounted in a socket in a bracket 27 welded in position on the outer face of the tube 10. The bolt is normally held in operative holding position in openings in the walls of the tube by means of a coiled spring 28 mounted on the bolt between the bracket and a pin 29 carried by the bolt. With the bolt 26 in holding position as shown in Figure 1, power can be applied to advantage through the tube either backwardly or forwardly between the tractor and the vehicle.

Attention is directed to the use of bolt 26. This bolt 26 is carried by a bracket 27 attached at one end to the telescopic tube 10 and is equipped with an expansion coil spring 28 which bears against a pin 29 protruding from the side of the bolt 26, as shown. In attaching a vehicle to a tractor great care must be exercised lest injury to person or equipment is quite likely to result. By raising the pin 26 sufficiently the tubes 11 and 12 are free to slide outwardly extending the pole lengthwise. With the towing pole in extended position and connected to the vehicle to be towed a much greater leverage is afforded for swinging the pole into alignment for coupling to the tractor. After the towing pole is connected to the tractor by the pin 14 the tractor may be moved rearwardly until the yoke 21 engages the latch lug placing the bolt 26 in engagement with tubes 11 and 12 by the action of the spring 28, as will be readily understood. In disconnecting the towing pole from the tractor the bolt 26 with the aid of an assistant lifting the bolt 26 and allowing the tractor to move forwardly a short distance to free the bolt 14. The operator of the

tractor may then use the rope 25 after the bolt 14 has been removed to free the yoke 21 from the latch lug 24 without endangering the assistant or the equipment.

While I prefer to employ the form and arrangement of parts as shown by the drawing and as above described, the invention is not to be limited thereto except so far as the same may be specifically claimed, it being understood that changes might well be made in the form and arrangement of the parts without departing from the spirit of the invention.

I claim:

1. In a device of the type described, the combination of a plurality of telescopically interfitted tubular members, means for connecting the innermost one of said tubular members with a tractor, stop means for limiting the extension movement of said members with respect to each other, and means for connecting the outermost one of said tubular members with a vehicle to be drawn, comprising channel bars embracing said outermost tubular member at opposite sides thereof, transversely extending plates engaging the opposite face portions of said outermost tubular member between the flange portions of said channel bars, and bolts connecting said plates with said channel bars, with the arrangement such that when said last named bolts are tightened said plates have a tight grip on said tubular member.

2. In a device of the type described, the combination of a plurality of telescopically interfitted tubular members, means for connecting the innermost one of said tubular members with a tractor, stop means for limiting the extension movement of said members with respect to each other, and means for connecting the outermost one of said tubular members with a vehicle to be drawn, comprising channel bars embracing said

outermost tubular member at opposite sides thereof, transversely extending plates engaging the opposite face portions of said outermost tubular member between the flange portions of said channel bars, small bolts connecting said plates with said channel bars, with the arrangement such that when said last mentioned bolts are tightened said plates have a tight grip on said outermost tubular member, and means comprising a large bolt extending through said channel bars and through said tubular member for connecting the parts strongly in fixed position with respect to each other.

3. In a device of the type described, the combination of a plurality of telescopically interfitting tubular members, means for connecting the innermost one of said tubular members with a tractor, stop means for limiting the extension movement of said members with respect to each other, and means for connecting the outermost one of said tubular members with a vehicle to be drawn, comprising channel bars embracing said outermost tubular member at opposite sides thereof, transversely extending plates welded to said outermost tubular member between the flange portions of said channel bars, bolts connecting said plates rigidly with said channel bars, and a large bolt extending through said channel bars and through said tubular member for effecting a connection with a vehicle to be drawn.

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The following references are of record in the file of this patent:

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