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D. P. MAY

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DEVICE FOR REMOVING LIQUIDS FROM GAS LINES

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Fig. 1.

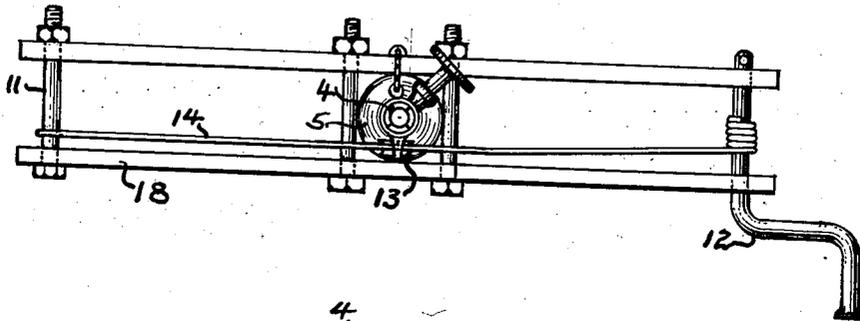
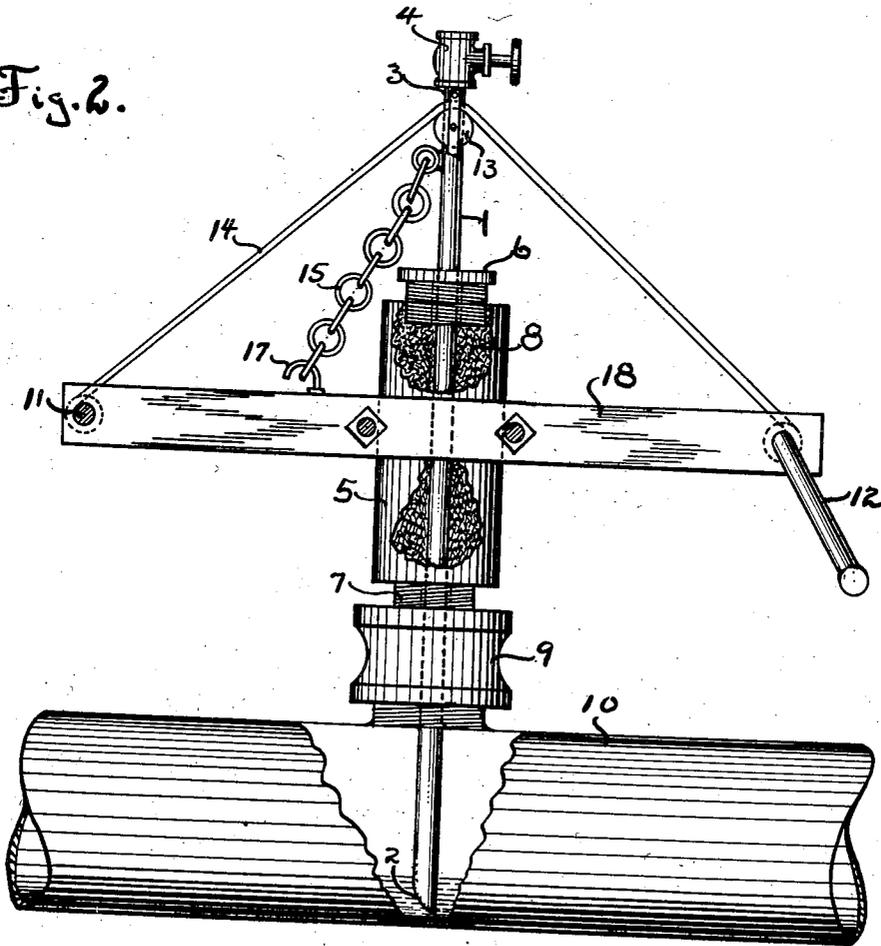


Fig. 2.



INVENTOR.  
Daulton P. May  
BY  
F. Lewis Peyton  
ATTORNEYS.

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## DEVICE FOR REMOVING LIQUID FROM GAS LINES

Daulton P. May, Jackson, Miss.

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3 Claims. (Cl. 137-78)

This invention relates to devices for removing liquid from gas lines.

In the conveyance of gas through pipe lines, there occurs an accumulation of moisture within the pipe, and this moisture settles at various points in the pipe line where there are sags. To permit normal and natural flow of gas through the pipe line, therefore, it is necessary from time to time to remove the liquid which settles in the line as mentioned.

One object of this invention is the construction of a device of the character mentioned, which will draw liquid within a gas line in a thorough and efficient manner.

Another object of the invention is the construction of a device of the character described which may be operated by one man.

A still further object of the invention is the construction of a device of the character described which may be maintained and manipulated without physical danger to the person handling the operation.

Still further objection of the invention and its advantages will appear in the description thereof taken in connection with the accompanying drawing.

In order that the invention may be readily understood and its particular advantages fully appreciated, reference may be had to the accompanying drawing in which we have illustrated one form of its embodiment. However, it is to be understood that the invention is not confined to the form of construction shown, and that various changes in the details of construction may be made within the scope of the claims, without departing from the invention.

In the drawing

Figure 1 is a top view of the device.

Figure 2 is a side view thereof with portions broken away.

Referring now to the drawing in detail, the device consists of a tube 1, the lower end 2 beveled as shown in Figure 2, and the top end 3 having a valve 4 attached thereto.

A sleeve 5 has disposed in the upper end thereof a packing nut 6, and a packing nut 7 is disposed in the lower end thereof, the respective packing nuts 6 and 7 having holes centrally disposed therein and adapted to receive the passage of tube 1 through the respective packing nuts 6 and 7 and the sleeve 5. A packing 8 is disposed within the sleeve 5 between the packing nuts 6 and 7 and about the tube 1.

The packing nut 7 is threaded at the lower end as shown in Figure 2, so as to engage with the

neck 9 of the pipe 10. The pipe 10 illustrates the conveyor pipe of the gas.

A cross-arm 18 is disposed on the sleeve 5, with a cross-pin 11 at one end thereof and a reel 12 at the opposite end thereof. Disposed at the upper end of the tube 1 and on one side thereof is the pulley 13. A cable 14 extends from the cross-pin 11 over the pulley 13 and is attached to the reel 12.

In operation, the packing nut 7 is attached to the neck 9 of the pipe 10, and the cable 14 is then wound on the reel 12, thereby lowering the tube 1 through the sleeve 5. In this manner, the lower end 2 of the tube 1 is brought to the bottom of the pipe 10.

A chain 15 extends from the eye 16 at the upper end of the tube 1, and the lower end is adapted to engage with the hook 17 on the cross-arm 18. Thus, once the tube 1 is lowered into the pipe 10, the chain 15 locks it from being forced upward from the pipe 10 by the gas pressure.

On opening the valve 4, the gas within the pipe 10 will force the liquid accumulated within the pipe 10 out through the tube 1.

The construction, operation and advantages of my invention, will, it is believed, be understood and appreciated by those skilled in the art when the foregoing description is read in connection with the accompanying drawing. The degree of adjustment of the several members in relation to each other is such as to take care of any ordinary requirements; and while I have here shown and described certain novel features of my invention, it is to be understood that various omissions, substitutions and changes in the form and details of the device and its manner of use may be made by those skilled in the art, and that I do not wish to be restricted to the precise structure disclosed, but hold myself entitled to make such changes therefrom as fairly fall within the scope of what I claim.

What I claim is,

1. A device for withdrawing accumulated liquid from mains and the like comprising a relatively fixed sleeve, said sleeve being provided at its upper and lower ends with gland nuts, and being also provided at its lower end with means for attachment to a main, a tube slidable through said sleeve and having an end adapted to be projected into the main, a cross arm extending laterally from said sleeve, a reel mounted on one end of the cross arm, a guide pulley mounted on the upper end of the tube, a cable connected at one end with said cross arm at the end thereof remote from

said reel, said cable being also trained over said pulley and windable on said reel for forcing said tube through said sleeve and into the main, and a valve on the upper end of said tube.

5 2. A device for withdrawing accumulated liquid from mains and the like comprising a relatively fixed sleeve, said sleeve being provided at its upper and lower ends with gland nuts, and being also provided at its lower end  
10 with means for attachment to a main, a tube slidable through said sleeve and having an end adapted to be projected into the main, a cross arm extending laterally from said sleeve, a reel mounted on one end of the cross  
15 arm, a guide pulley mounted on the upper end of the tube, a cable connected at one end with said cross arm at the end thereof remote from said reel, said cable being also trained over said  
20 pulley and windable on said reel for forcing said tube through said sleeve and into the main, and a valve on the upper end of said tube, a flexible member secured at one end to said tube adjacent the upper end of said tube, and inter-engaging  
25 means on the cross arm and said flexible member

for securing said tube against movement axially through said sleeve in one direction.

3. A device for withdrawing accumulated liquid from mains and the like comprising a relatively fixed sleeve, said sleeve being provided at its upper and lower ends with gland nuts, and being also provided at its lower end with means for attachment to a main, a tube slidable through said sleeve and having an end adapted to be projected into the main, a cross arm extending laterally from said sleeve, a reel mounted on one end of the cross arm, a guide pulley mounted on the upper end of the tube, a cable connected at one end with said cross arm at the end thereof remote from said reel, said cable being also  
15 trained over said pulley and windable on said reel for forcing said tube through said sleeve and into the main, and a valve on the upper end of said tube, a chain secured at one end to the tube adjacent the upper end of the latter, and a hook  
20 on said cross arm with which the free end of said chain is engageable for locking the tube against being forced upwardly through said sleeve and outwardly with respect to said main.

DAULTON P. MAY. 25