April 29, 1958 R. H. GRIGSBY 2,832,560

TUBE COMPRESSOR

Filed Feb. 12, 1957

Fig. 1.

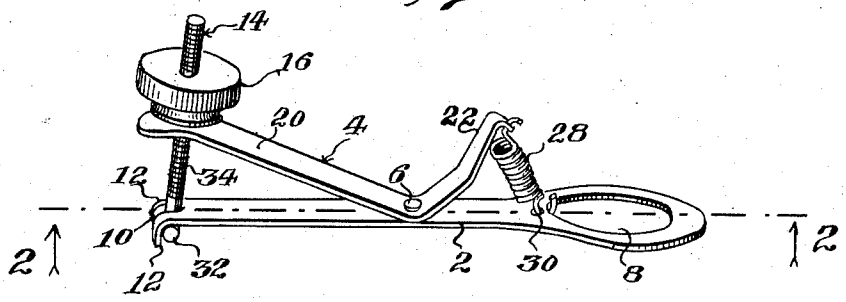


Fig. 2.

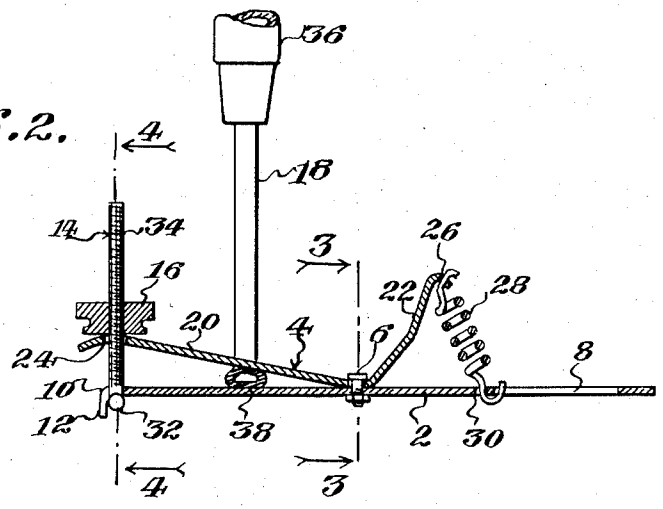


Fig. 4.

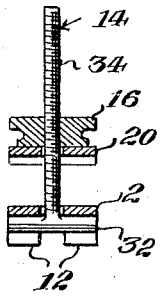


Fig. 3.

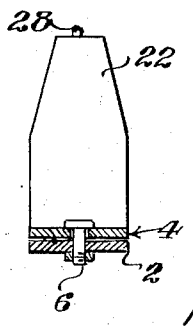
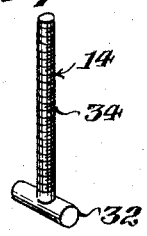


Fig. 5.



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TUBE COMPRESSOR

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Application February 12, 1957, Serial No. 639,661

3 Claims. (Cl. 251—9)

This invention relates to a tube compressor adapted to be applied to a flexible tube to adjustably control the flow of a fluid therethrough.

The principal object of this invention is to provide a tube compressor which may be used on a hose to control flow in intravenous feeding.

Another object of this invention is to provide a tube compressor in which the pressure on the hose may be varied as desired.

A still further object of this invention is to provide a tube compressor which may be quickly and easily attached to and detached from a hose or other flexible tube.

Other objects of the invention will appear hereinafter throughout the specification.

Referring to the drawings:

Figure 1 is a perspective view of my tube compressor;

Figure 2 is a vertical sectional view taken on the line 2—2 of Figure 1, and showing my tube compressor applied to a hose leading from a source of fluid;

Figure 3 is a vertical sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a vertical sectional view taken on the line 4—4 of Figure 2, and showing the relationship of the clamping bolt to the clamping jaws; and

Figure 5 is a perspective view of the clamping bolt per se.

Referring now to the several views of the drawing, and particularly Figures 1 and 2, **2** represents the base plate or lower jaw of my tube compressor, and **4** the upper or movable jaw. The jaws **2** and **4** are loosely pivoted together by the bolt **6**, or some equivalent fastening means so as to allow sufficient play to enable the jaw **4** to rock on the lower jaw **2**. As clearly shown in Figures 1 and 2, the lower plate or jaw **2** comprises a flat elongated plate provided with an aperture **8** at one end to receive a finger of the operator while the compressor is being adjusted on a hose. The other end of the plate **2** is bifurcated to form a bolt receiving slot **10**, and the portions **12** of the plate at the sides of the slot **10** are bent at right angles to the plane of the plate to form stops to prevent outward movement of the clamping bolt **14**, as clearly shown in Figures 1 and 2. A nut **16** is threaded on the bolt **14** and is adapted to bear on the upper face of the jaw **4** to force it toward the jaw **2** and into engagement with a hose **18** to compress the same.

As clearly shown in Figures 1 and 2, the upper jaw **4** is formed as an elongated plate bent between its ends to form a long arm or jaw proper **20** and a shorter arm **22**, the juncture of these arms being substantially at the pivot **6**. The outer end of the long arm **20** is provided with an opening **24** to receive the clamping bolt **14**, while the outer end of the shorter arm has an aperture **26** to receive a hook on the upper end of a spring **28**. The lower end of the spring **28** is also provided with a hook which extends through an aperture **30** in the lower plate jaw **2** adjacent the finger aperture **8**. The spring **28** is

normally under tension and tends to urge the portion **20** of the jaw **4** outwardly on the bolt **14** and against the nut **16**. As clearly shown in Figures 4 and 5, the bolt **14** is of T-form and is arranged with the head **32** of the T below the lower jaw **2** and inwardly of the depending portions **12**, and with the stem **34** of the T extending through the slot **10** in the lower jaw and the opening **24** in the upper jaw.

The hose **18** is shown in Figure 2 as attached to a bottle or other container **36** and for the sake of clarity it is shown as bent at right angles adjacent the clamp to indicate the opening **38** therein.

From the above description of my compressor, it will be clear that the pressure on the hose may be varied by adjustment of the nut **16** up and down on the bolt **14**, and that the spring **28** will serve to hold the head **32** of the bolt against the under side of the jaw **2** and the upper jaw **4** against the nut **16**.

While the member **18** has been described as being a hose, it will be understood that my compressor or clamp may be used on any flexible pipe or tube. Further, the pivot **6** has been shown and described as being a bolt but it will be understood that a rivet or any equivalent pivot means could be used instead of a bolt.

The above description and drawing disclose one embodiment of the invention, and specific language has been employed in describing the figures. It will, nevertheless, be understood that no limitations of the scope of the invention are thereby contemplated, and various alterations and modifications may be made as would occur to one skilled in the art to which the invention relates.

I claim:

1. A tube compressor for a flexible tube comprising a substantially flat elongated plate, one end portion of said plate forming a stationary clamping jaw, a second elongated plate of substantially L-shape overlying one side face of said first plate, the longer arm of said second plate forming an adjustable clamping jaw and extending over said stationary clamping jaw, the shorter arm of said second plate extending at an angle to said longer arm to form a spring mounting, a pivot means loosely connecting said second plate to said first plate intermediate their ends to provide limited rocking movement of said second plate on said first plate, a tension spring connected to said shorter arm and said first plate to urge said shorter arm toward and said longer arm away from said first plate, a clamping bolt pivotally and detachably connected to the outer end of said stationary jaw, an opening in the outer end of said adjustable clamping jaw to receive the outer end of said bolt, and a nut on said bolt normally acting against the outer face of said adjustable clamping jaw to vary the distance between said jaws and in turn the deformation of a flexible tube mounted therebetween.

2. A tube compressor as defined in claim 1, wherein said first plate is provided with a finger aperture adjacent said spring.

3. A tube compressor as defined in claim 1, wherein said spring is a coiled spring having a hook at each end, and said short arm and said first plate are each provided with an opening to receive one of said hooks.

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