No. 868,972. PATENTED OCT. 22, 1907.

A. CURWOOD.

MEANS FOR BALANCING AND FASTENING WINDOW SASHES.

APPLICATION FILED SEPT. 18, 1905.

2 SHEETS—SHEET 1.

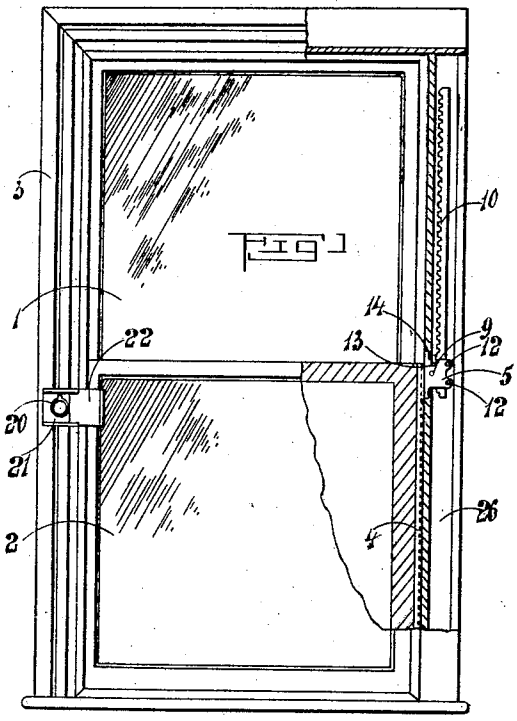

Fig 1

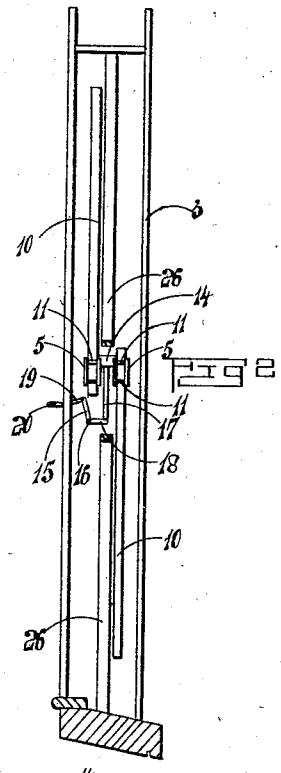

Fig 2

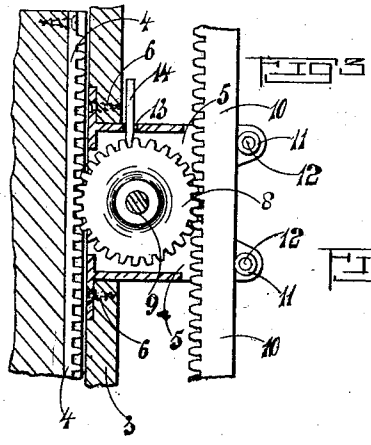

Fig 3

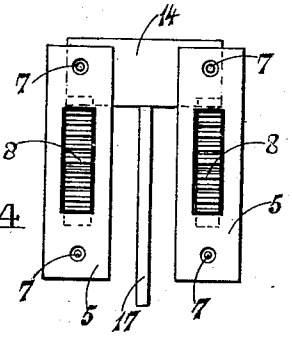

Fig 4

Witnesses
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2 SHEETS—SHEET 2.

FIG 5

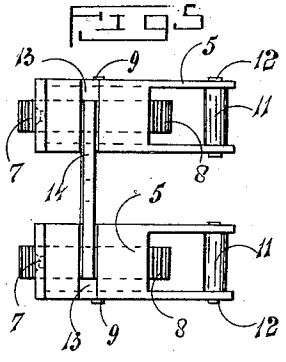
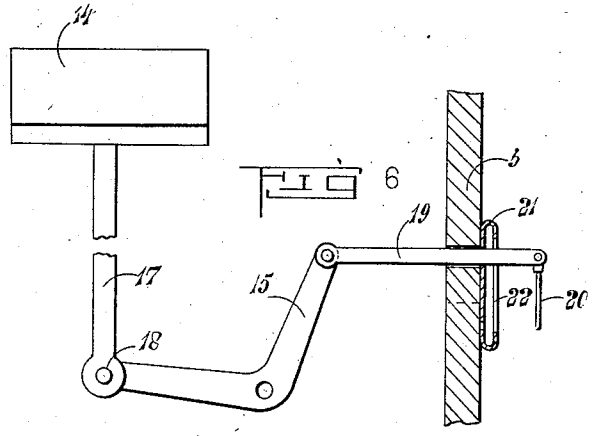


FIG 6



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UNITED STATES PATENT OFFICE.

ARTHUR CURWOOD, OF CAMPBELLTOWN, NEW ZEALAND.

MEANS FOR BALANCING AND FASTENING WINDOW-SASHES.

No. 868,972. Specification of Letters Patent. Patented Oct. 22, 1907.

Application filed September 18, 1905. Serial No. 279,021.

To all whom it may concern:

Be it known that I, ARTHUR CURWOOD, a subject of His Majesty the King of Great Britain and Ireland, residing at Campbelltown, in the Provincial District of Otago, in the Colony of New Zealand, have invented certain new and useful Improvements in Means for Balancing and Fastening Window-Sashes, of which the following is a specification.

This invention relates to means for balancing and fastening window sashes and according hereto each sash is provided with a rack sunk into a groove formed in each side of the sash.

Brackets in which toothed wheels are mounted are let into the framing on each side of the window so that the racks on the sashes engage with the toothed wheels.

The usual sash balance weight and cords are dispensed with and I make the weights with racked teeth to engage the toothed wheels beforementioned.

Each bracket is provided with rollers against which the weight rests and by which its teeth are kept in gear with the toothed wheel. The bracket has a slot into which a locking bar passes and engages the teeth of the toothed wheels which are thus prevented from revolving and thereby fasten the window sashes.

The drawings herewith illustrate the invention,—

Figure 1 is an elevation of a window partly in section, Fig. 2 a side elevation, Fig. 3 a section of the fastening apparatus, Fig. 4 a front elevation, Fig. 5 a plan, Fig. 6 a side elevation of the locking bar and its attachments.

The sashes 1 and 2 are mounted in a window frame 3 in the ordinary manner, and upon each side have a groove cut into their edges for the reception of a rack 4. A bracket 5 shown on a large scale in Fig. 3 is secured to the frame 3, opposite each sash by screws 6 which pass through holes 7 provided in the front plate of the bracket. A toothed wheel 8 mounted revolubly within the bracket 5 on each pin 9 engages upon one side with the teeth of the rack 4 and upon the other side engages with the teeth of the balance weight 10 which passes through, and is guided by the bracket and rests against friction rollers 11 mounted on pins 12 secured to the bracket. The balance weight is free to move up and down when the wheel 8 is revolved by the movement of the sash, the weight of which is thus counterbalanced by the balance weight.

For the purpose of locking the sashes at any desired height a slot 13 is provided in the top of each bracket 5 and a locking bar 14 adapted to enter the slots and to pass between the teeth of the wheel 8 is operated by means of a bell crank lever 15 pivoted, as clearly shown on a larger scale in Fig. 6, on a pin 16 and coupled to a stem 17 of the bar 14 by a pin 18 and by a rod 19 passing through the frame 3 and having a drop ring 20. By pulling the rod 19 the bell crank lever is operated and the rocking bar raised clear of the toothed wheel 8. The rocking bar falls down between the teeth of the toothed wheel by gravity after it has been released. A casing 21 having a lid 22 is provided to inclose the ring 20 when not in use.

What I do claim and desire to secure by Letters Patent of the United States is:—

Apparatus for the purpose indicated comprising in combination with a window frame and sashes having a groove formed in each of their side edges, a rack fixed in each groove, a pair of brackets secured side by side to each side of the window frame and with one bracket opposite each rack, a toothed wheel revolubly mounted in each bracket said wheels gearing with the racks, a balance weight in each bracket and having teeth gearing with the toothed wheel, a locking bar to each pair of brackets and entering slots provided therein and passing between the teeth of the wheels of both brackets, a stem upon the locking bar, a bell crank lever pivoted by a pin to the window frame and connected at one end to the stem of the locking bar, a rod pivoted to the other end of the bell crank lever, a drop ring pivoted to the rod and a casing with a sliding lid for inclosing the ring substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two witnesses.

ARTHUR CURWOOD.

Witnesses:
GEORGE GILCHRIST.
SAMUEL PHILIP MIRAMS.