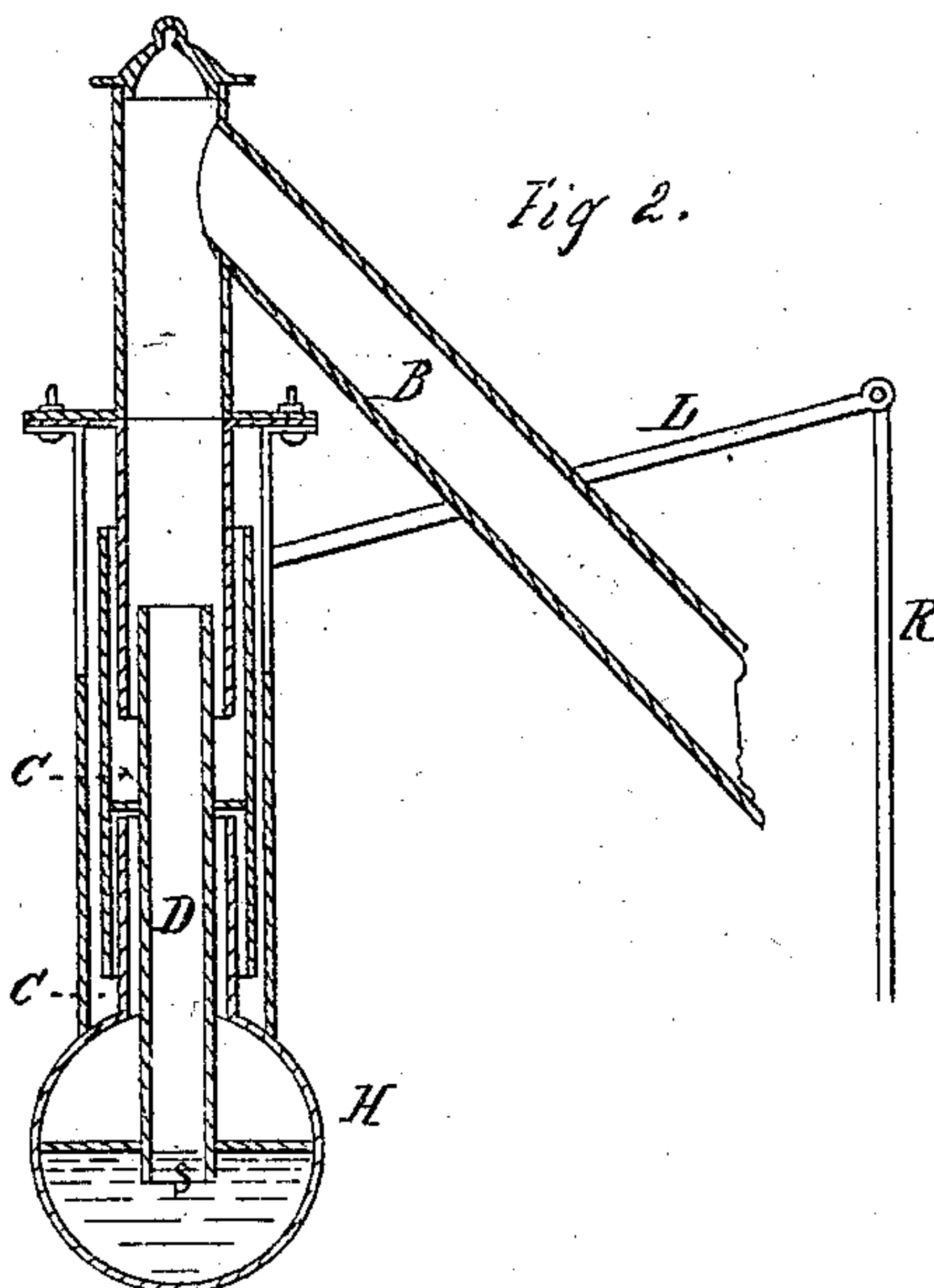
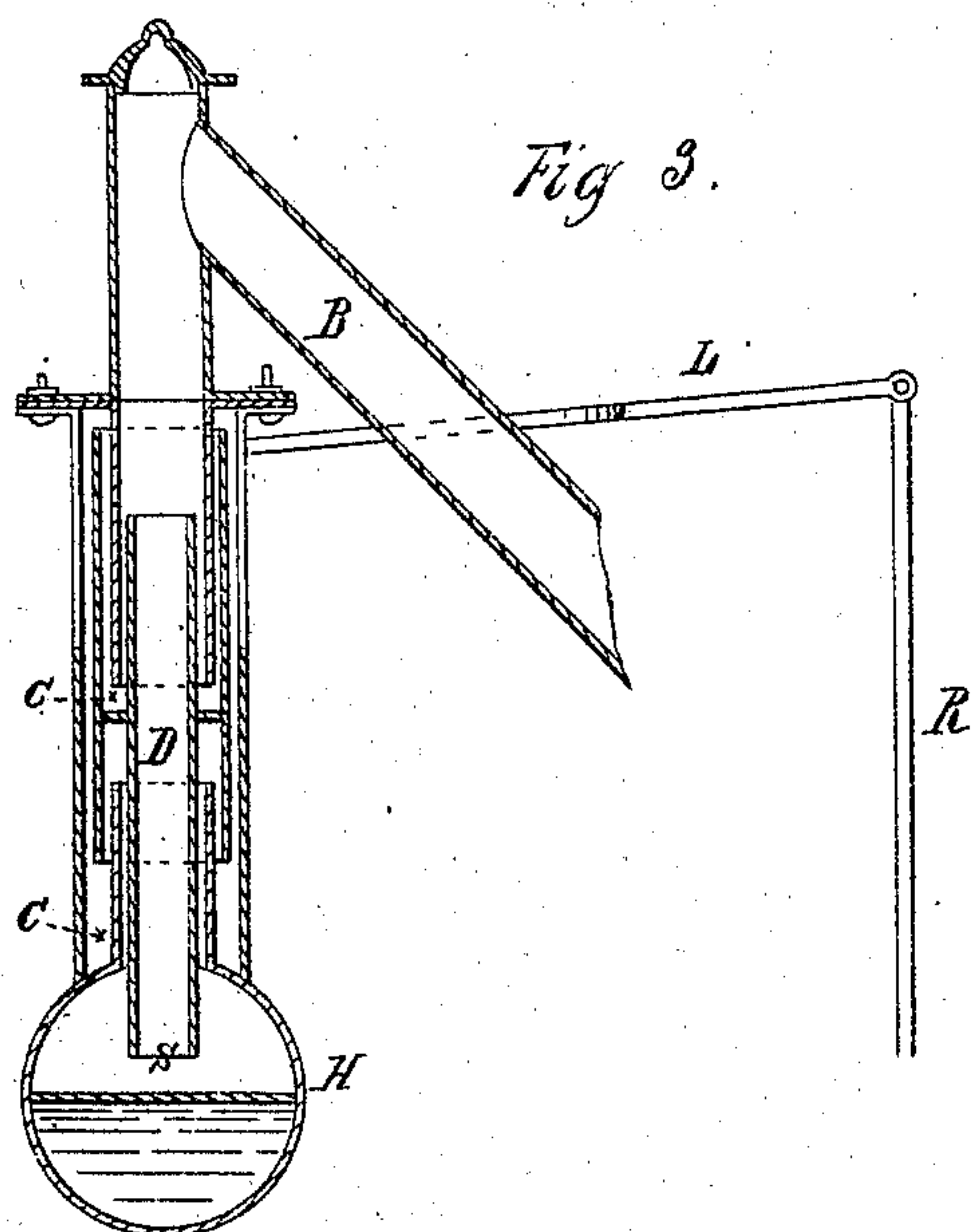
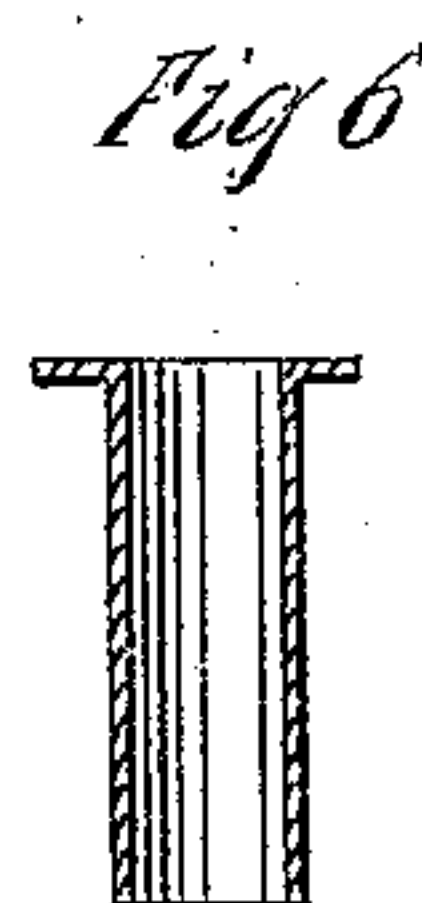
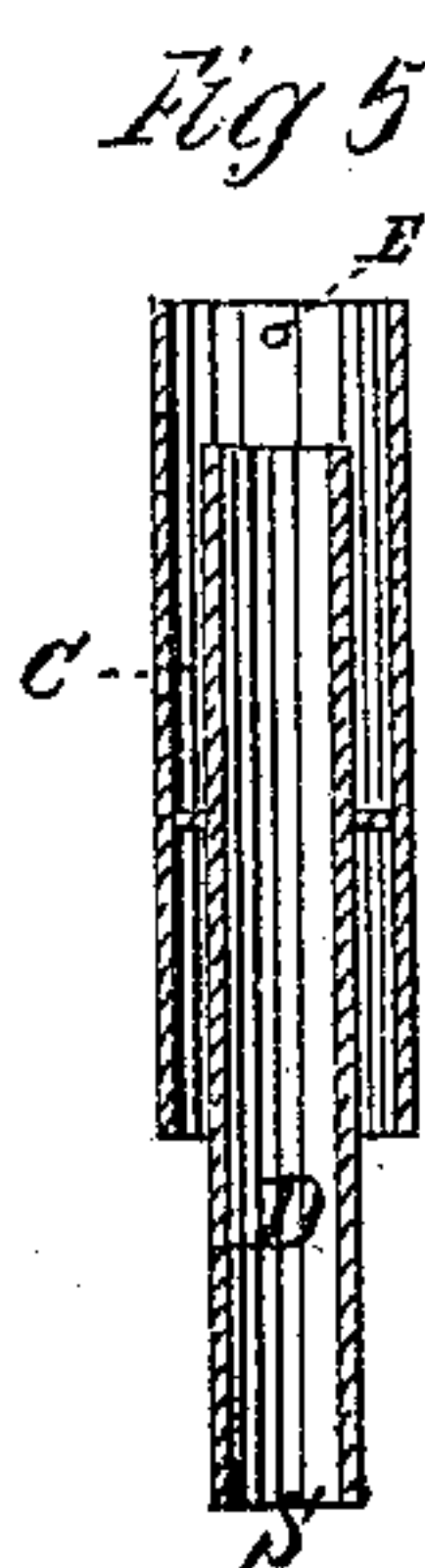
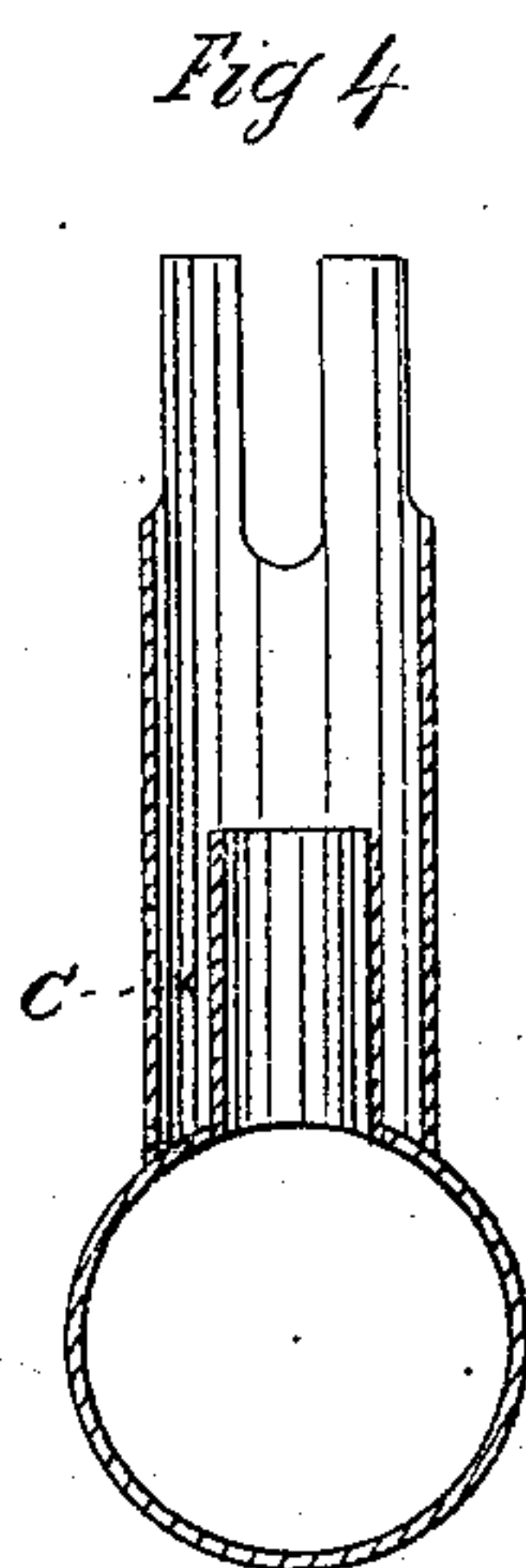
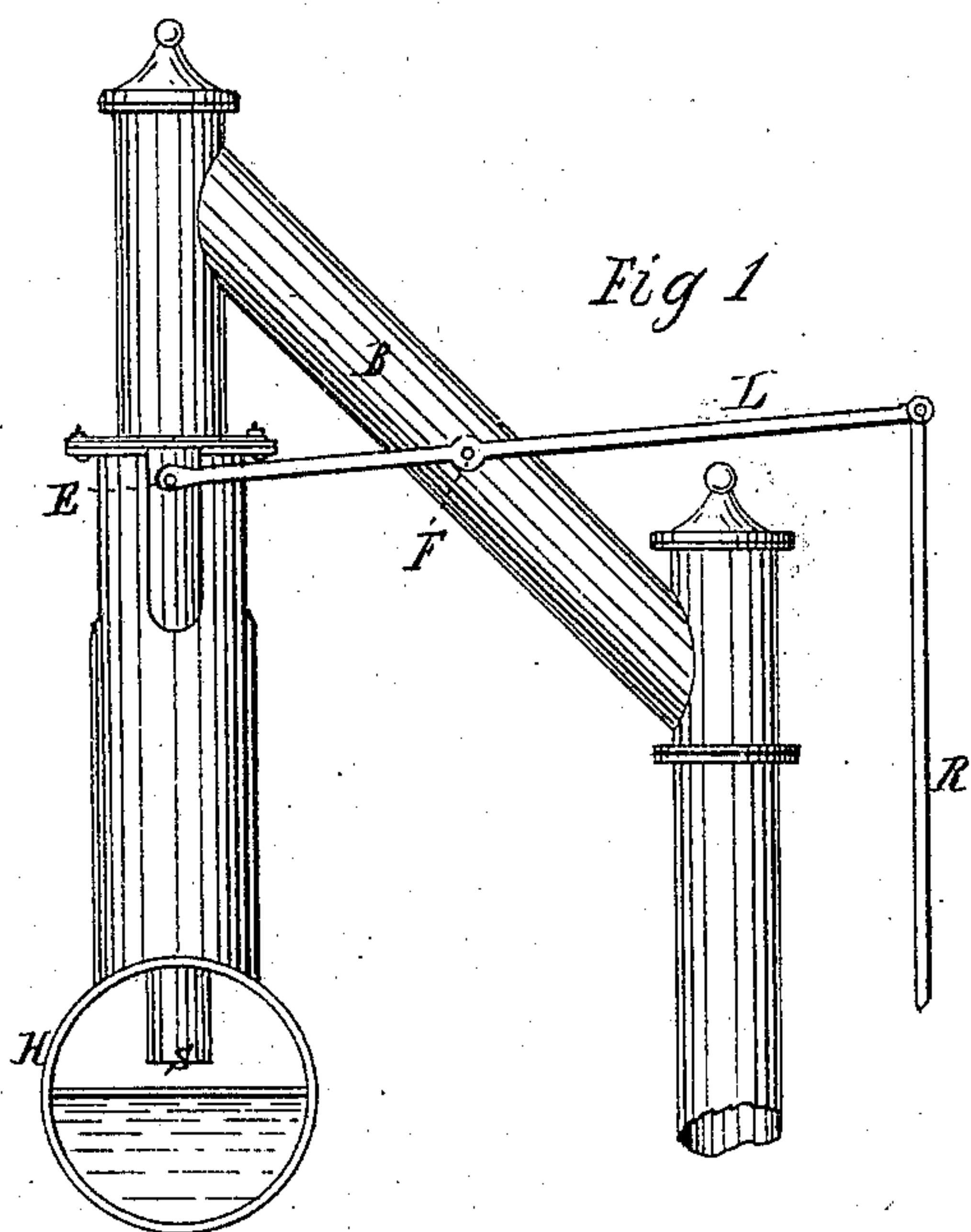


W. CARTWRIGHT.

Dip-Pipe Seal for Gas Works.

No. 133,756.

Patented Dec. 10, 1872.



Witnesses.

Frank W. Kellogg.
Wilmer G. Cartwright

Inventor.

William Cartwright.

UNITED STATES PATENT OFFICE.

WILLIAM CARTWRIGHT, OF OSWEGO, NEW YORK.

IMPROVEMENT IN DIP-PIPE SEALS FOR GAS-WORKS.

Specification forming part of Letters Patent No. 133,756, dated December 10, 1872.

To all whom it may concern:

Be it known that I, WILLIAM CARTWRIGHT, of the city of Oswego, in the county of Oswego and State of New York, have invented an Improvement in Gas Apparatus, of which the following is a specification:

This invention relates to the ordinary apparatus used in the manufacture of illuminating-gas, and is designed to remove the intermittent and needlessly-increased pressure upon the retorts, caused by the generating gas bubbling through the tar of the hydraulic main at the dip-pipe, by the substitution of a movable pipe, which may be raised out of the tar during the evolution of the gas.

I am aware that various devices have been applied to accomplish this result, but they are tardy or at times unreliable in action, and require the use of stuffing-boxes, stop-cocks, internal rods and appliances, or other complex and uncertain elements.

By this invention, a movable dip-pipe, piercing the hydraulic main, with its exit end terminating below the tar-level in the hydraulic main, can be elevated out of this seal, the movable pipe being a continuation of the bridge or saddle-pipe above it, with intervening water or liquid joints, the internal area of the dip-pipe in its whole length being entirely clear, easily accessible at the usual stopper over it whenever necessary for clearing out tarry obstructions, the motion given to the movable pipe being wholly by external appliances, all as represented in the drawing.

Figure 1 is a transverse elevation of the unsealing dip-pipe attached to the hydraulic main H and bridge-pipe B. Fig. 2 is a sectional elevation of the same, showing the movable dip-pipe D, and cups C C for the liquid joints, with the outlet S of the dip-pipe, sealed as usual in the liquid of the hydraulic main. Fig. 3 is a sectional elevation of the same, showing the dip-pipe elevated and its outlet, S, unsealed, or above the tar-level. Figs. 4, 5, and 6 are sections of the component parts of the dip-pipe. Fig. 4 exhibits the cup C, for the lower water-joints to be secured to the hydraulic main H, and to receive the movable pipe. Fig. 5 is a sectional view of the movable pipe D with an outer rim forming an annular space between them, serving as cups for the water-joints. Fig. 6 is a section of

the upper flange-pipe, to be bolted to the bridge-pipe and extended parts of the lower cup. This pipe enters the upper seal-cup C on the movable pipe D.

When the retort is charged and the lid closed, the lever L, with fulcrum F on the bridge-pipe, is drawn down by the rod R, and secured to the retort-lid or any of its fastenings, the lever directly acting at the ear E upon each side of the loose or movable pipe, thereby elevating its lower end (see Figs. 1 and 3) above the tar-level in the hydraulic main, the cups being filled with a liquid which prevents the escape of gas, these cups C C and immersed tubes being of sufficient depths and lengths, respectively, to retain at all times a liquid column sufficient to withstand the working pressure or vacuum on the hydraulic main. The liquid in these cups may be water, tar, quicksilver, glycerine, or anything equivalent.

When the retort is about to be opened, the lever-rod R must necessarily be first unfastened, allowing the movable dip-pipe to fall by its own weight and seal itself. No accident can therefore ensue from neglect of the operative to seal the dip-pipe before opening the retort.

Claims.

I claim as my invention—

1. The movable dip-pipe, provided with the external cylindrical liquid seal for the lower open end of the saddle-pipe, substantially as described.

2. The movable dip-pipe provided with the external concentric pipe, open below and dipping into a cylindrical liquid seal which is attached to the hydraulic main, substantially as specified.

3. A movable dip-pipe, with internal area of the dip-pipe free and clear in its whole length for the passage of gas and vapors, with intervening water-tight extension joints, whereby the lower end of the movable pipe is thrown in and out of the liquid seal in the hydraulic main by a lever attached to its exterior, substantially as specified.

WILLIAM CARTWRIGHT.

Witnesses:

FRANK W. KELLOGG,

WILMER G. CARTWRIGHT.