Feb. 26, 1924. 1,485,022

D. F. FESLER

COMPRESSOR

Filed Dec. 19, 1919

Fig. 1

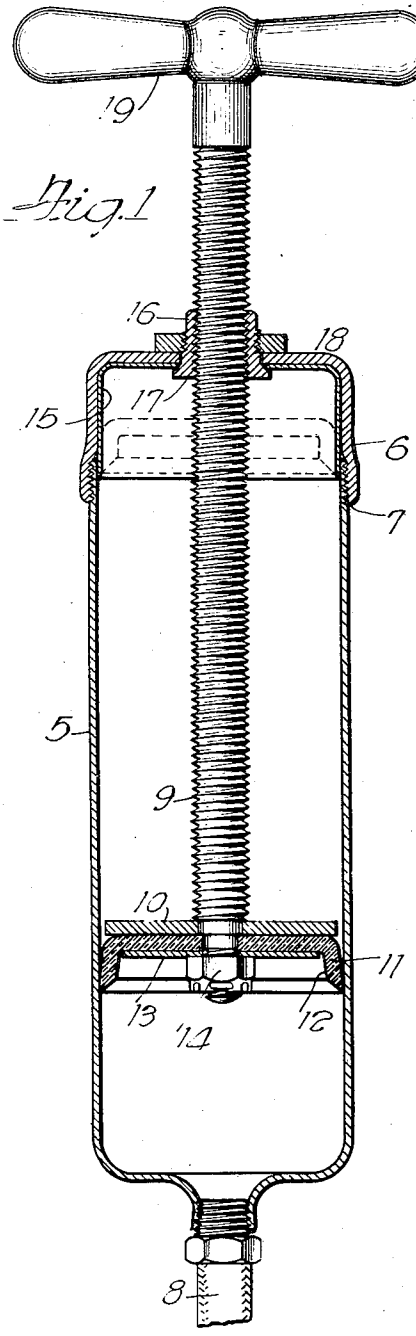
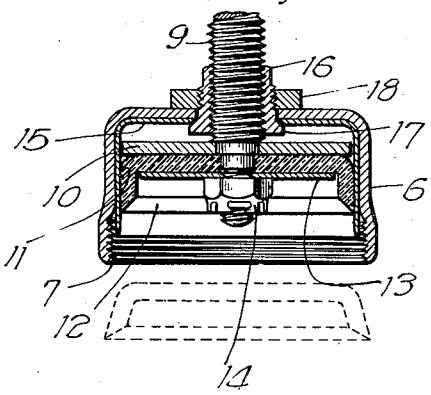


Fig. 2



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UNITED STATES PATENT OFFICE.

DOUGLAS F. FESLER, OF EVANSTON, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE BASSICK MANUFACTURING COMPANY, A CORPORATION OF DELAWARE.

COMPRESSOR.

Application filed December 19, 1919. Serial No. 346,098.

To all whom it may concern:

Be it known that I, DOUGLAS F. FESLER, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Compressors, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in compressors, and is especially concerned with improvements in compressors designed to be used for supplying lubricant under pressure to parts to be lubricated.

The objects of my invention are:

First: To provide a compressor comprising a barrel and a piston, the barrel of which can be easily and quickly filled.

Second: To provide a compressor of the type described, comprising a piston and means for holding the piston in a compressed state when withdrawn from the barrel and whereby the piston can be easily reinserted in the barrel without the necessity of conforming it to the barrel by means of the fingers.

Third: To provide a compressor of the character described, wherein the means for confining the piston forms a sealing means between the barrel and the cap with which the barrel is provided, and

Fourth: To provide a compressor of the character described, which is simple in construction, reliable, and economical to manufacture.

Other objects will appear as this description progresses, reference being had to the accompanying drawings, in which

Figure 1 is a longitudinal section through an improved compressor, and

Figure 2 is a longitudinal sectional detail showing the piston withdrawn from the barrel and held in a compressed state in the cap thereof.

Referring to the drawings, the barrel of my improved compressor comprises two portions 5 and 6 respectively, the portion 6 forming an elongated cap for the portion 5. The two portions 5 and 6 are detachably connected by co-acting screw threads as shown at 7.

Reference character 8 indicates the discharge conduit.

Slidably mounted in the barrel upon the screw-threaded piston rod 9 is a piston comprising a back-plate 10, a cup leather 11 having the depending flange 12 and a face-plate 13. The back-plate, cup leather and face-plate are secured upon the end of the piston rod 9 by a castle nut 14, or in any other suitable manner.

Mounted in cap 6 is a sheet metal cup 15 which is closely conformed to the interior surface of the cap 6, and the lower edge of which overlaps the joint formed by the meeting surfaces of the barrel 5 and the cap 6. The cup 15 is held in place by means of a sleeve 16, having an annular flange 17 abutting against the inner side of the cap. The outer end of the sleeve is screw-threaded to co-act with a nut 18 by means of which the end of the cup 15 can be drawn tightly against the end of the cap 6. The sleeve 16 is provided with interior screw threads to co-act with the threads of the piston rod 9. Piston rod 9 is provided with a handle 19 by means of which it can be rotated to cause the piston to slide longitudinally of the barrel.

When it is desired to fill a compressor constructed in accordance with my invention, the piston rod 9 is rotated until the cup leather 12 occupies the position in the cup 15 shown in dotted outline in Figure 1 and in solid lines in Figure 2. The cap 6 is then unscrewed from the barrel 5 either by continued rotation of the piston rod 9 or by grasping the cap itself. The barrel of the compressor is then filled, and the cap screwed into place. When the piston rod 9 is rotated to move the piston toward the discharge conduit of the compressor, the cup 15 will guide the lower edge of the cup leather 11 past the joint in the barrel of the compressor formed between the parts 5 and 6 so that the edge of the cup leather will not engage with the edge of the barrel 5. At the same time, the cap 15 seals the joint between the barrel 5 and the cap 6. As the cup leather emerges from the cup 15, it expands or tends to expand as indicated in dotted outline in Figure 2 and thereby establishes a substantially fluid-tight seal between the piston and the barrel of the compressor.

I preferably draw the barrel 5 and the cap 6 of my improved compressor from sheet metal but it will be understood that these and the remaining parts may be formed in

any desired manner and of any suitable material. The back-plate 10, cup leather 12 and face-plate 13 are swivelled upon the end of the piston rod 9 so that they will not rotate with the piston rod.

While I have described the details of the preferred embodiment of my invention, it is to be understood that my invention is not limited to these details but is capable of other adaptations and modifications within the scope of the appended claims.

Having thus described my invention, what I claim is:

1. A compressor comprising a barrel having a detachable elongated cap, a screw-threaded piston rod, a piston on one end of said rod comprising a cup leather, a cup in said cap for receiving and compressing said cup leather and for sealing the joint between said barrel and said cap, and a screw-threaded sleeve extending through the end of said cap for controlling the movement of said piston and for securing said cup to said cap.

2. A compressor comprising a barrel having a detachable elongated cap, a piston rod, a piston on one end of said rod comprising a cup leather, a cup in said cap for receiving and compressing said cup leather and for sealing the joint between said barrel and said cap, and a sleeve extending through the end of said cap for guiding said piston and for securing said cup to said cap.

3. A compressor comprising a barrel having a detachable elongated cap, a screw-threaded piston rod, a piston on one end of said rod comprising a cup leather, a cup in said cap for receiving and compressing said cup leather and for sealing the joint between said barrel and said cap.

4. A compressor comprising a barrel having a detachable elongated cap, a piston comprising a cup leather slidable in said barrel and a cup in said cap for receiving and compressing said cup leather and for sealing the joint between said barrel and cap.

5. A compressor comprising a barrel having a detachable elongated cap, a piston comprising a cup leather slidable in said barrel and means in said cap for receiving and compressing said cup leather and for sealing the joint between said barrel and cap.

6. A compressor comprising a barrel having an open end which is externally screw threaded, a cap for said open end, said cap being internally threaded to receive the externally threaded end of said barrel, a piston rod passing through said cap, a piston comprising a cup leather carried by said piston rod, said cap being deep enough for receiving and holding said cup leather, and means carried by said cap for overlapping the joint between said cap and barrel, and preventing the edge of said cup leather from becoming engaged therein.

In witness whereof, I hereunto subscribe my name this 15 day of December, 1919.

DOUGLAS F. FESLER.

Witnesses:
ANDREW WINTERCORN,
MARY A. COOK.