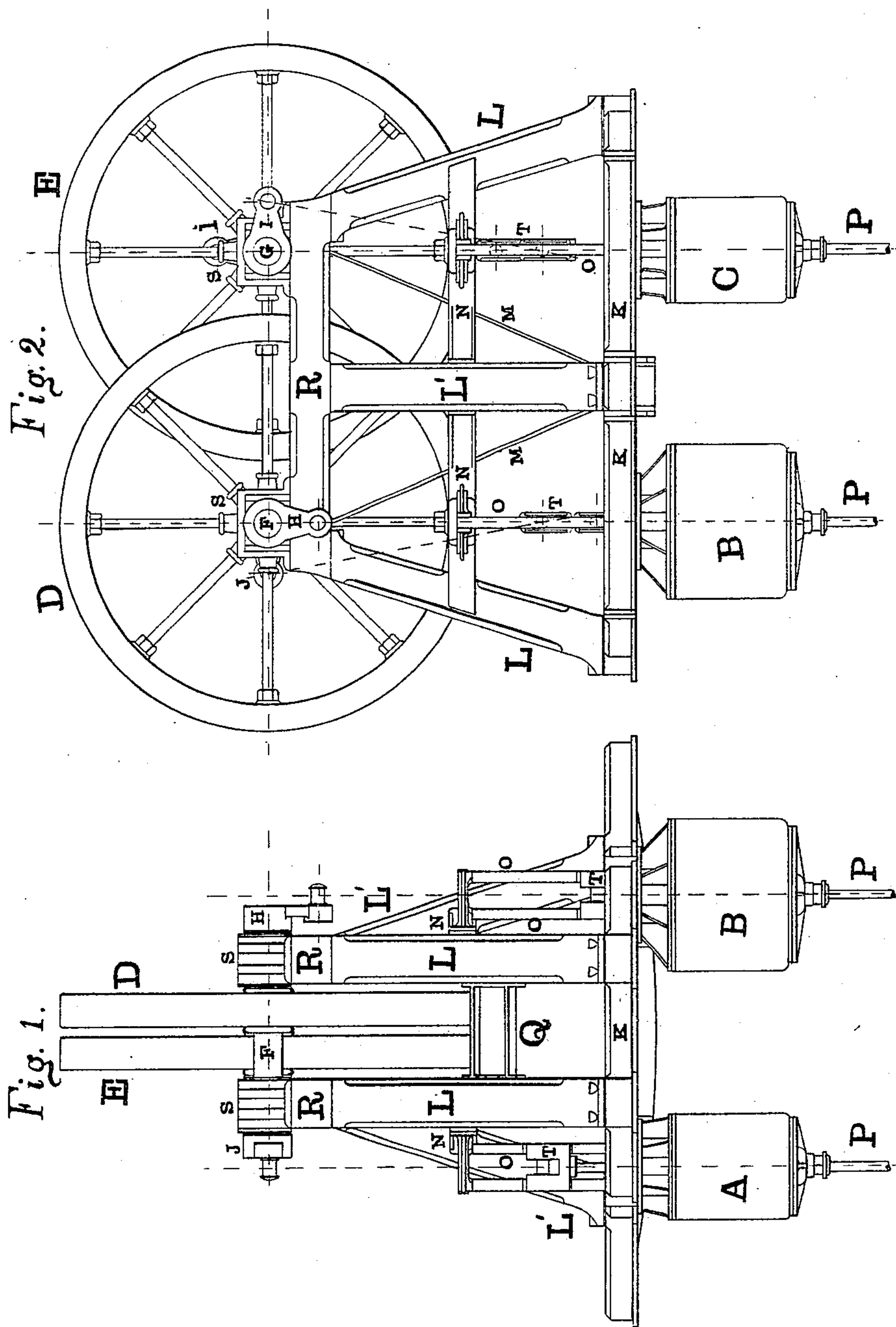


(No Model.)

H. F. GASKILL  
VERTICAL PUMPING ENGINE.

No. 262,286.

Patented Aug. 8, 1882.



ATTEST  
Chas J. Bates  
W. Roche

INVENTOR  
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Atty.

# UNITED STATES PATENT OFFICE.

HARVEY F. GASKILL, OF LOCKPORT, NEW YORK.

## VERTICAL PUMPING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 262,286, dated August 8, 1882.

Application filed April 18, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, HARVEY F. GASKILL, of Lockport, in Niagara county, New York, have invented certain Improvements in Vertical Pumping-Engines for Pumping-Works, of which the following is a specification.

My invention relates to vertical pumping-engines.

It is desirable in a pumping-works to have the machinery so arranged that all of it may be run at once when there is a call for a large capacity, or a part only may be run without the rest when the consumption is small, or when one part is undergoing repair. Ordinarily this feature is secured by having two or more distinct sets of machinery. This necessarily involves great expense, as it requires the duplication of all the parts, including the foundations, connections, &c. My invention secures this feature, without such great expense, by certain novel arrangements or combinations of parts, more particularly specified in the claim at the end hereof, and by which I obtain both cheapness of construction and efficiency of action.

In the drawings, Figure 1 is a front elevation, and Fig. 2 is a side elevation, of an engine embodying my improvements. It is a double vertical pumping-engine in a single frame, but having two distinct shafts and fly-wheels.

K is a base made to set on a foundation over a well.

A B C are steam-cylinders. They are suspended from the base, whereby the frame is made lower than it would otherwise be. There is a fourth cylinder, which does not show in the drawings, it being behind A and C in the two figures.

P are the pump-rods, which extend downward to the pump-cylinders below, of which there are four, one under each steam-cylinder.

I have not thought it necessary to show these pump-cylinders. They are of any suitable construction.

L and L' are the uprights of the frame, inclined, as shown, for the sake of stiffness.

R is the upper horizontal member or top chord of the frame, which supports the boxes S of the main shafts F and G.

M M are tie-rods to support the central weight and transmit it to the upper outer corners, whence it is carried by the posts L to the foundations.

I & J H are the cranks on the ends of the main shafts G and F. The cranks of each pair—as J and H—are set at right angles to insure a uniform delivery of water from the pumps, and are operated from a high and low pressure cylinder, respectively.

D E are the two fly-wheels. They are so set on their shafts F G as to overlap, as shown, and thus reduce the length of the frame.

N are cross-pieces, which support the upper ends of the guide-bars O.

T are the cross-heads, moving on the guides O.

These engines, being disconnected in their working parts, may be run separately. The two cylinders of each pair—as A and B—are high and low pressure, as in a compound or Woolf engine.

What I claim is—

The combination, with the single frame, of two engines, each having a high and low pressure cylinder, a crank for each cylinder, the two cranks being at right angles to each other on a single shaft, a pump to each cylinder, and a fly-wheel, the shafts and fly-wheel being mounted on the frame and the cylinders hung below it, substantially as described.

HARVEY F. GASKILL.

Witnesses:

J. B. BOYCE,  
GEO. L. SMITH.