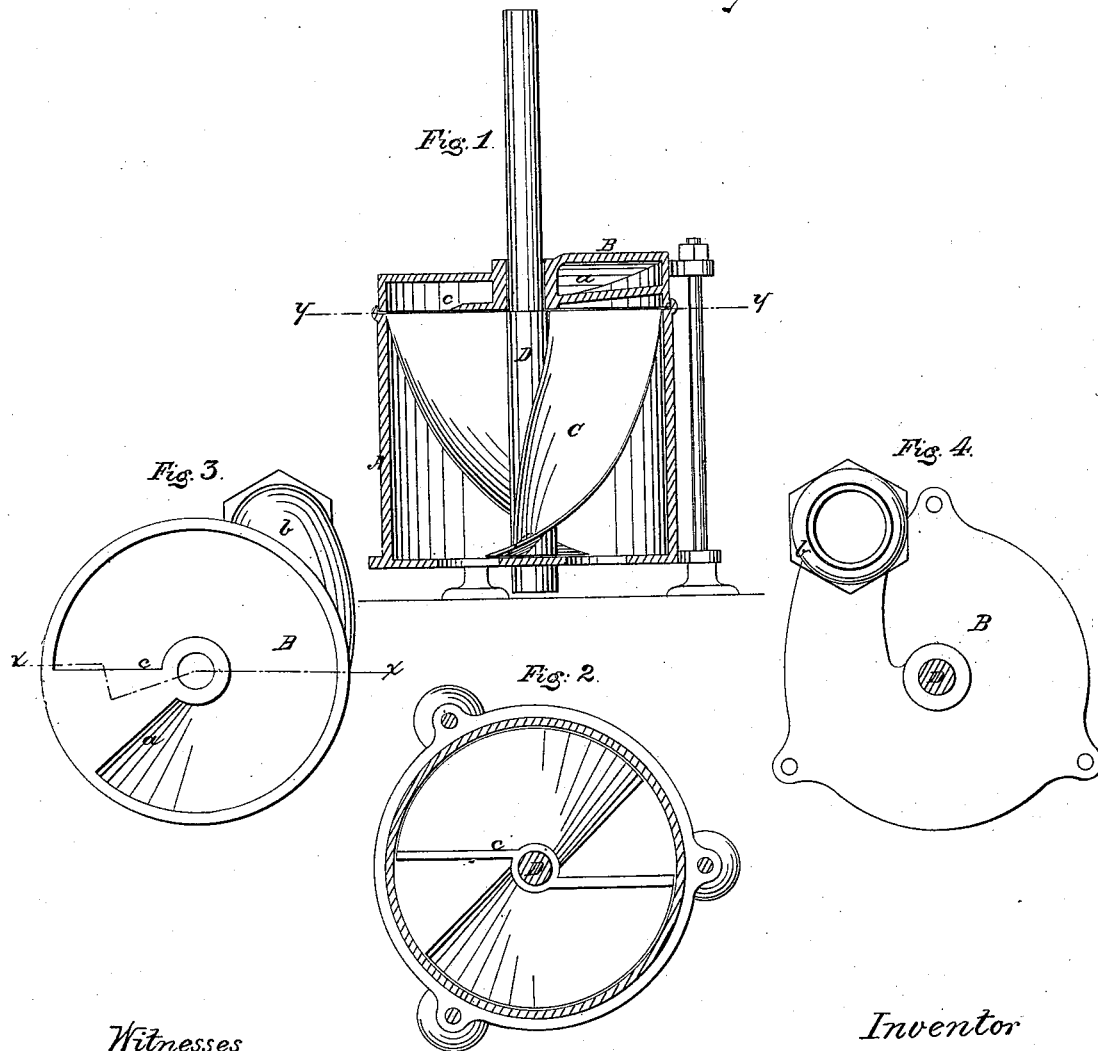


A. Leuchtweiss,
Centrifugal Pump

N^o 53939.

Patented Apr. 10, 1866.



Witnesses
M. M. E. Wright
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A. LEUCHTWEISS, OF CINCINNATI, OHIO.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 53,939, dated April 10, 1866.

To all whom it may concern:

Be it known that I, A. LEUCHTWEISS, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Rotary Pump; and I do hereby declare that the following is a full, clear and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical section of this invention, the line *xx* Fig. 3 indicating the plane of section. Fig. 2 is a horizontal section of the same, taken in the plane indicated by the line *yy*, Fig. 1. Fig. 3 is an inverted plan of the cover of the pump-barrel or cylinder. Fig. 4 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a pump which is based on the principle of an archimedean screw, said screw being made to revolve in a barrel or cylinder which is open at the bottom, and provided with a closely fitting top. Said top is hollow and furnished with one or more outlets, either on top or on its sides, and with one or more sharp-edged abutments, which extend close down to the ends or upper edges of the screw-blades, in such a manner that the liquid taken up by said screw-blades is, so to say, cut off by the edge of the abutment and forced to pass up into the hollow part of the cover and out through the delivering pipe or pipes, and that with this simple screw-pump water or other liquids can be forced up to a considerable height.

A represents a barrel or cylinder which is open at the bottom and provided with a closely fitting top or cover, B. Said cylinder is bored out to receive the screw C, which is composed of two or more spiral blades of considerable

pitch, and which is mounted on a vertical arbor, D, by which a rapid revolving motion can be imparted to the same.

The cover B is provided with a discharge-passage, *a*, leading to the delivery-pipe *b*, which emanates either from the top of the cover, as shown in the drawings, or which may be made to emanate from its side; and, if desired, two or more discharge-passages may be made in the cover B. The lower edge of the discharge-passage *a* forms a sharp-edged abutment, *c*, which rests close over the top edges of the screw-blades, as clearly shown in Fig. 1 of the drawings, and as the screw revolves, the liquid taken up by the blades is cut off by said sharp-edged abutment and forced up into the passage *a*, whence it is prevented from flowing back by the constantly-succeeding quantities of liquids forced up by the screw, and a pump is thus obtained which is exceedingly simple in its construction, which requires no valve, and which can be used with great advantage as a ship's pump or for breweries, distilleries, sugar-houses, and other similar manufactories, where the liquid to be raised is semi-fluid or mixed with foreign matter.

By the combination of the sharp-edged abutment with the screw I am enabled to force the liquid up to a considerable height with a comparatively small expenditure of power.

What I claim as new, and desire to secure by Letters Patent, is—

The sharp-edged abutment *c*, in combination with the discharge-passage *a*, screw C, and cylinder A, constructed and operating substantially as and for the purpose described.

AUGUST LEUCHTWEISS.

Witnesses:

W. HAUFF,
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