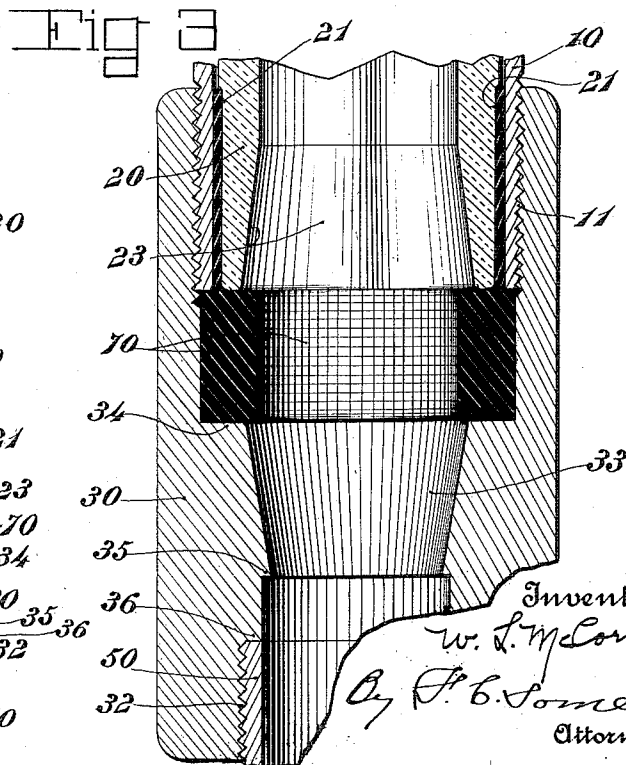
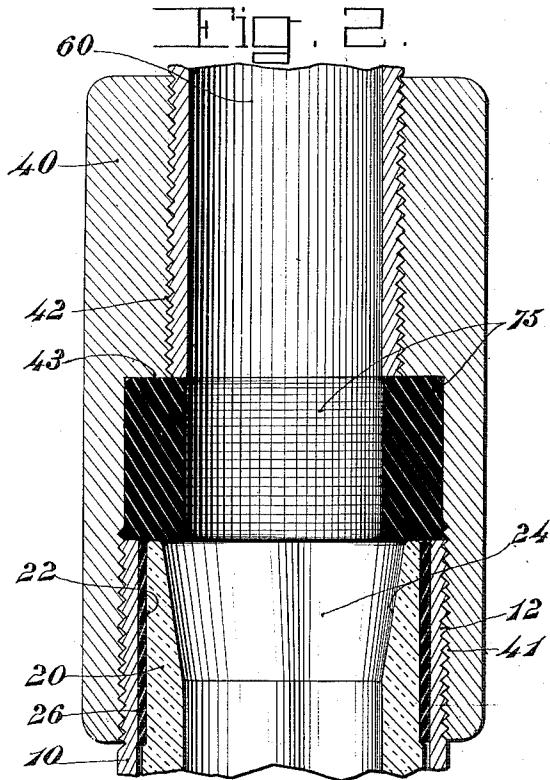
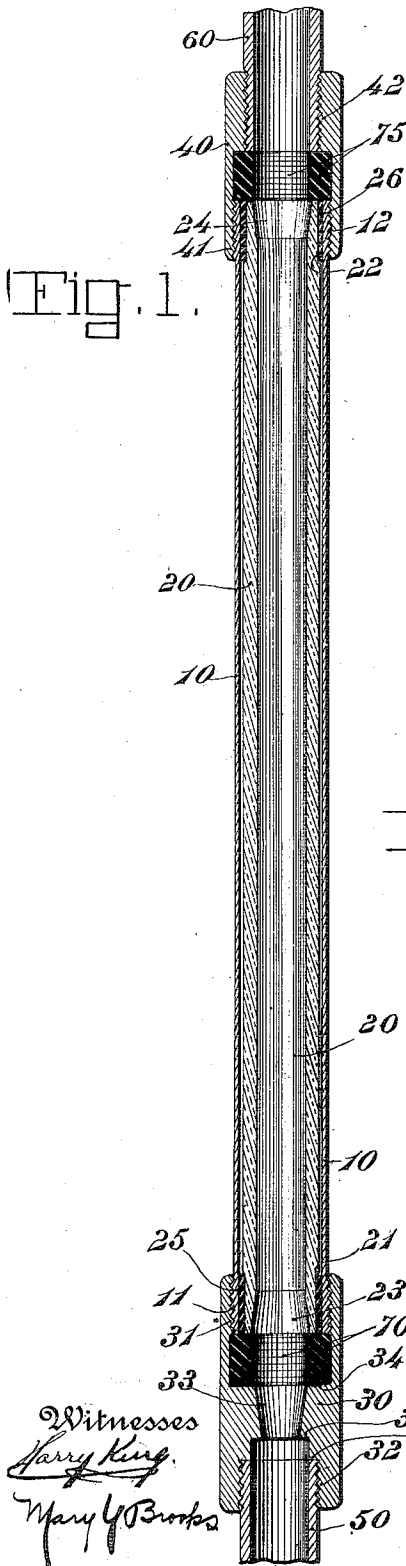


W. L. McCORMICK.
GLASS LINED PUMP BARREL.
APPLICATION FILED OCT. 20, 1911.

1,019,507.

Patented Mar. 5, 1912.



UNITED STATES PATENT OFFICE.

WARREN LEE McCORMICK, OF SAPULPA, OKLAHOMA.

GLASS-LINED PUMP-BARREL.

1,019,507.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed October 20, 1911. Serial No. 655,754.

To all whom it may concern:

Be it known that I, WARREN LEE McCORMICK, a citizen of the United States of America, and a resident of Sapulpa, in the county of Creek, in the State of Oklahoma, have invented certain new and useful Improvements in Glass-Lined Pump-Barrels, whereof the following is a specification.

This invention relates to a pump barrel especially adapted for oil pumps.

The object of the invention is to provide in practical form a pump barrel which will not rust, pit, flute or corrode, which is not affected by sand and which will not cut the piston cups as quickly as metal barrels. To this end the pump barrel is constructed with a universally cushioned glass lining.

The accompanying drawings represent one embodiment of the invention in its preferred form.

Figure 1 represents a longitudinal section of the pump barrel. Fig. 2 represents an enlarged longitudinal section of the upper part thereof. Fig. 3 represents an enlarged longitudinal section of the lower part thereof, a portion being broken off.

The same reference numbers indicate corresponding parts in all the figures, round numbers being used for the principal elements and intermediate numbers for subordinate features thereof.

A tube 10 composed of thin sheet steel or other suitable metal constitutes the outer shell of this pump barrel. This shell is provided at its lower end with an exterior screw thread 11 and at its upper end with an exterior screw thread 12. A tube 20 composed of glass is disposed within the tube 10 and constitutes the inner lining of the compound barrel. This glass inner tube 20 is preferably of the same length as the metallic outer tube 10 and terminates flush therewith at its opposite ends. The inner tube 20 is preferably provided at its lower end with an exterior annular recess 21 and at its upper end with a similar recess 22. The bore has preferably a flared lower end 23 and a flared upper end 24 to facilitate insertion of the cups or piston of the pump.

A packing 25 preferably composed of rubber is disposed between the lower ends of the tubes 10 and 20 preferably in the recess 21 and a similar packing 26 is preferably disposed between the upper ends of said tubes 10 and 20, preferably in the recess 22.

These packings form cushions for the glass inner tube. The outer circumference of the inner tube is preferably somewhat smaller than the bore of the outer tube, and this construction permits a slight yielding of the inner tube within the outer tube under the tension of the packings aforesaid.

The tubes 10 and 20 are from four to six feet long more or less. The inner tube is preferably not less than one-half inch thick and the outer tube one-eighth inch more or less.

A coupling 30 connects the pump barrel with a suction pipe 50, anchor or sand point of the pump. This coupling has an enlarged screwthreaded bore 31 in its upper part, a smaller screwthreaded bore 32 in its lower part and an intermediate tapering bore 33. The larger bore 31 engages the threaded lower end of the tube 10 and the smaller bore 32 engages the threaded upper end of the suction pipe 50. The tapering bore 33 constitutes the valve seat for the lower valve of the pump. This bore is preferably smaller than the bore 31 at its point of juncture therewith forming a shoulder 34 and preferably smaller than the bore 32 at its point of juncture therewith, forming a shoulder 35. A lower shoulder 36 is formed in the bore 32 against which the inner end of the suction pipe rests.

A coupling 40 connects the pump barrel with the lifting or delivery pipe 60 of the pump. This coupling has a screwthreaded bore 41 in its lower part and a smaller screwthreaded bore 42 in its upper part and a shoulder 43 at the point of juncture of the two bores. The bore 41 engages the threaded upper end of the tube 10 and the bore 42 the threaded lower end of the pipe 60.

A rubber ring 70 is disposed in the bore 31 of the coupling 30 and the lower ends of the tubes 10 and 20 rest against said ring. A rubber ring 75 is disposed in the bore 41 of the coupling 40 and the upper ends of said tubes rest against said ring. These rings absorb vibrations and in connection with the packings 25 and 26 provide a universal cushion for the glass tube and prevent breakage thereof. The universal cushion is operative in all directions of stress to which the lining tube may be subjected. The rings 70 and 75 as well as the packings 25 and 26 may be composed of any suitable

packing material not hard nor very soft, but of a character which will absorb vibrations.

I claim as my invention:—

1. A pump barrel comprising an outer
5 metallic shell, an inner glass tube disposed within said shell, elastic packings between said tubes, couplings engaging the opposite ends of said outer tube and rubber rings disposed in said couplings between shoulders
10 thereof and the ends of said tubes.

2. A pump barrel comprising an outer metallic shell, an inner glass tube disposed within said shell and having a bore which is flared at one end, elastic packings between
15 said tubes, couplings engaging the opposite ends of said outer tube and rubber rings disposed in said couplings between shoulders thereof and the ends of said tubes.

3. A pump barrel comprising an outer
20 metallic shell, an inner glass tube disposed within said shell and having a bore which is flared at both ends, elastic packings be-

tween said tubes, couplings engaging the opposite ends of said outer tube and rubber rings disposed in said couplings between
25 shoulders thereof and the ends of said tubes.

4. A pump barrel comprising an outer metallic shell, an inner glass tube disposed within said shell and provided with exterior recesses at its opposite ends, elastic
30 packings disposed between said tubes in said recesses, couplings engaging the opposite ends of said outer tube and rubber rings disposed in said couplings between shoulders thereof and the ends of said tubes. 35

5. A pump barrel comprising an outer metallic shell, couplings engaging the opposite ends thereof, and a glass tube universally cushioned within said shell between said couplings.

WARREN LEE McCORMICK.

Witnesses:

S. E. BAILEY,
HERMAN BRUSH.