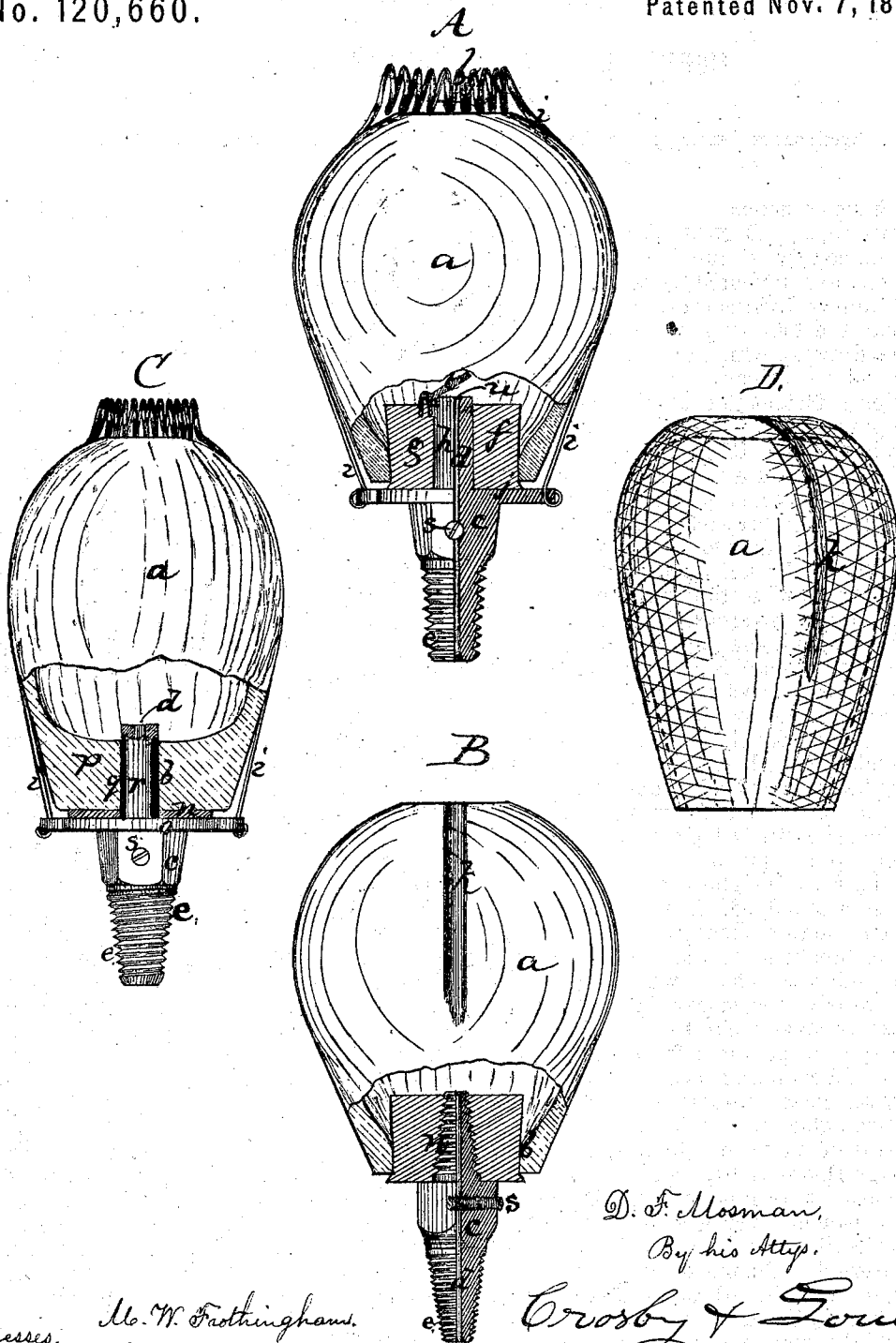


D. F. Mosman
Imp'd Oil Cup.

No. 120,660.

Patented Nov. 7, 1871.



Witnesses.
Mo. W. Frothingham.
L. H. Latimer.

D. F. Mosman,
By his Atty.

Crosby & Gould.

UNITED STATES PATENT OFFICE.

DANIEL F. MOSMAN, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND LEONARD ATWOOD, OF NEW YORK CITY.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. 120,660, dated November 7, 1871.

To all whom it may concern:

Be it known that I, DANIEL F. MOSMAN, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Oil-Cups or Lubricators; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to the construction of that class of glass oil-cups which are designed for attachment in inverted position directly to the mechanism to be lubricated, the oil-eduction passage being of such limited size as to enable the oil to run slowly through as fast as, and only as fast as, may be required to insure a proper lubrication, the eduction-passage being generally controlled by an adjustable plug in the inside of the cup. Such an oil-cup is always connected to the engine or other mechanism to which it is to furnish the lubricant by a metal screw-stem, said stem being the tube through which the oil-passage extends; and this metal coupling and eduction-tube has always been connected to the glass of the cup by a flanged extension of the stem or by plaster or other inelastic cement, or by other intervening rigid material, which permits no yield between the glass and the machine to which the stem is affixed. Not only are these methods of construction expensive, but they result in a great breakage of the cups; and the purpose of my improvement is twofold—first, to make a less expensive and more simple construction, and next to make a cup free from the liability to breakage inseparable from the present constructions. In attaining these objects I prefer to employ an elastic stopper extending into the mouth of the glass-cup, (said stopper being preferably made of cork,) and to pass the stem directly through this stopper; and my invention consists primarily in a glass oil-cup, the eduction-tube and attaching-screw stem of which is connected to the glass by a cork or similar elastic stopper inserted in the mouth of the cup and having the stem extending through it. The cup-end of the stem may be screw-threaded, and may screw through the stopper, as a means of connecting them; but I prefer to hold the stem in place relatively to the glass, or vice versa, by a metal spring-band or girth-spring extending

around the cup, this band being preferably held in place by scores or grooves made in the opposite sides of the glass cup. The spring-band for holding the parts together and scores formed in the glass are features of my invention. Another feature of the invention consists in combining with the eduction-tube or stem a flow-controlling plug, located between the cup and the attaching screw-threaded end of the eduction-tube, and accessible outside of the cup. The girth-spring may be used without the elastic stopper in the mouth of the cup, the mouth being made only large enough for the entrance of the end of the eduction-tube, and the tube or stem having a flange, which is held against a flat packing-ring (interposed between it and the end of the cup) by a spring-girth; but I prefer the cork or elastic stopper.

The drawing represents oil-cups embodying my improvements. At A, B, and C I show, partly in section and partly in elevation, the several constructions embodying the invention.

a denotes the glass cup, formed with only one opening, *b*, said opening being at the bottom of the cup. *c* denotes the metal stem or eduction-tube through the central passage *d*, in which the lubricant flows from the cup to the mechanism to be lubricated; *e* being the screw-threaded nipple or outer end of the tube by which the cup is attached to the mechanism. At A I show the specific form preferred by me in carrying my improvements into practice. In this view the opening or mouth of the glass cup or oil-reservoir is made large enough to receive a cork or similar elastic stopper, *f*, having a central hole, *g*, into which the upper end *h* of the eduction-stem or tube is pressed, the stem having a flange, *j*, which is drawn up against the cork by a girth or wire spring, *i*, extending around the cup, and having its opposite ends fastened to opposite sides of the flange, the wire sinking into scores *k* made in the opposite sides of the glass cup, and the stress of a spring or coil, *l*, pressing upward the flange, packing it tightly against the cork and the cork tightly into the mouth of the cup. The cork is compressed when inserted, as in corking a bottle, and the packing of the flange against it seals the cup or renders it impervious to leakage or to escape of the oil, except through the metal stem. It will be obvious that this construction is very simple, effective, and inexpen-

sive, and that the cup can be removed for recharging with oil with the utmost ease, as the spring-band has simply to be slipped from place and the stem drawn from the cork or stopper. The elasticity of the stopper renders it impossible to break the glass by the jar of the machinery to which the cup is attached, and the cup is in every other respect as enduring as if the education-stem were connected to the glass by a metal or other rigid connection. At B the contractile band or girth-spring is dispensed with, the inner end of the education-stem being screw-threaded, as seen at *m*, with a taper thread, that, screwing into the cork, expands it outwardly against the sides or rim of the mouth, and thereby secures both cork and stem. At C I dispense with the cork and place a flexible washer or flat ring, *n*, between the end of the glass cup and the flange *o* of the stem, the contractile band or girth-spring *i* drawing the flange tightly against the washer and the washer against the cup, and thereby effecting a tight or impervious joint. In this case the glass cup is thickened at the mouth end, as seen at *p*, leaving a central passage, *q*, only large enough to receive the inner end *r* of the education-stem. For most purposes, however, I prefer the construction shown at A. At D I show the glass reservoir and the score *k* in one of its sides, the two scores being preferably formed in the glass in the act of making the reservoir. Between the screw threaded outer end of each stem and the glass reservoir I make the stem with provisions for turning it by a wrench to apply and remove the cup; and in this part of the stem, or so as to come between the mechanism to which the cup is applied and the bottom of the reservoir, I apply a screw-plug, *s*, which, passing

through the stem to the oil-passage, enables the flow of oil to be adjustably controlled at all times without removal of the cup. In removing the cup for recharging it with oil I prefer not to remove the stem with the reservoir, but to detach the reservoir from the stem. Now, as the open end of the reservoir is lowermost the oil will flow from it when detached unless provision is made for arresting the flow. To effect this I apply on the top of the stopper a valve, *t*, hinged to the stopper and held up by the end of the stem. When the reservoir is being detached from the stem this valve self-closes and no oil can escape; but when the filled reservoir is again applied to the stem the inner end of the stem lifts the valve, as seen in Figure A, and the oil can then flow through the tube. To permit free entrance of the oil into the tube, unobstructed by the valve, the end of the tube may be slit, as seen at *u*.

I claim—

1. In combination with the glass reservoir and metal stem, a contractile band or girth-spring, *i*, substantially as described.
2. The scores or grooves *k* in the glass reservoir for receiving the girth-spring wire, substantially as described.
3. In combination with the oil-reservoir and stopper and the education-stem, a valve which closes the stopper-passage when the reservoir is detached from the stem and is opened by the stem when the reservoir and stem are connected.

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Witnesses:

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