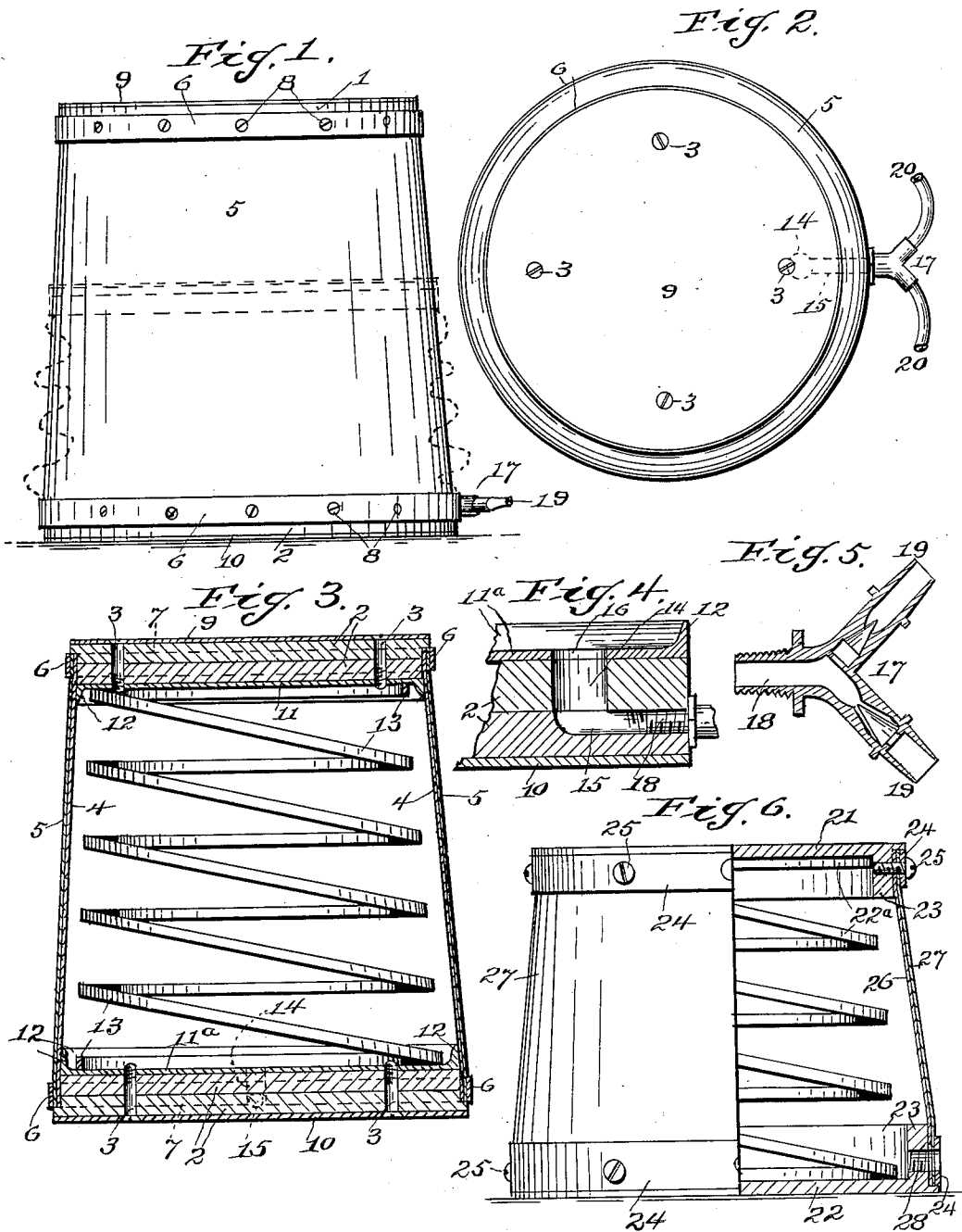


S. P. SANDERS.
BELLOWS SUCTION PUMP.
APPLICATION FILED FEB. 13, 1913.

1,095,930.

Patented May 5, 1914.



Witnesses:
R. F. Langedale
R. H. Neighman

Inventor,
Samuel P. Sanders
By
Faber & Whitman Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL P. SANDERS, OF AURORA, NEBRASKA.

BELLOWS SUCTION-PUMP.

1,095,930.

Specification of Letters Patent.

Patented May 5, 1914.

Application filed February 13, 1913. Serial No. 748,156.

To all whom it may concern:

Be it known that I, SAMUEL P. SANDERS, a citizen of the United States, residing at Aurora, in the county of Hamilton and State of Nebraska, have invented certain new and useful Improvements in Bellows Suction-Pumps, of which the following is a specification.

This invention relates to pumps and especially to bellows suction pumps.

The object of the invention is to provide a bellows suction pump of novel and peculiar construction and arrangement of parts, and adapted to be operated by hand or foot pressure.

The invention is specially applicable for purposes of embalming, wherein it is essential that the pumping operations be made as quickly as possible. Such operations have usually been made by an embalmer's assistant, or by the embalmer suspending other parts of the embalming work while he perfects such operation preparatory to completing the said process, and such operations are usually accomplished by the use of one or more hand operated devices.

It is, therefore, the purpose of this invention to overcome the objections and disadvantages of the devices or apparatus usually employed for aspiration and injection operations, and to furnish a device adapted to be operated by foot pressure of the embalmer for accomplishing such operations, so that he may perfect and control such operations as desired or as occasion may demand during the use of his hands in performing other operations pertaining to the process of embalming.

With these objects and purposes in view, the invention consists in the novel and peculiar construction and arrangement of parts, as will be hereinafter fully described and pointed out in the claim to follow.

In the accompanying drawings forming part of this application:—Figure 1 is a side view, the dotted lines showing the device compressed. Fig. 2 is a top view. Fig. 3 is a central vertical section, showing the spring in elevation. Fig. 4 is an enlarged detail section showing the valve connection. Fig. 5 is a similar view of the valve. Fig. 6 is a sectional elevation showing modifications.

The same reference characters denote the same parts throughout the several views of the drawings.

According to my invention I provide a cylinder composed of flexible fabric material, a cylinder head and a base having air-tight connection with such material, expansion and retracting means contained within the cylinder, and means for conducting compressed air from the cylinder and for forming a vacuum in the cylinder, for purposes of aspiration and injection.

In carrying out my invention I employ two pairs of blocks or disks, one pair of which constitute a cylinder head 1, and the blocks of the other pair are of larger diameter and constitute the cylinder base 2. The blocks are preferably composed of wood and are glued together and then secured by screw-bolts 3, for strength and durability. To the periphery of each of said blocks is secured a flexible material 4 (preferably leather) forming a cylinder, and a cover or outer jacket composed of canvas or cloth 5 is placed around the cylinder.

The means for attaching or securing the cylinder and the jacket to the blocks consists of a metallic band 6, for each pair of blocks. The blocks preferably have an annular shallow groove 7, over which the said materials are placed and the bands are placed into position opposite said grooves where they are secured by screws 8, the said attachment being such as to make the connections perfectly air-tight. The head 1 is provided with a metal face plate 9, and the base 2 has a similar plate 10, upon its outer face. The inner face of the head and the inner face of the base are each provided with a metal plate 11 and 11^a respectively having an annular flange 12, and these plates form bearings for a spiral spring 13. All of said plates being secured by the bolts 3, so that the head and the base may have unusual strength and durability, and so that the spring may have strong abutments without injuring the head and the base.

The base 2 is provided with a vertical duct or port 14, extending from the inner face of the base into the body of the base, and an orifice 15 extends from the port 14 through the periphery of the base, and the plate 11^a has an aperture 16 opposite the port 14. A two-way valve 17 has a stem 18 secured in the orifice 15 and is provided with a pair of nipples 19, for attaching suitable hose 20.

In arranging the leather and the cloth or canvas preparatory to applying the same to

the blocks, they are laid one upon the other and placed in cylindrical position so that their meeting edges over-lap, and such edges are preferably glued or cemented, and sewed
 5 or stitched together, and slipped on the head and the base while the spring is in expanded position, and secured by means of the bands, the valve is then attached.
 10 The hose is applied to one of the valve nipples for ejection of gas and fluid from a corpse, and to the other nipple for injection of embalming.

Referring to the modification shown in Fig. 6 the head 21 and base 22 are of metal,
 15 and the annular flanges 23 thereof are of such thickness and depth as to form rigid rims and guides for a spring 22^a. A thin metal band 24 is secured to the rims by screws 25 for clamping the leather 26 and
 20 the cloth 27 to the rims. The rim of the base 22 is provided with an aperture 28 for attaching a two-way valve.

The device is of such size and arrangement as to be readily operated by foot pressure of the embalmer on the head 1, preparatory to or during the process of embalming
 25 so that the hands of the embalmer are free for other work, and an assistant is not required for this purpose.

30 It is obvious that the embalmer is able to control and to exactly and quickly measure the amount of pressure he needs at various times in an embalming operation without

removing his foot from the head of the device. 35

I do not wish to confine myself to any particular materials employed in the manufacture of this device, nor to any particular size or shape of the device, but reserve the
 40 right to make such changes and variations therein as may come within the scope of the claim.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:— 45

In a bellows suction pump, the combination with a double head, a double base, an outer casing composed of fabric material, an inner casing composed of flexible material, and means for securing the casings to
 50 the head and the base, of a pair of plates having an annular flange one plate being secured to the inner face of the head and the outer plate being secured to the inner face
 55 of the base, bolts extending through the head, the base and the plates, and a spiral spring abutting against the plates and working within the flanges for operating the casings.

In testimony whereof I affix my signature 60 in presence of two witnesses.

SAMUEL P. SANDERS.

Witnesses:

B. O. BERGLOON,
 CHAS. W. WENTZ.