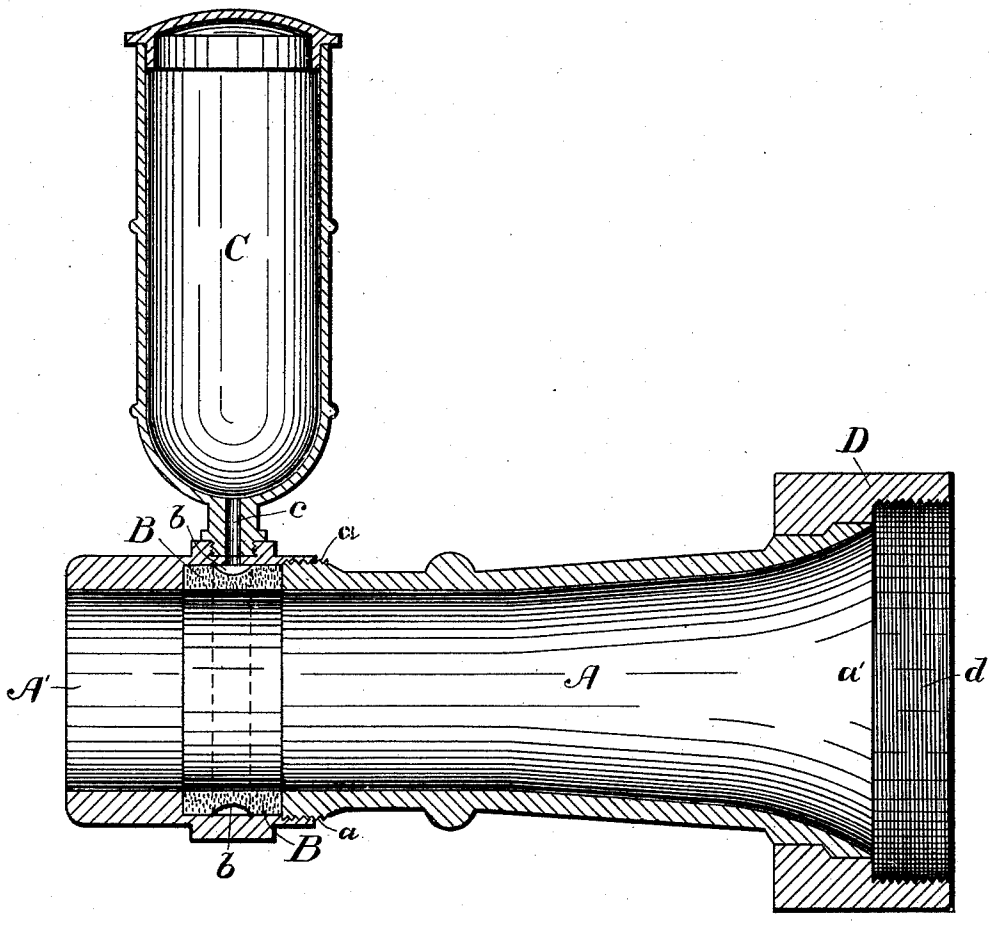
(No Model.)

O. R. CHASE.

LUBRICATING DISCHARGE NOZZLE.

No. 445,711. Patented Feb. 3, 1891.



Witnesses.
Albert E. Leach
M. H. Thompson.

Inventor
Oliver R Chase
by W. B. Hoover
his atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OLIVER R. CHASE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE ALGONQUIN MANUFACTURING COMPANY, OF PORTLAND, MAINE.

LUBRICATING DISCHARGE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 445,711, dated February 3, 1891.

Application filed February 20, 1890. Serial No. 341,117. (No model.)

To all whom it may concern:

Be it known that I, OLIVER R. CHASE, a citizen of the United States, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Lubricating Discharge-Nozzles for Soap, of which the following is a full specification.

My invention relates to nozzles of the class used to mold soap into bars or sticks of various shapes; and it consists of a nozzle especially adapted to be used as the outlet of a suitable machine for molding the said soap by pressure into a compacted homogeneous mass, the said nozzle serving to give the proper exterior shape to the mass as it is delivered from the machine. For this purpose it is common to use a simple nozzle consisting of an outlet-passage whose section is circular, elliptical, or of any shape in which it is desired to deliver the soap which is pressed through the same. With such a nozzle it commonly happens that on account of the friction of the plastic mass against the sides of the passage as it is pressed through the center of the mass is forced out faster than the outer surface thereof, resulting in a bar or stick of somewhat uneven shape, which is liable to crack or peel. To obviate this difficulty I have provided my improved nozzle with a lubricating device, the details of which are as hereinafter set forth, whereby the soap is evenly delivered from it.

The accompanying drawing represents my improved nozzle and its fittings in longitudinal section.

The spout or nozzle proper consists of two pieces A A′, preferably screwed together, as shown at *a*, one of which is provided with the lubricating sleeve or collar B, made of wood or other hard stiff porous material. The nozzle is coupled in any desired manner to the soap molding and shaping machine, near the outlet thereof, with the part A′ preferably in contiguity therewith. I have shown a female coupling D fitting against a shoulder near the inner end of the piece A and provided with the interior screw-thread *d*, whereby it is screwed to the outlet of the machine and the whole thus secured in place, though obviously any other form of coupling might be employed. The passage through the nozzle is of such a shape in cross-section as to mold the soap to the required form while delivering it, being circular or elliptical or of any desired shape. It is preferably made wide and flaring at the entrance end of the nozzle, as at *a*′, and contracted to a narrower size at the outlet end for the purpose of more compactly massing the soap as it is forced through it.

The lubricating sleeve or collar B, which is let into a suitable shaped recess in one or the other two pieces A A′, has an inner opening forming a smooth continuation of the passage through the nozzle. This collar is kept permeated with alcohol in any desired manner. To this end the sleeve or collar is provided with a groove *b* passing around it, the alcohol being contained in a cup or reservoir C, screwed to the nozzle, and communicating by means of the narrow passage *c* with the groove *b* around the lubricating-collar. The alcohol which is contained in the groove *b* permeates the pores of the wooden or other porous collar B and lubricates sufficiently the soap as it passes through the same and causes it to issue evenly through the outer orifice A′. At the same time the lubricator serves to give the soap bar or stick as it is delivered a perfectly-smooth polished surface.

I use alcohol as a lubricator on account of its property of rapid evaporation, whereby the soap may issue from the nozzle in a dry condition.

I claim—

A lubricating-nozzle for plastic materials, consisting of a spout provided near its outer end with a porous externally-grooved wooden lubricating-collar held in a recess within said spout, the said collar having an inner opening forming a smooth continuation of the passage through the spout, in combination with a reservoir of alcohol communicating with the groove of the collar, substantially as described.

In witness whereof I have hereunto set my hand.

OLIVER R. CHASE.

Witnesses:
M. H. THOMPSON,
ALBERT E. LEACH.