E. LANNAY.

PUMP-VALVES.

No. 194,252. Patented Aug. 14, 1877.

Fig. 1.

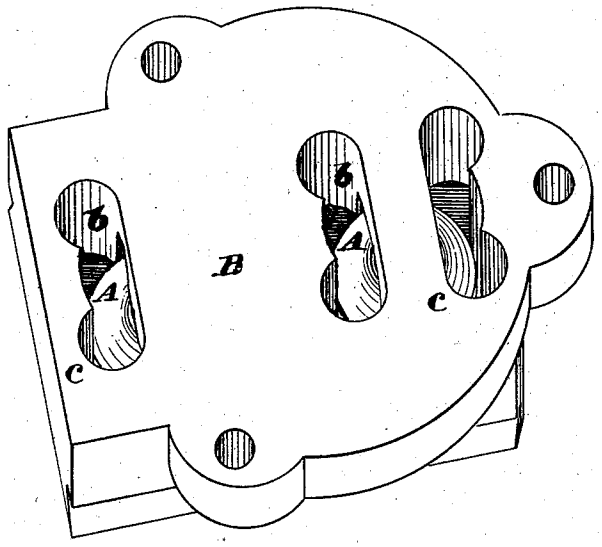
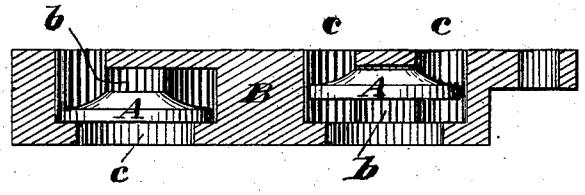


Fig. 2.



Attest

Wm. Knight.

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UNITED STATES PATENT OFFICE.

EDWARD LANNAY, OF LIMA, OHIO.

IMPROVEMENT IN PUMP-VALVES.

Specification forming part of Letters Patent No. **194,252**, dated August 14, 1877; application filed June 7, 1877.

To all whom it may concern:

Be it known that I, EDWARD LANNAY, of Lima, Allen county, Ohio, have invented a new and useful Improvement in Valves for Pumps and other Conduits, of which the following is a specification:

This is an improved construction of those valves about which the casing or chamber is cast; and my improvement consists in forming such valves of simple separate disks confined and guided by the inclosing walls of the casing-chamber alone.

In the accompanying drawings, Figure 1 is an upper-side perspective view. Fig. 2 is a vertical section.

My valves A are simple cast-metal disks, and, when it is desired to combine them with the casing, said valves are deposited in the mold, and, being enveloped in the sand or core, the casing B is cast around them.

The core used is of such form and dimensions as to afford chambers *b*, which constitute guides to the valves in their play within the pump. These chambers communicate with the conduits above and below them through suitable apertures, *c*.

Although designed more particularly for the class of double-acting force-pumps which possess a tubular piston-rod that constitutes the water-discharge, and of which that patented on the 3d day of January, 1865, to A. H. Pickering, is a type, my invention is applicable to a great variety of submerged pumps.

I claim as new and of my invention—

The detachable pump-valve casing B and the permanently-inclosed disks A A, confined and guided by the chambers *b b* of the casing, as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

EDWARD LANNAY.

Attest:

GEO. H. KNIGHT,

O. W. SMITH.