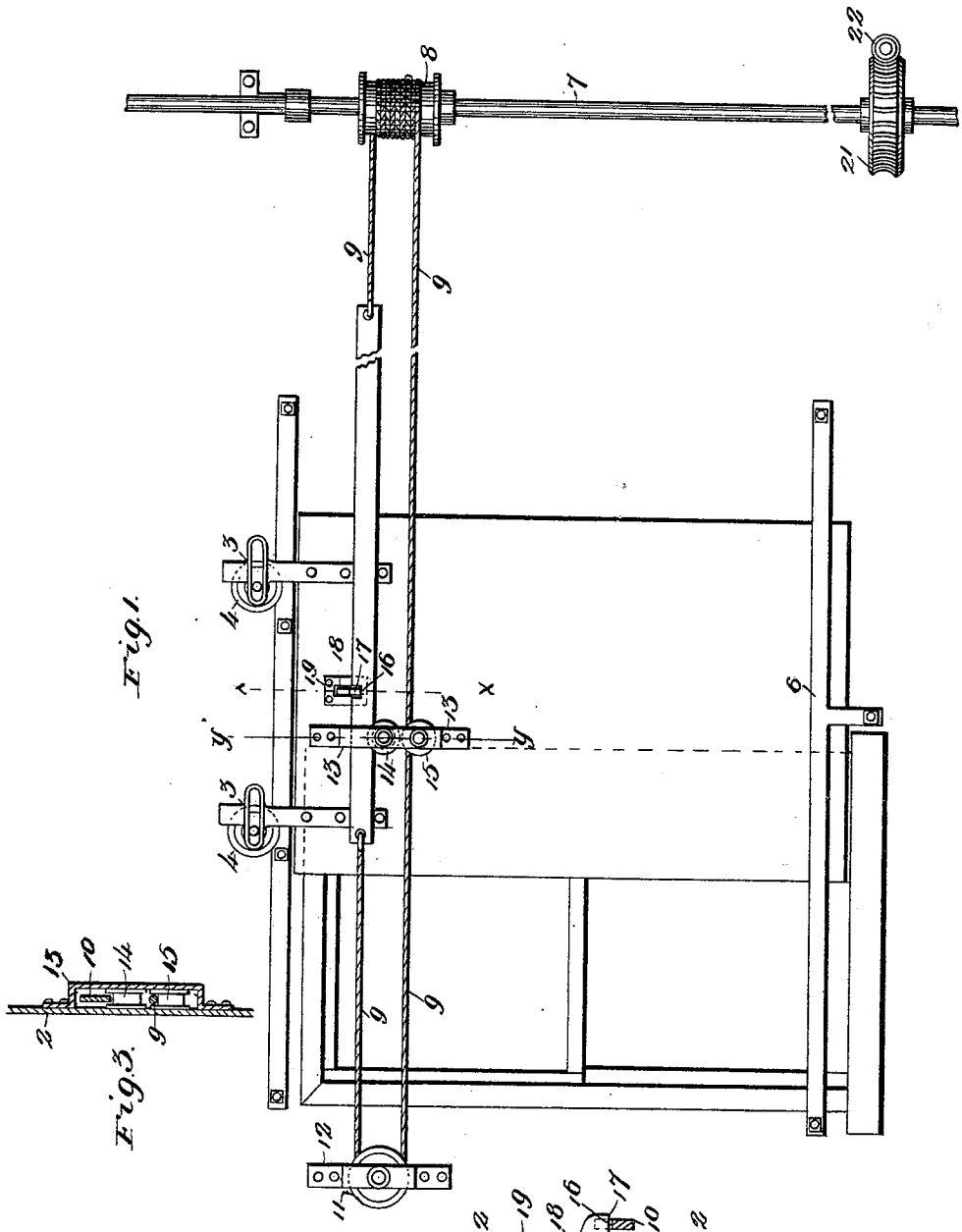
No. 620,006. Patented Feb. 21, 1899.

F. F. WILLIAMS.

SHUTTER OPERATING DEVICE.

(Application filed Nov. 7, 1898.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANKLIN F. WILLIAMS, OF ST. LOUIS, MISSOURI.

SHUTTER-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 620,006, dated February 21, 1899.

Application filed November 7, 1898. Serial No. 695,770. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN F. WILLIAMS, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Shutter-Operating Devices, 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 shutter-operating devices; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a plan view of my complete invention as applied to a blind. Fig. 2 is a longitudinal section taken on the line *x x* of Fig. 1, and Fig. 3 is a similar section taken on the line *y y* of Fig. 1.

The object of my invention is to construct a simple, effective, and positive mechanism for operating sliding window-shutters and is so constructed that any number of them may be operated in one and the same operation, as desired.

Referring to the drawings, 1 represents an ordinary window, and 2 a sliding shutter provided with bearing-brackets 3, carrying track-rollers 4, which travel and rest upon a horizontal guide-rail 5, fixed to the building above said window for guiding and holding the shutter in its proper position in respect to the window. Also fixed to the building is a guide bar or rail 6, which coöperates with the outer lower portion of the shutter for further holding and guiding the shutter. Secured to the vertical wall of the building is a vertical shaft 7, the length of which depends upon the number of floors in the building or rows of shutters to be operated, and fixed to the said shaft is a drum 8, over which a rope 9 is passed any desired number of times, one end of which rope is secured to one end of the horizontal actuating-bar 10 and passes over a pulley 11, journaled in a bearing 12, fixed to the building, and its opposite end attached to the other end of said bar.

To the outer surface of the sliding shutter 2 is attached a bearing-plate 13, between which and the shutter are journaled two rollers 14 and 15, the roller 14 acting as a guide and support for the actuating-bar 10 and the roller 15 guiding and supporting the rope 9, although the latter roller may be dispensed with without materially affecting the operation of the device. Formed in the upper edge of the actuating-bar 10 is a notch 16, with which coöperates the engaging end 17 of the gravity-actuated latch 18, carried by and pivotally secured to a box 19, secured to the sliding door 2, whereby the said actuating-bar is locked in respect to the door, which consequently moves when the bar is moved in either direction by the rope 9.

To the rear end of the pivoted latch 18 is secured one end of an operating cord or rope 20 in convenient reach, whereby when it is not desired to open a certain shutter the engaging end of the latch is elevated out of the notch 16 in the actuating-bar 10, so that upon movement of said bar that particular shutter will remain closed.

I do not limit myself to any particular mechanism for operating the vertical shaft 7; but, as shown in the drawings, a worm-gear 21 is secured to said shaft, and meshing with the same is a worm-pinion 22, which, upon rotation of the latter in either direction, will move the actuating-bar in either direction, as may be required.

In practice the actuating-bar 10 is of sufficient length to actuate all shutters on a horizontal line or single floor that are located on one side of the building, and from the foregoing description it will be seen that a separate actuating-bar and its accompanying parts are necessary on every floor of the building provided with shutters; but only one operating-shaft and means for operating is necessary on one side of the building, additional drums 5 being fixed to the shaft, according to the number of floors and rows of shutters to be operated.

I claim—

1. In combination with a rolling shutter, an actuating-bar adapted to be operated independent of said shutter, a latch carried by the latter and coöperating with said bar for locking the same to the shutter, a rope, the ends of which are attached to the opposite ends of said bar, a fixed pulley over which the said rope passes, and means for operating the rope in either direction, substantially as specified.

2. In combination with a rolling shutter, an actuating-bar, a notch formed in the upper

edge of the same, a pivoted latch carried by the door and coöperating with said notch, a roller also carried by the door upon which the bar moves, means for operating said latch, a rope, the ends of which are attached to the opposite ends of said bar, a fixed pulley over which the said rope passes, an operating-shaft, means for turning the same in either direction and a drum fixed to said shaft over which the said rope also passes, substantially as described.

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

FRANKLIN F. WILLIAMS.

Witnesses:
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