

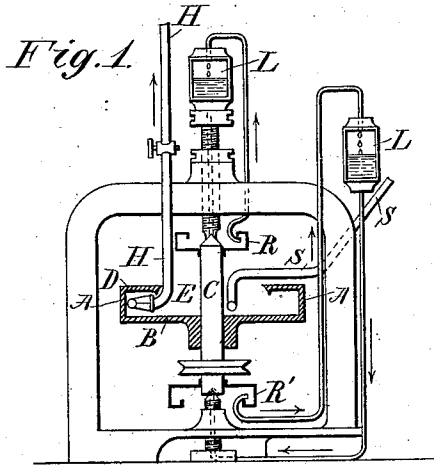
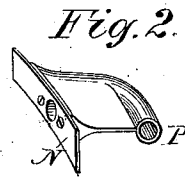
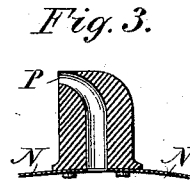
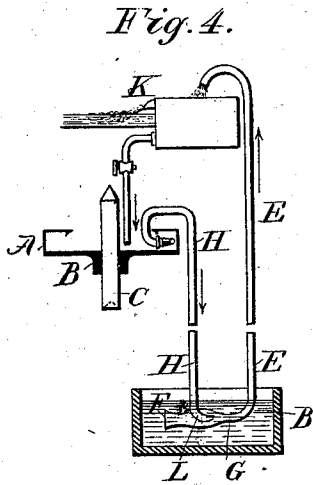
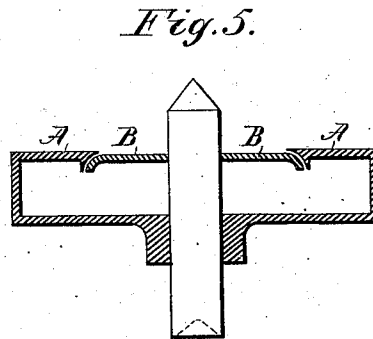
(No Model.)

H. F. L. W. DE ROMILLY.

WATER ELEVATOR.

No. 261,436.

Patented July 18, 1882.



*Witnesses.*

*John C. Kemron*  
*Chas. A. Pettit*

*Inventor.*

*H. F. L. W. de Romilly*  
*By [Signature]*  
*Attorneys*

# UNITED STATES PATENT OFFICE.

HENRY FELIX LOUIS WORMS DE ROMILLY, OF PARIS, FRANCE.

## WATER-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 261,436, dated July 18, 1882.

Application filed August 19, 1881. (No model.) Patented in France July 8, 1878, No. 125,507; in Belgium July 10, 1878, No. 45,635; in England July 20, 1878, No. 2,908; in Germany July 22, 1878, No. 3,753, and in Italy September 30, 1878, XX, 329.

*To all whom it may concern:*

Beit known that I, H. F. L. W. DE ROMILLY, of Paris, in the Republic of France, have invented an Improvement in Water-Elevators, of which the following is a specification.

Figure 1 of the drawings represents an elevation showing the cylinders in section. Fig. 2 is a perspective, and Fig. 3 a sectional, view of the lower end of the fixed pipe. Fig. 4 is an elevation, partly in section, showing the drum differently arranged from what it is in Fig. 1. Fig. 5 shows in section a modification of the cylinder or drum.

In the drawings, A represents the drum, closed at bottom and fixed by its base B to a spindle, C, passing through an opening in top D. The fixed pipe has an upper part, H, extending as high as the water is to be raised, while the lower part, E, enters the drum, and is bent until it nearly touches the internal periphery of casing A, so as to be immersed in the water and to present its open mouth P to the affluent current. From this inlet orifice the pipe increases in sectional area in the form of a cone.

The operation is as follows: By the rotation of the drum the contained liquid is caused by the centrifugal force to assume the form of an annulus against the periphery. The pipe presents its orifice normally to the current, and receives the water tangentially to the current or circle which it describes. The liquid rises in the pipe to a height corresponding to its velocity and increasing as the square of the same. The apparatus is capable of raising water to a great height, the velocity being only limited by the strength of material required to resist the centrifugal force. The water may flow into the drum from any suitable source through a pipe, S.

The apparatus which I have now described is substantially the same as that shown in my Patent No. 211,347.

It is my object in the present invention instead of raising the water to cause it to descend with full force toward the lower level through the pipe H, ascend through the pipe E, and discharge into the trough K, from whence a portion of the water is returned through pipe M to the trough. This operation is clearly shown in Fig. 4 of the drawings, and by it the water acquires the velocity imparted by the drum plus that due to its fall. The lower end of the down-pipe terminates in the reservoir B and ends in a nozzle, L, from which the water is discharged in the form of a jet into the conical orifice G of pipe E, the said orifice being a third to a half larger than that in nozzle L. In Fig. 5 of the drawings the drum is shown with a flat fixed cover, which fills the opening, and has a rim which corresponds to the lip on the drum, and is separated therefrom by a very narrow interval.

F is the mouth-tube of the pipe E.

This apparatus has less passive resistance to overcome than is the case in pumps, because of the friction of the piston and of the water against the stationary sides of the casing.

The flange N in Figs. 2 and 3 of the drawings is intended to act alone or in conjunction with the lip on the top of drum, so as to prevent the water from splashing out.

What I claim as new and of my invention is—

The combination, with the drum, the liquid-receptacle above it and the one below it, of the descending pipe H, having nozzle L, the ascending pipe E, having mouth-tube F and orifice G larger than that of nozzle L, and the down-tube M, as and for the purpose specified.

HENRY FELIX LOUIS WORMS DE ROMILLY.

Witnesses:

ROBT. M. HOOPER,  
JEAN BAPTISTE ROLLAND.