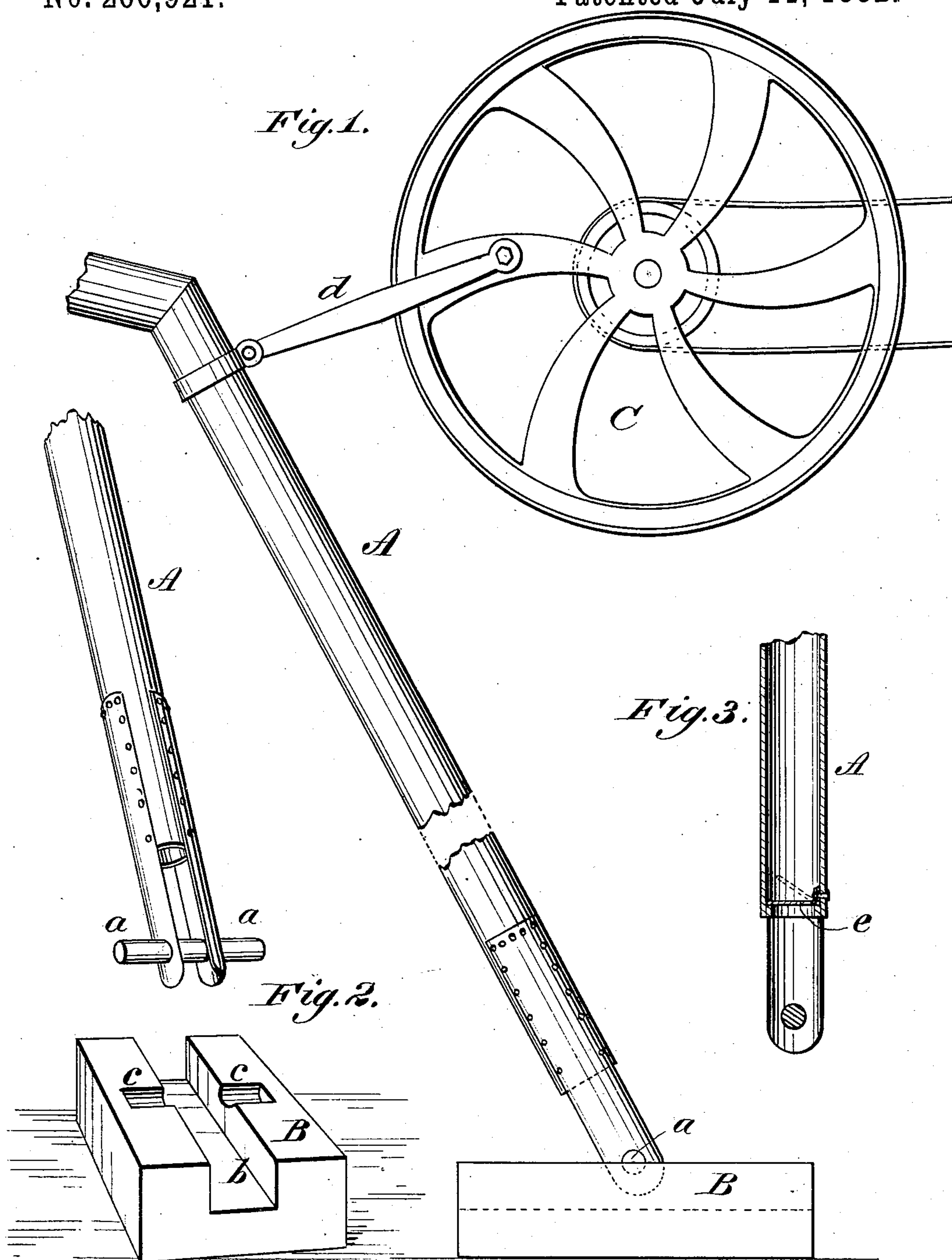


(No Model.)

N. R. ALPUCHE.  
PUMP.

No. 260,921.

Patented July 11, 1882.



WITNESSES:

Donn Twitchell.  
C. Seagwick

INVENTOR:

N. R. Alpuche  
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# UNITED STATES PATENT OFFICE.

NESTOR R. ALPUCHE, OF MERIDA, YUCATAN, MEXICO.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 260,921, dated July 11, 1882.

Application filed May 17, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, NESTOR R. ALPUCHE, of Merida, Yucatan, Mexico, have invented certain useful Improvements in Centrifugal Pumps, of which the following is a specification.

My invention relates to improvements in centrifugal pumps; and it consists in the peculiar construction and arrangement of parts, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of a pump of my invention. Fig. 2 is a perspective view of the base and lower portion of the tube. Fig. 3 is a section of the lower end of the tube, showing the valve.

Similar letters of reference indicate corresponding parts.

A is a tube of suitable size, fitted at its lower end with side pivots, *a a*.

B is the base or step piece, formed with the central recess, *b*, and with boxes *c c*, that receive the pivots *a a*.

C represents a crank-wheel, from which a rod or pitman, *d*, passes to and is connected with the pipe A, near its upper end. The tube A has its upper end bent preferably at an obtuse angle in the plane of oscillation. The pivots *a* are shown as formed by a cross-pin, and the sides of the tubes are slotted, so that the water may have free access. I do not, however, limit myself in these details of construction, as the details may be varied without departing from my invention.

In operation, the base B and lower end of the tube being below the surface of the water, power is applied to wheel C to revolve the same, and consequently to oscillate the tube A more or less rapidly. The length of oscillation may vary according to the length of

tube as well as the speed. The result is that the water is raised and thrown out by centrifugal action.

In place of using a crank-wheel, a cam or any suitable mechanism may be used to oscillate the tube.

A valve, *e*, is fitted in the lower end of pipe A for retaining the column of water while the crank is passing centers.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a tube having an unobstructed bore, and pivoted at its lower end in a water-reservoir, of mechanism, substantially as described, whereby a rapid vibratory motion is imparted to the tube, and the water raised therein by centrifugal action, substantially as set forth.

2. The combination, with the crank-wheel C and pitman *d*, of the tube A, having an unobstructed bore, and provided with the pivots *a a* at its lower end, and step-block B, substantially as described, and for the purpose set forth.

3. The combination, with the crank-wheel C and pitman *d*, of the tube A, having an unobstructed bore, and provided with the valve *e* and pivots *a a*, and step-block B, substantially as described, and for the purpose set forth.

The foregoing specification of my improvement in pumps signed by me this 7th day of March, 1881.

NESTOR R. ALPUCHE.

Witnesses:

FREDERICK A. OBER,  
J. M. GILKEYS.