

No. 828,188.

PATENTED AUG. 7, 1906.

G. P. BULL.
SASH OPERATING MECHANISM.

APPLICATION FILED OCT. 25, 1905.

2 SHEETS—SHEET 1.

Fig. 2,

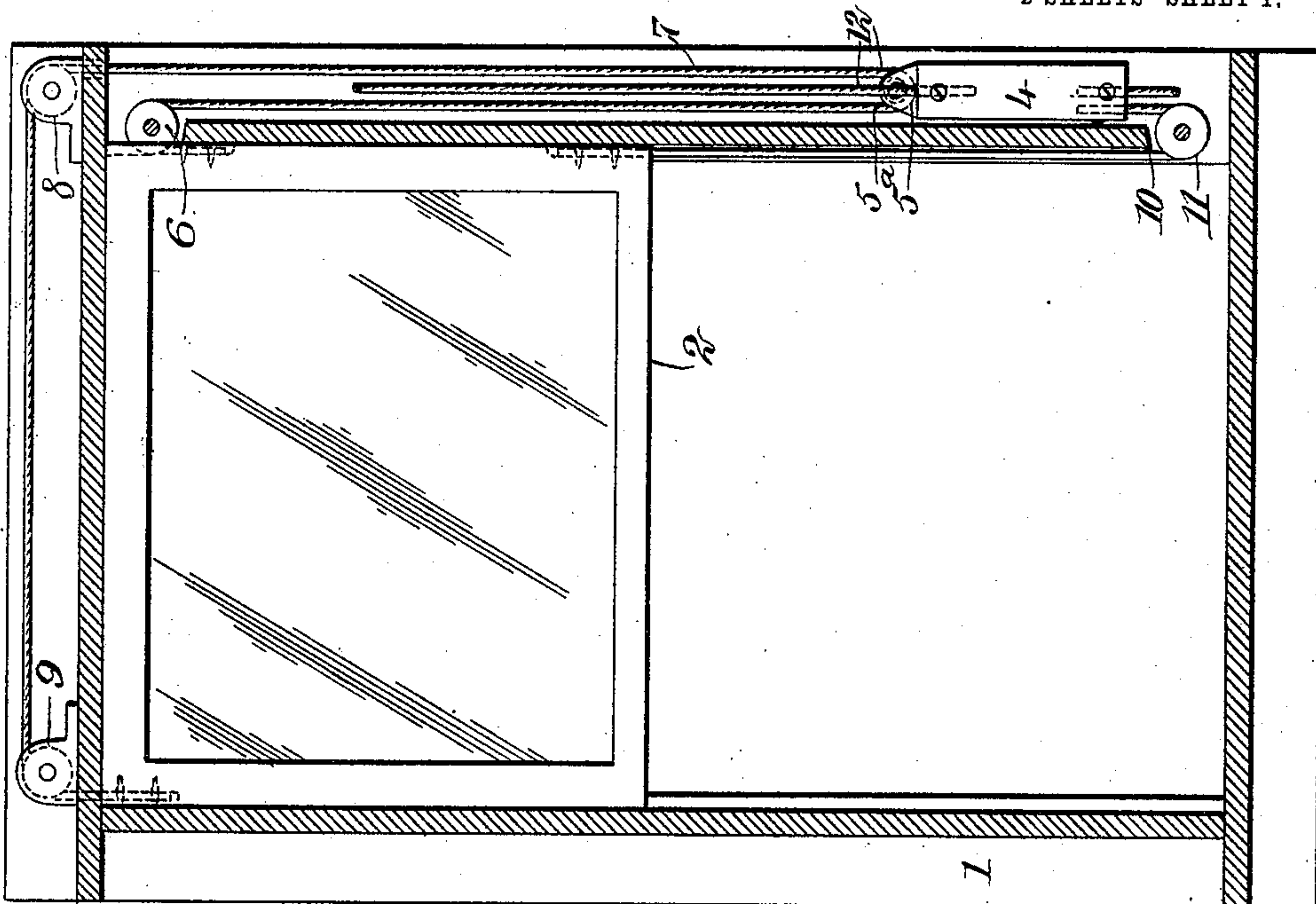
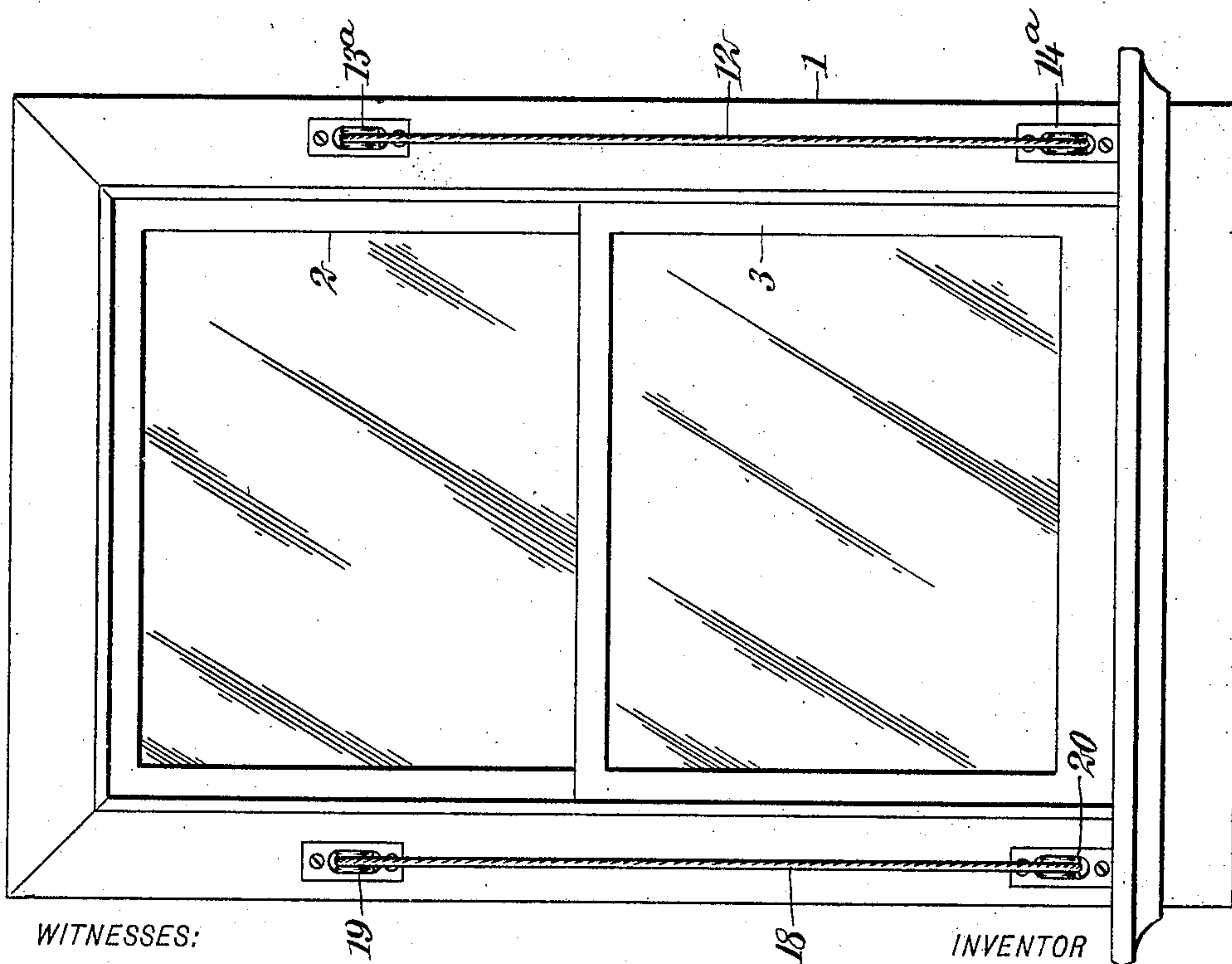


Fig. 1,



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2 SHEETS—SHEET 2.

Fig. 3.

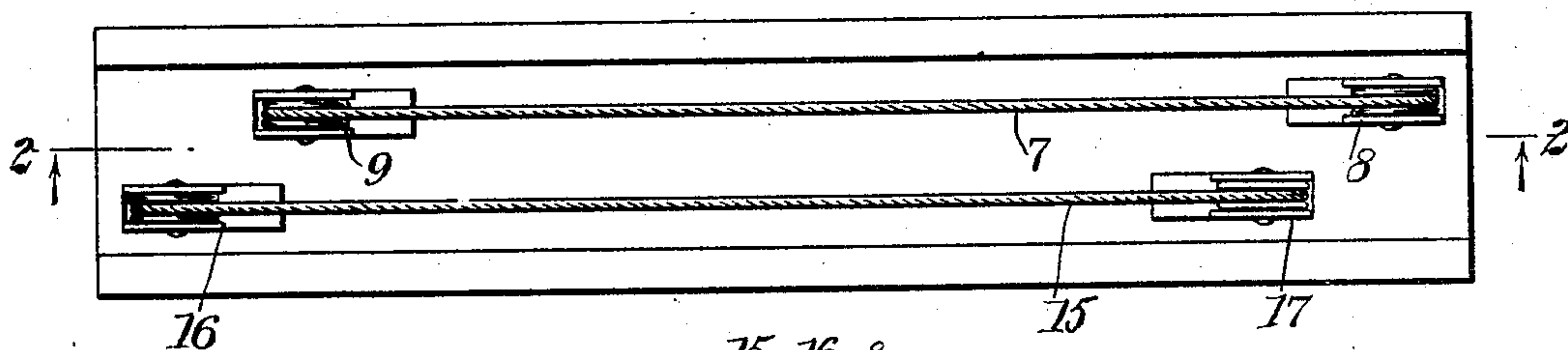
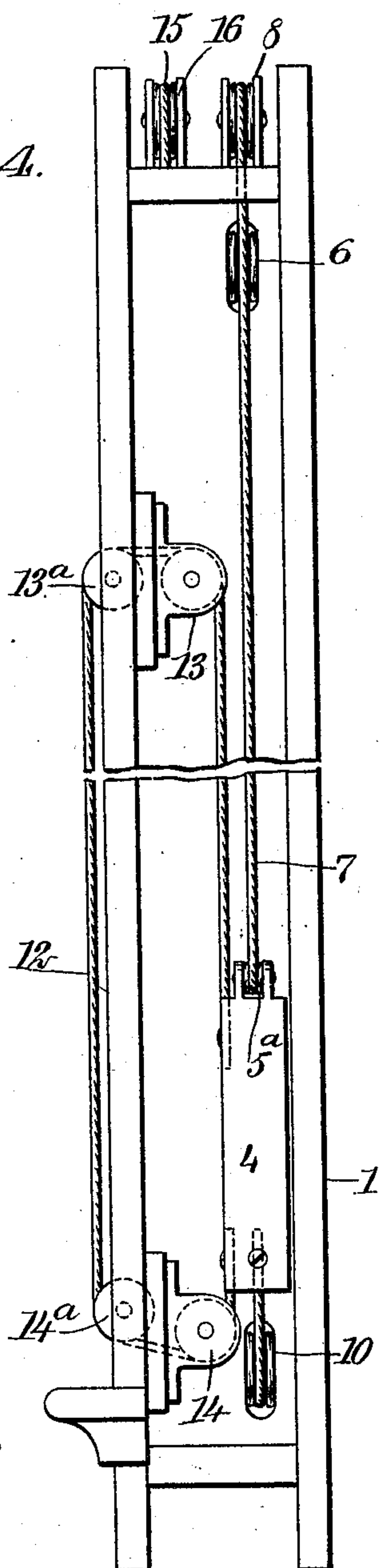


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE P. BULL, OF OJUS, FLORIDA.

SASH-OPERATING MECHANISM.

No. 828,188.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed October 25, 1905. Serial No. 284,319.

To all whom it may concern:

Be it known that I, GEORGE P. BULL, a citizen of the United States, and a resident of Ojus, in the county of Dade and State of Florida, have invented a new and Improved Sash-Operating Mechanism, of which the following is a full, clear, and exact description.

This invention relates to improvements in mechanism for raising and lowering window-sashes, the object being to provide a simple means in connection with the sash-weight whereby the sash may be conveniently operated from the side of the window-casing.

Other objects of the invention will appear in the general description.

I will describe a sash-operating mechanism embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an inside elevation of a window-casing and sash therein with an operating mechanism embodying my invention. Fig. 2 is a section thereof on the line 2 2 of Fig. 3. Fig. 3 is a top plan, and Fig. 4 is a side elevation.

Referring to the drawings, 1 designates a window-casing in which are the upper and lower sashes 2 and 3, slidable vertically. Arranged in the casing at one side is a weight 4, from which a sash-cord 7 extends upward through an opening in the top plate of the casing, thence over a pulley 8 at one side, and over a pulley 9 at the opposite side, to a connection with the upper portion of the upper sash, as clearly indicated in Fig. 2. From the lower portion of the weight 4 a cord 10 passes around a pulley 11 and thence upward to connection with the lower portion of the upper sash 2.

In my invention I provide a means exteriorly of the window-casing by which the sash may be conveniently raised and lowered. As here shown, this means consists of a draw-line 12, which is connected to the weight at the upper and lower ends, the upper stretch of the draw-line passing over a pulley 13, arranged within the case, and thence through an opening in the front plate of the casing, over a pulley 13^a, thence down at the other side of the casing side board around the pul-

leys 14^a and 14. The upper portion of the upper sash at the side opposite its connection with the sash-cord 7 is connected to a cord 5, which passes over a pulley 6, arranged in the window-casing, and connects with the upper end of the weight 4. As shown in the drawings, the cords 5 and 7 are connected or continuous and pass around a pulley 5^a in the weight, thus permitting the weight to adjust itself should this cord expand or contract. The lower sash is provided with a weight similar to the weight 4, and the connections are also similar—that is, from the weight for the lower sash a cord 15 passes upward and around pulleys 16 and 17. An exterior draw line or cord 18 connects with the weight for the lower sash and passes over pulleys 19 and 20, arranged in the side of the window-casing opposite the pulleys 13^a and 14^a, as indicated in Fig. 1.

By my invention it is evident that the sash may be operated without a person placing his hands on the sash, and it will be found very convenient when windows are at a considerable distance up from the floor, as the draw-line may be carried down to any desired point.

Having thus described my invention I claim as new and desire to secure by Letters Patent—

1. The combination with a window-casing and a sash therein, of a weight arranged in the casing, pulleys at the upper portion of the casing, a cord extended from the weight, over said pulleys to connection with the sash at one side, a cord extended from the weight, over a pulley to connection with the sash at the opposite side, a pulley at the lower portion of the casing, a cord extended from the lower portion of the weight around the lower pulley and connecting with the lower portion of the sash, and an operating device connecting with the weight and having a portion extended exteriorly of the casing.

2. The combination with a window-casing and a sash therein, of a weight arranged in the casing, pulleys at the upper portion of the casing, a cord extended from the weight over said pulleys to connection with the sash at one side, a cord extended from the weight over a pulley to connection with the sash at the opposite side, a pulley at the lower portion of the casing, a cord extended from the lower portion of the weight, around the lower pulley and connecting with the lower por-

tion of the sash, pulleys arranged in the casing above and below the weight, and a draw-line having its ends connected to the upper and lower ends of the weight and passing
5 over said last-named pulleys, and having a portion extending over the outer side of the window-casing.

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

GEORGE P. BULL.

Witnesses:

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C. R. FERGUSON