

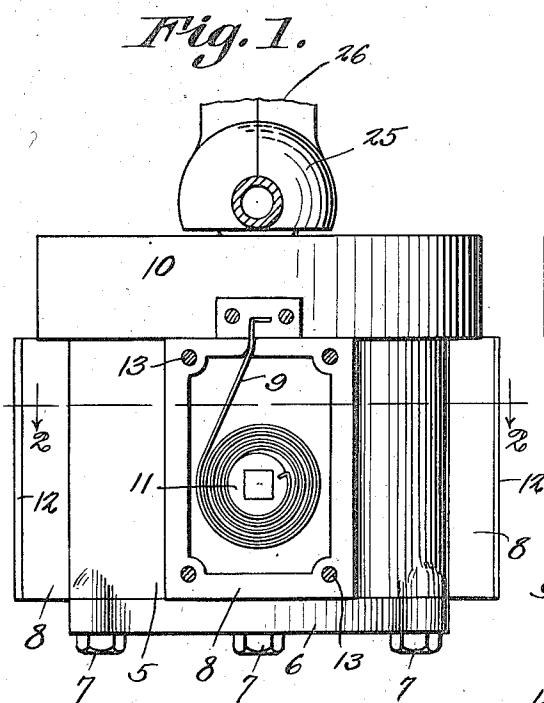
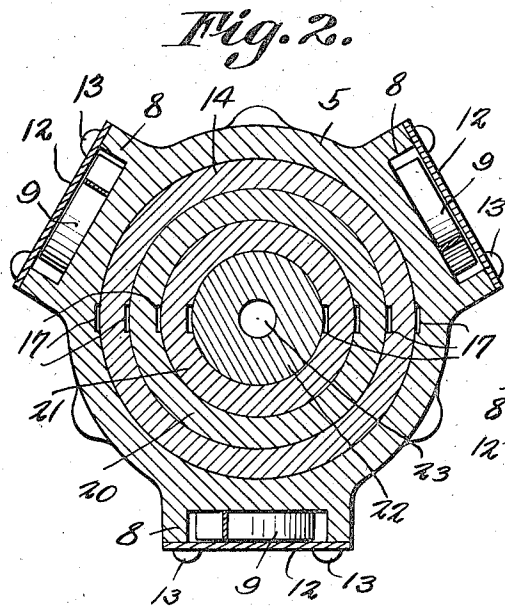
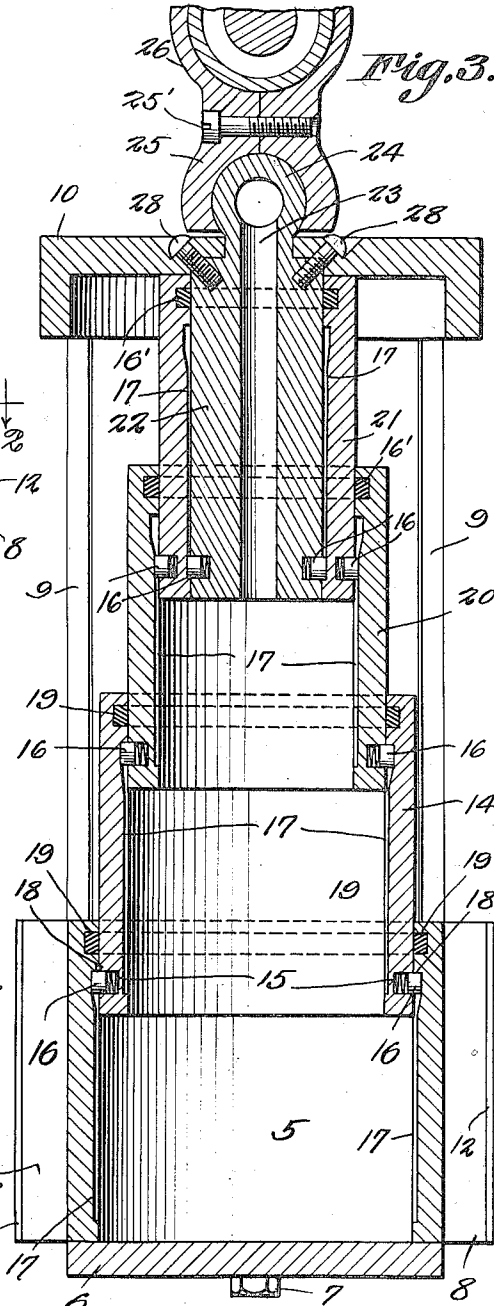
Sept. 26, 1933.

M. T. GOSS

1,928,533

JACK

Filed Jan. 20, 1933



M.T. Goss

Inventor

By

Cashner & Co.
Attorneys.

UNITED STATES PATENT OFFICE

1,928,533

JACK

Milford T. Goss, Duncan, British Columbia,
Canada

Application January 20, 1933. Serial No. 652,724

3 Claims. (Cl. 254—93)

This invention relates to motor vehicle jacks and more particularly to motor vehicle jacks of the hydraulic type, the primary object of the invention being to provide a jack of this character which may be secured to the axle of a vehicle, it being contemplated to provide four of these jacks for each vehicle, a jack being supported adjacent to each vehicle wheel.

Another object of the invention is to provide a jack which will operate rapidly with a true vertical movement under pressure directed to the jack, thereby insuring against the jack tilting under lateral strain, as is usual with well known lever operated jacks.

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.

Referring to the drawing:

Figure 1 is an elevational view of a jack constructed in accordance with the invention.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a longitudinal sectional view through the jack in its extended position.

Referring to the drawing in detail, the jack embodies a lower cylinder 5, which has its lower end closed by the plate 6, which is bolted to the cylinder 5, by means of the bolts 7.

The cylinder 5 is formed with external flanges providing housings 8, in which housings coiled springs 9 are mounted, the springs 9 extending through slots in the upper ends of the housings, as clearly shown by Figure 1 of the drawing.

The springs 9 are secured to the cap or cover 10, while the opposite ends of the springs are secured to the rollers 11 mounted on the lugs 11' that are carried by the lower cylinder 5, and wound around the rollers in such a way that the springs will be further tensioned, as the cylinders of the jack are extended.

Thus it will be seen that due to this construction, the springs will act to draw the cylinder 5 to its normal position, or a position under the cover 10, thus telescoping the jack to the position shown in Figure 1 of the drawing, when pressure on the jack is relieved.

Plates 12 cover the housings, and are held in position by bolts 13. As clearly shown by

Figure 3 of the drawing, a cylinder indicated by the reference character 14 operates in the lower cylinder 5, the cylinder 14 being provided with recesses 15 at opposite sides thereof, in which recesses spring pressed pins 16 are mounted. These spring pressed pins 16 move through grooves 17 formed longitudinally of the lower cylinder 5.

The upper ends of the grooves 17 are inclined laterally, and define shoulders 18, against which the spring pressed pins 16 engage, restricting movement of the cylinder 14. In order that a fluid tight connection between cylinder 14 and cylinder 5 will be insured, a gasket 19 is provided. Operating within the cylinder 14 is a cylinder 20, while the cylinder 21 operates in the cylinder 20, the cylinders 20 and 21 being provided with longitudinal grooves 17 and pins 16 which operate in the same manner as the pins 16 of the cylinder 14.

Operating in the cylinder 21, is a member 22, which is also provided with spring pressed pins 16 that move in the longitudinal grooves 17 of the cylinder 21.

This member 22 is formed with a central bore 23 that communicates with the ball head 24 formed with an opening in which one end of a tube not shown, may be secured, the tube being in communication with a suitable source of fluid supply, used in operating the jack.

A sectional socket support 25 is fitted over the ball head 24 and secured in position by means of the bolt 25'. This structure permits of lateral movement of the jack when extended, so that the jack may adapt itself to lateral pressure.

The socket support 25 also has curved upper portions 26 that are so constructed that they fit around the axle housing, securing the jack to a motor vehicle.

While I have shown and described the means for securing the jack to the rear axle of a vehicle, it is to be understood that it is contemplated to employ a jack of this character adjacent to each wheel of a vehicle, the jack construction being such that it will be held in its inactive position, under normal conditions, under the vehicle body.

The cover or cap 10 is secured to the member 22 by means of the screws 28, and is of a diameter to house the upper end of the lower cylinder 5, protecting the cylinders against foreign matter entering therebetween, to impair the operation of the jack.

It might be further stated that hard rubber gaskets 16' similar to the gasket 19, are provided

in connection with the cylinders 20 and 21 and member 22, for insuring a fluid tight connection therebetween.

From the foregoing it will be seen that due to this construction, the telescoping cylinders of which the jack is formed, will be extended under the fluid pressure directed to the cylinders, resulting in the lifting of the article to which the jack has been fastened. When it is desired to return the cylinders to their normal positions, it is only necessary to release the fluid, whereupon the springs 9 will draw cylinder 5 up, and telescope all cylinders, the jack being held by said springs 9 in the position shown by Figure 1 of the drawing.

Having thus described the invention, what is claimed is:

I claim:

1. A hydraulic jack comprising telescoping cylinders, each cylinder having longitudinal grooves formed in the inner surface thereof, the upper ends of the grooves being extended outwardly defining shoulders, spring pressed pins carried by the cylinders and movable through the grooves, said pins engaging the shoulders to restrict

movement of the cylinders in one direction, means for providing fluid tight connections between the cylinders, means for normally telescoping the cylinders, and a cover cooperating with one of the cylinders for closing the upper ends of the cylinders when they are telescoped.

2. A hydraulic jack comprising telescoping cylinders, each cylinder having grooves and shoulders at the upper ends of the grooves, spring pressed pins carried by the cylinders, and movable through the grooves, said pins engaging the shoulders to limit movement of the cylinders, means for admitting fluid to the cylinders to extend the cylinders, and means for normally urging the cylinders to their telescoped positions.

3. A hydraulic jack comprising a plurality of telescoping cylindrical sections, means for admitting fluid to the sections to extend the sections, housings formed on the sides of the lowermost cylindrical section, coiled springs disposed within the housings, a cap carried by the uppermost section, said springs being connected to the cap and adapted to telescope the sections, when pressure within the cylindrical sections is relieved.

MILFORD T. GOSS.

30

105

35

110

40

115

45

120

50

125

55

130

60

135

65

140

70

145

75

150