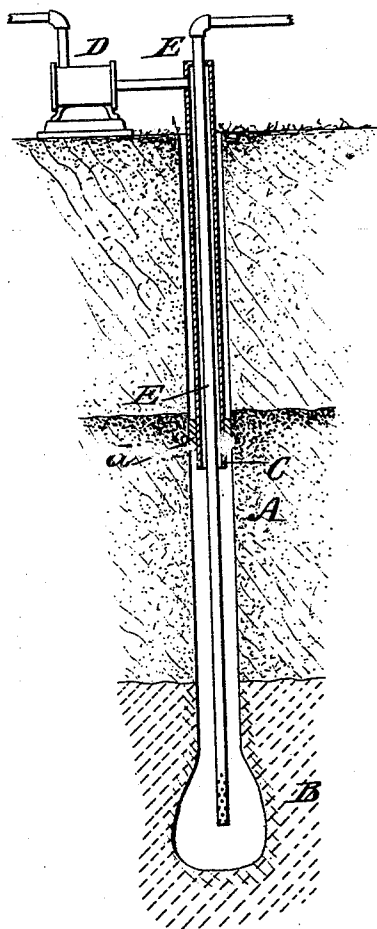(No Model.)

J. PETERS.

APPARATUS FOR MAKING AND RAISING SALT BRINE FROM
DEEP SALT VEINS.

No. 327,308. Patented Sept. 29, 1885.

WITNESSES:

INVENTOR:
J. Peters
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN PETERS, OF HAVERSTRAW, NEW YORK, ASSIGNOR TO THE HYDRAULI SALT FORCING COMPANY.

APPARATUS FOR MAKING AND RAISING SALT-BRINE FROM DEEP SALT-VEINS.

To all whom it may concern:

Be it known that I, JOHN PETERS, of Haverstraw, in the county of Rockland and State of New York, have invented a new and Im-
5 proved Apparatus for Making and Raising Salt-Brine from Deep Salt-Veins, of which the following is a full, clear, and exact description.

In obtaining the salt from deep strata of
10 salt-rock, where it is impracticable to mine by shafts and drifts, it has been the practice to sink wells down into the salt deposit, and to supply them with outside and inside pumping machinery arranged for pumping fresh water
15 into the well, and then pumping it out again after it shall have become saturated with salt.

By my new apparatus I employ only outside pumping machinery arranged to force the fresh water into the well to permit it to dis-
20 solve salt by contact with the underground deposit and become brine, and then to expel the same from the well by pressure, thus, doing away with inside pumping machinery.

The machinery I employ consists of a force-
25 pump combined with suitable inflow and outflow pipes arranged in the well, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawing, forming part of this specification,
30 which represents a sectional elevation of a salt-well having my invention applied thereto.

A represents a deep well, which extends down into the salt stratum illustrated at B. In the well A is placed the inflow pipe or cas-
35 ing C, which reaches down below the fresh-water veins in the earth, where the pipe or casing C is suitably packed, as shown at *d*, for excluding drainage from the well below and for confining the water below the pack-
40 ing, so that the brine may be expelled from the well through the outflow-pipe E by pressure upon the brine in the well.

D is a force-pump, by which fresh water may be pumped from a spring or other sup-
ply into the well through the inflow-pipe C and by which pressure may be applied to th water in the well for forcing it out of the wel through the outflow-pipe E. This pressur upon the water not only serves to elevate th brine from the well without the aid of sepa rate pumping machinery, but it also force: the water in the well into the small crevice: of the salt deposit, and causes the water t dissolve the salt and become brine much more rapidly than where no pressure is used.

The outflow-pipe E might be arranged out side of the inflow pipe or casing C; but I pre fer to arrange it inside of said pipe or casing C, as shown in the drawings; and it is obvious that where there is a natural or artificial head or pressure of water near the mouth of the well the force-pump might be dispensed with, using the natural pressure of the water in its stead to supply the well with water and force the brine out.

The brine, after being forced out of the well, is concentrated in the usual manner for obtaining the salt.

This application is a division of my application filed June 12, 1883.

I am aware that it is not broadly new to raise oil or other liquids from deep wells by hydraulic or pneumatic pressure, and I do not broadly claim such devices.

What I claim is—

1. The combination of the force-pump with the inflow and outflow pipes arranged within the well and with reference to a subterraneous deposit of salt, substantially as described.

2. A tube or casing, C, placed in the well and packed at *d*, in combination with an outflow-pipe, E, through which brine may be forced out of the well, substantially as described.

JOHN PETERS.

Witnesses:
H. A. WEST,
C. SEDGWICK.