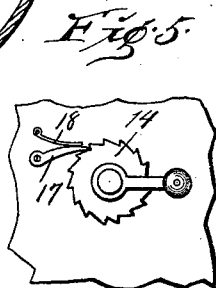
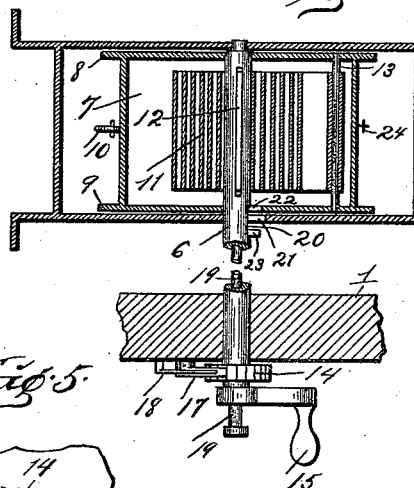
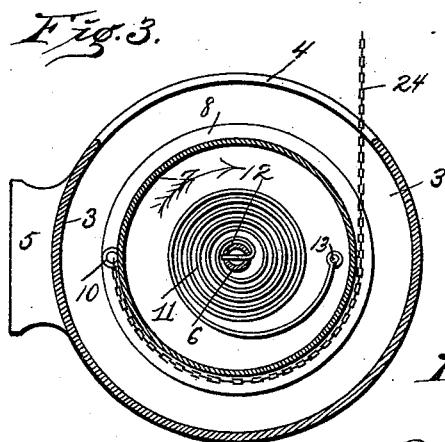
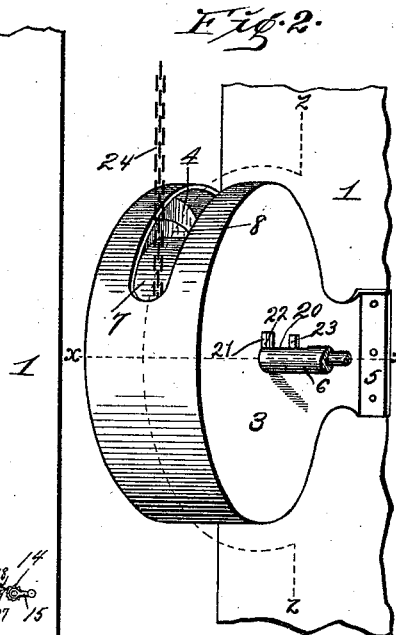
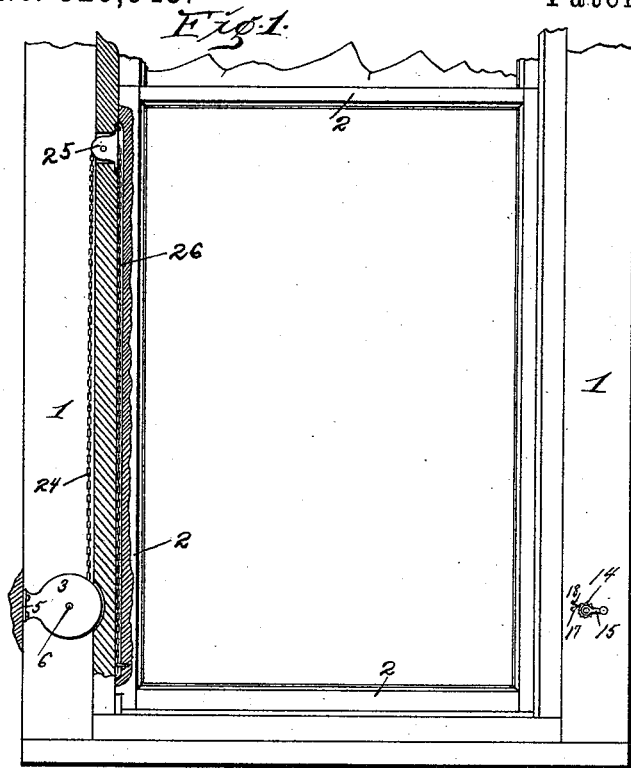


(No Model.)

J. SAUERBURGER.
SASH BALANCE.

No. 526,945.

Patented Oct. 2, 1894.



Witnesses:-
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UNITED STATES PATENT OFFICE.

JOSEPH SAUERBURGER, OF ST. LOUIS, MISSOURI.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 526,945, dated October 2, 1894.

Application filed January 11, 1894. Serial No. 498,512. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SAUERBURGER, of St. Louis, State of Missouri, have invented certain new and useful Improvements in Sash-Balances, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

The object of my invention is the providing of improved means whereby a window may be raised and lowered without the use of the ordinary window cord and weights.

A further object of my invention is to provide coil springs, a drum and casing, and a metallic cord or chain to operate a window sash with ease and efficiency.

To the above purposes my invention consists in certain new and novel features of construction that will be hereinafter described, set forth and claimed.

In order that my invention may be more fully understood, I will now proceed to describe it in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a window and window sash, portions of which are broken away to clearly show my improved device. Fig. 2 is a perspective view of a portion of my device, the same being attached to a portion of the window frame. Fig. 3 is a cross-sectional view taken on the line $z-z$ of Fig. 2. Fig. 4 is a cross-sectional view of my device, taken on the line $x-x$ of Fig. 2. Fig. 5 is an enlarged detail view of a ratchet, spring actuated pawl and crank used in my improved device.

Similar figures refer to similar parts throughout the several views.

The numeral 1 designates a window frame and 2 the window sash, said sash being of the ordinary construction. To the inner portion of the window frame, by means of screws or bolts, or in any suitable manner, is secured my device, which consists of a circular casing 3, having in its upper portion an elongated opening 4. To the rear of this cylinder 3 is a portion 5, by means of which the device is secured to the interior of the window casing. A hollow shaft 6 is revolvably mounted within and passes through the center of the casing 3, and to and through the inner part of the window frame. A hollow drum 7 is rotat-

ably mounted upon this hollow shaft 6. This drum is provided with flanges 8 and 9 on its outer edge; also on its periphery with a hook or eye 10, the purpose of which will be hereinafter mentioned. On the interior of this drum, and around the hollow shaft 6, is a coil spring 11, the inner end of which passes through a slot 12 running longitudinally through the hollow shaft 6. The outer end of this coil spring 11 is secured to a pin 13, which is in turn secured to the walls of the drum 7.

The portion of the hollow shaft 6 that extends through the window frame has securely fixed thereto a ratchet-wheel 14 and a crank-handle 15. A pawl 17, actuated by a spring 18, engages the teeth of said ratchet-wheel 14.

Extending partially through the hollow shaft 6 is a rod 19 and at a point where the hollow shaft 6 enters the wall of the casing 3, a slot 20 is formed in said shaft 6. A rectangular opening 21 is formed in the wall of the casing 3, and a like opening 22 is formed in the side-wall of the drum 7. To the inner end of the previously mentioned rod 19, and extending out through the slot 20, is a pin or extension 23.

Secured to the eye 10, previously referred to, is one end of a metallic cord or chain 24, which passes upwardly to a point in the window casing opposite the upper portion of the window sash and over a pulley 25; thence downward through the slot 26 in the window frame 2 to a point near the base of the side rail of the said window frame 2. Here it is fastened in any suitable manner. Both sides of the window sash and frame are fitted in the same manner.

When the window sash is closed, the coil spring is in the position shown in Fig. 3, said coil spring having been previously wound around the hollow shaft 6 to give it the required tension by means of the crank-handle 15. The spring 11, the center of which is secured to the hollow shaft 6, is necessarily held in this position by the spring actuated pawl 17 engaging the teeth of the ratchet-wheel 14, which is securely fastened to the hollow shaft 6. When the window sash is raised, the power stored in the coil spring 11 will cause the drum 7 to rotate upon the hollow shaft 6 in the direction of the arrow shown in Fig. 3,

metallic cord or chain
periphery of the drum. As the
window sash is raised and the cord or chain
wound upon the drum, the spring 11 is par-
tially uncoiled.
If the power stored in the spring 11, when
the window is raised to its highest point, is
not enough to hold said window, the opera-
tion can, by turning the hollow shaft, be
of the crank-handle 15, wind
power in the spring 11, wind
the window spring 11, wind

It has been
dow sash were
cord and weights
of order and inoper-
device, these and
easily overcome