

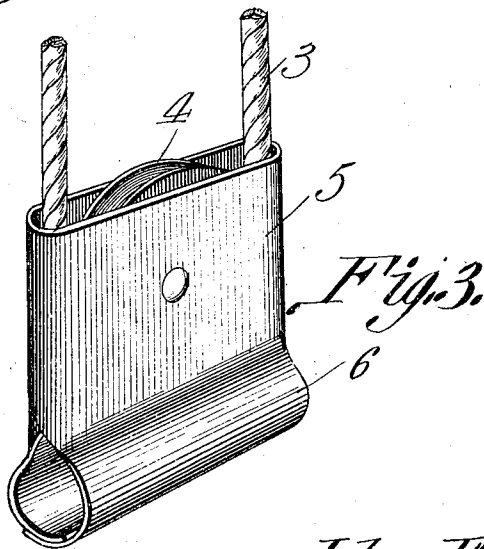
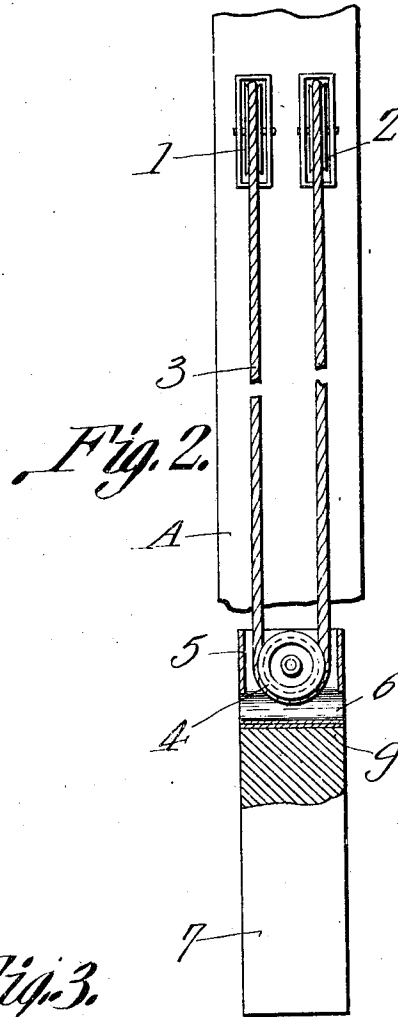
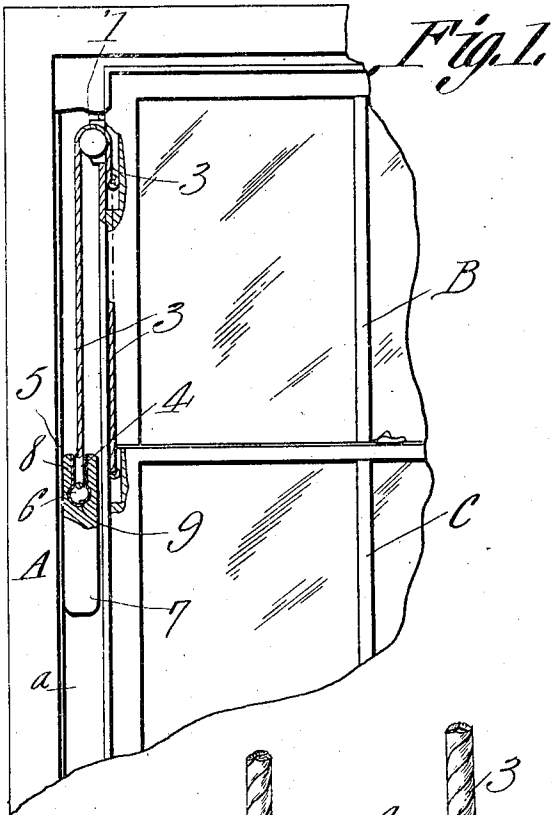
J. F. GAMBILL & F. M. WOODS.

SASH BALANCE.

APPLICATION FILED MAY 25, 1910.

982,048.

Patented Jan. 17, 1911.



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Fred M. Woods, AND

Witnesses

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UNITED STATES PATENT OFFICE.

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THREE-SIXTEENTHS TO WM. F. SCHUERMEYER AND ONE-EIGHTH TO ROBERT
TOOMER, BOTH OF MUSKOGEE, OKLAHOMA, ONE-EIGHTH TO THOMAS O. HAYS, OF
HASKELL, OKLAHOMA, THREE-SIXTEENTHS TO WESLEY Y. DILLEY, OF MUSKOGEE,
OKLAHOMA, AND ONE-EIGHTH TO FRED E. WATKINS, OF WAURIKA, OKLAHOMA.

SASH-BALANCE.

982,048.

Specification of Letters Patent.

Patented Jan. 17, 1911.

Application filed May 25, 1910. Serial No. 563,315.

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 relates to sash balances and one of its objects is to provide improved means whereby the balance or weight may be detachably connected to the said cord.

Another object is to provide connecting means including a sheave for movably engaging the sash cord, said sheave being housed within the weight.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view partly in front elevation and partly in section showing the present improvements applied to upper and lower window sashes. Fig. 2 is an enlarged view partly in section and partly in elevation of the balance and its cord. Fig. 3 is a detail view of the detachable sheave and its casing.

Referring to the figures by characters of reference A designates a window casing having the usual weight box *a*, and B and C designate the upper and lower sashes respectively. Cord pulleys or sheaves 1 and 2 are arranged in the upper portion of the weight box *a* at each side of the casing, as ordinarily, each set of sheaves supporting a 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. The intermediate or folded portion of the cord is extended under a sheave 4 journaled within a flat tubular casing 5. Oppositely disposed lapping curved wings 6 are formed at the lower end of the casing and cooperate to constitute a substantially tubular extension preferably formed of spring metal and which can be contracted to a limited extent.

The counter balance 7 has a slot 8 in the upper end thereof, the inner end of this slot being enlarged and rounded as indicated at 9. The said slot extends throughout the diameter of the weight and the entire counterbalance can be readily cast. The sheave 4 is placed within the counterbalance by first contracting the tubular extension 6 and then inserting the casing 5 and said extension into the slot 8, it being understood that the extension moves into the enlarged inner end portion of the slot, and, when released, expands and frictionally engages the wall of said enlarged portion so as to hold the casing 5 against displacement relative to the counter-balance. The cord 3 can then be threaded through the casing and under the sheave 4 and then extended over the sheaves 1 and 2 and attached to the casings B and C as heretofore described. After a counterbalance has been arranged in each side of the window casing and connected to the two sashes in the manner described, the said sashes can be raised and lowered as ordinarily, the counterbalances serving to hold them in any position to which they may be moved.

Various changes can be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claim.

What is claimed is:—

A counterbalance including a weight having a slot in one end, said slot having an enlarged portion, a casing insertible into the slot and having an integral expansible tubular extension frictionally engaging the walls of said enlarged portion of the slot, and a sheave journaled within the casing.

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:

CHAS. E. HAGERTY,
E. E. FARRIS.