(No Model.)

W. SHUMARD.

SASH BALANCE.

No. 285,079. Patented Sept. 18, 1883.

Fig. 1

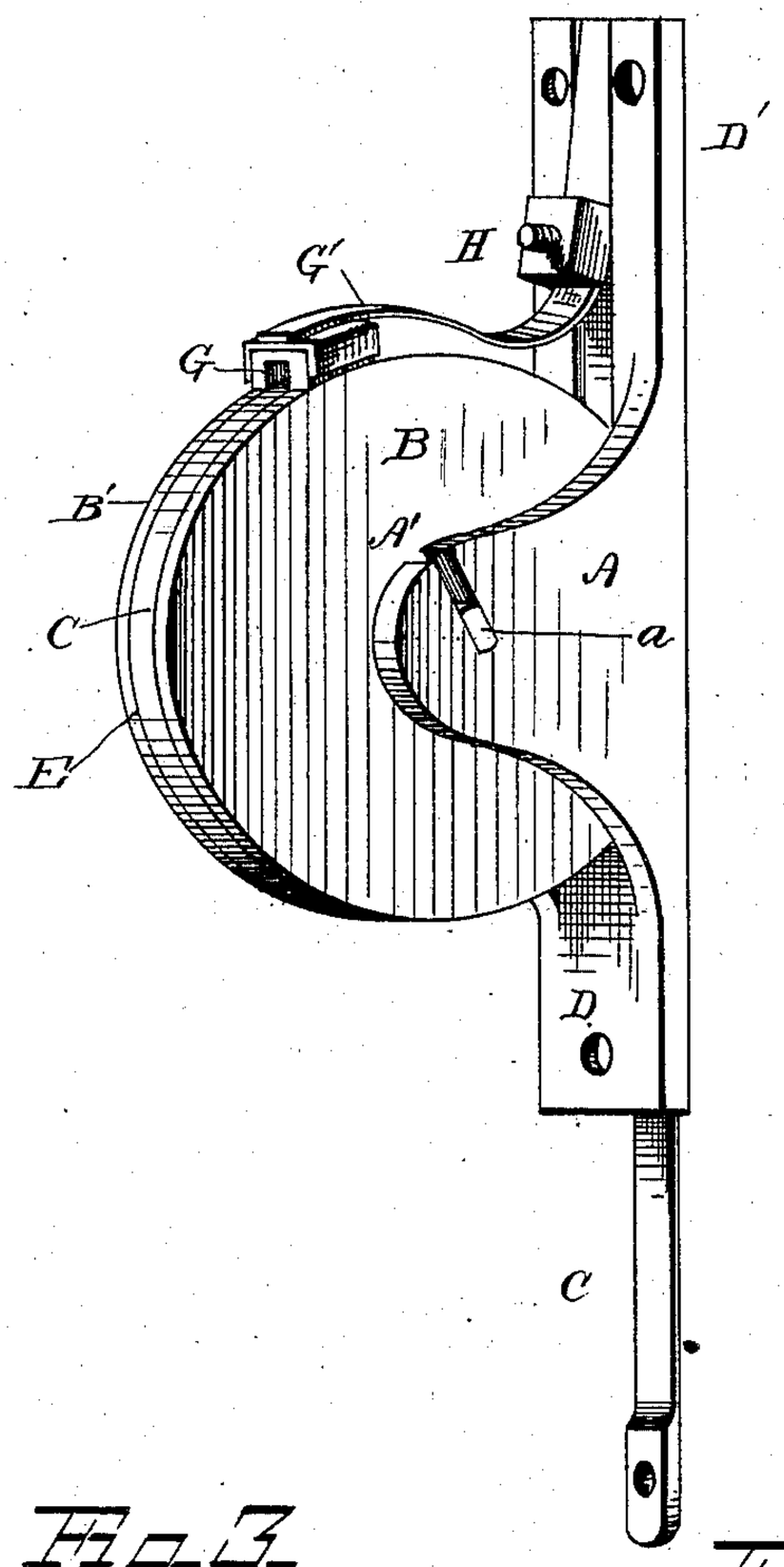

Fig. 2

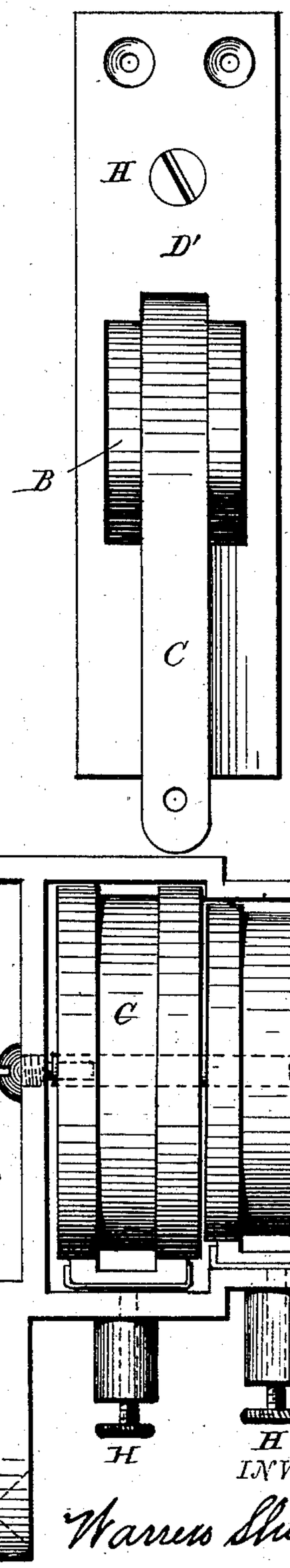

Fig. 3

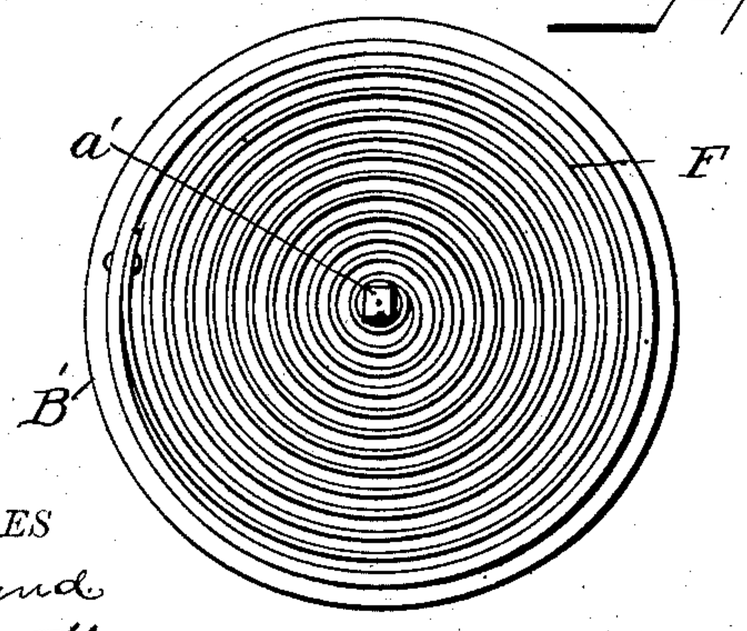

Fig. 4

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WARREN SHUMARD, OF RICHMOND, INDIANA, ASSIGNOR TO SARAH S. SHUMARD, OF SAME PLACE.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 285,079, dated September 18, 1883.

Application filed June 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, WARREN SHUMARD, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented a new and useful Improvement in Sash-Balances, of which the following is a specification.

My invention relates to improvements in sash-balances, in which a spring is substituted for a weight; and the object of my invention is to produce a sash-balance which will be simple in construction, easy of attachment, and durable in use.

My invention consists in certain peculiarities of constructions and combinations, which will first be fully described, and afterward pointed out in the claims. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention complete, ready for attachment. Fig. 2 is a front elevation as it appears when set in the window-frame without the sash. Fig. 3 is one part of the roller or drum with the spring in place. Fig. 4 shows a bracket for two rollers or drums, to be attached without cutting the frame.

In the drawings, A designates the bracket, composed of bearing-lugs A′, one only of which is shown, and projecting ends D and D′, said ends having screw-holes for the attaching-screws. The lugs A′ have slots which receive the flattened ends *a* of the roller or drum journal, it being preferred to have the roller or drum turn on its journal.

The roller or drum is composed of two parts, B and B′, made cup-shaped, or with flanges on their adjacent sides, by which I effect a saving of metal, and at the same time am enabled more readily to construct an annular groove-seating, E, for the suspension tape or ribbon C, and also a cavity for the actuating-spring F, one end of which is attached to the journal *a′* and the other to the inner sides of the flange of the part B′ of the roller or drum. It will be seen by this construction that when the roller or drum is turned against the force of the spring, the effect will be to wind the spring on its journal, so as to produce the desired storage of power to throw the sash in the opposite direction to that in which it is drawn by its own gravity.

C is a suspension tape or ribbon made of tempered brass; but it may be made of any other suitable material. One end of this tape or ribbon is attached to the outside of the roller or drum in the groove E, and the other is attached to the outer vertical edge of the sash, after the style of the cord when weights are used.

An essential part of my invention is what may be termed a "brake," and designated in the drawings by G, attached to the bracket A by a spring, G′, and the screw H. The functions of said brake are such as to enable me to regulate the force of the spring to the weight and friction of the sash.

It will be readily observed that by turning the screw H, the head of which is on the outside, and accessible without removing the device from the frame, the pressure of the brake upon the periphery of the roller or drum may be regulated to suit the weight and friction of the sash. The brake is bifurcated, so as to stride the peripheral groove in the drum, and consequently the ribbon in the groove, and bears only on the radial flanges of the drum. This construction, so far as I am aware, is new and very important. The brake might be applied in other ways; but I prefer the above construction.

The two parts of the roller or drum need no fastening to hold them together when in use, except the flanges, non-rotating journal, and the bracket. The spring being attached as before described—that is, one end to the non-rotating journal and the other to the inner periphery of the flange of the roller or drum—then the two parts B and B′ are placed together on the journal, when the drum and its journal may be inserted in their proper place in the bracket. The flattened or angular ends of the journal resting in the slots of the lugs A′ prevent the journal from turning, while the roller or drum is permitted to turn freely on the journal.

In Fig. 4, as before remarked, I have shown a double bracket, or a bracket for two rollers

or drums, which are attached by screws without cutting, &c., a larger roller or drum for the lighter sash and a smaller roller or drum for the heavier sash—that is to say, when the sash is light it needs more leverage, or a roller or drum of greater radius, and vice versa. One of these rollers or drums is designed for the upper and the other for the lower sash.

My balance can be adjusted to the weight of the sash by simply coiling or uncoiling the suspension tape or ribbon around the roller or drum—that is, if I find that I have a heavy sash I remove the brake and coil the tape or ribbon once or more around the roller or drum, and if the sash is light I take off or uncoil.

Operation: From the description it will be readily understood that the balance is first to be put together, as shown in Fig. 1, and let into the window-frame, which need not necessarily be a "box-frame," nor one especially provided, but may be any style of frame, old or new. The sash is now attached to the protruding end of the suspension tape or ribbon by means of a screw or otherwise, and the attachment is complete. Now, if the sash runs down too freely, I tighten the brake by turning the screw H to the right; or if it does not run down with sufficient freedom I turn the screw H to the left.

I reserve the right to make a separate application for matter shown and described but not claimed herein.

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

1. The combination, with an inclosed coiled spring, of a two-part roller or case to contain the same, one part being flanged and serving as a cover to the other part, which also has a flange, the two, when closed together, forming the groove for the suspension-tape, all as and for the purposes set forth.

2. The combination of the two-part spring-containing roller or drum, and the brake pressing upon the periphery of the same, said brake being attached to the bent spring-arm, which is adjustable from the outside by means of a screw, as and for the purposes set forth.

3. The combination of the two-part spring-containing roller or drum, and the brake pressing upon the periphery of the same, said brake being attached by means of arm G′, and the pressure of the brake regulated, by means of screw H, from the outside, as and for the purposes set forth.

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Witnesses:
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