(No Model.)

J. E. BERTRAND.

THREAD WAXING DEVICE FOR SEWING MACHINES.

No. 445,657. Patented Feb. 3, 1891.

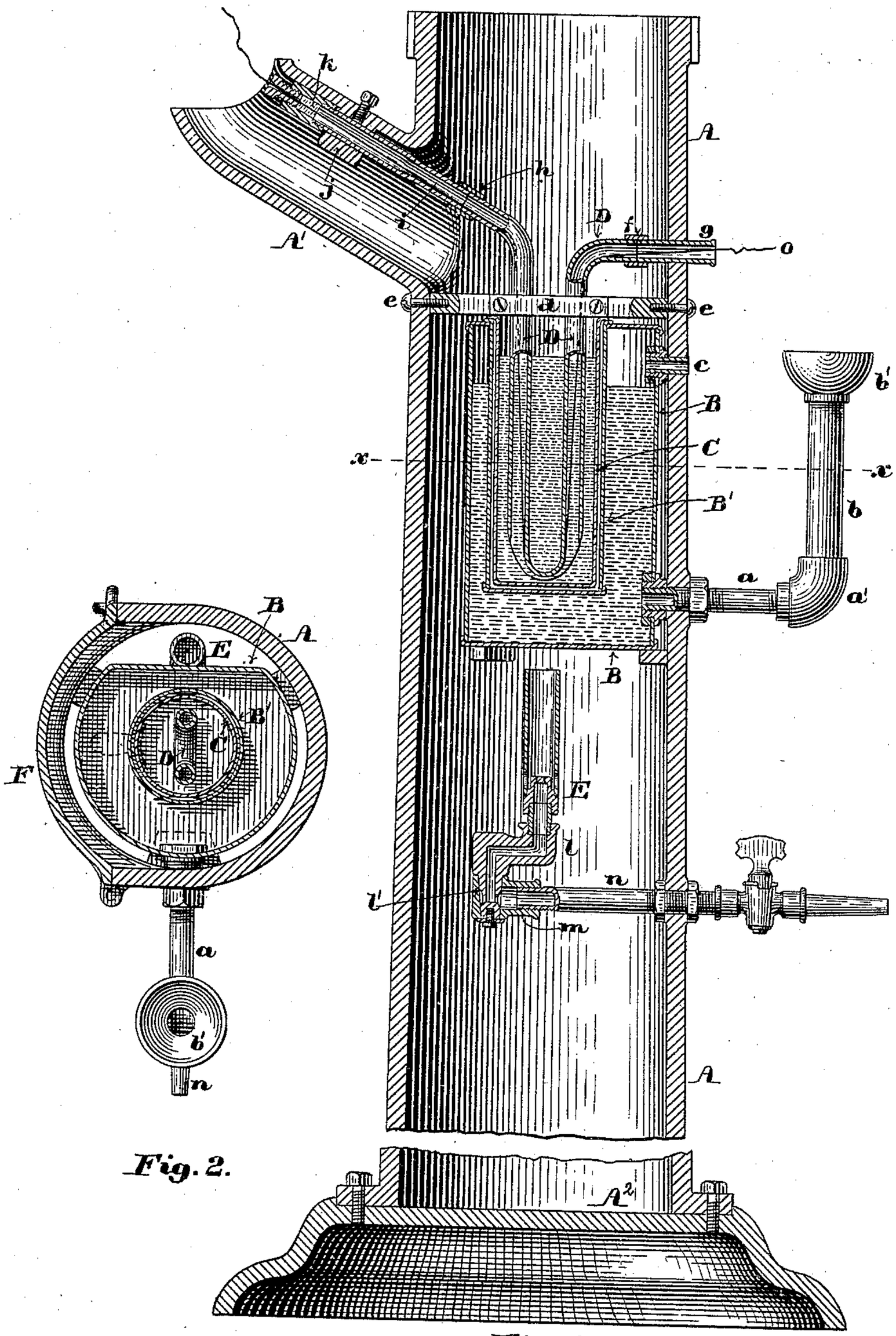

Fig. 2.

Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH ELI BERTRAND, OF BOSTON, ASSIGNOR OF ONE-HALF TO MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

THREAD-WAXING DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 445,657, dated February 3, 1891.

Application filed July 26, 1890. Serial No. 360,014. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ELI BERTRAND, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Thread-Waxing Devices for Sewing-Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to thread-waxing devices for sewing-machines; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings and to the claims hereinafter given and in which my invention is clearly pointed out.

Figure 1 of the accompanying drawings is a central vertical section of the supporting-column, the wax-pot, and gas-burner of a wax-thread sewing-machine, illustrating my invention; and Fig. 2 is a transverse section on line *x x* on Fig. 1, the water-supply pipe being shown in plan.

In the drawings, A is a portion of the supporting-column, upon the top of which is mounted the head of a wax-thread sewing-machine. (Not shown.) The column A is cast hollow and has cast upon its inner surface inwardly-projecting ears or lugs to serve as supports for the water-pot B, having an outline in plan in the form of a segment of a cylinder of considerably greater area than a half-cylinder and arranged with its flat side toward the front side of the machine.

The pot B is provided with the pendent cylindrical pot B′, suspended from the upper head of said pot B and having its upper end open to receive the cylindrical wax-pot C, which is suspended therein by a bead or flange surrounding its upper end and resting upon the upper end of the pot B′, as shown.

The pot B is secured near its lower end to a water-supply pipe *a*, screwed through the side of the column and having screwed to its outer end the elbow *a′*, in which is screwed the vertical pipe *b*, to the upper end of which is secured the cup *b′*, the whole serving the double purpose of a water-gage and a water-supply. A second pipe *c* is secured to the pot B near its top and projects through the side of the column, as shown, to serve as a vent for the escape of any steam that may be generated within said pot.

D is a U-shaped pipe having the ends of its two arms bent outward from their vertical portions and a portion of its wall around its U-shaped bend cut away, the same being supported in a bearing in the bar *d*, which extends across the chamber in the column and is secured therein by the screws *e e*. The right-hand branch of the U-shaped pipe D, as seen in Fig. 1, has secured on its upper end a coupling-section *f*, into which the inner end of the short pipe *g*, projecting through the side of the column, enters with a sliding fit. The left-hand branch of said pipe D also has secured on its upper end in like manner the coupling-section *h*, into which the lower end of the pipe *i* enters by a sliding fit after having passed through its bearing in the boss *j*, projecting inward from the wall of the oblique branch pipe A′, cast in one piece with the column A, with its open end in position to be directly beneath and in near proximity to the stitch forming mechanism of the sewing-machine when placed in position on the column A.

The pipe *i* has secured to its upper end the stripper *k*, of well-known construction, but located at the mouth of the branch-pipe A′ in convenient position of access and at the same time where it will be kept warm at all times.

E is a gas-burner set in the elbow-pipe *l*, which is connected by a swivel-joint at *l′*, to the fitting *m*, secured to the inner end of the gas-supply pipe *n*, firmly secured in the side of the column A, as shown in Fig. 1. The side of the column has formed therein two openings, one opposite the wax-pot and one opposite the burner E, which openings are closed by doors F, one only of which is shown cut in section in Fig. 2. By opening the upper door F, uncoupling the pipe *a*, removing the screws *e e*, and disconnecting the pipes *g* and *i* from the U-shaped pipe D the wax-pot, the water-pot, the pipe D, and the bar *d* may all be removed from the column for cleaning, recharging, or repairs. The lower door F gives access to the gas-burner for lighting and adjusting it or for repairs.

The thread *o* to be waxed is fed through

the pipes *g* and D to the bottom of the wax-pot, and thence through pipes D and *i* and the stripper *k*, and thence through the stitch-forming mechanism.

The gas-burner E is set in the position shown in Fig. 1 when it is desired to heat up the wax-pot preparatory to commencing work; but when the wax has become sufficiently heated and of the proper consistency the elbow-joint carrying the burner is revolved one-half a revolution about its swivel-connection to the fitting *m*, when the burner will be removed from beneath the water-pot to a position beneath the space between the flat side of said pot and the side of the column, when the hot gases arising from the flame of the burner pass up between said pot and the column and through the branch pipe A′, striking against the pipe *i* and keeping the thread in the pipes D and *i*, the stripper, and all parts of the stitch-forming mechanism at a suitable temperature to keep the waxed thread at the proper temper up to the time that the stitch is completed, and at the same time the wax in the pot will be maintained at the desired temperature. This construction and arrangement of the gas-burner is an important feature of my invention and is very advantageous, in that the heat from the burner can be utilized to the best advantage and be distributed to the points where most needed. A great advantage is also obtained by placing the wax-pot in the chamber of the column, as by this arrangement only one gas-burner is required where heretofore two have been necessary, one to heat the wax-pot outside the column, a large part of the heat from which is wasted, and one within the column to heat the machine. Another advantage is that all danger of injury from fire occasioned by the wax boiling over and taking fire, which has heretofore been a source of considerable trouble, is obviated.

I make the column A with a closed base, so that if the wax boils over it cannot reach the floor of the building, but falls upon base A^2, and if it takes fire can do no harm, as it comes in contact with nothing that can burn, except the wax itself.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the column A, having its lower end closed by the base-plate A^2, water-pot B, and wax-pot C, supported upon ledges projecting from the inner surface of said column, a thread-guiding device within the wax-pot, the gas-burner E, located beneath said water-pot, and the water-supply and gage pipe *a a′ b*.

2. The combination of the hollow column A, provided with the oblique branch pipe A′, the water-pot B, having one side flat and carrying the wax-pot C, suspended therein, a thread-guiding device in said wax-pot, and the gas-burner E, set in the elbow-fitting *l* and connected, by a swivel-joint eccentric to the axis of the burner, to the fitting *m*, substantially as and for the purposes described.

3. The combination of the column A, provided with a door or doors F in its side, the water-pot B, connected to the column by the water-supply pipe *a* and provided with the steam-vent pipe *c* and the cylindrical inner pot B′, the wax-pot C, suspended therein, the U-shaped thread-directing pipe D, open around its lower bend, and the bar *d* for supporting said pipe D.

4. The combination of the column A, provided with the oblique branch pipe A′, the wax-pot C and water-pot B B′, located within the chamber of said column, a gas-burner located within said column and constructed and arranged to be adjustable to a position beneath said pot or at one side thereof at will, the thread-guiding pipes D *g i*, and the stripper *k*, located at or near the mouth of the pipe A′, substantially as shown and described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 17th day of July, A. D. 1890.

JOSEPH ELI BERTRAND.

Witnesses:
WALTER E. LOMBARD,
H. F. PURINTON.