C. O. LUCAS.

PUMP CONSTRUCTION.

APPLICATION FILED JAN. 31, 1912.

1,039,154. Patented Sept. 24, 1912.

Fig. 1.

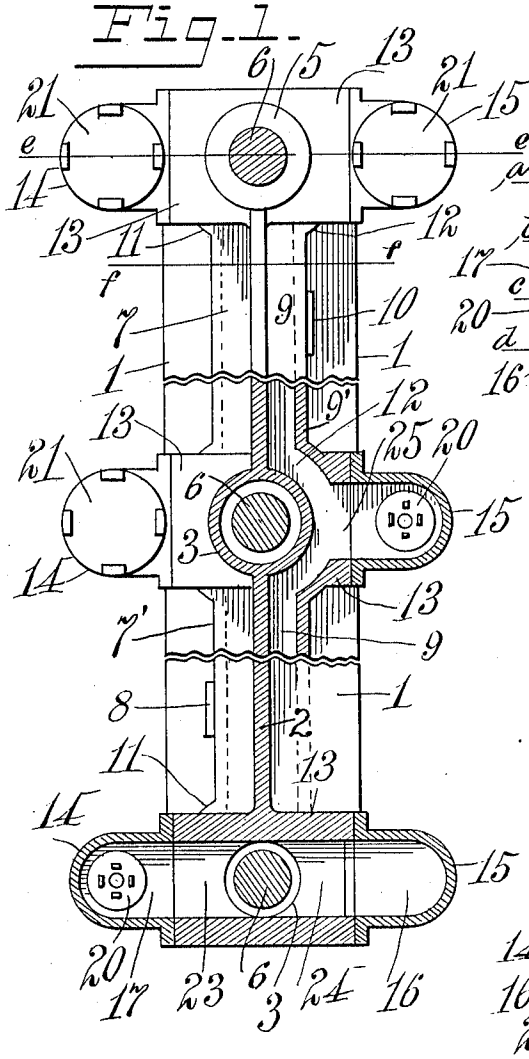


Fig. 3.

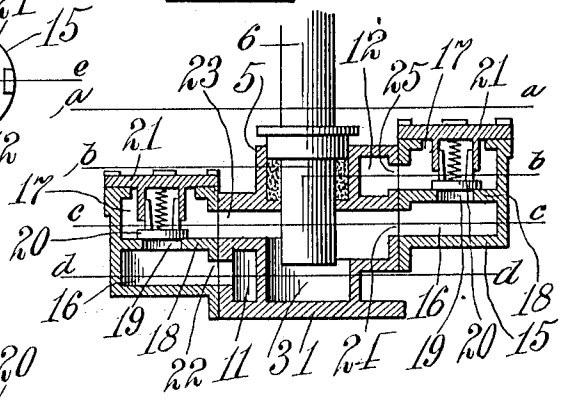
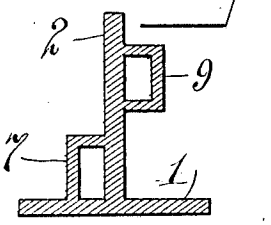


Fig. 4.



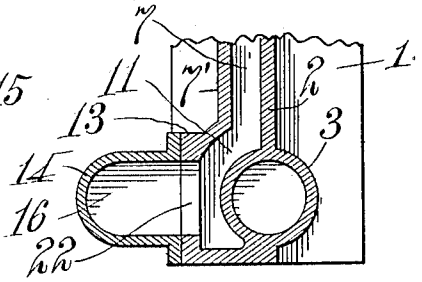


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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PUMP CONSTRUCTION.

1,039,154. Specification of Letters Patent. Patented Sept. 24, 1912.

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To all whom it may concern:

Be it known that I, CHARLES O. LUCAS, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Pump Construction; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in pump construction, and relates more particularly to the construction of the base thereof.

The object of the invention is to provide a compact and efficient construction of base and cylinders which avoids the external pipe connections heretofore found necessary in pumps having a multiplicity of cylinders, and eliminates connections and joints, and to a corresponding extent increases efficiency and decreases cost of labor in construction and assembling.

Referring to the annexed drawings, Figure 1 is a top plan view of my improved pump base, the upper portion of which is a section taken on the line *a—a* of Fig. 3, and the intermediate portion of which is a section on the line *b—b* of Fig. 3, and the lower portion of which is a section on the line *c—c* of Fig. 3; Fig. 2 is a section on the line *d—d* of Fig. 3; Fig. 3 is a section on the line *e—e* of Fig. 1; and Fig. 4 is a section on the line *f—f* of Fig. 1.

Referring more particularly to the drawings, 1 represents the base plate. From the central portion of this base plate extends a vertical wall 2 integral therewith. Integral with said wall 2 is also a series of vertically disposed cylinders 3 provided with glands 5, and receiving plungers 6. On one side of the wall 2 and near the base thereof, is an elongated inlet chamber 7 having an inlet opening 8, and along the other side of said wall and above the chamber 7 is an exhaust chamber 9 provided with an outlet 10. The chambers 7 and 9 lie within the confines of the base and are inclosed by outer integral walls 7′ and 9′. Adjacent to the cylindrical parts 3, the chambers 7 and 9 extend out and around the said cylinders. Opposite each of the cylinders, and on outer sides thereof, are apertured bosses 13 providing ports and to which inlet and exhaust valve housings 14 and 15 are attached. The said inlet and exhaust valve housings lie close to the base and are identical in construction and therefore interchangeable; they are constructed as follows. The said housings are provided with lower chambers 16 and upper chambers 17 separated by decks 18. The decks 18 are provided with valve openings 19 controlled by valves 20, which may be removed to openings closed by caps 21. The lower chambers 16 of the inlet valve housings 14 communicate with the elongated inlet chamber 7 at the curved or deflected portions 11 through ports 22, and the upper chambers 17 of the housings 14 communicate with the cylinders 3 through horizontal ports 23. The lower chambers 16 of the exhaust valve housings 15 communicate with the cylinders 3 through horizontal ports 24. The ports 23 and 24 are in alinement and lie between the inlet and exhaust chambers 7 and 9. The upper chambers 17 of the housings 15 communicate with the exhaust chambers 12 through the ports 25. The distances between the ports 22 and 23, and the ports 24 and 25 are the same; this permits the inlet and exhaust valve housings to be interchangeable and of the same construction, which greatly facilitates construction and assembling. The advantages are primarily of a structural character which combine with efficiency which is due largely to a compactness and a close and direct communication between the chambers or passages and the valve ports.

I claim:

A pump casing having a central vertical wall, integral cylindrical walls providing chambers, the axes of which are within the plane of said central vertical wall, inlet and exhaust chambers lying adjacent to and on opposite sides of said central wall and deflected around the circumferences of the cylindrical walls and inclosed by outer inte-

gral walls parallel with said central wall, the portions of said chambers deflected around the cylindrical walls being provided with inlet and exhaust ports, and valve housings mounted on each side of said base and communicating with said ports and chambers.

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

CHARLES O. LUCAS.

Witnesses:
R. J. McCARTY,
MATTHEW SIEBLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."