

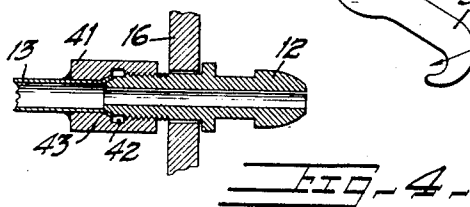
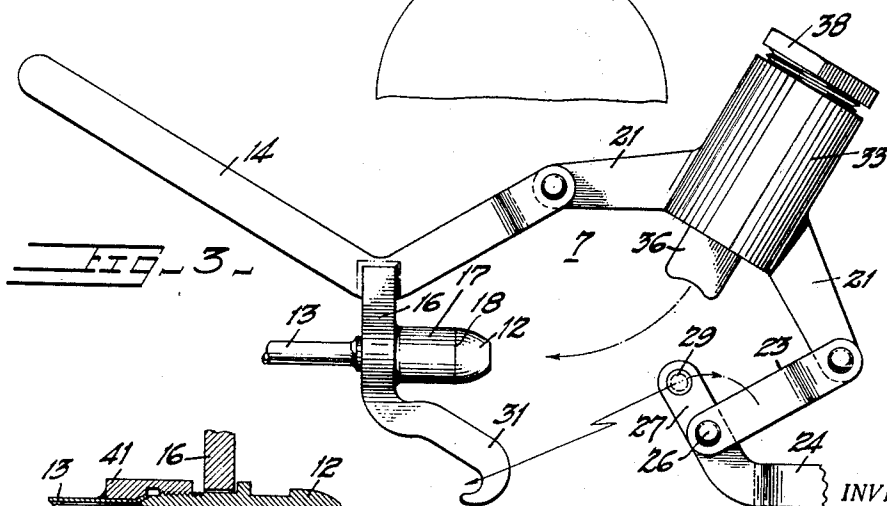
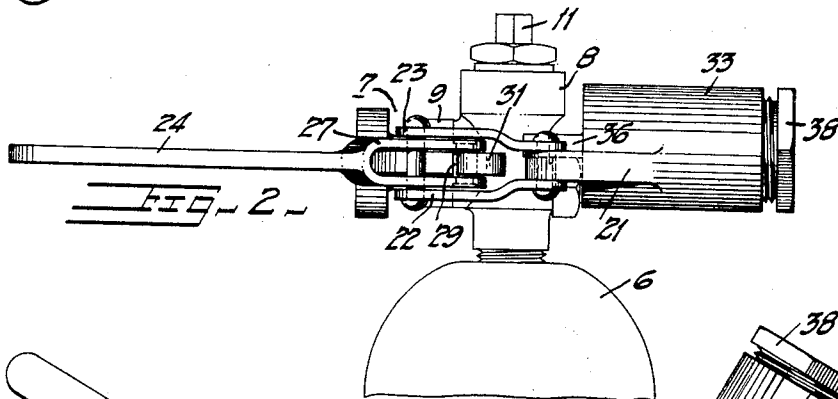
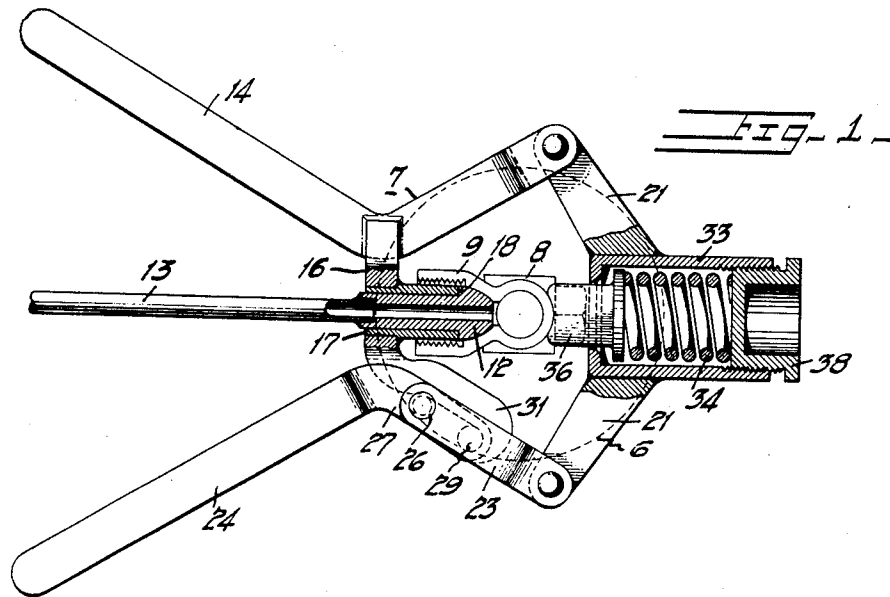
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1,936,868

LOADING CLAMP

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1,936,868

LOADING CLAMP

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3 Claims. (Cl. 285—108)

This invention relates to a loading clamp for employment in filling cylinders with various gases. Such cylinders, when filled with petroleum vapors, have recently come into extensive use for providing gaseous fuel of high heat content in isolated localities where a piped supply of natural or artificial gas is not available.

It is the present practice to secure admission of the petroleum vapor to the cylinder through a connection which requires a multiplicity of operations to be gone through before communication to the cylinder is established. In one type of connection as many as fifteen different operations were necessary to connect a cylinder to a source for filling it.

It is an object of the present invention to accomplish the connection of a cylinder with a loading supply line by means of a simple type of connection so that the time and number of operations required are reduced.

Another object of the invention is to devise a connection for establishing communication with a cylinder which will enable the connection to be made rapidly and so assist in making the loading of the cylinder easier and more accurate.

The invention possesses other advantageous features and objects, some of which, with the foregoing, will be set forth at length in the following description where I shall outline in full that form of loading clamp of my invention which I have selected for illustration in the drawing accompanying and forming part of the present specification. In said drawing I have shown one form of loading clamp embodying my invention, but it is to be understood that I do not limit myself to such form since the invention, as set forth in the claims, may be embodied in a plurality of forms.

In the drawing, Figure 1 is a plan view, partly in section of a loading clamp embodying my invention attached to a cylinder.

Figure 2 is a side elevation of the loading clamp as attached to a cylinder.

Figure 3 is a plan view illustrating the loading clamp in position for attachment to the cylinder.

Figure 4 is a cross section through another type of fitting for engaging the cylinder to be loaded.

Briefly characterized my invention may be stated as comprising a fitting which is engaged with the loading cylinder to establish communication therewith as the result of a few simple operations. In the form of my invention illustrated in the drawing communication to a cylinder is made possible by attaching a loading clamp

indicated generally at 7 to a loading connection 8 secured to the cylinder. The loading connection on the cylinder is usually provided with a threaded nipple 9, communication between the nipple and the cylinder 6 being controlled by a valve 11 in the loading connection 8.

In accordance with my invention a member 12 is provided which is adapted to engage the body of the nipple 9 slidably so that the time required for making up or loosening a threaded connection with the nipple is obviated. The member 12 is carried in suitable means for securing it in a tight frictional engagement with the nipple so that fluid from a supply line 13 will pass into the cylinder and not be lost about the connection. To accomplish this I provide a lever arm 14 carrying a toggle arm 16 in which the member 12 is slidably received in a sleeve 17. The member 12 is formed to provide a shoulder 18 which abuts against the sleeve 17 to limit its movement with respect to the toggle arm.

Means are provided for locking the member 12 in engagement with the loading connection. A link member 21 is hinged upon the lever arm 14 and upon a lever comprising spaced bars 22 and 23. A second lever arm 24, substantially similar in contour to lever arm 14, is hinged between the bars 22 and 23 at a point 26, intermediate the ends of the lever arm. The lever arm 24 is formed with a forked end 27, in which is positioned a pin 29. The pin 29 is adapted to be received by a hook 31 provided upon the toggle arm 16 so that a toggle mechanism is provided which is capable of being broken to permit the positioning of the loading clamp onto the cylinder connection and of being made up to bring the member 12 into tight frictional engagement with the loading connection.

Means are provided for biasing the loading member 12 against the loading connection when the toggle mechanism is made up so that a very tight frictional engagement between the member and the loading connection is secured. This is preferably done by providing a barrel 33 in the link 21, the barrel carrying a spring 34 and a sliding member 36 against which the spring works to force the sliding member into engagement with the loading connection so that the member 12 is held in tight frictional engagement with the loading connection. The spring 34 is preferably very heavy, in one successful device which I have constructed it was able to furnish approximately 400 pounds pressure upon a compression of a quarter of an inch. Adjustment of

the spring tension is secured by an adjusting nut 38 threaded into the barrel.

In operation, connection to the cylinder is readily established by positioning the member 12 within the nipple and then making up the toggle mechanism so that the member is held in tight frictional engagement with the connection. When the valve 11 is opened, fluid communication to the cylinder is established. Connection to the cylinder in accordance with my invention is secured very rapidly as compared to the previous manner of connection wherein a multiplicity of operations were required. In one form of the invention this is secured by supporting the loading clamp 7 with a lever carried in trunnions, the lever carrying a sliding weight which was adjusted so that the clamp and filing tube were maintained in practically the same position at all times. The operator thus had the clamp and supply line always conveniently at hand.

In Figure 4 I have illustrated another type of connection. In this instance the supply line 13 is welded to a socket 41, the socket being apertured as at 42 to receive the flared end 43 of the supply line. The member 12 is inserted through the toggle link 16 and is threadedly engaged with the socket 41 so that it bears against the flared end 43 to establish a fluid tight joint therewith.

I claim:

1. A loading clamp for securing a charging nozzle to a receiving socket, comprising: two outwardly projecting members engaged with said

nozzle, a link member pivotly connected to one of said projecting members and having a means adapted to engage the socket on the opposite side from the nozzle, a second link member, one end of which is pivotly connected to the first link member and the other end of which is pivotly connected to a locking lever at a point suitably spaced from the end of said lever, and a locking means on said lever adapted to engage a corresponding means on the second outwardly projecting member.

2. A loading clamp for securing a charging nozzle to a receiving socket, comprising: a slidable yoke on said nozzle with two extended members; a link member pivotly connected to one of said members and provided with a pressure means adapted to engage the socket opposite to the nozzle; the second link member between the first one and a locking lever, all pivotly connected; and a locking means on said lever adapted to engage a corresponding means on the second extended member.

3. A loading clamp for securing a nozzle to a socket, which comprises: two outwardly projecting members engaged with said nozzle, a link member pivotly connected to one of said members, an adjustable pressure means on said link member adapted to engage the socket, the second link member between the first one and a locking lever, all pivotly connected, and a locking means on said lever adapted to engage a corresponding means on the second projecting member.

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