No. 619,368.

Patented Feb. 14, 1899.

A. THOMSON.

ROTARY PUMP.

(Application filed June 6, 1898.)

(No Model.)

FIG. 1.

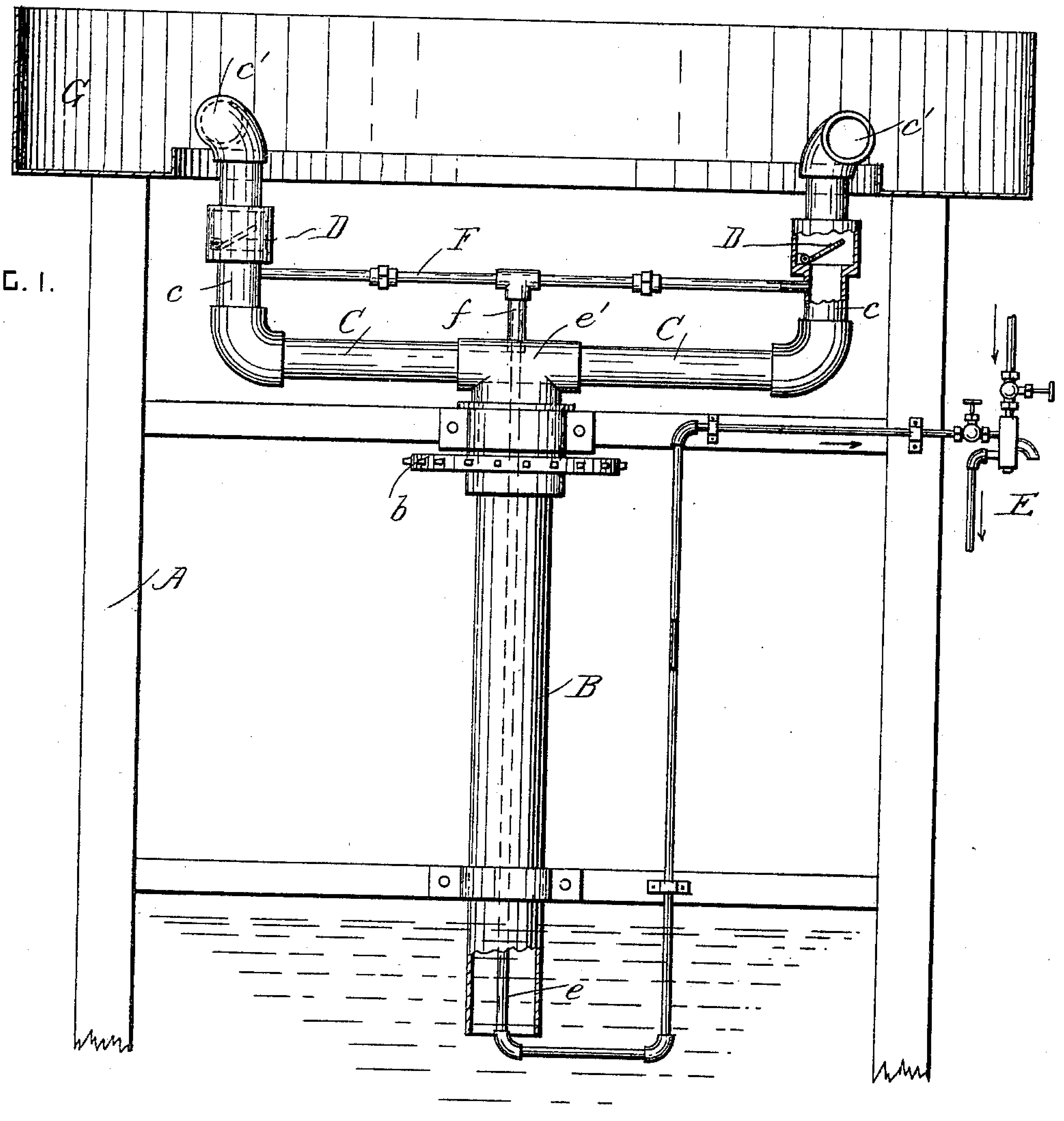
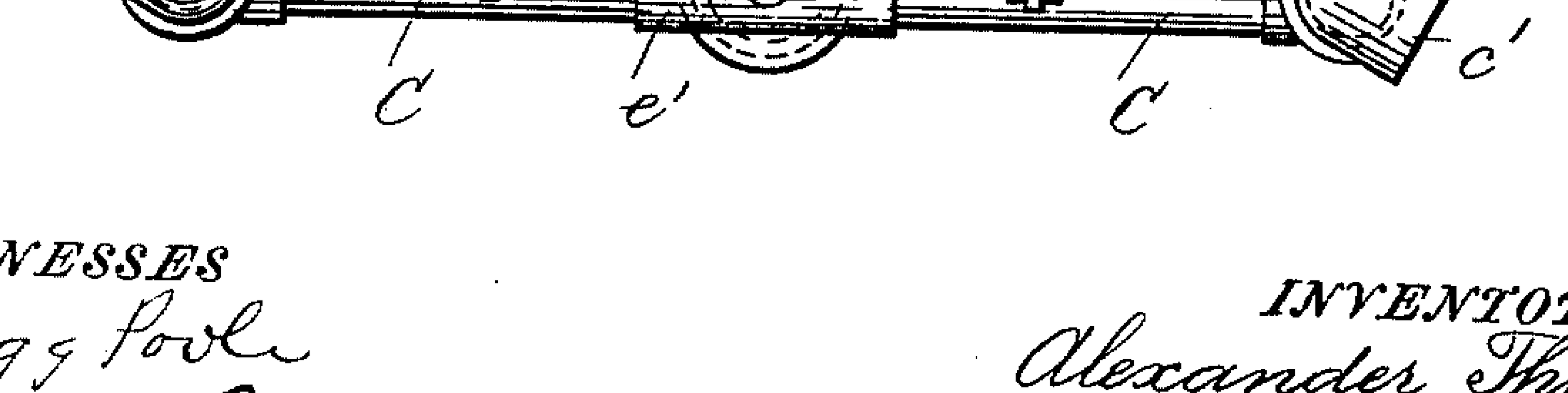


FIG. 2.



WITNESSES

[signatures]

INVENTOR

Alexander Thomson.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER THOMSON, OF LAKE CHARLES, LOUISIANA.

ROTARY PUMP.

SPECIFICATION forming part of Letters Patent No. 619,368, dated February 14, 1899.

Application filed June 6, 1898. Serial No. 682,633. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER THOMSON, a citizen of the United States, residing at Lake Charles, in the parish of Calcasieu and State of Louisiana, have invented certain new and useful Improvements in Rotary Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to rotary pumps; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of the pump. Fig. 2 is a plan view of the pump.

A is a frame which supports the pump.

B is a pipe journaled in the frame A and arranged in a substantially vertical position. The pipe B dips into the water or other liquid which is to be lifted or pumped, and it is provided with any approved means for revolving it, such as a chain-wheel *b*.

C are laterally-projecting tubular arms connected to the top of the pipe B and arranged in a substantially horizontal position. Two arms C are preferably used and are arranged radially opposite to each other, so that they are balanced; but any number of arms can be used. Each arm has a branch *c* projecting laterally of it at its outer end and a nozzle *c'* for delivering the water. A delivery-valve D is inserted in each branch *c* and is arranged to open upwardly. It is not material that the delivery-valve be arranged in the branch *c*, as, if desired, it may be arranged in the arm below the branch.

E is an ejector, and *e* is a stationary air-pipe, which is connected to the ejector and which extends upward through the pipe B and projects through a central hole in the junction-piece *e'* at the top of the pipe.

F is an air-pipe which is secured to the branches *c* below the valves D, and *f* is a branch pipe secured to the pipe F and to the junction-piece *e'*. The upper end portion of the pipe *e* projects into the pipe *f* and is in substantially air-tight relation with it. The pipe F also serves as a brace to the branches *c* when the pump is in operation. The pipe F and its branch *f* revolve with the pipe B and its arms; but the pipe *e* does not revolve. It is obvious that the connection between the pipes *e* and *f* may be made at other places besides being made above the junction-piece *e'*, as shown.

The ejector operates to exhaust the air from the pipe B and its arms, and any other approved means for exhausting air can be used in place of an ejector, such as an air-pump. No foot-valve is required in a pump constructed according to this invention, and the valves D can be of any approved construction.

G is a circular tank or trough into which the nozzles deliver the water raised by the pump.

The valves D can be made air-tight, if necessary, by pouring a little water into the chambers above them before the pump is set to work. The air is first exhausted from the pump, so that the pipe B and its arms are filled with water. The pump is then revolved, and as soon as the centrifugal force of the water in the arms exceeds the gravity of the water in the pipe B the valves D are raised and the water is forced through the nozzles and delivered into the trough or tank. The branches can be continued upward for some distance above the valves D, if desired.

The volume of water pumped depends on the proportions of the pump and the speed at which it is driven. This pump is very useful in pumping muddy water, as the water can flow through it without obstruction, and the only valves about it are always in a position where they can be easily examined and repaired.

What I claim is—

1. In a pump, the combination, with a revoluble pipe provided with a laterally-projecting tubular arm, and a delivery-valve carried by the said arm; of an air-pipe connected with the space under the said valve and revolving with the said pipe, a second and stationary air-pipe arranged centrally of the said pipe and operatively connected with the aforesaid air-pipe; and means for exhausting the air from the said pipe and arm through the said air-pipes, substantially as set forth.

2. In a pump, the combination, with a revoluble pipe, and a pair of tubular arms projecting laterally from the said pipe and provided with projecting branches; of delivery-valves inserted in the said branches, an air-

pipe connected to the said branches below said valves and revolving with the said pipe, and a stationary air-pipe arranged centrally of the said revoluble pipe and operatively connected with the said air-pipe, substantially as set forth.

3. In a pump, the combination, with a revoluble pipe, and a pair of tubular arms projecting laterally from the said pipe; of delivery-valves carried by the said arms, an air-pipe connected with the spaces below the said valves and provided with a branch connected with the said revoluble pipe at its axis and revolving with the said pipe, and a stationary air-pipe arranged in the said revoluble pipe and operatively connected with the said branch, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER THOMSON.

Witnesses:
A. A. WENTZ,
E. B. MOSES.