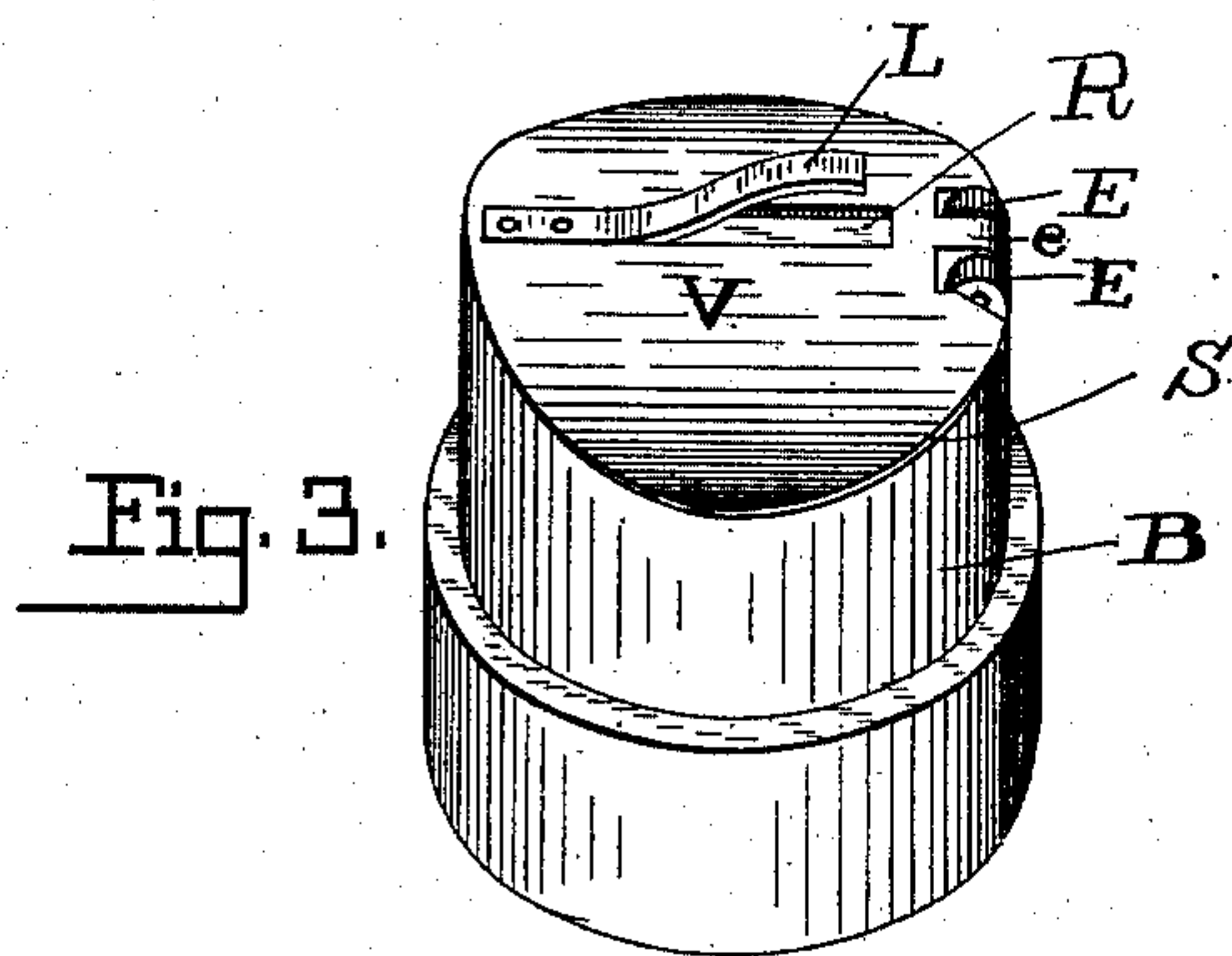
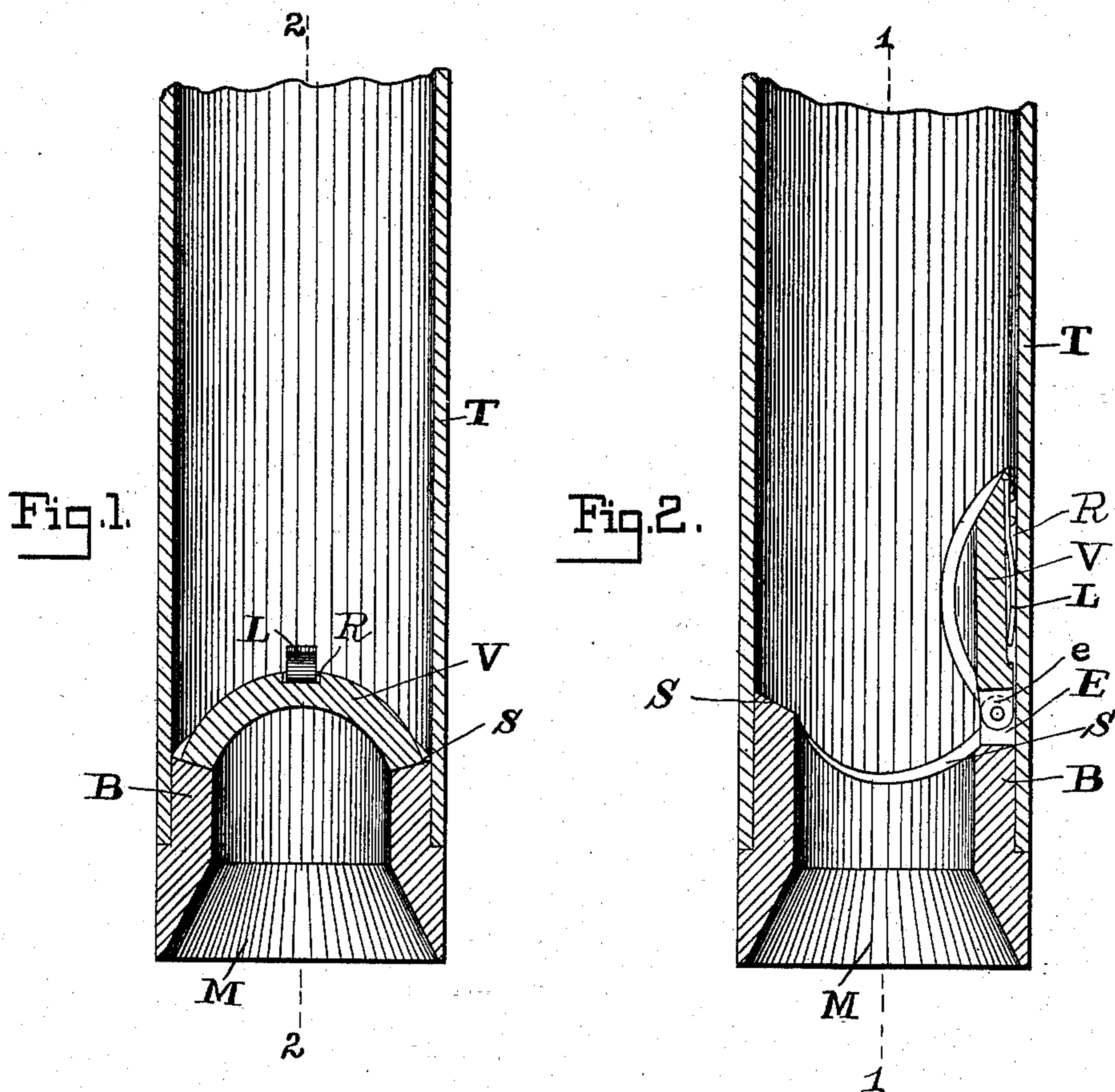


(No Model.)

T. F. MAHAN.
SAND PUMP.

No. 474,843.

Patented May 17, 1892.



Witnesses

A. O. Babendreier

N. J. Colman

By his Attorneys,

Thomas F. Mahan.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

THOMAS F. MAHAN, OF PHILLIPS, WISCONSIN.

SAND-PUMP.

SPECIFICATION forming part of Letters Patent No. 474,843, dated May 17, 1892.

Application filed May 18, 1891. Serial No. 393,200. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. MAHAN, a citizen of the United States, residing at Phillips, in the county of Price and State of Wisconsin, have invented a new and useful Sand-Pump, of which the following is a specification.

This invention relates to pumps, and more especially to that class thereof which are designed for pumping sand and mud in oil or other wells; and the object thereof is to produce certain improvements in pumps of this character whereby a larger amount of work can be done thereby than formerly.

To this end the invention consists in a pump of the specific construction hereinafter more fully described and claimed, and as illustrated on the sheet of drawings, wherein—

Figure 1 is a central vertical section of the pump with the valve closed. Fig. 2 is a similar section of the body of the pump with the valve open, being taken on a line at right angles to the section of Fig. 1. Fig. 3 is a perspective view of the body of the pump removed from the tubing.

Referring to the said drawings, the letter T designates the tubing usually forming the body of a pump of this character, and to the lower end of this tubing is secured in any suitable manner the pump proper. This latter comprises a body B of tubular form reduced slightly at its upper end, so that it may enter the lower end of the tubing, and its lower end or mouth M being beveled off on the inner face, as seen in the sectional views, to cause it the better to enter the sand and mud, as will be clear. The upper end of this body forms the valve-seat S and is struck on a curve, as shown. E E are ears at one side of this seat, between which is pivoted the single ear e on

the valve V, the upper face of the latter being curved transversely on the same circle as the interior of the tubing T. A leaf-spring L is preferably attached to the bottom of a recess R in the upper side of the valve near the free edge of the latter with its free end projecting normally beyond said side, and the purpose of this spring is to assist the valve in its return movement after it has been lifted in the act of forcing the body into the sand.

As soon as the tubing, and with it the body of the valve, is lifted the spring L assists the valve to close, and when it has completely closed no more sand can run out, and what remains in the body and tubing is lifted out of the well, all as will be clear to a person familiar with this art.

The materials of which this device is composed are not essential to its successful operation, nor are the specific construction and arrangement of parts, and I do not limit myself thereto.

Having thus described my invention, I claim as the salient features thereof—

The herein-described sand-pump, the same consisting of the body secured to the lower end of the tubing and having a curved valve-seat at its upper end, a valve pivoted thereto and having a curved upper face with a recess therein, and a spring attached at one end to the bottom of said recess with its other end projecting normally beyond said upper face, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS F. MAHAN.

Witnesses:

J. F. HAND,

W. S. HATTON.