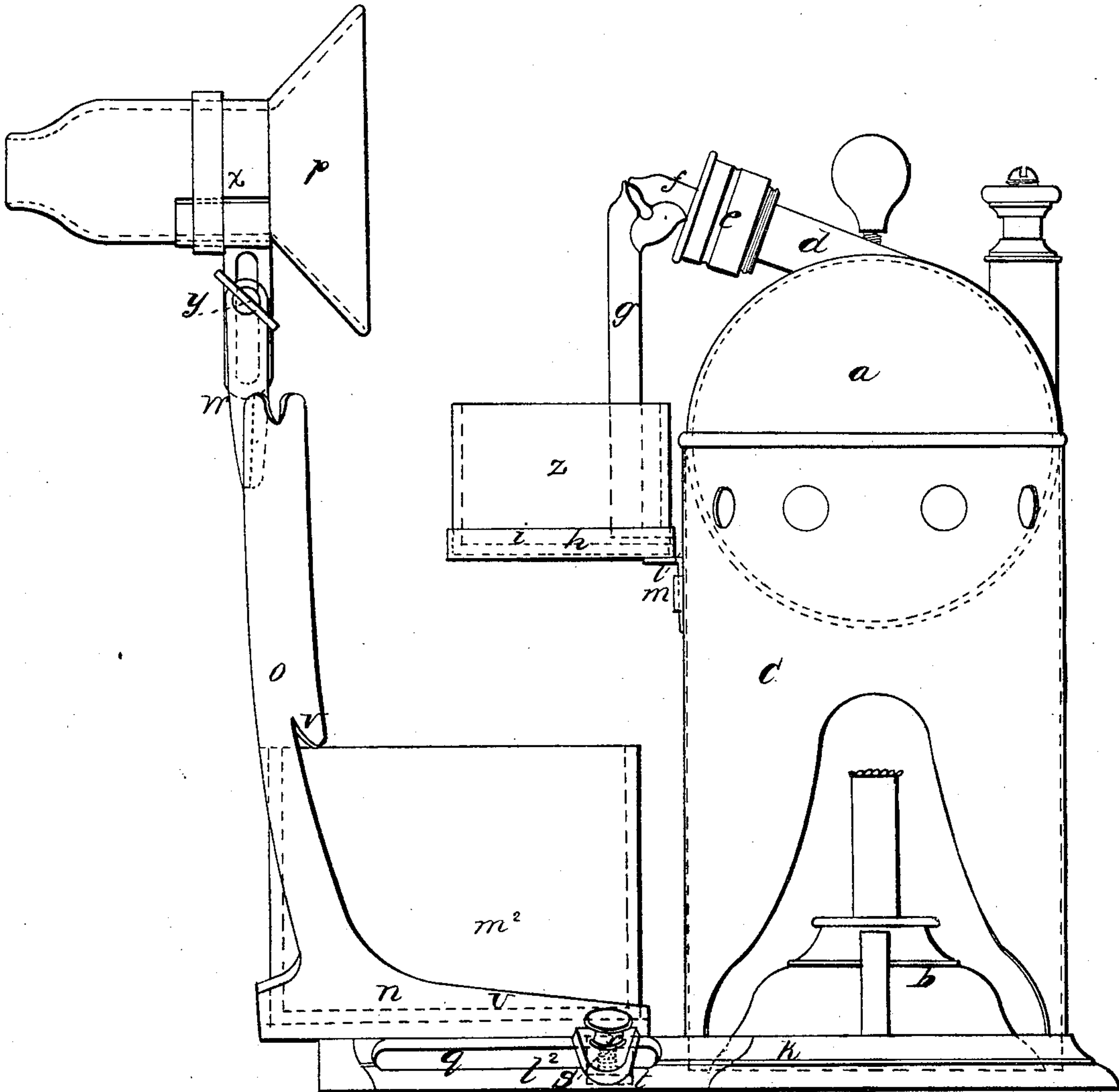


A. M. Shurtleff.

Atomizing Apparatus

No. 87,978.

Patented Mar. 16, 1869.



Witnesses

Francis Gould
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A. M. SHURTLEFF, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 87,978, dated March 16, 1869.

IMPROVED ATOMIZING-APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, A. M. SHURTLEFF, of Boston, in the county of Suffolk, and State of Massachusetts, have invented an Improved Atomizing-Apparatus; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

My present invention relates particularly to the construction and relative arrangement of the parts of a steam-atomizing apparatus, the principal object of the invention being to so construct the apparatus as to render it capable of being readily held by the patient using the apparatus, without liability of displacement of any of the parts, and also capable of such relative adjustment, or movement of the parts as may be necessary in using the instrument for different applications.

The drawings represent an apparatus embodying my improvements.

a denotes the boiler, heated by the flame from a lamp, *b*, the boiler being upon the top of a stand, *c*, which contains the lamp *b*.

From the top of the boiler leads an outlet-tube, *d*, which inclines upward from the boiler, and extends out into, or nearly into vertical line with the side of the boiler, a packing-box, or screw-cap, *e*, at the end of the tube, receiving the end of a very short steam-tube, *f*, (of the atomizing-tubes,) to which short tube is connected the fluid-atomizer tube *g*, the orifices of the two tubes being in juxtaposition, as in all other atomizing-tubes.

The cap *e* screws upon the outer end of the tube *d*, the tube *f* passing through elastic packing-rings, which, by pressure of the cap as it is screwed up, are pressed against the tube *f*, and form a steam-tight joint, the inclination of the outlet-tube causing all products of condensation in the tube to flow back into the boiler.

z denotes the fluid-containing, or medicament cup, down into which the tube *g* extends.

This cup may be supported upon a bracket-plate, *h*, having a shank, *l*, cut and bent down from it, which shank slips down between lips, or flanges, *m*, struck from the boiler-stand, the bracket-plate also having an upturned flange, *i*, for receiving and confining the cup *z*.

Projecting from the base, *k*, of the stand *c*, and forming one piece with it, is an extension, *l*, for supporting the drip-cup *m*, (or a holder, *n*, which carries the cup,) and the upright, or standard, *o*, upon which is mounted the shield *p*.

This extension is made with an oblong slot, *q*, (one, or more,) through which extends a screw-pin, *r*, which, passing through an ear, *s*, projecting from the holder *n*, and thence through the slot, carries a nut, *t*, which, by turning down the screw, is forced against the base, securing the cup-holder and the shield-standard in position, while, by loosening the screw, the holder and standard may be moved from or toward the boiler, for adjustment of the position of the shield.

The shield-standard and the drip-cup holder are made in one piece, or casting, so that as the shield is moved with the standard, the cup correspondingly moves, the cup-holder being made with a flange, *u*,

which surrounds the bottom of the cup, and projections, *v*, from the standard, preventing displacement of the cup by accidental upward movement.

The shield is confined to an arm, *w*, by an elastic band, or spring, *x*, the arm having an adjusting-slot, by means of which the shield may be raised and lowered, the arm being fixed at any desired height by a clamp-screw, *y*, which screw also serves to confine the shield at any desired angle, the arm swivelling upon the pin.

The elastic band, or spring, *x*, not only holds the shield firmly in place by its contraction, but, by its capability of expansion, enables shields of different sizes and shapes to be interchangeably applied to the apparatus.

The shield-standard *o* serves as a handle, by which to grasp the apparatus, and hold it when in use, all the parts being relatively fixed so that they cannot move with respect to each other.

By making the apparatus as described, it will readily be seen that when in use, it may be freely handled and moved about over a bed, or in any direction, without danger of displacement of any of the parts, and with perfect safety to the patient.

By uniting the atomizing-tube *f* to the outlet-tube of the boiler, near the atomizing-point, the steam is prevented from condensing in the atomizing-tube, and from being thrown from the tube in hot-water jets, to the injury of the person using the apparatus.

1. I claim an atomizing apparatus, having a base formed in one piece, for support of the boiler-stand, lamp, and shield-stand, such base being provided with a lamp-receiving socket, or flange, and having the shield-stand so applied that it may be slid in and out, and adjusted in position, substantially as described.

2. Also, in a steam-atomizing apparatus, a base, having combined with it a flange, or flanged holder, or socket, for receiving the drip-cup, substantially as described.

3. Also, in a steam-atomizing apparatus, a base, having provision for attachment, or retention of the boiler-stand, substantially as described.

4. Also, in combination with a steam-atomizing apparatus, a shield-stand and drip-cup holder combined in one piece.

5. Also, in combination with a steam-atomizing apparatus, a shield-stand and drip-cup holder, made adjustable in position, substantially as described.

6. Also, a steam-atomizing apparatus, in which the shield-standard serves as a handle to grasp and hold the apparatus, all the parts of the apparatus being relatively fixed, or secured from displacement, substantially as described.

7. Also, in combination with the boiler, an inclined outlet-tube, extending nearly to the atomizing-point, and connected with a short atomizing-tube by a steam-tight coupling, substantially as shown and described.

A. M. SHURTLEFF.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.