

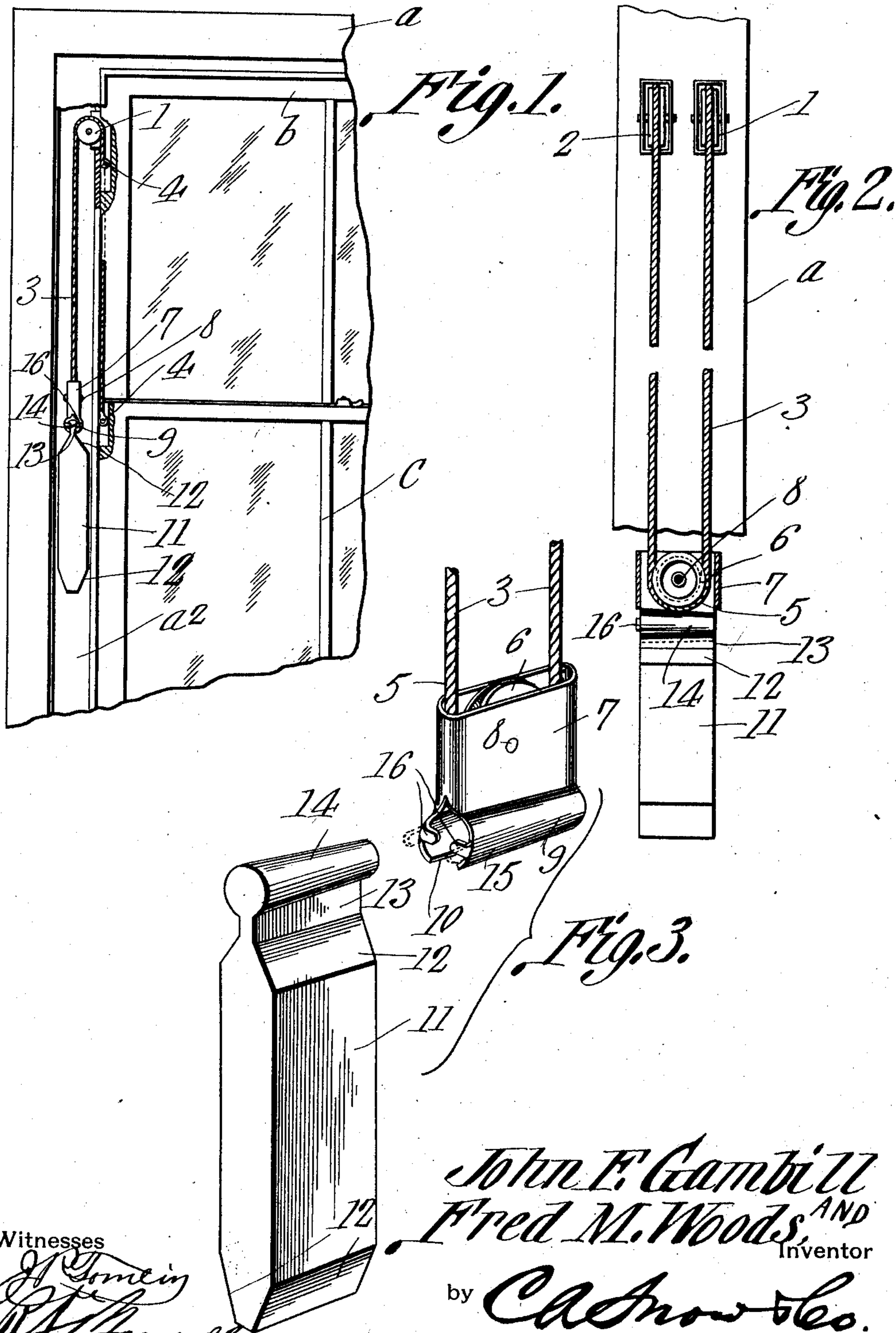
J. F. GAMBILL & F. M. WOODS.

SASH BALANCE.

APPLICATION FILED OCT. 19, 1910.

998,572.

Patented July 18, 1911.



Witnesses

J. J. Goring
W. A. Howell

John F. Gambill
Fred M. Woods, AND

Inventor

by

C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN F. GAMBILL AND FRED M. WOODS, OF MUSKOGEE, OKLAHOMA, ASSIGNORS OF ONE-EIGHTH TO ROBERT TOOMER, THREE-SIXTEENTHS TO WM. F. SCHUERMEYER, AND THREE-SIXTEENTHS TO WESLEY Y. DILLEY, ALL OF MUSKOGEE, OKLAHOMA, ONE-EIGHTH TO THOMAS O. HAYES, OF HASKELL, OKLAHOMA, ONE-EIGHTH TO FRED E. WATKINS, OF WAURIKA, OKLAHOMA, AND ONE-FOURTH TO SAID JOHN F. GAMBILL, OF MUSKOGEE, OKLAHOMA.

SASH-BALANCE.

998,572.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed October 19, 1910. Serial No. 587,894.

To all whom it may concern:

Be it known that we, JOHN F. GAMBILL and FRED M. WOODS, citizens of the United States, residing at Muskogee, in the county of Muskogee, State of Oklahoma, have invented a new and useful Sash-Balance, of which the following is a specification.

This invention belongs to the art of window frame construction, and it particularly pertains to new and useful sash balances, and one of the objects of the invention is to provide improved means whereby the balance or weight may be detachably connected to the sash cord.

A further object of the invention is to provide a device of this character, involving improvements over the applicants' pending application filed May 25, 1910, Serial No. 563,315. In the pending application the balance weight is recessed to receive the flat tubular casing, in which the pulley or sheave is mounted, but, however, in the present application, the balance or weight is formed with a beaded portion, to be received telescopically into the slotted roll of the flat tubular casing. By constructing the connection between the flat tubular casing and the balance or weight in this latter manner, it has been found considerably less expensive. Furthermore, it is easier to connect the balance or weight to the flat tubular casing. By constructing the balance or weight without the recess, it obviates the necessity of a cord print, when the same is cast. The balance or weight may be cast solid in one piece, as will be observed. In the drawings, however, there is only disclosed one particular form of the invention, but in practical fields this form may require slight alterations, to which the applicant is entitled, provided the alterations are comprehended in the appended claims.

Other features and combinations of parts will hereinafter be set forth, shown in the drawings, and claimed.

In the drawings, the preferred form of the invention has been illustrated, and in which drawings,

Figure 1 is a view partly in front elevation and partly in section, showing the present improvements applied to the upper and

lower sashes. Fig. 2 is an enlarged view, partly in elevation and partly in section, of the balance and its cord. Fig. 3 is a detail view of the detachable flat tubular casing with its sheave therein, showing the counterbalance or weight, in readiness to be received by the said casing.

In regard to the drawings, *a* designates a window casing having the usual weight box a^2 , and *b* and *c* denote the upper and lower sashes respectively. Cord pulleys or sheaves 1 and 2 are arranged in the upper portion of the weight box a^2 at each side of the casing, as ordinarily. There is provided a window cord 3, one end of which is attached to the upper sash *b*, while the other end thereof is attached to the lower sash *c*, as indicated at 4. In connecting the window cord in this manner, the same forms a loop 5, the purpose of which will presently appear. The loop or the intermediate portion of the cord engages the sheave or pulley 6, which is journaled within an upright oval casing 7, upon a rivet extending across the casing, in order to prevent displacement. This casing is provided with a roll 9 along its lower portion, in which a slot 10 is formed. The counterbalance or weight 11, at its upper and lower portions, is tapered, as shown at 12, the upper taper merging into a neck 13, which terminates into a bead 14. This bead is received in a roll 9 of the casing 6, while the neck 13 enters the slot 10. This roll 9 is slightly tapered, in order to prevent the bead from passing entirely through the roll, and the end 15 of the roll is provided with two small pliable lugs 16, which are designed to be bent over to retain the bead 14 in the roll securely.

The casing may be made of any suitable material, preferably sheet metal, and the sash cord may be threaded through the casing and under the sheave or pulley therein, and then advanced over the sheaves or pulleys 1 and 2 at the upper portion of the casing *b* and *c*, as hereinbefore described.

After the balance has been arranged inside the window casing, and connected in the manner shown in the drawings, the said sashes may be raised and lowered, as ordinarily, the counterbalances serving to hold

the sashes in any position to which they may be moved.

The invention having been set forth, what is claimed as new and useful is:

- 5 1. A counterbalance including an upright casing having a roll extending across its lower end and the roll itself having a slot along its lower side, cord-engaging means mounted within the casing, and a weight
10 having near its upper end a neck adapted to pass into said slot and above the neck a rounded bead larger at one end than at the other and adapted to pass into said roll.
- 15 2. A counterbalance including a casing having a slotted tubular tapering roll, a weight having a portion corresponding in shape to the roll and insertible thereinto, and a cord engaging means carried by the casing.
- 20 3. A counterbalance including a casing having across its lower end a tubular roll which tapers throughout its length, the roll itself having a slot along its bottom, cord-engaging means carried within the casing,
25 a weight having a portion insertible into said roll and slot, and pliable lugs at the larger end of said roll for the purpose set forth.
- 30 4. A counterbalance including a casing having a slotted tubular tapering roll, a weight having a portion corresponding in shape to the roll and insertible thereinto, said roll having means to coöperate with

the tapering portion of the roll to hold the said portion of the weight in the roll, and 35 a cord engaging means carried by the casing.

5. A counterbalance including a casing having a slotted tubular roll and provided with a sash cord engaging means, a weight terminating in a neck portion and a bead 40 integral with the neck portion, said bead being insertible in said tubular portion, while the slot of the tubular portion receives the said neck, and means to hold the bead in the tubular portion. 45

6. A counterbalance including an upright oval casing having a slotted tubular tapering portion extending along its lower end, a rivet connecting the sides of the casing and standing at right angles to said portion, a 50 pulley journaled on the rivet within the casing, a weight terminating in a neck portion and a bead correspondingly tapered with regard to the tubular portion, and members 55 integral with the tubular portion adapted to be bent over to hold the bead in the tubular portion.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

JOHN F. GAMBILL.
FRED M. WOODS.

Witnesses:

W. Y. DILLEY,
W. F. SCHUERMEYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."