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J. A. HEIDBRINK

CLAMP FOR ANÆSTHETIZING MACHINES

Filed March 11, 1927

2 Sheets-Sheet 1

Fig-1

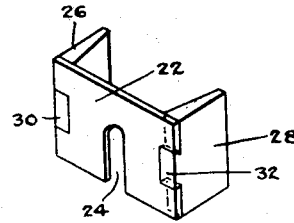
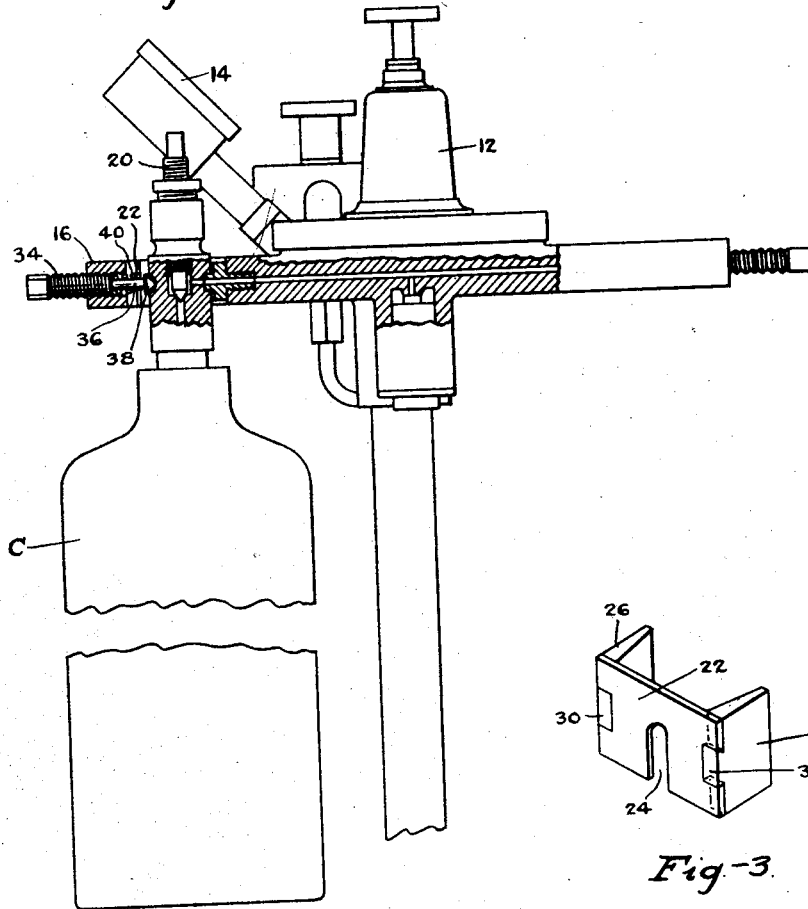


Fig-3

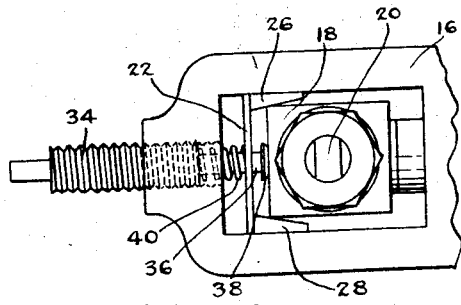


Fig-2

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2 Sheets-Sheet 2

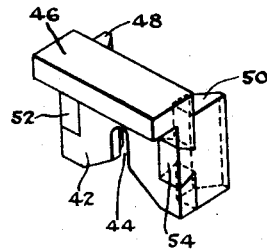
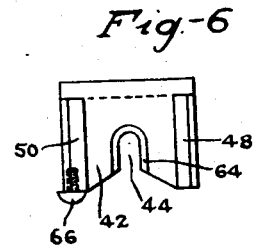
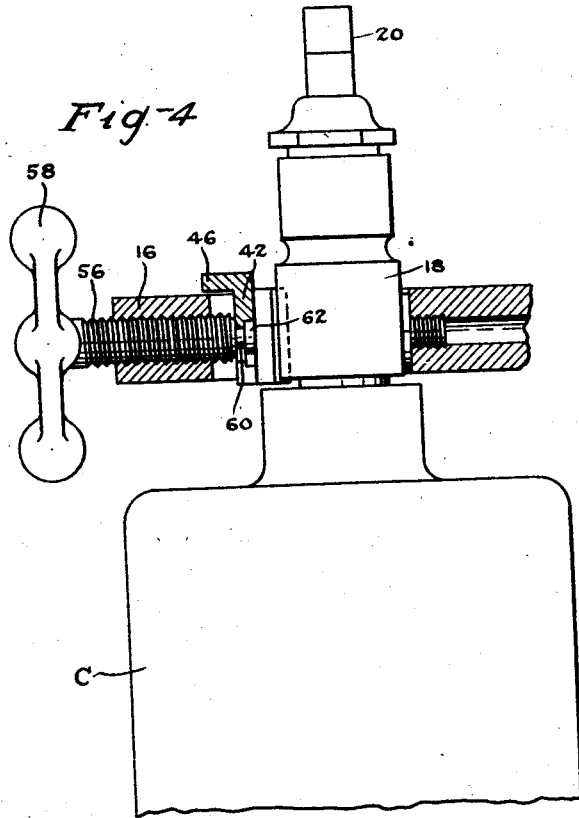


Fig-7

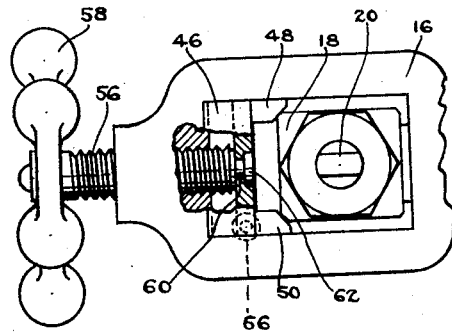


Fig-5

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UNITED STATES PATENT OFFICE.

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CLAMP FOR ANÆSTHETIZING MACHINES.

Application filed March 11, 1927. Serial No. 174 471.

My invention relates to clamps for anæsthetizing machines. In the use of such machines now in common use, gas containers are held in gas supplying position by means of yokelike members extending out from the machine, the necks of the containers being placed in these yoke members and screws carried thereby being turned down into engagement with the necks. This arrangement does not firmly secure the containers in place and they are capable of a swinging or rocking movement. An object, therefore, of my invention is to provide a device by means of which the necks of the containers are firmly clamped and the containers prevented from having any swinging or rocking movement, which movement causes leakage of gas around the customary gasket interposed between the neck of the container and the part containing the passageway leading to the interior of the machine.

The full objects and advantages of my invention will appear in connection with the detailed description thereof, and the novel features of my inventive idea, will be particularly pointed out in the claims.

In the accompanying drawings which illustrate two forms in which my invention may be embodied,—

Fig. 1 is an elevational sectional view showing the application of my invention to an anæsthetizing machine. Fig. 2 is a top plan view of the device in use. Fig. 3 is a perspective view of the main portion of the clamp. Fig. 4 is an elevational sectional view on a larger scale showing a preferred form of the device. Fig. 5 is a top plan view of this form with a small portion broken away. Fig. 6 is an end elevational view of the main portion of the clamp. Fig. 7 is a perspective view of the main portion of the clamp.

Referring first to the form shown in Figs. 1, 2, and 3, the numeral 10 designates a gas conducting member of an anæsthetizing machine carrying the customary gas controlling device 12, gauge 14, and yoke member 16, the latter supporting a customary gas container C. Containers of this character are commonly provided with a rectangular neck 18 having a discharge passage therein controlled by a needle valve 20. The clamp which constitutes an important feature of the invention includes a plate 22 having a vertical notch 24 therein at its middle. Wedge-

shaped members 26 and 28 are secured to the ends of the plate 22 in any suitable manner. As shown, the wedge members are provided with dove-tail lugs 30 and 32 which fit into dove-tail recesses in the ends of the plate 22. The outer surfaces of the wedge members extend at right angles to the plate 22 while their inner surfaces are inclined in such manner that they are closer to each other adjacent the plate 22 than they are as they become more remote therefrom. The outer portion of the yoke member 16 is provided with a screw-threaded hole through which a screw 34 extends. The inner portion of this screw is provided with a reduced stem 36 terminating in a conical head 38 for engagement with the neck 18 of the container. A coiled spring 40 surrounds the stem 36. In the use of the device the rectangular neck 18 is properly positioned in the yoke member 16 and the clamp is also placed therein so that the wedge members 26 and 28 engage opposite sides of the neck as shown in Fig. 2 with the stem 36 extending through the notch 24 and the spring 40 interposed between the plate 22 and the shoulder formed by the junction of the stem 36 with the main portion of the screw. As the latter is turned in, the conical head 38 is brought into engagement with the neck of the container, the spring 40 is compressed and the wedge members 26 and 28 are forced firmly into engagement with opposite sides of the neck by the resilient action of the spring. This serves to firmly clamp the neck so that the container is securely held and prevented from swinging.

In the form shown in Figs. 4 to 7, the clamp includes a plate 42 having a vertical notch 44 at its middle and a horizontal flange 46 at its upper end. Wedge-shaped members 48 and 50 are secured to the ends of the plate 42 and as shown are provided with dove-tail lugs 52 and 54 which fit into dove-tail recesses in the ends of the plate. The outer surfaces of the wedge members extend at right angles to the plate 42 while their inner surfaces are inclined in such manner that they are closer to each other adjacent the plate than they are as they become more remote therefrom. The outer portion of the yoke member 16 is provided with a screw-threaded hole through which a screw 56 extends. This screw at its outer end carries a hand wheel 58 and at its inner end is provided with a reduced portion 60 which fits

into the notch 44. The inner end of the reduced portion 60 carries a head 62 which fits into a recess 64 around the notch 44. The plate 42 when placed within the yoke 16 is retained therein for sliding movement by a small screw 66 which is turned into the lower margin of the plate. In the use of this form of the device, the rectangular neck 18 is placed in the yoke member 16 while the plate 42 is in retracted position. When the screw 56 is turned to advance the plate, the wedge members 48 and 50 are forced firmly into engagement with opposite sides of the neck so that the container is firmly held and prevented from swinging, and at the same time the neck of the container is forced against and compresses the customary gasket, thereby causing it to seal so that when the container is open to supply gas to the machine, the gas cannot escape into the air. This has the advantage that the machine may be moved about without the container swinging and causing leakage of gas around the gasket.

I claim:

1. In an anæsthetizing machine having a yokelike member for receiving the neck of a gas container, the combination of a wedge member adapted to engage said neck, a screw carried by said yokelike member and adapted to be turned toward said neck, and connections between said screw and wedge member whereby the latter is forced firmly into engagement with said neck as said screw is thus turned.

2. In an anæsthetizing machine having a yokelike member for receiving the neck of a gas container, the combination of a plate, wedge members on the ends of said plate adapted to engage opposite sides of said neck, a screw carried by said yokelike member and adapted to be turned toward said neck, and connections between said screw and plate whereby said wedge members are forced firmly into engagement with said neck as said screw is thus turned.

3. In an anæsthetizing machine having a yokelike member for receiving the neck of a gas container, the combination of a plate having a vertical notch at its middle, wedge members on the ends of said plate adapted

to engage opposite sides of said neck, a screw carried by said yoke member and adapted to be turned toward said neck, and a stem extending inwardly from said screw through said notch whereby said wedge members are forced firmly into engagement with said neck as said screw is thus turned.

4. In an anæsthetizing machine having a yokelike member for receiving the neck of a gas container, the combination of a plate having a downwardly opening notch at its middle, wedge members dove-tailed into the ends of said plate adapted to engage opposite sides of said neck, a screw carried by said yoke member and adapted to be turned toward said neck, a stem extending inwardly from said screw through said notch whereby said wedge members are forced firmly into engagement with said neck as said screw is thus turned, and a screw threaded into the lower edge of said plate for retaining the latter in the yoke.

5. In an anæsthetizing machine having a yokelike member for receiving the neck of a gas container, the combination of a plate having a vertical notch at its middle, wedge members on the ends of said plate adapted to engage opposite sides of said neck, a screw threaded into said yoke and adapted to be turned toward and away from said neck, a stem extending inwardly from said screw through said notch, and a head on the end of said stem located on the side of said plate which is opposite said screw.

6. In an anæsthetizing machine having a yokelike member for receiving the neck of a gas container, the combination of a plate having a vertical notch at its middle, wedge members dovetailed into the ends of said plate adapted to engage opposite sides of said neck, a screw threaded into said yoke and adapted to be turned toward said neck, and connections between said screw and plate whereby said wedge members are forced firmly into engagement with said neck as said screw is thus turned.

In testimony whereof I hereunto affix my signature.

JAY A. HEIDBRINK.