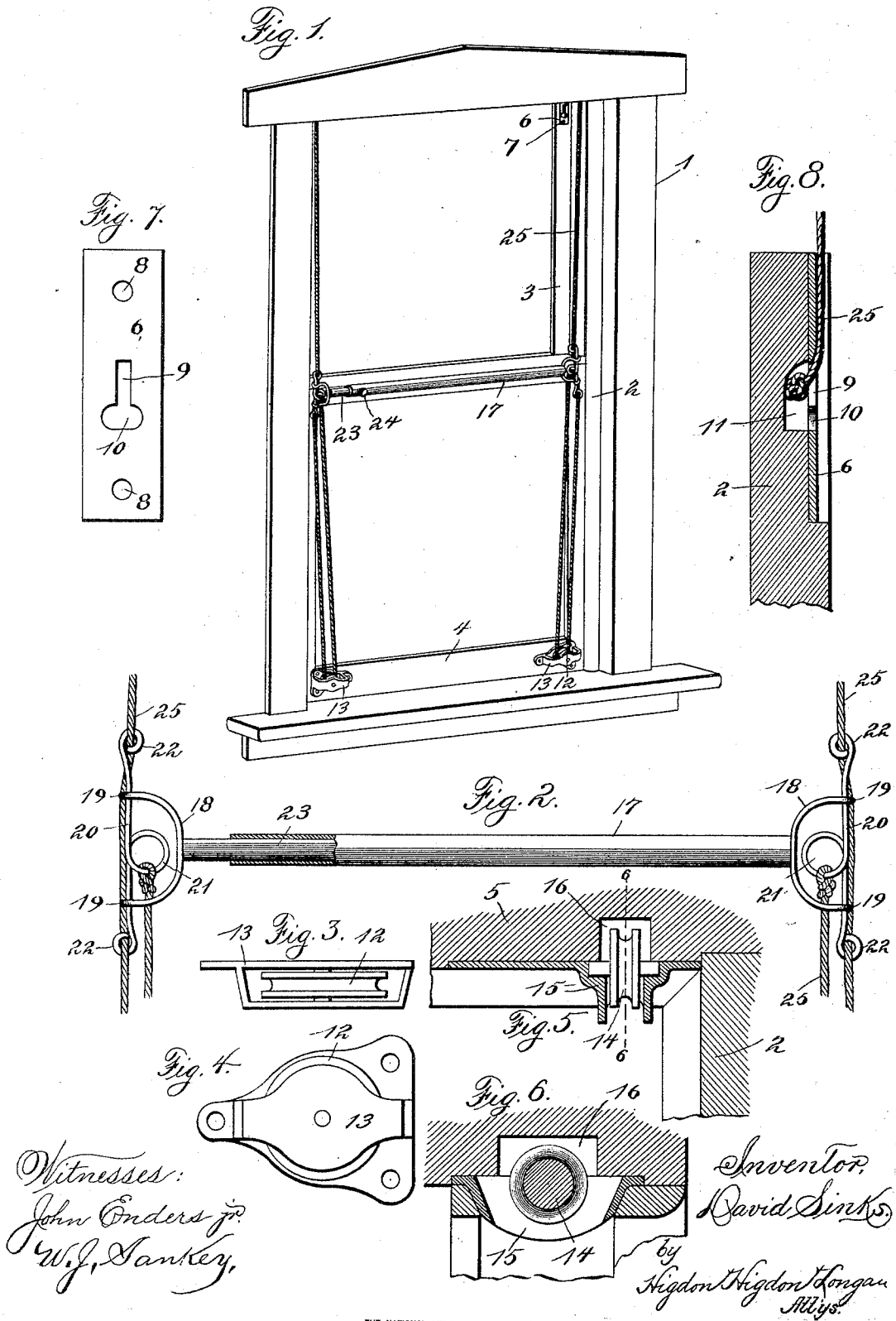


(No Model.)

D. SINKS.
SASH BALANCE.

No. 519,895.

Patented May 15, 1894.



UNITED STATES PATENT OFFICE.

DAVID SINKS, OF BELLEVILLE, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CHRISTIAN BURGHARDT, OF SAME PLACE.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 519,895, dated May 15, 1894.

Application filed August 21, 1893. Serial No. 483,685. (No model.)

To all whom it may concern:

Be it known that I, DAVID SINKS, of the city of Belleville, St. Clair county, State of Illinois, have invented certain new and useful
5 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.

My invention relates to an improved sash
10 balance, and consists in the novel arrangement, combination and construction of parts, as will be more fully hereinafter described and designated in the claims.

In the drawings: Figure 1 is a perspective
15 view of the window showing my invention applied thereto. Fig. 2 is a side elevation of a horizontal adjustable bar showing its connection with a rope which I use in carrying out my invention. Fig. 3 is a plan view of a
20 pulley and its bearings which I use in carrying out my invention. Fig. 4 is a side elevation of the parts shown in Fig. 3. Fig. 5 is a vertical section of a window-frame and another pulley which I use in carrying out my
25 invention. Fig. 6 is a vertical section taken on the line 6—6 of Fig. 5. Fig. 7 is a front elevation of a plate which I use in carrying out my invention. Fig. 8 is a vertical section through a portion of a window-sash and
30 the plate which is shown in Fig. 7.

1 indicates a window-frame which is constructed with the usual jamb-casings 2 which are provided with the usual guide-ways or stops for the sashes 3 and 4. This frame is
35 also provided with a head-casing 5.

6 indicates a plate which is located on the sash 3 adjacent its upper corner and is held in position by being screwed thereto by screws 7 passing through apertures 8, there
40 being two of these plates located substantially the same, one not being shown. Formed through this plate is a vertical slot 9, the lower end of which is provided with an enlarged portion 10.

11 indicates a cut away portion which is formed in the sash 3 immediately back of the openings 9 and 10 of the plate 6.

12 indicates a pulley which is mounted in bearings 13 and located adjacent the bottom
50 corner of the sash 4, there being two of these, one located at each corner thereof.

Located on the bottom side of the head casing 5 and in alignment with the plate 6 is a pulley 14 which is provided with bearings 15 which are connected to said casing. Formed
55 in said casing to allow room for the pulley 14 is an opening 16 which allows the pulley to be partly sunken in said casing.

17 indicates a horizontal tube located as shown in Fig. 1, one end of which is closed
60 and provided with a horizontal U-shaped bar 18 connected thereto the ends being bent so as to form eyes 19. Located in the eyes 19 is a vertical bar 20 bent so as to form a ring 21 intermediate of its ends and located between
65 the eyes 19. Formed on each end of the vertical bar 20 is an eye 22.

23 indicates a horizontal bar located in the tube 17 and held in position by the thumb screws 24. The outer projecting end of the
70 horizontal bar 23 is provided with a horizontal U-shaped bar, this bar being the same in construction as the U-shaped bar 18 and being provided with a vertical bar the same as 20, I will omit the description thereof.

25 indicates a rope one end of which is knotted to the ring 21 of the vertical bar 20 and passes downward over the pulley 12, thence upward through the eyes 22 of the aforesaid bar and thence upward over the
80 pulley 14 and thence downward and is connected to the plate 6 by a knot being formed on the end thereof and passes through the opening 10 in said plate. The slot 9 opening into said opening is so constructed that when
85 the rope is slipped into said slot it will retain said rope in the required position. There being two of these ropes, one located at each side of the sashes 3 and 4, they both being the same in connection I will omit the other
90 one.

The operation is as follows: The sash being of the same heft they will balance each other and stay in whatever position the operator places them. By raising the bottom sash the
95 top sash being swung on the ropes 25 it will gravitate downward the same distance that the bottom sash is raised. When it is desired to let the top sash down and still retain the bottom sash at its downward limit the operator takes hold of the horizontal tube 17 and
100 slips it down upon the ropes 25, the connec-

tions at the ends thereof readily permit this operation, which can be readily seen by inspecting Fig. 2. By slipping this bar down it lengthens the ropes 25 and the top sash 5 will gravitate down the same distance the ropes have been lengthened. The horizontal bar 23 being adjustably located in the horizontal tube 17 it can be readily adjusted lengthwise to conform with different sizes 10 of windows. When it is so adjusted they can be made rigid with each other by the thumb screw 23 threaded through the tube 17 and engaging the bar 23.

What I claim is—

15 1. A sash balance and operator consisting of a horizontal adjustable bar constructed of a tube, a bar located in said tube constructed to horizontally move therein, horizontal U-shaped bars connected to the ends thereof, 20 vertical bars located in eyes formed on the ends of the U-shaped bars, said bars bent so as to form a ring intermediate of its ends and located between the ends of the U-shaped bars, a rope connected to the sash, and eyes 25 formed on the ends of said vertical bars, and constructed to vertically slide on said rope, substantially as set forth.

2. In combination with a window operating device, a horizontal tube, a bar adjustably

30 mounted in said tube, means for holding said bar and said tube rigid with each other, horizontal U-shaped bars connected to the opposite ends thereof, vertical bars connected to the end of the U-shaped bars and means for 35 adjustably connecting said bars with ropes substantially as set forth.

3. A device for operating window sashes consisting of ropes 25 the upper ends being detachably connected to the upper sash by a plate 6, said ropes passing over pulleys 40 14 connected to the head casing of the window frame, thence downward through eyes 22 over pulleys 12 located on the bottom sash, and thence upward and knotted to a ring 21 formed on the bar 20 carrying the eyes 45 22, U-shaped bars 18 connected to the bars 20, a horizontal tube 17 one end of which is connected to one of the U-shaped bars 18, a horizontal bar one end of which is connected to the other U-shaped bar 18 and adjustably 50 mounted in the tube 17, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID SINKS.

Witnesses:

EDWARD E. LONGAN,
JOHN ENDERS, Jr.