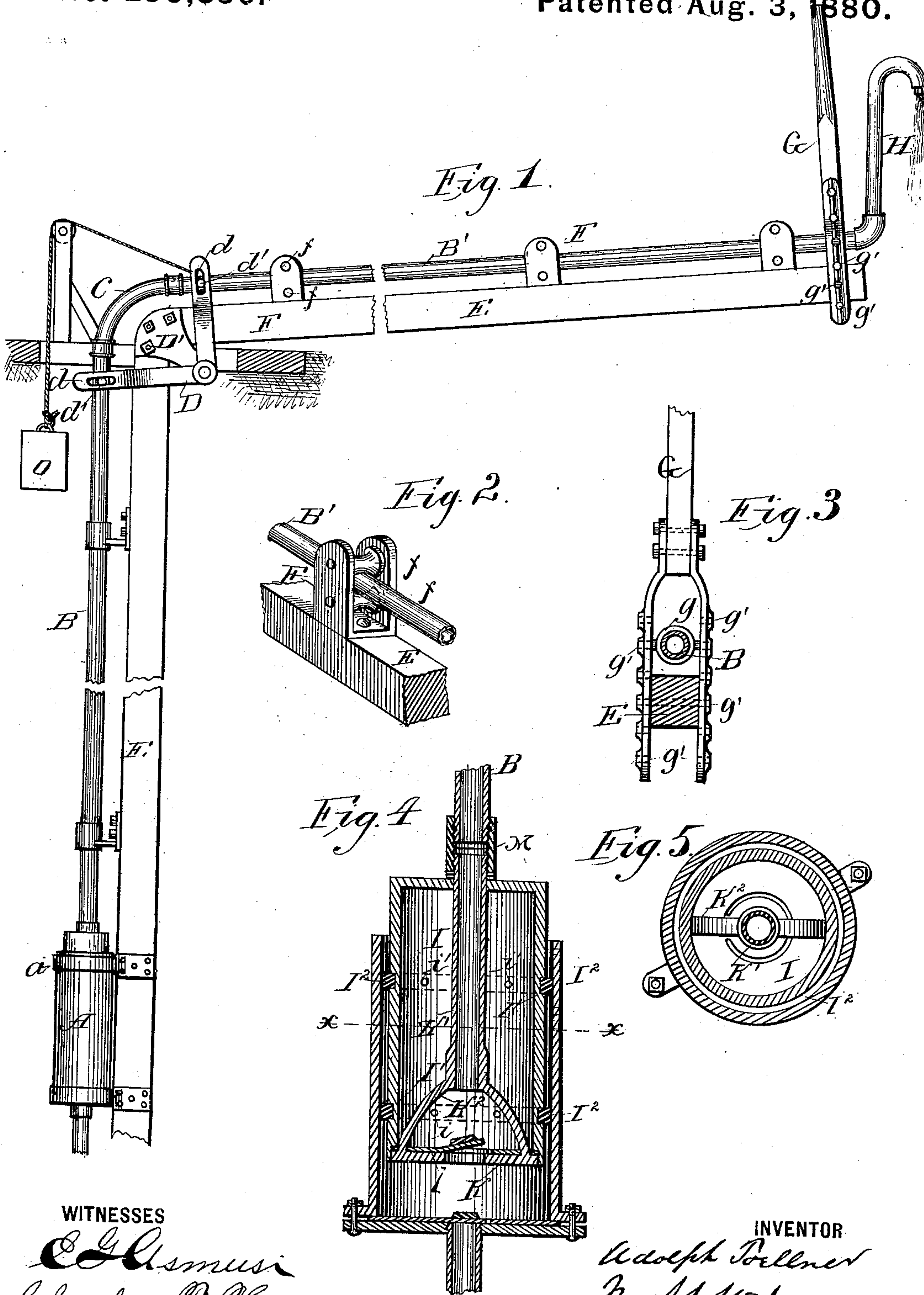


(No Model.)

A. TOELLNER.
Pump.

No. 230,836.

Patented Aug. 3, 1880.



WITNESSES

E. G. Smusi
Charles F. Hunter

INVENTOR

Adolph Toellner
By J. M. Stott

ATTORNEY

UNITED STATES PATENT OFFICE.

ADOLPH TOELLNER, OF MILWAUKEE, WISCONSIN.

PUMP.

SPECIFICATION forming part of Letters Patent No. 230,836, dated August 3, 1880.

Application filed April 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH TOELLNER, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Pumps, (Case A;) and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to hollow piston-rod pumps; and it consists in the device herein-after described and claimed.

In the drawings, Figure 1 is a side view of my invention. Figs. 2 and 3 are details, and Fig. 4 is a vertical section of cylinder and plunger, and Fig. 5 is a horizontal section of the same.

A is the cylinder, which is secured to a support, E, by brackets *a*. B B is the hollow piston-rod, also secured to the support E by brackets. This rod is in two sections, which are connected by a flexible pipe, C, and a bell-crank lever, D, the latter having slots *d d*, in which pins *d' d'* on said sections work. This bell-crank lever is pivoted to a bracket, D', which is securely attached to the support E.

The section B' may be carried off at a right angle to section B, or any greater or less angle, and is passed between rollers *f f* in brackets F to a lever, G. Here it is passed through a pivoted clamp, *g*, which is adjustable in holes *g'* in the arms of the lever, provided for that purpose and for allowing the lever G to be pivoted to its fulcrum. Beyond the lever the section may be provided with a suitable spout, H.

I cast the chamber of my improved plunger I with an open bottom and with perforated indentations I' for the packing-rings I² and notch for the valve-seat K, which is cast in one piece with the tube *k'*, a stirrup, *k*², connecting the two.

A leather valve-plate, *l*, having been placed upon the valve-seat K, its tube is passed up through the top of the chamber, and a coupling, M, connects it with the upright section B. A few turns of this coupling will now be sufficient to make the joint between the seat and chamber water-tight and firmly clamp the valve-plate between them.

In Fig. 4 the plunger is shown on its way down, so that its valve is open while that of the cylinder is closed.

In the indentations for the packing-rings I², I provide perforations *i'*, which, when both rings are in place, serve to allow the water-pressure to tighten said rings, but when the upper ring is removed permit the water to leak out, and therefore in winter I contemplate only using the lower ring, that water may not remain to freeze and impair the action of the pump.

The operation of this device will be readily apparent.

The operator, by taking hold of the handle of the lever and working it back and forth, (the stroke being regulated by changing the fulcrum of the lever,) will raise and lower the upright section B, and in this will be assisted by the weight O, that accelerates the downward stroke of section B, which is the one that forces the water up.

My device will be found especially useful in mines where water has to be carried a great distance, in irrigating, and for numerous other purposes.

I claim—

1. The combination of the sectional rod B B' with a flexible pipe, C, and the bell-crank lever, as described.

2. The combination of sectional rod, flexible connection, bell-crank lever, and adjustable lever, as set forth.

3. In a pump-plunger, the combination of the chamber and valve-seat, the latter cast with a stirrup and a tube, which passes up through the top of the chamber to connect by a coupling, M, with the rod-section B, as set forth.

4. The valve-plate clamped between the seat and chamber, as set forth, in combination with tube and coupling.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of April, 1880.

ADOLPH TOELLNER.

Witnesses:

ROBT. LUSCOMBE,
G. T. BRYANT.