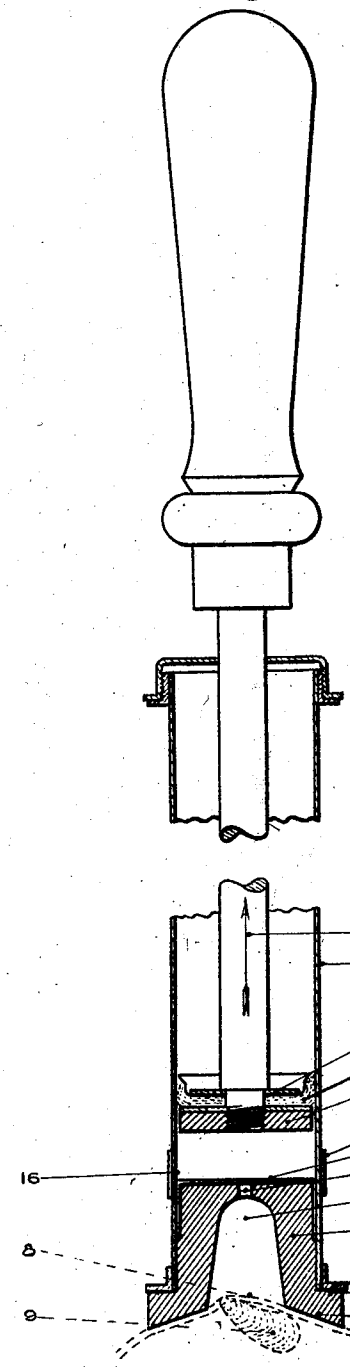
Jan. 19, 1926. 1,570,370

L. BRODERSEN ET AL

SUCTION APPARATUS

Filed August 22, 1922



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UNITED STATES PATENT OFFICE.

LAUST BRODERSEN, OF JUTLAND, AND MAX EDLEF STEPPINGE, OF COPENHAGEN, DENMARK.

SUCTION APPARATUS.

Application filed August 22, 1922. Serial No. 583,673.

To all whom it may concern:

Be it known that we, LAUST BRODERSEN, residing at Norre-Nebel, Jutland, and MAX EDLEF STEPPINGE, residing 34 Hjortholms Alle, Copenhagen, both in the Kingdom of Denmark, have invented certain new and useful Improvements in or Relating to Suction Apparatus, of which the following is a full, clear, and exact description.

Hypodermal larves developed in boils in the skin of the cattle, has hitherto been removed by means of small pincers, which however in many cases only prick a hole in the larve but does not pull the carcass out. The cattle then become sick of a characteristic fever. Besides, the operation is disagreeable to the operator as the matter often causes qualm and vomiting.

Our invention refers to an apparatus by which these drawbacks are avoided. Our said apparatus consists of a suction pump and an applicator connected therewith and able to tightly surround the boil. The suction pump is preferably of a kind permitting the suction effect to be increased by one or several repeated suction strokes if the boil is not emptied by the first stroke. The applicator which preferably permits the whole contents of a boil to be received in it, is preferably of a soft material in order to lie tightly round the boil, even when the boil lies at the rim of a bone. Preferably the suction end of the cylinder itself is arranged as or directly provided with the said applicator.

One form of construction is by way of an example diagrammatically shown in the annexed drawing.

The cylinder 1 and the piston 2 have the shape and size almost as that of smaller cycle-footpumps, only the leather collar 3 or the like turning outwards so as to suck at the outpull, see the arrow 4. Under the collar is a disk 5 with a plain or otherwise continuous surface which corresponds with the surface of the applicator 6, thus practically preventing noxious spaces when in its lowermost position.

The said applicator which fits tight in the suction end of the cylinder, consists of a cylindrical body of a suitable soft material, such as caoutchouc or the like. The body is provided with an inwardly extending and tapering recess 7 of relatively narrow diameter and is intended to receive the contents of a boil, and a relatively wide conical mouth 10, which continues from the recess 7, tightly encircles the boil with the breathing hole of the larve 9 which latter is disposed in the recess. It has a rest 11 for the end of the cylinder 1 or for a collar 12 fitted on the end of the cylinder. The recess 7 communicates with the cylinder through one or more passages 13, preferably placed in such a way that the larve, when sucked out, will close the passage, thus preventing the after following matter from entering the cylinder. The applicator is provided with a suitable suction valve e. g. a caoutchouc band 14 lying on the passage or passages 13, and further on with a suitable pressure valve e. g. a caoutchouc ring 15 surrounding the cylinder and able to close a hole 16 in its wall.

When the apparatus is placed over the boil and the piston from its lowermost position is pulled outwards, the valve 14 will open, the cavity 7 be evacuated and the boil emptied on account of the difference between the central and the peripherical pressures. If the boil is not emptied by a single stroke, the piston is pressed down, and as the suction valve 14 closes while the pressure valve 15 opens, there will in the recess 7 at the beginning of the next suction stroke, be a lower pressure than at the first stroke, and consequently the effect of the second stroke will be stronger than that of the first.

The details shown are not essential and may be altered in several ways.

We claim:

An apparatus for removing hypodermal larves from boils on cattle, comprising a cylinder, a piston in said cylinder, an applicator including a cylindrical body of soft rubber fitted tightly within the suction end of the cylinder and having an inwardly extending and tapering recess of relatively narrow diameter, a relatively wide conical mouth continuing from the recess and adapted to tightly encircle the boil in such manner that the opening of the boil is disposed

within the recess, the body being also provided with an opening establishing communication with the cylinder, a pressure valve coacting with said opening and adapted to be opened on the outward stroke of the piston, the end of the piston being in contact with the inner end of the applicator when the piston is in its inner position, and valves in the cylinder opening on the inward stroke of the piston.

In witness whereof we subscribe our signatures.

LAUST BRODERSEN.
MAX EDLEF STEPPINGE.