





No. 613,126.

Patented Oct. 25, 1898.

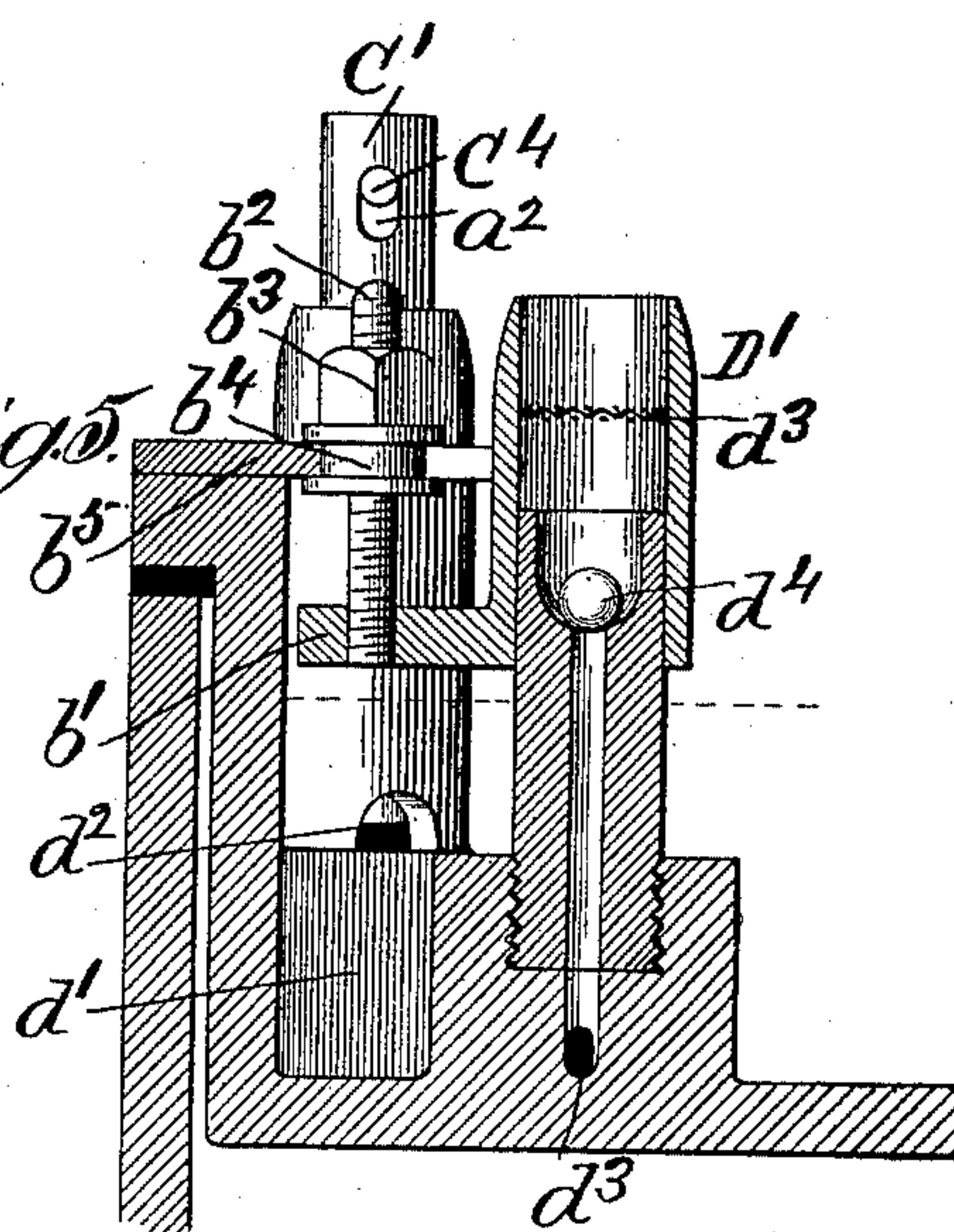
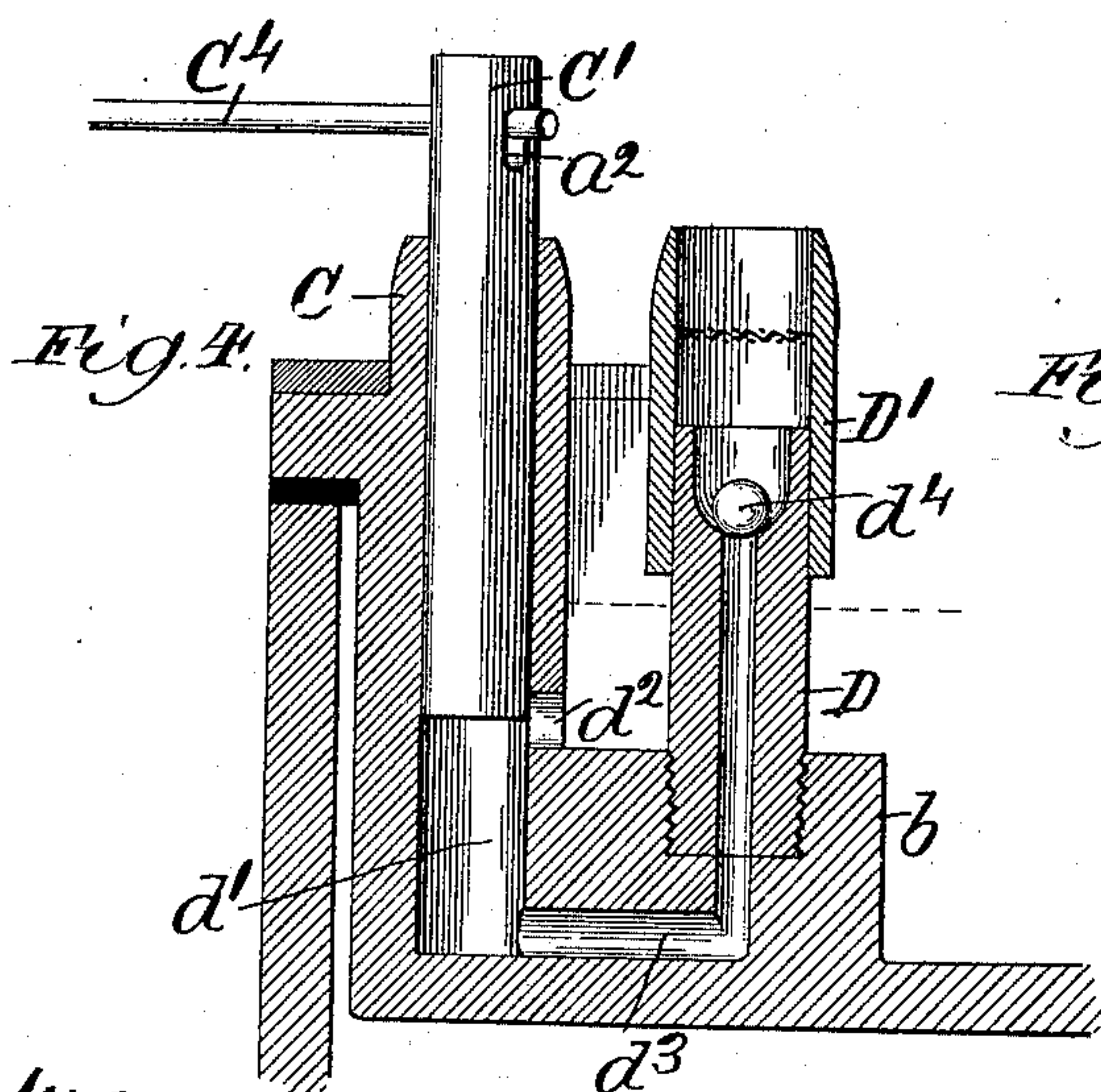
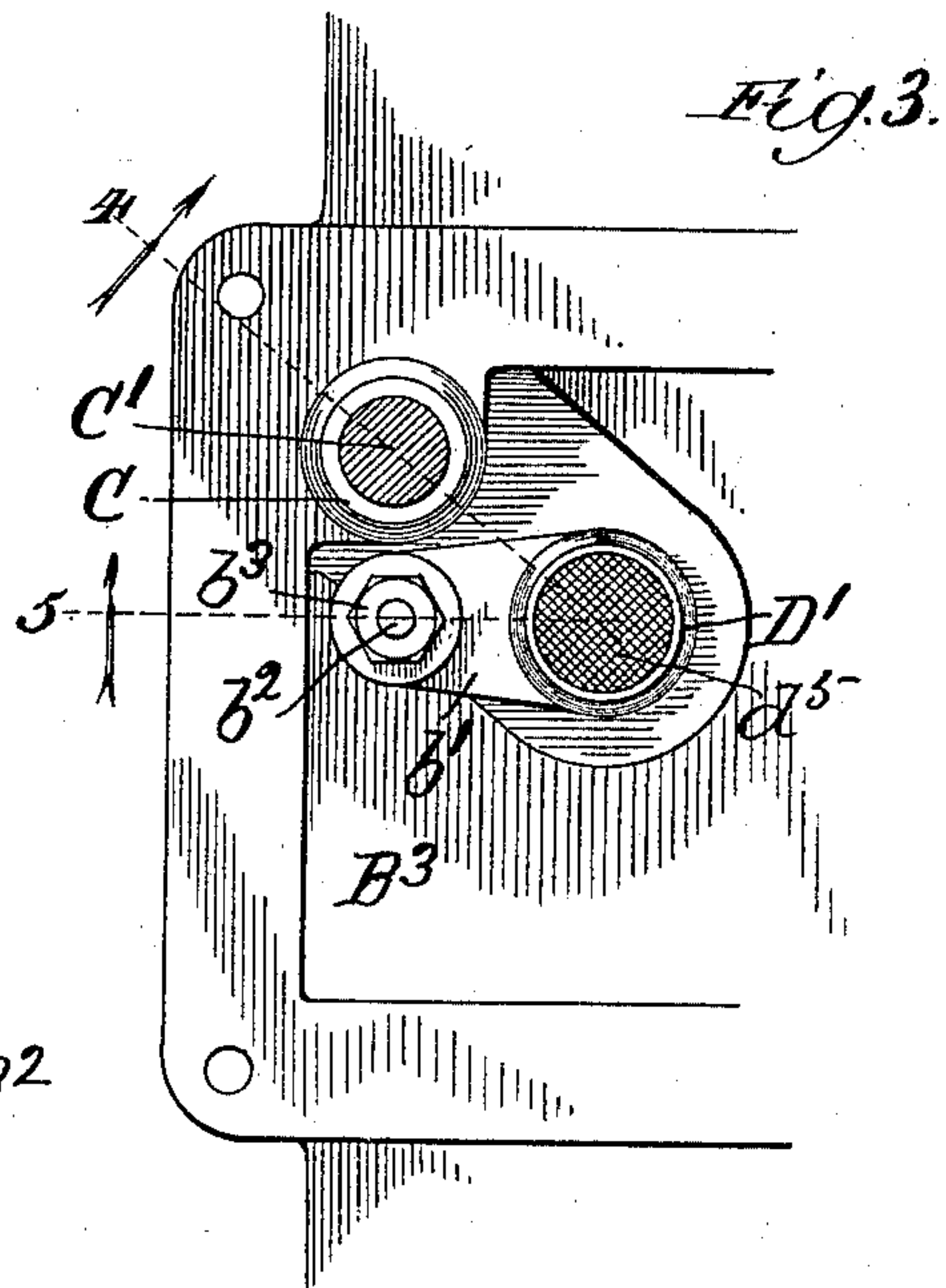
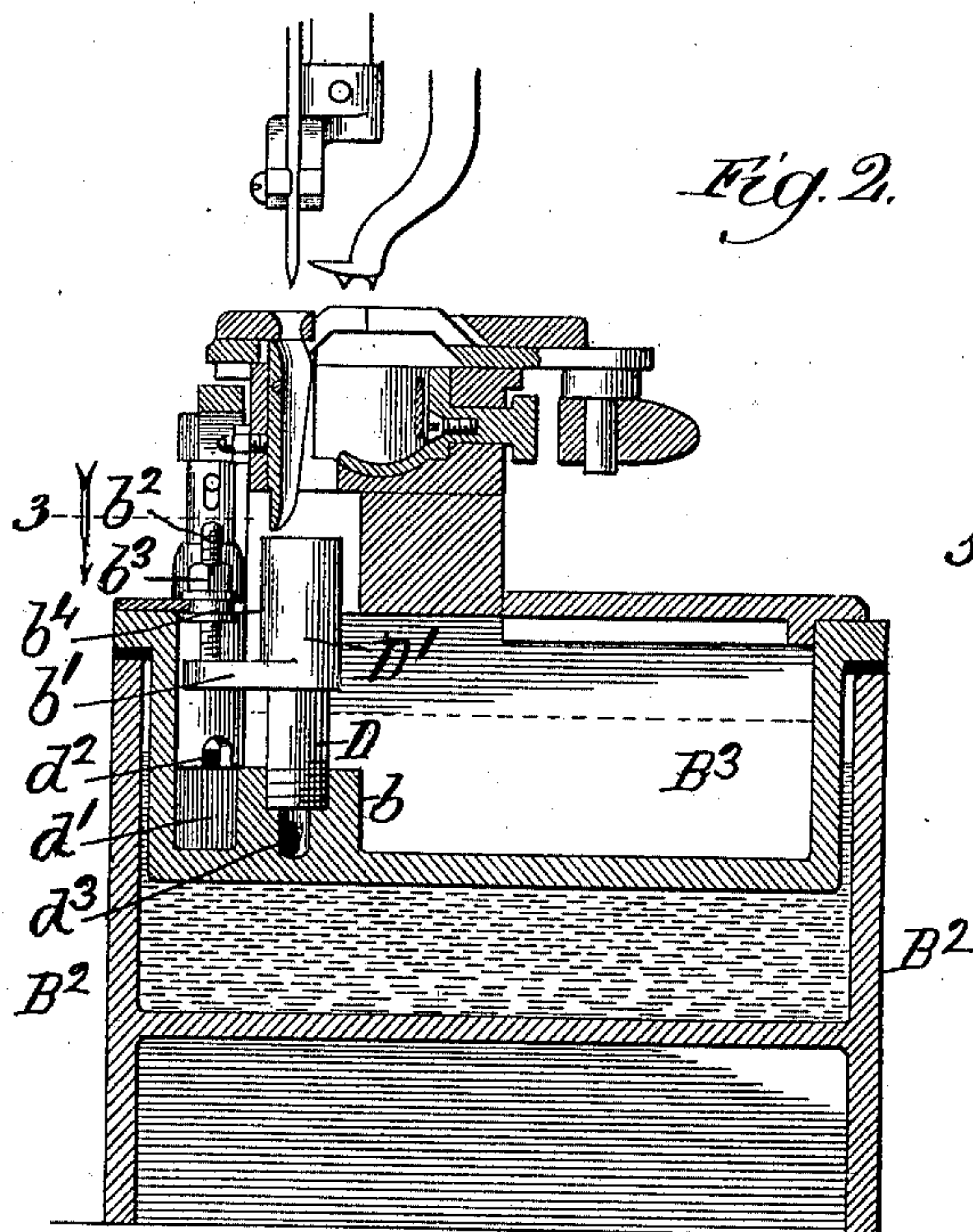
J. B. DOBYNE.

THREAD WAXING DEVICE FOR SEWING MACHINES.

(Application filed May 15, 1895.)

(No Model.)

3 Sheets—Sheet 2.



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3 Sheets—Sheet 3.

Fig. 6.

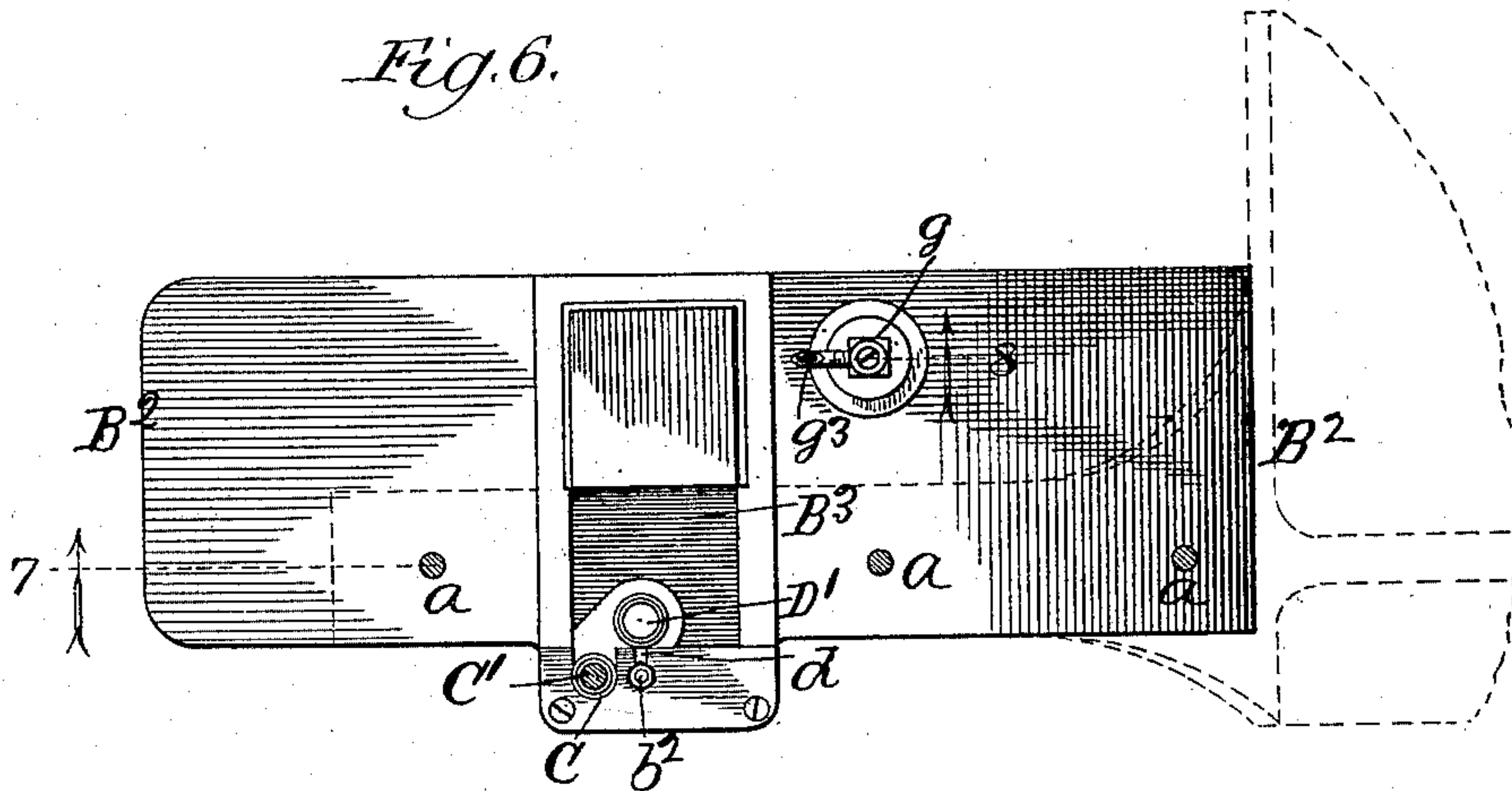


Fig. 7.

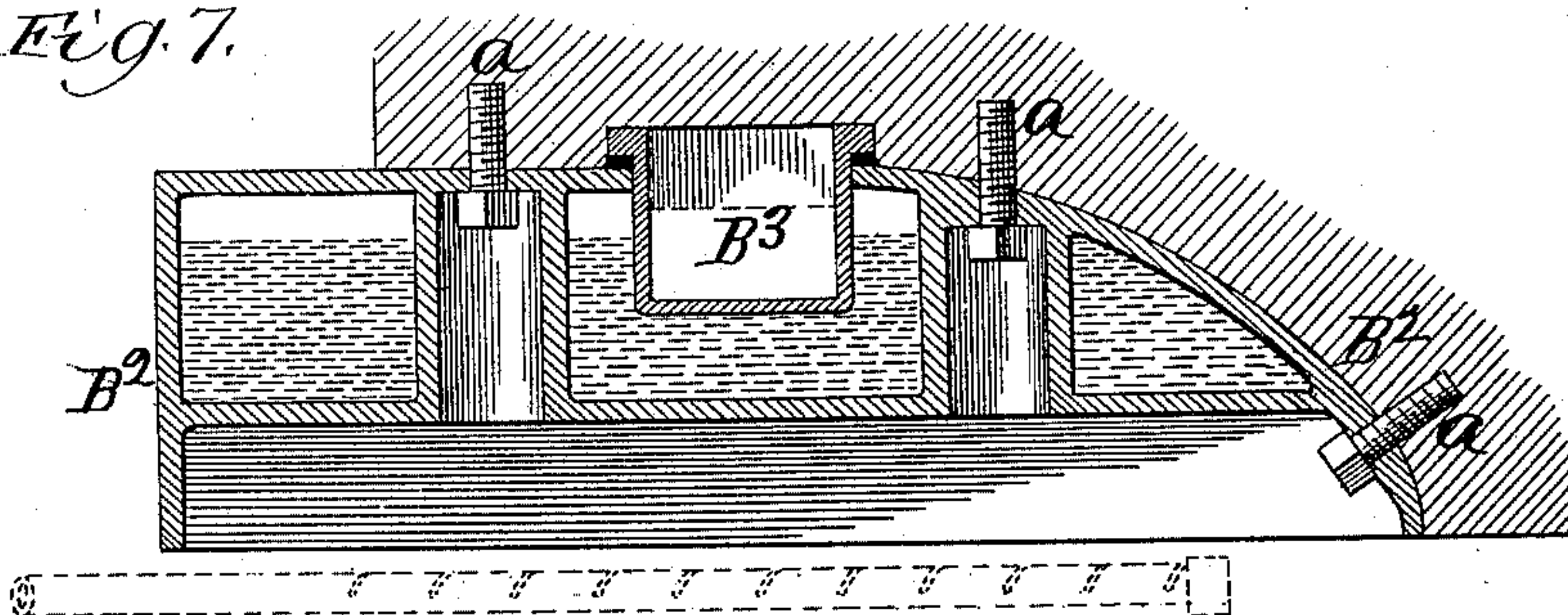
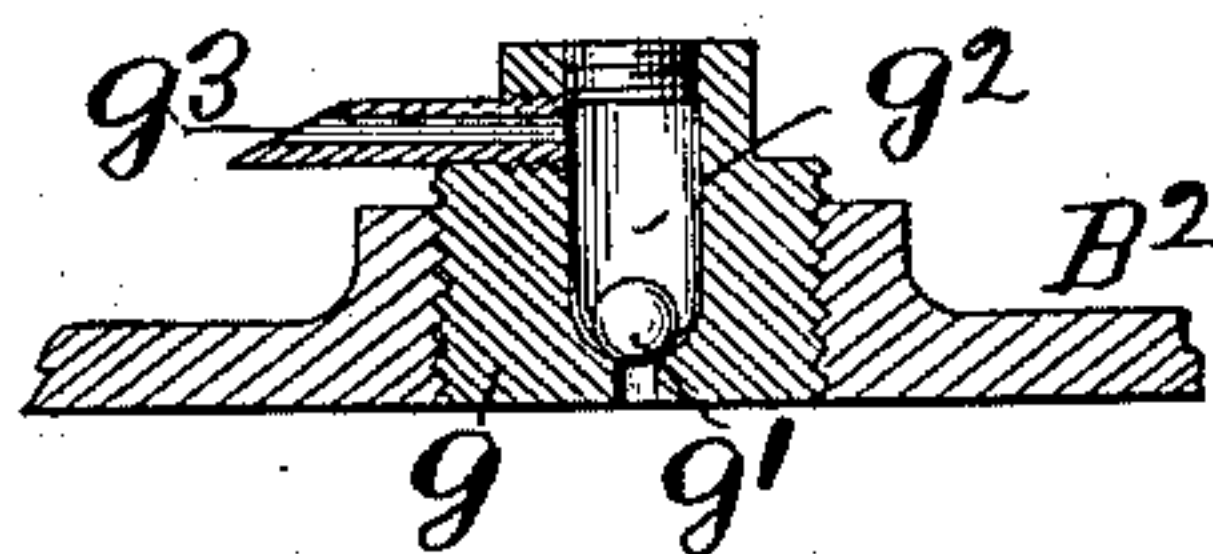


Fig. 8.



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# UNITED STATES PATENT OFFICE,

JAMES B. DOBYNE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE LANDIS  
WAX THREAD SEWING MACHINE COMPANY, OF SAME PLACE.

## THREAD-WAXING DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 613,126, dated October 25, 1898.

Application filed May 15, 1895. Serial No. 549,366. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. DOBYNE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Wax-Thread Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same.

The object of this invention is to provide an improved waxing attachment for that class of sewing-machines that are more especially used in the manufacture of harness and  
15 leather goods generally.

In the drawings, Figure 1 is a side elevation of a sewing-machine embodying my improved features; Fig. 2, a vertical transverse section on line 2, Fig. 1, looking in the direction indicated by the arrow, some of the parts being shown in elevation; Fig. 3, a plan section on line 3, Fig. 2; Fig. 4, a vertical section on line 4, Fig. 3; Fig. 5, a vertical section on line 5, Fig. 3; Fig. 6, a plan of the  
25 wax-reservoir and heating-tank; Fig. 7, a vertical section on line 7, Fig. 6; and Fig. 8, a broken-out section on line 8, Fig. 6.

A represents the supporting-base; A', the stationary overhanging arm, that is usually  
30 cast integral with the base part; A<sup>2</sup>, the needle-lever; A<sup>3</sup>, the needle-bar; A<sup>4</sup>, the needle; A<sup>5</sup>, a combined needle-cam and fly-wheel, and B the driving-shaft.

In the supporting-base under the head B' of the overhanging arm is located a closed heating-tank B<sup>2</sup>, in which is seated a wax-reservoir B<sup>3</sup>, opening above the same, as shown in Figs. 2, 6, and 7. This tank is secured in place by a number of tap-bolts a.

40 In one end of the wax-reservoir is a pump-cylinder C and plunger C', adapted to have a reciprocating movement therein through the media of the following mechanism.

A rocking pump-lever C<sup>2</sup>, Fig. 1, is pivoted  
45 near its longitudinal center to the base, as at a'. The inner end of this lever bears upon the upper end of the pump-plunger. To the outer or opposite end and under side of this lever is attached one end of a spring C<sup>3</sup>, the  
50 other end of which is supported from the rear part of the base. The upper end of the plun-

ger is provided with opening a<sup>2</sup>, extending horizontally therethrough. In this opening is loosely inserted one end of a spring-arm C<sup>4</sup>, the other end being secured to the front  
55 part of the base, as shown at a<sup>3</sup>.

A cam projection a<sup>4</sup> is mounted on the driving-shaft and is adapted to have an intermittent contact with the rear end of the pump-lever and depress the same against the pres-  
60 sure of spring C<sup>3</sup> once in each revolution of the driving-shaft. When the cam depresses the lever, the spring C<sup>4</sup> raises the plunger, and as the cam passes on out of contact the spring C<sup>3</sup> throws that end of the lever up and  
65 the other or front end down, thus imparting an automatic reciprocating action to the pump-plunger coincident with that of the movement of the machine proper.

The lower end of a tube D is tapped into  
70 the raised portion b of the inside bottom of the wax-reservoir. An adjustable wax cup or sleeve D' is telescopically mounted on the upper end of tube D in the pathway of the needle. This wax-cup is provided with a lat-  
75 erally-projecting lug b', Figs. 2, 5, and 6, with which the lower end of an adjusting-stud b<sup>2</sup> has a threaded engagement. The upper threaded part of this stud-bolt has an ad-  
80 justing-nut b<sup>3</sup> threaded thereon. This nut is provided integrally with an annular grooved base b<sup>4</sup>, engaging with the edge of a plate b<sup>5</sup>, secured to the top of the wax-reservoir. A slot d, Fig. 6, starting in from the inner edge  
85 of plate b<sup>5</sup>, provides for the slipping in of the stud-bolt to its place. Turning the nut b<sup>3</sup> has the effect of running the stud up or down in accordance with the direction in which the nut is turned. This movement imparts a corresponding movement to the wax-cup on  
90 tube D, raising or lowering the same for the purpose of regulating the dip of the needle in the cup, so that the thread may receive more or less wax as the nature of the work may require.

95 The fluid wax flows from the reservoir into the well-chamber d' through a port d<sup>2</sup>, which is momentarily uncovered when the plunger is in its highest position. On the downstroke the plunger closes the port and forces the  
100 charge of wax through passage d<sup>3</sup> and tube D up into the wax-cup, the overflow return-



ing down the outside of the same into the reservoir again. A ball-valve  $d^4$  is loosely seated in the upper part of tube D and closes the passage therethrough against a backflow  
5 when the plunger is on the upstroke.

A gauze strainer  $d^5$  in the wax-cup prevents bits of leather and other foreign matter from getting to and interfering with the working of the ball-valve and clogging the passage  
10 communicating with the pump.

The wax may be kept in a fluid state by a body of water in the tank, as shown, which may be heated by gas or other suitable appliance. A gas-burner pipe is indicated in  
15 dotted lines. Steam or electricity may also be used as a heating agent. By this arrangement a continuous and uniform flow of the wax is maintained and the same kept in a fluid state at an even temperature.

20 When a body of heated water is used to keep the wax in a fluid state, the tank is provided with a safety-valve attachment, Fig. 8, consisting of a chambered screw-plug  $g$ , inserted in the tank and opening therein, a ball-  
25 valve  $g'$ , seated in the chamber  $g^2$ , and an escape-pipe  $g^3$ . Ordinarily the water in the tank will be kept below the boiling-point, but should it reach a temperature sufficient to generate steam the pressure will raise the ball  
30 and allow the steam to escape.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

35 1. In a wax-thread sewing-machine, the combination of a wax-reservoir, a heating device, for keeping the wax in a fluid condition, a pump-cylinder communicating with the heated-wax chamber, a plunger working therein, a rocking lever, pivoted to the base  
40 of the machine and having one end bearing on the upper end of said plunger, the driving-

shaft, mounting a cam which is adapted to have an intermittent contact with and depress the outer end of said lever, means, for raising said lever when the cam has passed out  
45 of contact, and means for raising said plunger when the pressure of the lever thereon is relaxed, substantially as described.

2. In a wax-thread sewing-machine, a pump attachment, comprising a well-cylinder, a  
50 plunger, a rocking or working lever, pivoted to the base of the machine, a cam, mounted on the driving-shaft and adapted to have contact with and depress the outer end of said lever once in each revolution, a spring, adapt-  
55 ed to force the lever upwardly when the cam passes out of contact, and a spring outside the well and connected with and raising the pump-plunger when the inner end of the lever has been raised out of contact therewith  
60 by the cam acting on the opposite end thereof, substantially as described.

3. In a pump attachment for wax-thread sewing-machines, the combination of a pump-plunger, having an opening through the up-  
65 per end thereof, a spring-arm, secured to the base part of the machine and having its loose end inserted through said opening, a rocking lever, pivoted near its longitudinal center to the base, the inner end bearing on said plun-  
70 ger, a spring, connected to the outer end of said lever, and the driving-shaft, having a cam mounted thereon which is adapted to have an intermittent contact with and depress the spring-pressed end of said lever, substan-  
75 tially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES B. DOBYNE.

Witnesses:

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