

(No Model.)

2 Sheets—Sheet 1.

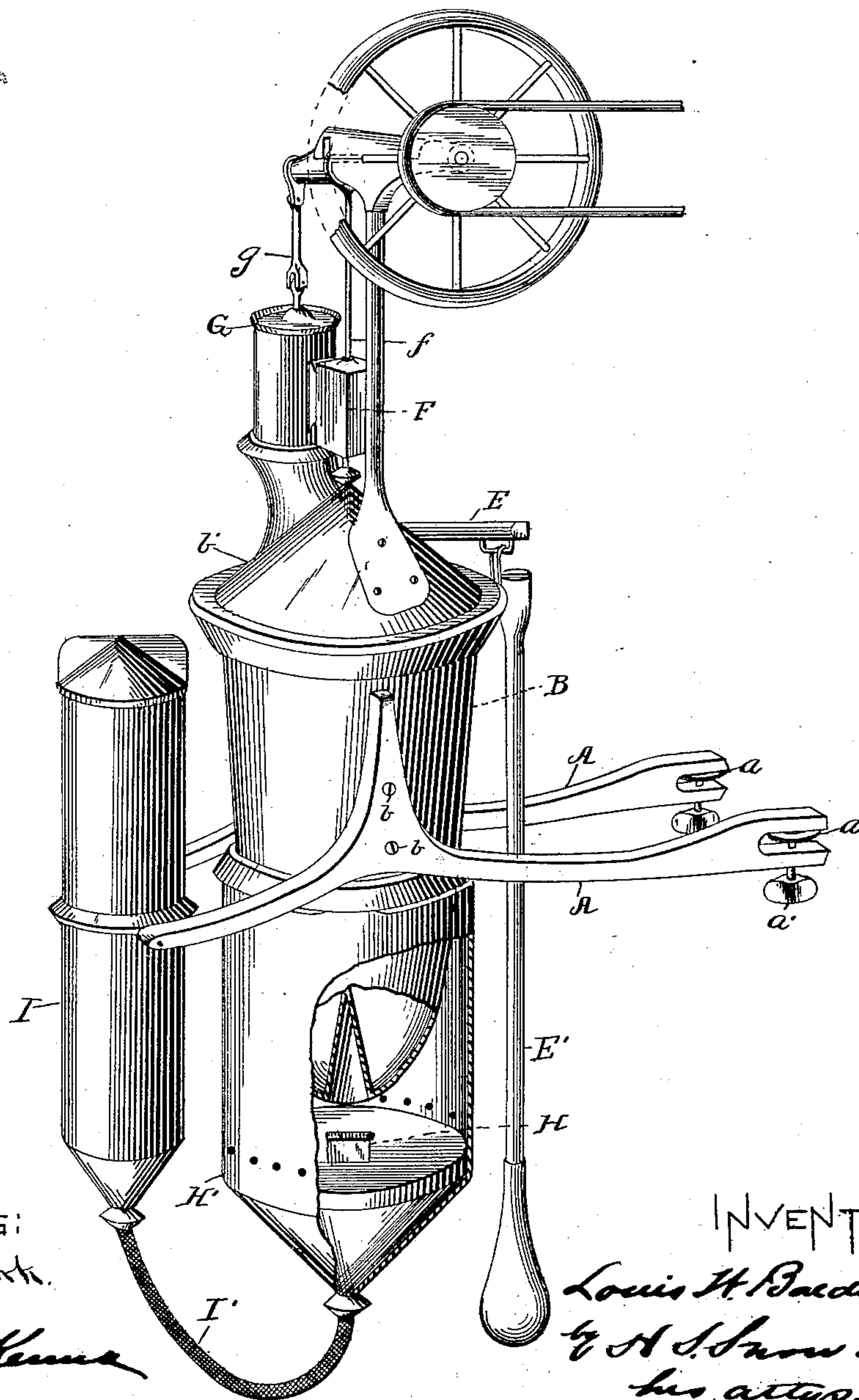
L. W. BALDWIN.

ENGINE FOR RUNNING SEWING MACHINES.

No. 333,719.

Patented Jan. 5, 1886.

Fig 1.



WITNESSES:
Morris H. Clark.

W. L. McKenna
CH

INVENTOR:

Louis H. Baldwin
by *H. J. Snow & Co.*
his attys.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

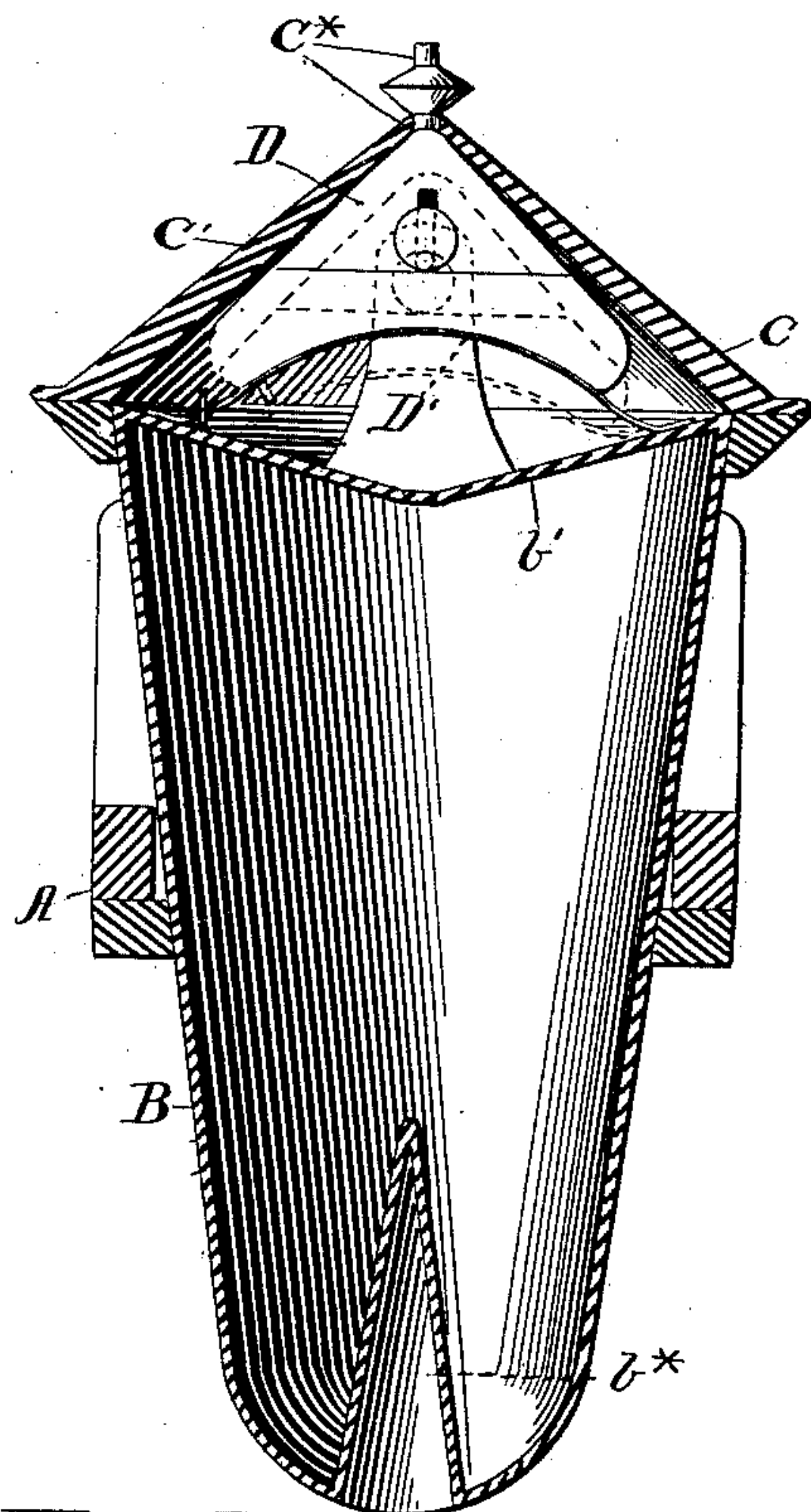


FIG. 3.

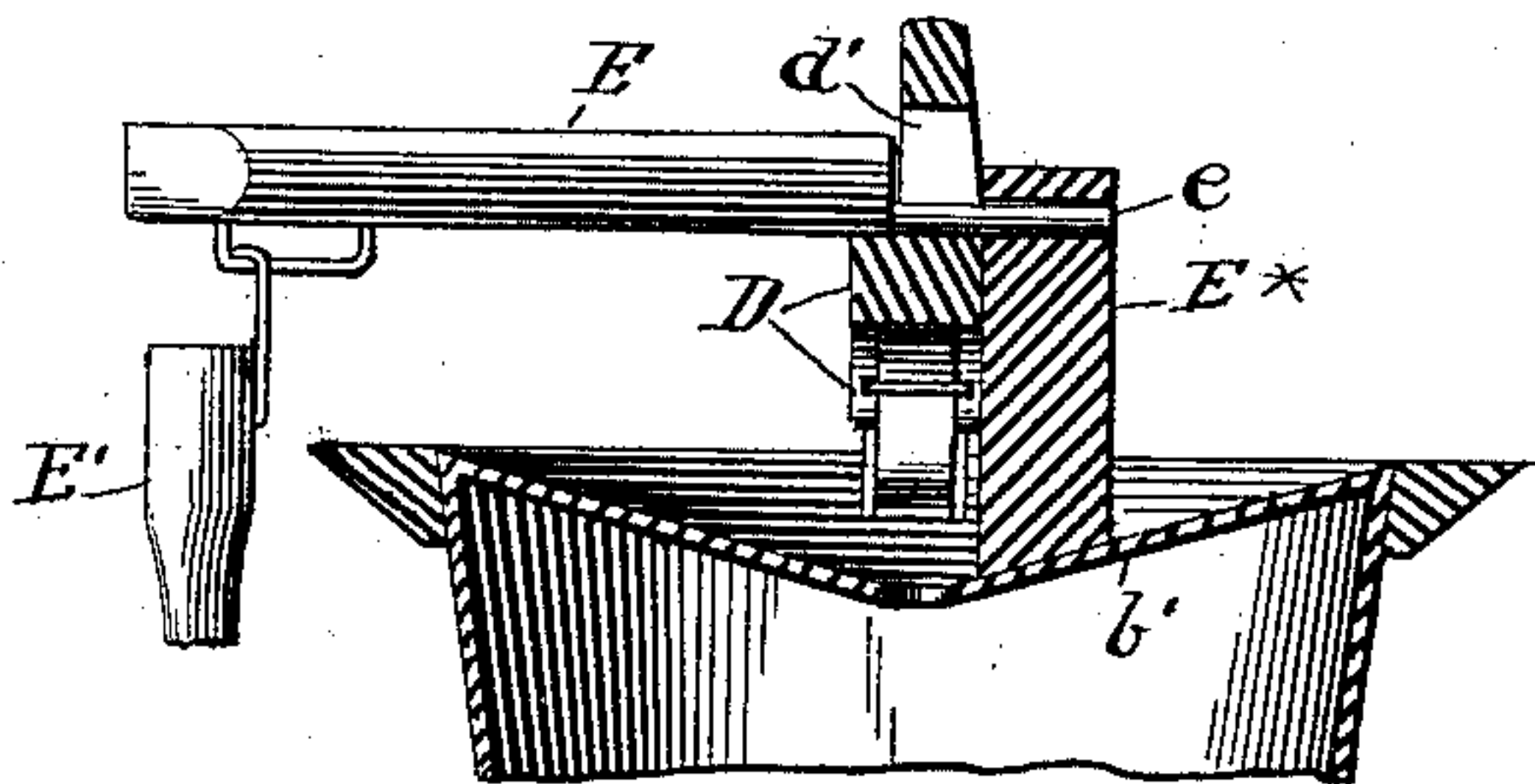
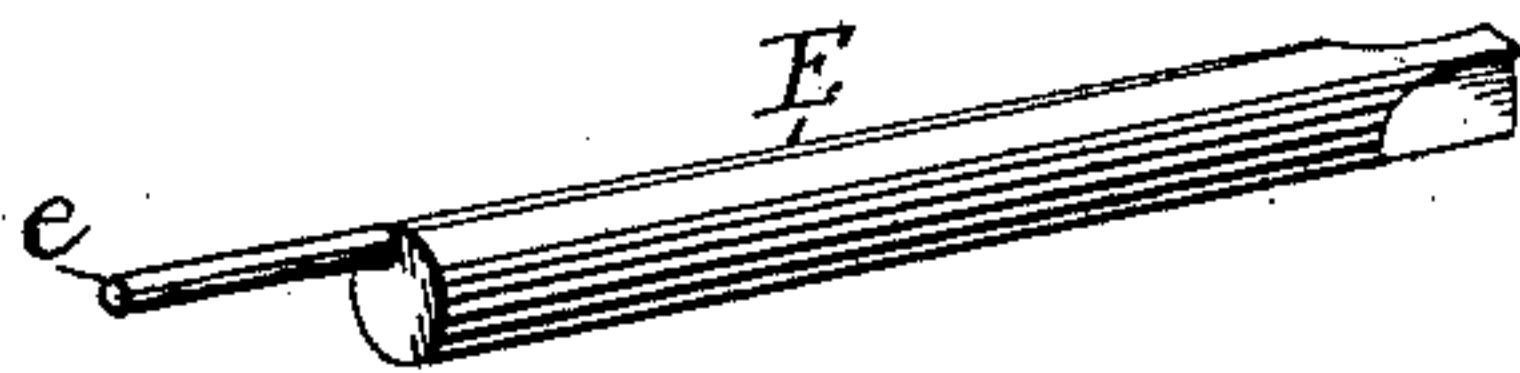


FIG. 4.



WITNESSES:

Horris A. Clark,

H. L. McKinnon

INVENTOR:

Louis W. Baldwin.

W. H. Snow & Co.
his attys

UNITED STATES PATENT OFFICE.

LOUIS W. BALDWIN, OF JERSEY CITY, NEW JERSEY.

ENGINE FOR RUNNING SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 333,719, dated January 5, 1886.

Application filed April 27, 1885. Serial No. 163,603. (No model.)

To all whom it may concern:

Be it known that I, LOUIS W. BALDWIN, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Engines for Running Sewing-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to motors for small machinery—such as sewing-machines, lathes, &c.—and has for its object the provision of a simple and efficient steam-generator device and regulating means to a small steam-chest, power-cylinder, and piston, whose rod may be secured or connected with some part of the machinery to be driven, and also the provision of an oil-reservoir, which feeds a lamp or blaze for affording heat for generating the steam, the whole to be mounted upon brackets, with means for attaching to and removing from the table or other convenient portion of the machinery which it is to drive. The boiler or generator is provided with a central open-bottomed extension or groove projecting into the body of the boiler to be surrounded by the water, which is thereby readily heated. In the steam-chamber above the boiler a valve is secured upon a spring, which tends to keep it forced upward to close the opening in the top of the chamber, to which the steam-pipe is attached. An operating-handle with an eccentric pin is held in a standard, and serves to depress the valve and open the steamway when it is turned in one direction, and to allow the valve to close tightly when turned the other way. By partially turning the operating handle or eccentric the speed of the engine is regulated as the amount of steam let past the valve is varied.

The details of construction will be understood, as hereinafter described, and pointed out in the claims.

The accompanying drawings illustrate what I consider the best means for carrying my invention into practice.

Figure 1 is a perspective view of the device, showing a portion broken away to disclose the interior arrangement. Fig. 2 is a central vertical section of the steam-boiler. Fig. 3 is a

similar view of the top portion of the same, taken transversely to Fig. 2. Fig. 4 is a detail view of the handle or eccentric.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A A are the brackets, with slots *a a* and pinching-screws *a' a'*, for securing them to the table of a sewing-machine or other piece of machinery. It will be understood that these brackets may be formed with any desired style of fastening means to adapt them for the various required positions to which they are applied. They may, if desired, be made in the form of a stand or support to rest upon the floor or other horizontal surface. To these brackets is secured the boiler or generator B by means of screws *b b*, as shown, or in any other convenient manner. This boiler is formed with tapering walls, as shown, the small end being below, and provided in the center of said smaller bottom end with a teat or groove, *b**, turned inward and projected a considerable distance into the body of the boiler, to be surrounded by water and aid in diffusing the heat from the lamp, to be hereinafter described, through the water. The top of the boiler is provided with a diaphragm, *b'*, with a central opening for passing the heat into the dome or chamber C above. This chamber C is formed by the diaphragm *b'* below and the hood or cover C' above, to the apex of which the steam-pipe C* is connected. Inside of the dome C is provided a valve, D, of triangular form, with one corner or angle projected into the apex of the dome, as clearly shown in Fig. 2. This valve is mounted upon a strap-spring, D', secured upon the diaphragm *b'*, which spring tends to keep the valve always forced up against the hood to close the mouth of the steam-pipe C*. This valve is controlled and regulated in the following manner: On one side of it is provided an upright or stud, E*, in which is pivoted an eccentric pin, *e*, on the cam-handle E. This handle E passes through an opening, *d'*, in the valve D, as shown in Figs. 2 and 3. By revolving the handle upon the eccentric pivot-pin *e* the action of the spring is allowed to elevate the valve and close the mouth of the steam-pipe

C*, as shown in full lines in Fig. 2, or when turned so that the cam-handle overcomes the spring the valve will be depressed, as shown in dotted lines in Fig. 2, when the steam may
 5 pass out through the open mouth of the steam-pipe C*. By turning the handle a predetermined partial revolution the capacity of the steamway past the valve is regulated and the amount of steam admitted through the steam-
 10 pipe C* to the chest F above is controlled.

To operate the handle E, a secondary handle, E', is affixed to it in a manner to swing out of the way, as shown in Fig. 1, by placing which with its end mortise over the angular
 15 end of the handle E the same may be moved as desired. It is evident that, if space permitted, the two parts of the handle, E and E', could be in one and the joint dispensed with.

The steam-chest F is provided with the necessary slide-valve for admitting and shutting
 20 off the operative fluid to and from each end of the cylinder G, in which the power-piston is placed. The slide-valve is operated by the rod f, connected with a portion of the machinery in such a way as to cause it to move
 25 back and forth. This piston-rod g connects with a crank-shaft in the ordinary manner, as shown in Fig. 1, to which the balance-wheel and belt-pulley shown are attached, the belt
 30 leading to the machinery to be driven.

Heat to generate the steam in boiler B is supplied from lamp H, placed below the said boiler in a lamp-case or fire-box, H', which is
 35 secured to the boiler and provided with the necessary ventilation, as shown. In the form shown the bottom of the case H' forms the

walls of the lamp; but it will be understood that any sort of lamp may be used.

Oil to replenish the consumption of the lamp is furnished from the reservoir or tank
 40 I, held in the extended arms of the brackets A, and connected with the lamp by the flexible tube I', by means of which flexible tube the lamp may readily be removed from the boiler.
 45

When the steam is shut off from the chest F by the closure of the valve, an escape for the confined steam in dome C is provided by an opening or hole through that portion of the handle which passes through the hood.
 50

Having thus described my invention, what I claim is—

1. The combination of the triangular-shaped valve and a strap-spring under it to keep it normally thrown upward with a cone-shaped
 55 dome or cap, with an eduction-pipe in its apex, and a cam-bar for operating the valve, as set forth.

2. The combination, with the triangular-shaped valve and dome formed to fit it, of a
 60 spring under said valve, a standard beside it, a cam-bar passing through it and pivoted in the standard, and a hinged extension secured upon said bar outside of the dome, as and for the purpose set forth.
 65

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

LOUIS W. BALDWIN.

Witnesses:

EDMOND F. BURKE,
 THOMAS M. DUFFY.