

(No Model.)

C. F. RAVN.
STOCK TANK HEATER.

No. 505,229.

Patented Sept. 19, 1893.

Fig. 1.

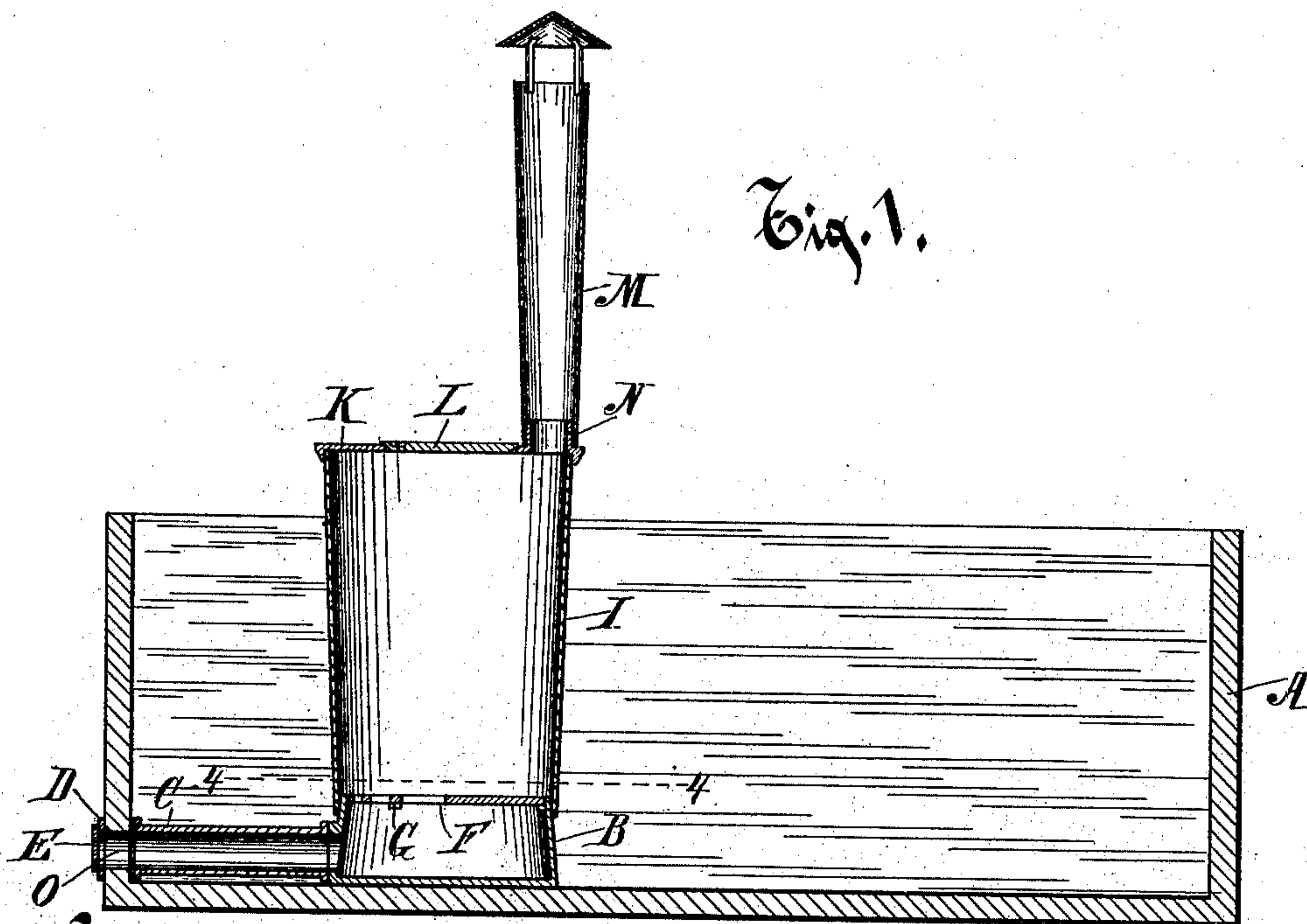


Fig. 3.

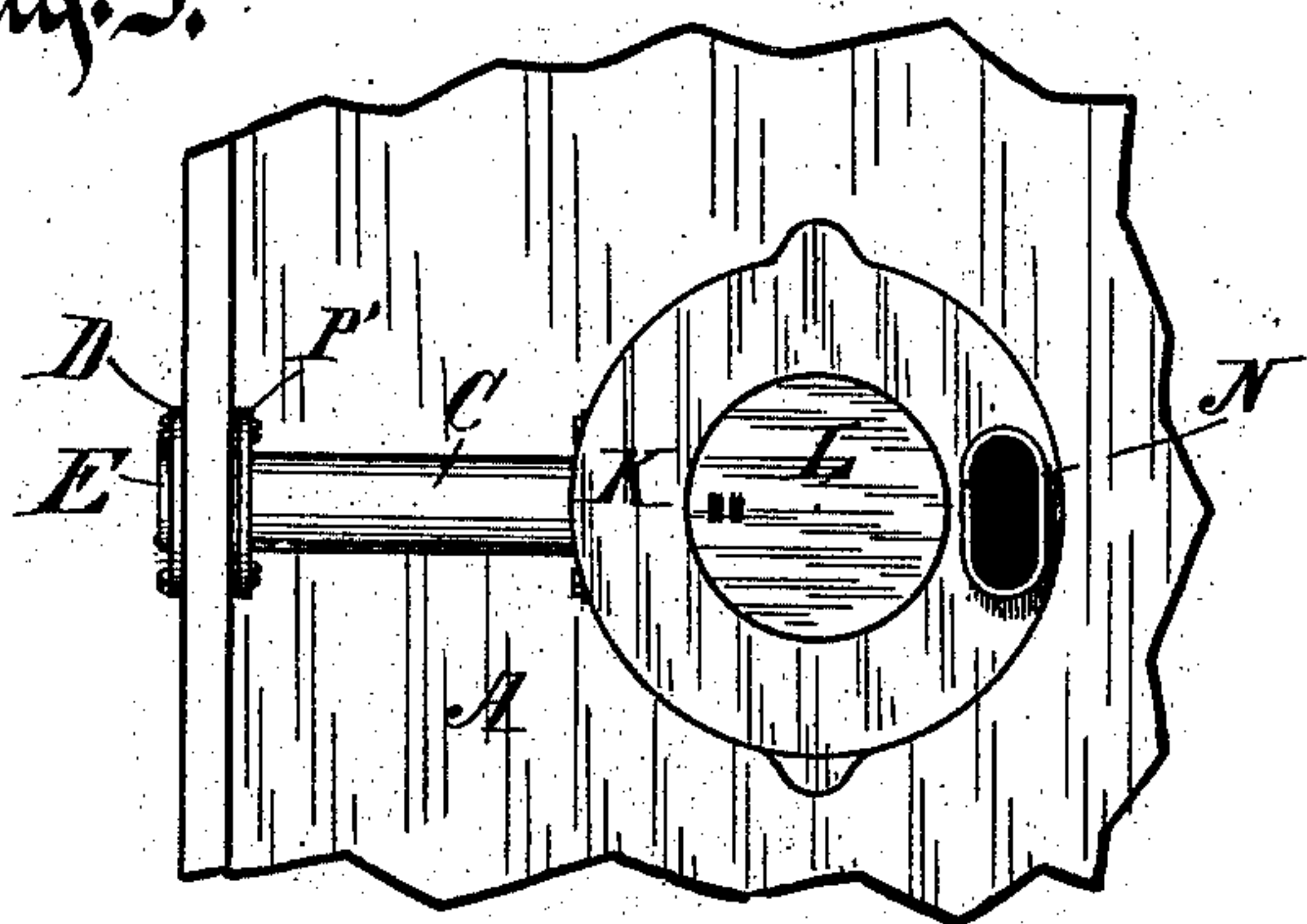


Fig. 2.

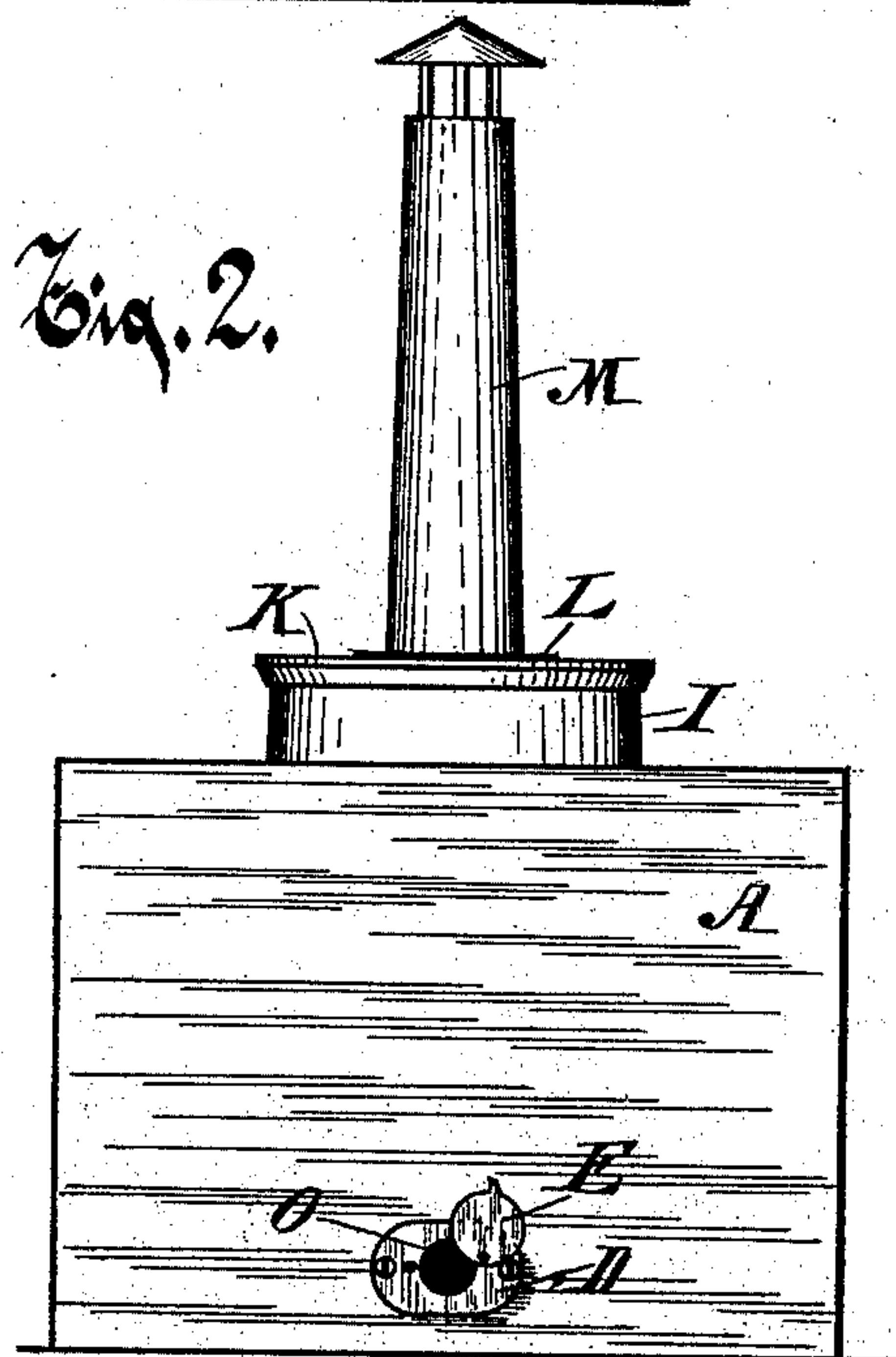
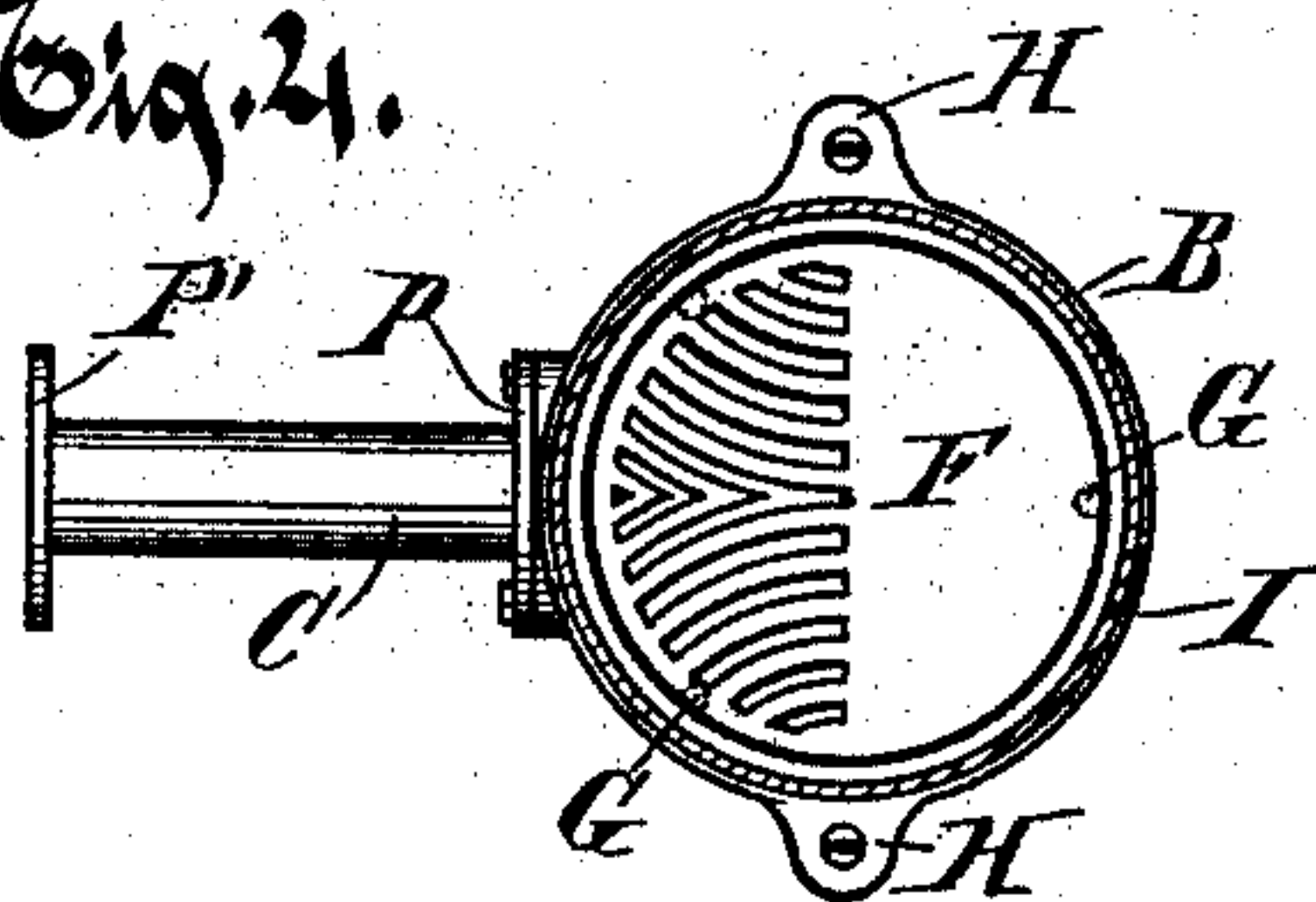


Fig. 4.



Witnesses.

W. Keeney

Anna V. Fawcett

Inventor.

Carl F. Ravn

By Benedict Morell
Attorneys.

UNITED STATES PATENT OFFICE.

CARL F. RAVN, OF DELAVAN, WISCONSIN.

STOCK-TANK HEATER.

SPECIFICATION forming part of Letters Patent No. 505,229, dated September 19, 1893.

Application filed January 23, 1893. Serial No. 459,411. (No model.)

To all whom it may concern:

Be it known that I, CARL F. RAVN, of Delavan, in the county of Walworth and State of Wisconsin, have invented a new and useful Improvement in Stock-Tank Heaters, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

The object of my invention is to provide a simple and inexpensive device adapted to be used in a stock-tank constructed of wood or other inexpensive material, for heating liquid or semiliquid food therein for feed for stock.

In the drawings, Figure 1, is a vertical longitudinal section of a stock tank with my improved heater also in vertical section therewith. Fig. 2, is a front end elevation of the tank and heater. Fig. 3, is a top plan view of the heater, the smoke-pipe being omitted, in connection with a fragment of the tank, showing its relation thereto. Fig. 4, is a top plan view of the lower portion of the heater taken on line 4—4 of Fig. 1.

In the drawings, A is the tank. This is of any suitable form and construction for holding liquid or semiliquid food material for stock while the same is being heated. Such a tank may be readily constructed of wood and in this form is inexpensive and therefore desirable for the purpose.

My improved heater is adapted to be set in the tank for heating liquid food in the tank about the heater by means of a fire or combustion in the chamber of the heater.

The heater consists of a hollow base or pan B which is adapted to serve as an ash receptacle as well as for a portion of the draft flue and to support the grate and case of the combustion chamber thereon. The outer upwardly extending surface of the base B tapers inwardly to the top. This base B is also provided with a tube C opening through an aperture therefor into the receptacle in the base, the extremities of the tube C being provided with flanges P and P' by means of which the tube C is secured at its inner end water tight to the base B and at its outer end is secured water tight to the side of the tank A against which the end of the tube and the flange P' are placed. Suitable rubber packing may be used for this purpose. Aperture O is provided through the side of the tank

leading into the tube forming a draft flue from the outside of the tank into the receptacle in the base B. A collar D is secured to the outside of the tank about the aperture O and a door or damper E is pivoted to the collar D so as to swing vertically thereon which door is adapted to close or partially close the draft flue. A removable grate F covers the receptacle in the base B and is supported at top of the base on lugs G G integral with the base. A case I preferably constructed of sheet metal and advisably tapering inwardly downwardly is of such form and size at its lower extremity as to fit water tight on the tapering outer surface of the base B and to be readily removable therefrom. A cover K is provided with a downwardly projecting annular flange which fits over and about the top of the case I, the cover being removable from the case. A lid L closes removably a kettle or boiler aperture in the cover. A smoke-pipe M is fitted on the collar N integral with the cover K. An aperture through the cover K within the collar N opens into the pipe M and forms a smoke passage from the combustion chamber within the case I. The base B, tube C, grate F, cover K and lid L are inexpensively and desirably made of cast iron. The base B is secured adjustably to the bottom of the tank by screws through the lugs H H integral therewith and the screws that attach the flange P' to the side of the tank.

It will be understood that this device is used by placing coal, wood or other combustible material in the chamber conveniently by removing the cover K from the top of the chamber and that the fire being lighted and the cover replaced the fire is supplied with air to maintain the combustion through the draft flue. When the contents of the tank have been removed and the fire has gone out the ashes may be removed from within the base by removing the cover K and the grate F either with or without removing the case I as shall for the occasion be most convenient.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. A stock-tank heater comprising a hollow base or pan forming an ash receptacle, the outer surface of which base tapers inwardly

upwardly, a draft flue leading into the hollow base, a removable grate supported on the base near its top, and a combustion chamber casing made to fit water tight on the tapering surface of the base and to be removable therefrom, substantially as described.

2. A stock-tank heater consisting of a hollow base or pan forming an ash receptacle the outer surface of which base tapers inwardly upwardly, a draft flue leading into the hollow base, a removable grate supported on the base near its top, a combustion chamber casing made to fit water tight on the tapering surface of the base and to be removable therefrom and a removable cover on the case of the combustion chamber provided with a kettle hole and lid and a smoke pipe leading from the combustion chamber, substantially as described.

3. A stock-tank heater comprising a hollow base or pan forming an ash receptacle, the outer surface of which base tapers inwardly upwardly, a draft flue leading into the hollow base, a removable grate supported on the

base near its top and a combustion chamber casing tapering inwardly downwardly made to fit water tight on the tapering surface of the base and removable therefrom, substantially as described.

4. The combination with a stock-tank of a heater, comprising a hollow base having a surface tapering inwardly upwardly, lugs for securing the base to the bottom of the tank, a pipe forming a part of a draft flue extending from the base to and through the side of the tank, a grate supported on the base at the top thereof, a case for the combustion chamber tapering inwardly downwardly and fitted water tight but removable on the base, a removable cover on the case and a smoke flue leading from the combustion chamber, substantially as described.

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

CARL F. RAVN.

Witnesses:

A. S. SPOONER,
E. E. FOLTZ.