

A. B. JENNINGS.
PUMP.

APPLICATION FILED MAY 12, 1911.

1,014,153.

Patented Jan. 9, 1912.

Fig. 1.

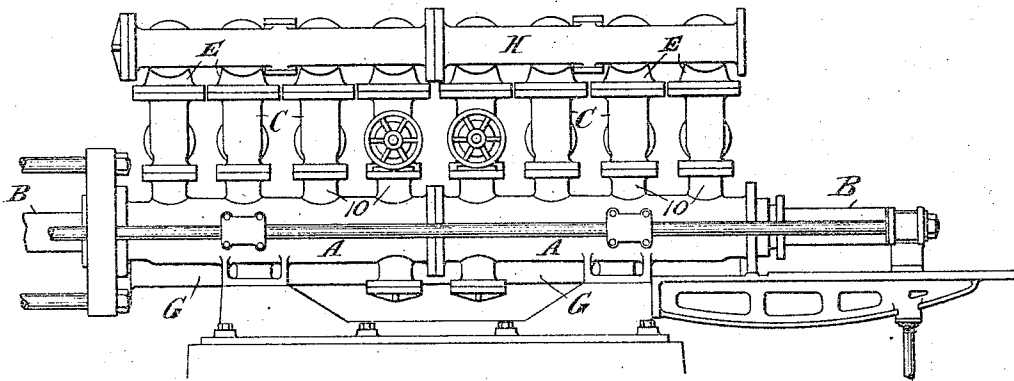
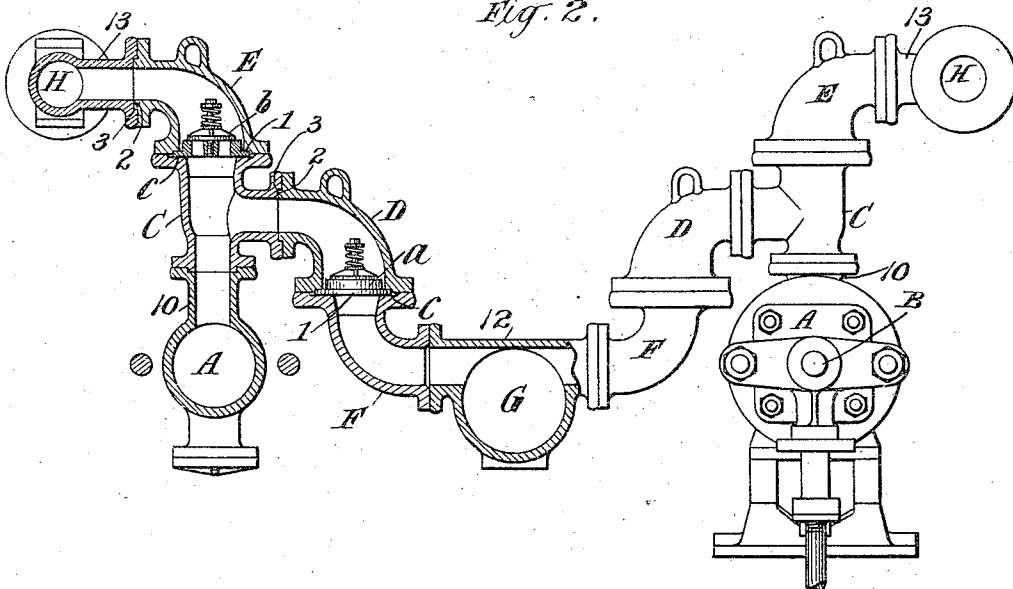


Fig. 2.



Witnesses:
W. H. Kennedy.
J. A. Graves.

Inventor
Arthur B. Jennings
By his Attorneys
Philip A. W. Kennedy

UNITED STATES PATENT OFFICE.

ARTHUR B. JENNINGS, OF HAZLETON, PENNSYLVANIA, ASSIGNOR TO INTERNATIONAL STEAM PUMP COMPANY, A CORPORATION OF NEW JERSEY.

PUMP.

1,014,153.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed May 12, 1911. Serial No. 626,686.

To all whom it may concern:

Be it known that I, ARTHUR B. JENNINGS, a citizen of the United States, residing at Hazleton, county of Luzerne, and State of Pennsylvania, have invented certain new and useful Improvements in Pumps, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to provide an improved pump construction of that class in which the pump capacity is divided between a number of inlet and outlet valve pipes and connections, which shall avoid the use of complicated patterns and otherwise be simple of manufacture and more convenient in use than previous constructions of this class.

The construction is especially adapted for high pressure pumps made entirely of steel castings, in which the difficulty of casting soundly from complicated patterns has been a source of great trouble and expense in making from steel castings the complicated valve pots and other parts heretofore used in such pumps. The invention may be applied, however, to other pumps than those made of steel castings.

For a full understanding of the invention, a detailed description of a duplex pumping engine embodying the invention in the preferred form will now be given in connection with the accompanying drawing forming a part of this specification and the features forming the invention then specifically pointed out in the claims.

In the drawings:—Figure 1 is a side elevation of the pump, and Fig. 2 is a transverse sectional elevation, the section being taken through the suction and force valve chambers on one side.

In the drawing, which shows a pump of the well known outside packed plunger type, A are the plunger chambers or pump cylinders, in which work the end plungers B. These plunger chambers carry a number of flanged connections 10 on which are mounted T's C to which are connected elbows D and E forming respectively the suction and force valve chambers. The suction valve chambers D connect through elbows F and connections 12 with suction manifold G, and force valve chambers E connect with force manifolds H through connections 13.

The manifolds may be of any desired length and formed in sections as desired.

An important feature of the construction shown is that the suction and force valve chambers D and E are interchangeable which aids materially in securing the desired simplicity and convenience of manufacture and removal of parts, and this is the preferred construction.

Within the elbow valve chambers D, E, are mounted respectively the suction valves *a* and discharge valves *b* on their seats *c*, the valves being provided with flanges 1 held between the flanges on the elbows and parts to which they are connected, the flanges 1 being seated in notches in the opposing parts. The elbows D, E are preferably provided with shoulders 2 fitted within corresponding shoulders 3 on the parts to which they are connected at their outlet ends, so that the elbows are held firmly in proper position when the flanges are bolted together, and for the purpose of allowing the elbows to be withdrawn to release these shoulders and allow the elbows to be lifted from the parts C, F a small amount of side-wise play is allowed between the valve flanges 1 and the elbows or connecting parts, so that the valve chambers may be moved sidewise to withdraw the shoulders 2, 3 from engagement; after which withdrawal the elbows may be lifted off with the valves.

It will be seen that the invention provides a pump construction much more subdivided than has heretofore been attempted, securing a very simple and convenient construction and avoiding all complicated patterns.

What I claim is:—

1. A pump having a number of T's mounted on the pump chamber, elbow suction and force valve chambers connected to the T's, and suction and discharge manifolds connected to the valve chambers, said elbow valve chambers being made removable for access to the valves.

2. A pump having a number of T's mounted on the pump chamber, elbow suction and force valve chambers connected to the T's, and suction and discharge manifolds connected to the valve chambers, said elbow valve chambers being made removable for access to the valve and the suction and force valve chambers being interchangeable.

3. A pump having a number of T's mount-

ed on the pump chamber, elbow suction and force valve chambers connected to the T's, suction and discharge manifolds connected to the valve chambers, and a valve in each
5 chamber having a flange held in position between the valve chamber and connecting part, said elbow valve chambers being made removable for access to the valves.

4. A pump having a number of T's mounted on the pump chamber, elbow suction and force valve chambers connected to the valve chambers, suction and discharge manifolds connected to the valve chambers, and a valve
10 in each chamber having a flange held in position between the valve chamber and connecting part, and the valve chamber and connecting part being recessed to hold the valve flange in place but permitting sliding movement of the parts, and interlocking

shoulders on the opposite ends of the valve chambers and parts with which they connect released by the sliding movement of the valve chambers to permit the removal of the valve chambers. 20

5. A pump having the plunger chamber A with connections 10, T's C on said connections, elbow suction and force valve chambers D, E, valves *a*, *b* in said chambers, suction and force manifolds G, H, and connections between said valve chambers and
25 manifolds. 30

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

ARTHUR B. JENNINGS.

Witnesses:

W. N. WILEY,
E. F. BARRETT.