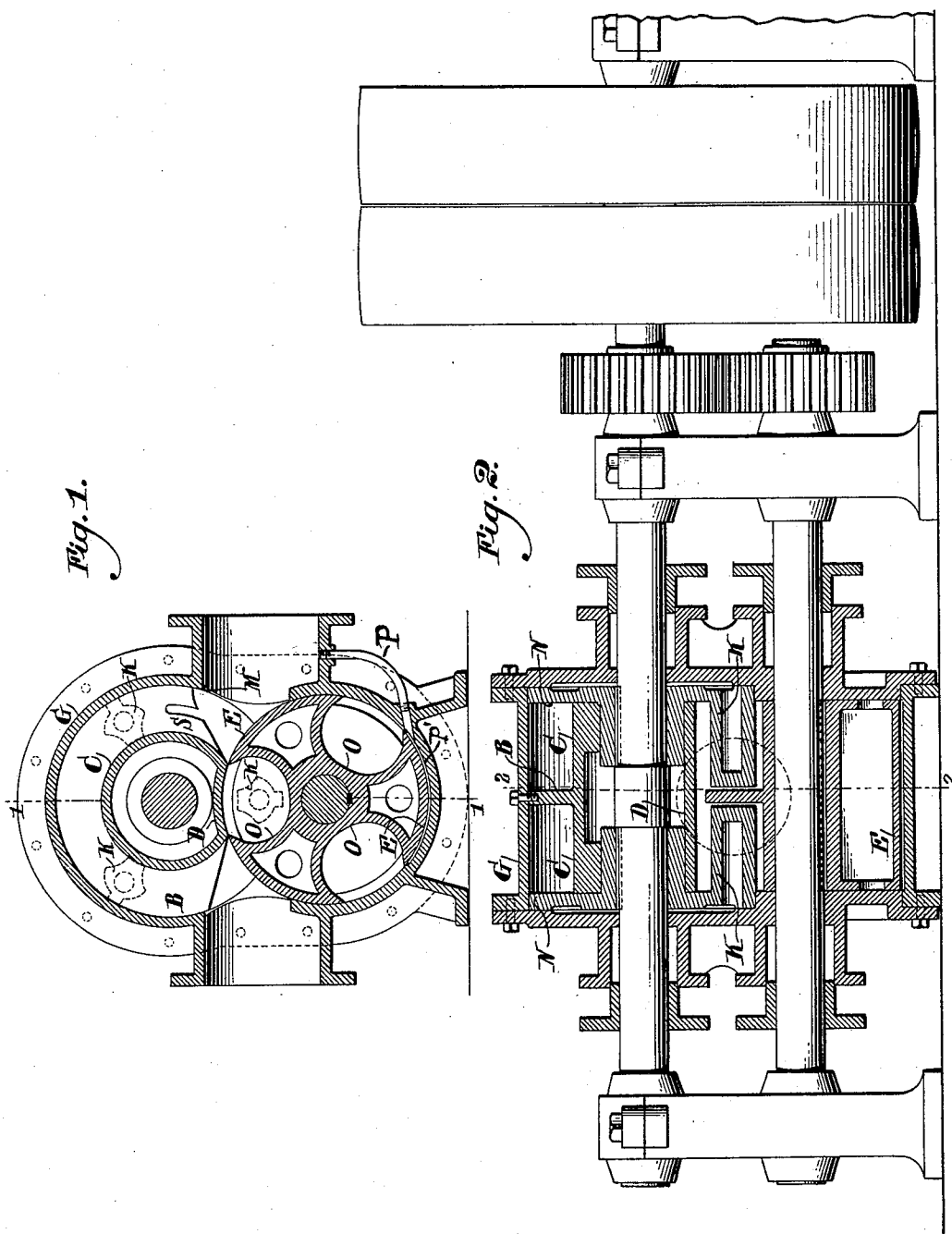


(No Model.)

E. BIBUS.
ROTATION PUMP.

No. 589,462.

Patented Sept. 7, 1897.



Witnesses

Harry D. Dwyer
Shaw

Inventor.

Emil Bibus
by
Francis T. Chambers
his

Attorney.

UNITED STATES PATENT OFFICE.

EMIL BIBUS, OF MÜNCHEN-GLADBACH, GERMANY.

ROTATION-PUMP.

SPECIFICATION forming part of Letters Patent No. 589,462, dated September 7, 1897.

Application filed June 27, 1896. Serial No. 597,122. (No model.)

To all whom it may concern:

Be it known that I, EMIL BIBUS, a citizen of the German Empire, residing at München-Gladbach, Rhenish Prussia, Germany, have invented a new and useful Improvement in Rotary Pumps, of which the following is a specification, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of rotary pumps, and has for its object to provide for an equalization or "balancing," so to speak, of the strains and pressures to which said pumps are subjected in use, thus at the same time preventing destructive wear and insuring the most efficient working of the pump.

The nature of my improvements will be best understood as described in connection with the drawings, in which they are illustrated, and in which—

Figure 1 is a sectional elevation on the section-line 2 2 of Fig. 2, and Fig. 2 being a longitudinal elevation taken on the section-line 1 1 of Fig. 1.

G represents the casing of the pump, the inlet-conduit leading thereto being at the left hand of Fig. 1 and the outlet-passage being at the right hand. Two shafts pass through the casing G and are geared together, so as to revolve with some speed in opposite directions. As is shown in Fig. 2, to the upper shaft are secured the two plates or disks N N, fitting and turning in the upper curved portion of the casing G and having projecting inward from their faces the pistons K K. The pistons attached to each disk N come opposite to and in line with the piston attached to the other disk N, the distance between their adjacent ends being sufficient to clear the partition B, which is bolted to the casing G, separating it into two chambers. The partition also supports the cylinder C, which extends around the upper shaft and is formed on its under side with a segmental depression D, the curvature of which should be the same as that of the cylinder E, attached to the lower shaft of the pump, while the length of the segmental depression D should be such as will insure its spanning the recesses indicated at O, which are formed in the cylinder E for the reception of the pistons K, and of course the

lower part of the casing G is formed to make a neat fit with the cylinder E, as shown.

It will be obvious by my construction that every strain to which any part of the pump is subjected is balanced by a similar and equal strain upon the opposite side of the pump. Consequently all such strains are neutralized, and the pump is therefore a particularly efficient and economical one, as all the power is devoted to the work for which the pump is used with a minimum of loss by friction.

I consider it desirable to prolong the flange or web B so that it extends to or nearly to the delivery-conduit, as shown in Fig. 1, and to insure that the pressure on both sides of the pump should be in equilibrium even before the liquid is forced into the delivery-conduit I prefer to provide a communication through the flange B by which the liquid on each side of the flange or partition can come into an equilibrium of pressure and rapidity of movement before it actually reaches the delivery-conduit. Such a means of communication is the slot S of Fig. 1.

Where water or other liquid is to be forced to any considerable height—say one hundred feet or more—it is desirable to balance the pressure exerted by the liquid in the delivery-pipe upon the cylinder E, and for this purpose I provide a conduit or pipe P, leading from the delivery end of the pump to a recess P' in the inner face of the casing in which cylinder E moves.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a rotary pump, substantially as specified the combination with a casing as G, having a dividing wall or partition B of two sets of rotary pistons K each piston being set in line with one in the opposite set and the two sets of pistons being arranged one on each side of the partition B, a reversed cylinder E arranged to coact with the rotary pistons and inlet and outlet ports leading to and from the casing and communicating with the chambers on both sides of partition B.
2. In a rotary pump the casing G in combination with two geared shafts passing through the casing, a cylinder E having recesses O secured to one shaft, an inner cylinder C surrounding the other shaft said cyl-

inder having a segmental depression D and being secured to the casing by a centrally-located partition B, disks N N secured to the shaft surrounded by cylinder C and pistons K secured to said disks as specified.

3. In a rotary pump substantially as specified the combination with a casing as G, having a dividing wall or partition B having an opening as S at or near the delivery side of the casing of two sets of rotary pistons K each piston being set in line with one in the opposite set and the two sets of pistons being arranged one on each side of the partition

B, a reversed cylinder E arranged to coact with the rotary piston and inlet and outlet ports leading to and from the casing and communicating with the chambers on both sides of partition B.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

EMIL BIBUS.

Witnesses:

WILLIAM ESSENEREIN,
LAURA LIEBER.