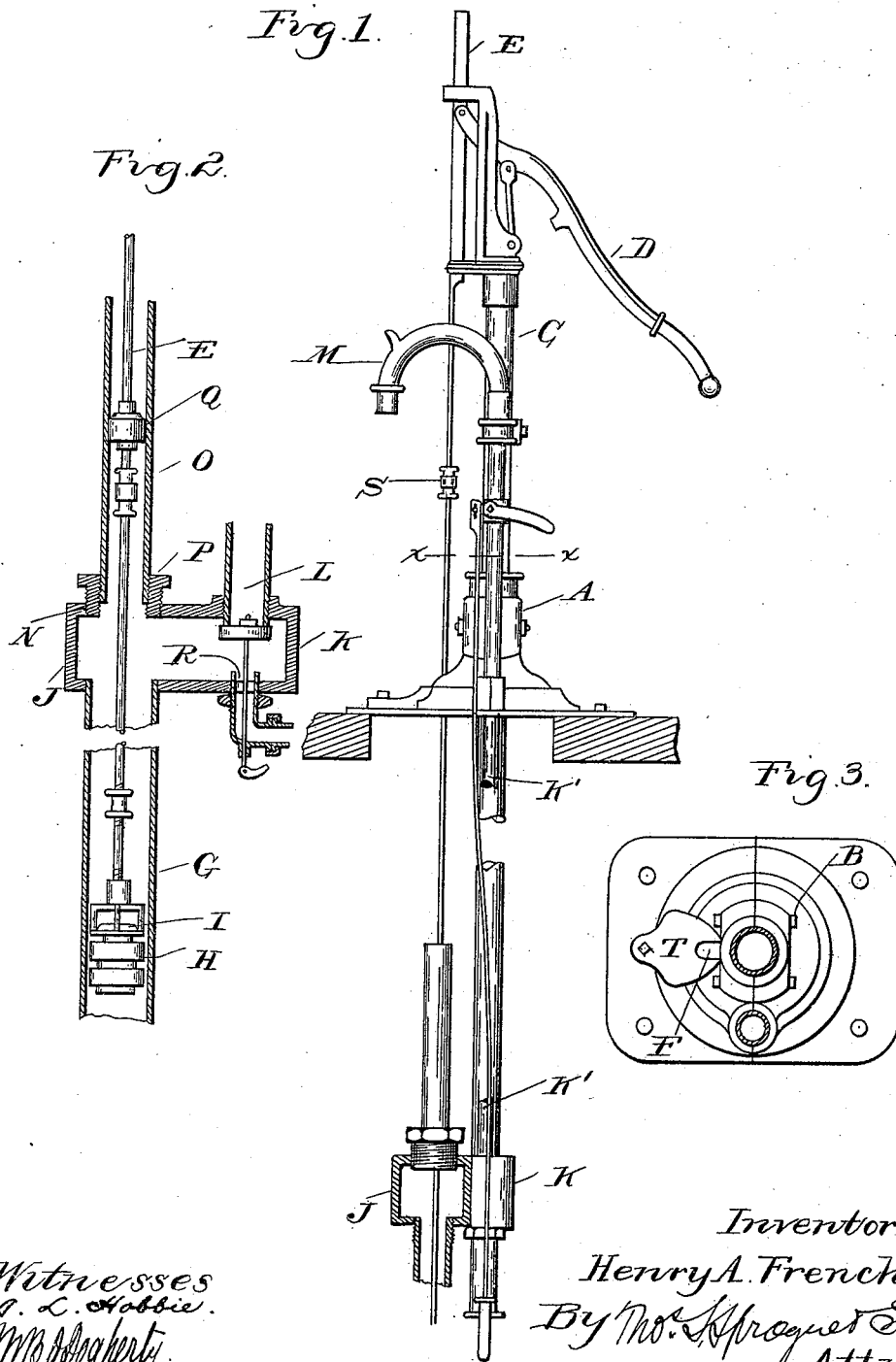


(No Model.)

H. A. FRENCH.
PUMP.

No. 491,802.

Patented Feb. 14, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY A. FRENCH, OF LANSING, MICHIGAN.

PUMP.

SPECIFICATION forming part of Letters Patent No. 491,802, dated February 14, 1893.

Application filed June 24, 1892. Serial No. 437,891. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. FRENCH, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in pumps and especially to that class designed for deep or driven wells where the pump piston is not easily accessible for repacking and repairing, and the invention consists in the peculiar construction, arrangement and combination of the various parts, whereby the piston and its valve may be withdrawn from the well without disturbing the pipe fitting, all as more fully hereinafter described.

In the drawings, Figure 1 is an elevation of a pump with the standard, and coupling supported by the standard showing the connection with the suction pump. Fig. 2 is a central section through the coupling and the suction pipe. Fig. 3 is a cross section on line $x-x$ Fig. 1.

In the previous construction of pumps and wells, it has been necessary in repacking a cylinder at the bottom of a well to draw up the entire line of pipe, including the cylinder, renew the packing and replace the pipe and cylinder in the well. This is an exceedingly difficult and arduous labor at times, and the object of my invention is to so construct the piston of a pump in connection with the piping that it may be withdrawn to renew the packing leaving the pipe and pump undisturbed.

A is the pump base constructed in two parts and secured together by the clamping bolts B, which clamps the base upon the pump standard C, which carries at its upper ends the usual lever D, which is connected at its inner end to the pump rod E. This pump rod passes through the base, an aperture F being provided therein and extending down into the suction pipe G, carrying at its lower end the piston H, having the ordinary pump valve I therein and suitable packing. A short distance below the platform is a coupling J at the

upper end of the suction pipe G. This coupling is provided with the portion K having the aperture L adapted to receive the discharge pipe K' which extends up through the platform and is provided with a goose-neck M.

The coupling J is provided, in line with the suction pipe, with an aperture N through which the pump rod enters, this aperture being of the same or slightly larger diameter than the interior diameter of the suction pipe. This aperture may be fitted with a stuffing box, but I preferably fit it with a forcing cylinder O engaging into a bushing P, a piston Q on the pump rod engaging in said cylinder and forcing the water from that cylinder up through the discharge pipe in the downward stroke of the pump rod, the foot valve (not shown) of any suitable construction, being closed. This piston H preferably works in a section of the suction pipe G as its cylinder. In the upward stroke of the pump rod the water is lifted by the piston H, and as that piston is of greater diameter than the piston Q, it will force such water as does not enter the cylinder O up through the discharge pipe upon the platform, or the coupling J may be of the trefoil pattern, having a valve controlled discharge R whereby the water may be carried either to the platform or to one side.

In case the packing on the piston H or the valve I of said piston need repairing, it is evident that by removing the coupling S on the rod E, the piston may be drawn up through the pipe, and by removing the bushing P and cylinder O it may be drawn up to the platform. To allow of the piston being withdrawn through the base casing A, I preferably provide an enlarged aperture in such base, in line with the suction pump which I preferably cover by means of a horizontal lid T secured to the base, as plainly shown in Fig. 3.

What I claim as my invention is:

1. In a pump the combination with a standard and discharge pipe of a suction pipe, to one side of the discharge pipe, a coupling connecting the suction and discharge, and formed with a threaded aperture in its upper side directly over the suction pipe and of a diameter greater than the diameter of the suction, a

bushing in the aperture, a forcing cylinder secured in the bushing, a pump rod passing through the cylinder, coupling and into the suction pipe, and a piston on the rod in the
5 suction pipe, substantially as described.

2. The combination with a pump standard, of the goose neck discharge M, the coupling J having an offset portion K with which the lower end of said discharge pipe connects,
10 the suction pipe G engaging in an aperture in the lower end of the coupling, the pump rod having a piston at its lower end and pass-

ing through the aperture W in the upper side of the coupling, the bushing P in said aperture, the pump base having an aperture in 15 line with the suction pipe and the cap T for said aperture, substantially as described.

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

HENRY A. FRENCH.

Witnesses:

JAMES WHITTEMORE,
N. L. LINDOP.