

(No Model.)

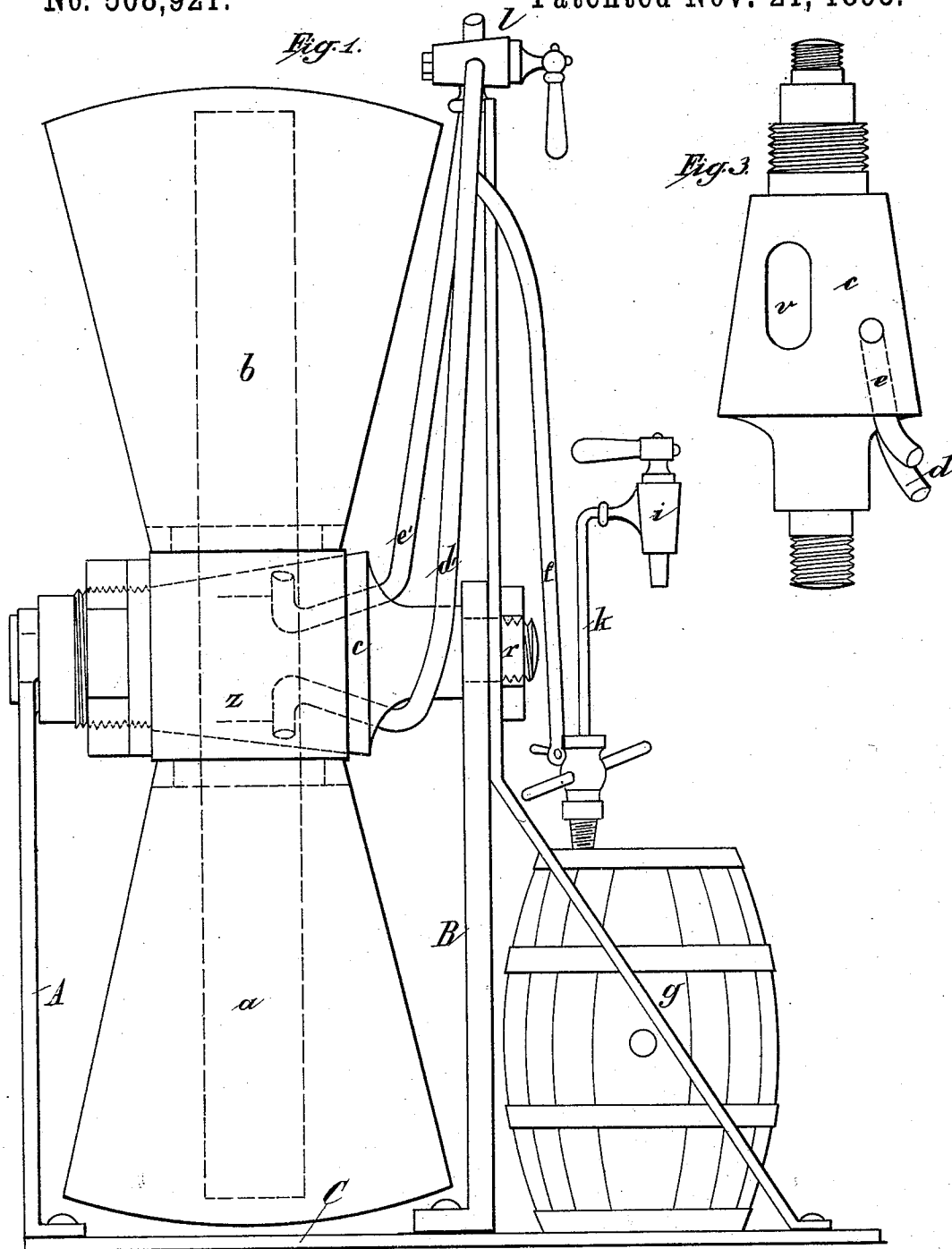
2 Sheets—Sheet 1.

O. DALISCH.

HYDRAULIC AIR COMPRESSING OR EXHAUSTING PUMP.

No. 508,921.

Patented Nov. 21, 1893.



Attest
Charles Waldron
J. L. Middleton

Inventor
Oskar Dalisch
by Ellis Spear -
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(No Model.)

2 Sheets—Sheet 2.

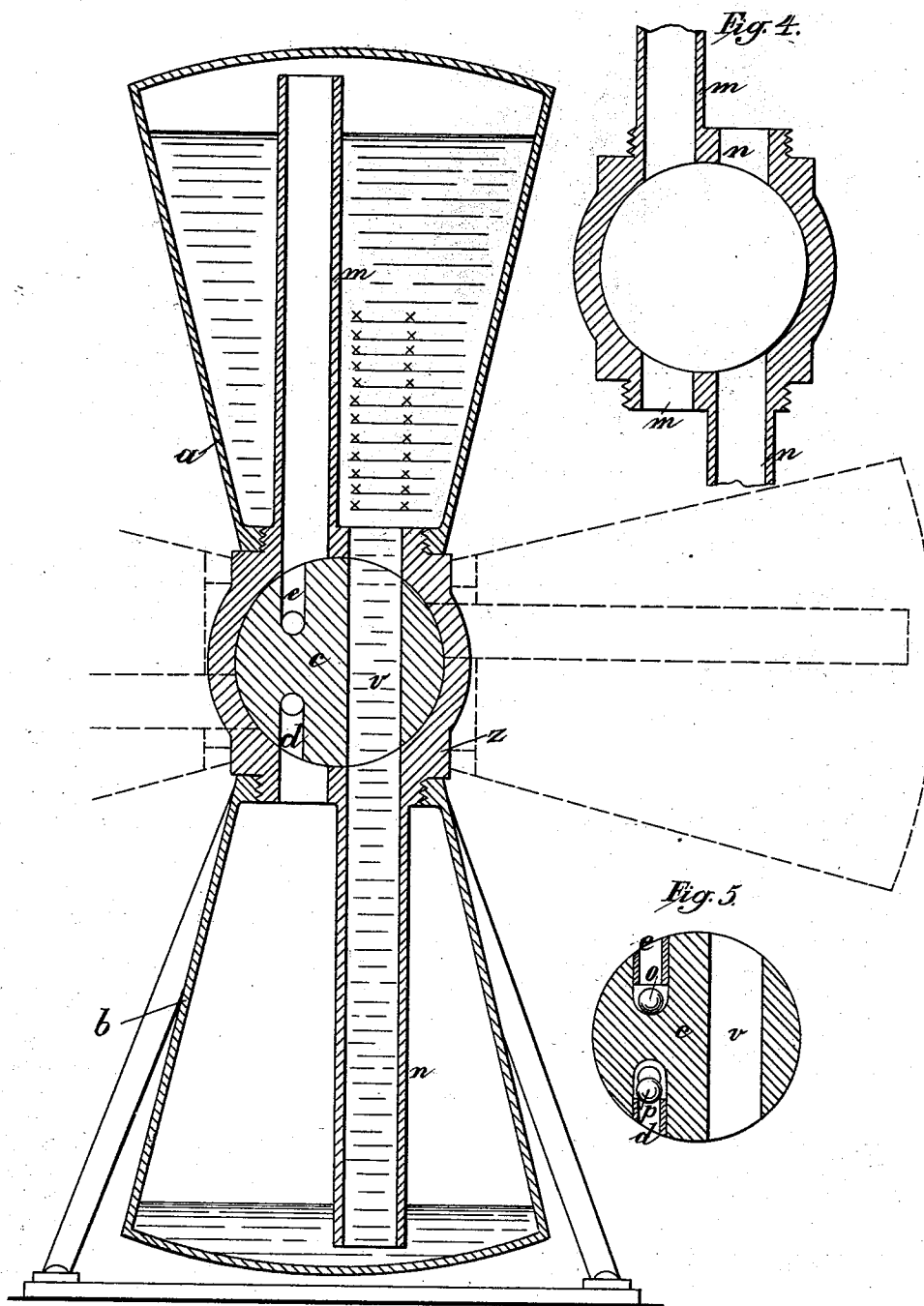
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HYDRAULIC AIR COMPRESSING OR EXHAUSTING PUMP.

No. 508,921.

Fig. 2.

Patented Nov. 21, 1893.



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UNITED STATES PATENT OFFICE.

OSCAR DÄLISCH, OF NEISSE, GERMANY.

HYDRAULIC AIR COMPRESSING OR EXHAUSTING PUMP.

SPECIFICATION forming part of Letters Patent No. 508,921, dated November 21, 1893.

Application filed February 1, 1893. Serial No. 460,621. (No model.)

To all whom it may concern:

Be it known that I, OSCAR DÄLISCH, goldsmith, of 10 am Markt, Neisse, in the Kingdom of Prussia and German Empire, have invented a new and useful Improvement in Hydraulic Air Compressing and Exhausting Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an apparatus which may be employed at will for forcing, compressing and exhausting fluids and gases. The construction of the apparatus is illustrated by the accompanying drawings, to which reference will hereinafter be made, and in which—

Figure 1 represents a side elevation; Fig. 2 a vertical transverse section; Fig. 3 an elevation of the center of the apparatus; Fig. 4 a vertical cross section of the hub, and Fig. 5 a cross section through the stationary center.

The apparatus consists of two or several closed chambers arranged upon opposite diameters of a hub which is capable of being rotated upon a stationary center. Each chamber has two ports communicating through the hub with the center in which three passages are formed. One of the ports opens direct into the bottom of the chamber, but the other opens into a tube extending to the opposite end of the chamber where it terminates in open part. One of the passages in the stationary center serves to put the open port of one chamber into communication with the tube inclosed port of the other chamber when the two chambers are in the vertical position, and the other two ports are respectively in communication with pipes communicating with a four way cock which communicates through a third pipe with a vessel containing the fluid to be operated on.

In the accompanying drawings, *a* and *b*, are the two opposed chambers which are respectively screwed or secured upon bases formed upon the hub *z* bored to fit upon the stationary center *c*, which is preferably conical and is mounted upon the supports *A B* carried on the foundation plate *C*. The stationary center is provided with three passages *d*, *e*, *v*, of which *v* corresponds with the openings or ports in the chambers and *d* *e* also correspond with the ports and communicate with the pipes *d'* *e'*.

If the lower vessel *a*, Fig. 1, is filled with

water, or with other suitable liquid, the vessel *b* being empty, and the vessels are then turned over so that *a* occupies the position before occupied by *b*, as shown by Fig. 2 the liquid will pass through the port *v* and the pipe *n* into the lower chamber, the air wherein will thus become compressed. The four way cock *l* with which the pipes *d'* *e'* communicate, is turned to put the chamber *b* into communication through the port *d* pipe *d'* and pipe *f*, with the vessel *g*. The pressure created in the chamber *b* is thus transmitted to the vessel *g*, and any fluid contained therein is thereby forced out through the pipe *k* and the tap *i*. When the supply of water in vessel *a* is exhausted, the position of the vessels is reversed and the operation will thus be repeated and can be repeated as often as may be required. Each of the chambers may be provided with an air valve or it may be arranged to introduce a fresh supply of air into the vessel through the pipe *d'* or *e'* which is not in communication with the lower vessel and through the tube *m* or *n*. The passages *d* and *e* in the stationary center are provided with ball valves *o p* to prevent any fluid flowing in the wrong direction.

If the pipe *f* be connected with the pipe *e*, by means of the four way cock *l*, the apparatus may be used for suction instead of for compression, by employing it in precisely the same manner as before described.

What I claim, and desire to secure by Letters Patent of the United States, is—

In an apparatus for compressing and exhausting fluids, a stationary center having passage way through the same, a hub having integrally formed tubes projecting from opposite sides thereof, closed chambers surrounding said tubes and screw threaded upon the hub, ports in the hub near the base of each tube adapted to place one tube and port in communication through said passageway and two independent ports in the stationary center communicating with the other tube and port and suitable pipe connections to said independent ports, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

OSCAR DÄLISCH.

Witnesses:

PAUL FISCHER,
J. M. SPEAR.