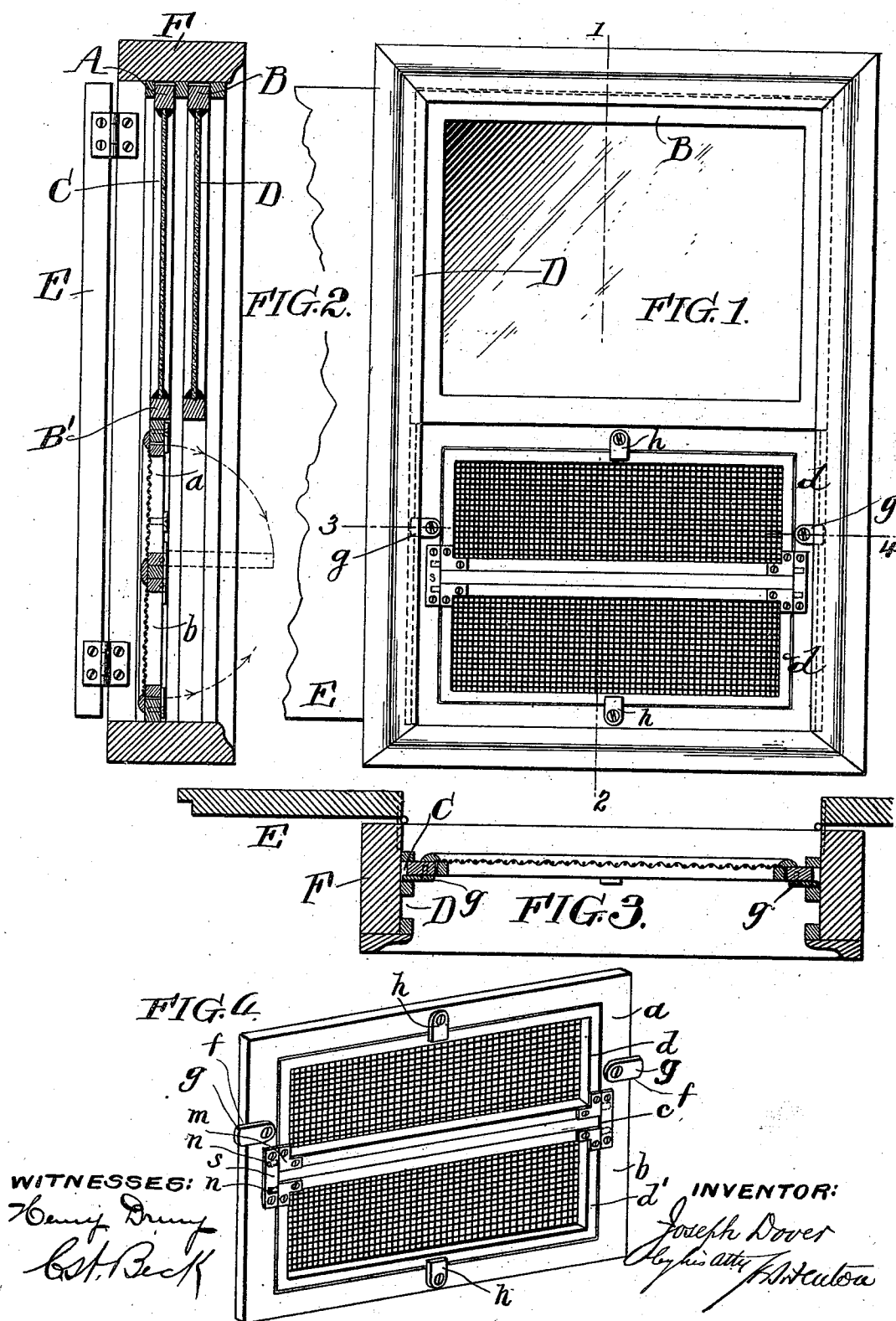


(No Model.)

J. DOVER.
WINDOW SCREEN.

No. 510,530.

Patented Dec. 12, 1893.



UNITED STATES PATENT OFFICE.

JOSEPH DOVER, OF SOUDERTON, PENNSYLVANIA.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 510,530, dated December 12, 1893.

Application filed November 30, 1892. Serial No. 453,601. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DOVER, a citizen of the United States, residing at Souderton, in the county of Montgomery, State of Pennsylvania, have invented certain new and useful Improvements in Window-Screens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to window screens adapted to window frames, and has for its object to provide a more durable and efficient screen and one which can be located fixedly within the guide ways of the window frame, beneath the outer sash and locked in position therein, and having a supplemental frame which may be opened without disturbing the main frame, and which will thereby permit of the raising and lowering of the front sash, and the closing and opening of the outside shutter without removal of the screen from the sash frame.

To these ends my invention consists of a screen constructed with a double frame, the outer frame adapted to be fixed immovably under the outer sash of the window in the usual guide ways of the frame thereof, with locking devices to secure the same in position therein, in combination with a pair of inner and supplemental screen frames which are hinged to vertical portions of the outer frame above and below a central horizontal cross piece which extends from one of said vertical portions of the outer frame to the other; also in minor details of the construction as hereinafter set forth.

In the accompanying drawings illustrating my invention, Figure 1 is a front elevation of a window frame with my improved screen in position therein, held in place by the lower edge of the outer sash. Fig. 2 is a vertical sectional view through the line 1—2 of Fig. 1. Fig. 3 is a lateral sectional view through the line 3—4 of Fig. 1. Fig. 4 is an elevation of the screen, detached from the window frame.

The invention is capable of use with the ordinary window frame composed of a pair of sashes A, B mounted in vertical guide ways C, D, (see Fig. 2) and the outer frame *a* of the screen (Fig. 4) is adapted to fit in these guide ways and is held tightly therein

under the outer sash A, by means of the turn buckles or other equivalent locking devices, *g, g*, which fit into the guide ways of the window frame the lower edge B' of the sash A resting upon the top edge of the main frame *a* of the screen. The screen is composed of a main frame *a*, provided with an additional central longitudinal cross-piece *c*, and with turn buckles *h, h*, on the side pieces of the frame, operating to lock the hinged supplemental frames *d, d'*. These two supplemental screen frames *d d'* are covered with wire or other screen netting, and are hinged to the main frame so that they may swing inward and toward each other.

For pivoting the frames *d d'* to the main frame I prefer to employ the construction shown in the drawings, as the same serves also to strengthen and brace both the main and hinged frames. A long plate *s* is placed upon the main frame opposite each end of the cross piece *c* and extending a short distance on each side of the same and is secured to the frame above and below the cross piece. These plates are provided with transverse recesses *n*. Pieces *m* made of angular form and provided with gudgeons or pintles to engage the recesses of the plate *s* are secured to the corners of the swinging frames. The angular construction permits the piece or plate *n* to be secured to the side and end bar of the frame at each end and this braces such frame and materially strengthens the same. The plate *s* also serves to strengthen the main frame at a very important part where it receives its greatest strain and is most liable to break.

The screen frame *a* is fitted in the guide way C of the outer sash, which latter rests upon it to hold it in position, aided by the turn buckles *g* which rest in the usual guide way C of the window-frame. Thus it will be observed that the inner sash B may be raised or lowered without disturbing the supplemental screen frames. It is also obvious that both the upper hinged supplemental screen frame *d* and lower hinged supplemental screen frame *d'*, or either, independently of the other, may be swung open at pleasure to enable the shutters E to be opened or closed without disturbing or removing the screen frame *a* from the window frame.

I am aware that it is not new to make a double frame screen, with the inner frame hinged to the outer, but such has always been made to cover the whole window frame and is impracticable for the purposes of my invention, and I disclaim the same; my screen differing therefrom in being adapted to fit in the guide ways of the window sash and held in position therein by locking devices, and beneath the outer sash, thereby enabling the front sash to be lowered and the window wholly closed if desired without disturbing the screen and in enabling the user to open the screen by supplemental hinged frames to admit more light and air or to close the shutters.

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

1. A window screen consisting of a frame proper adapted to be fitted in vertical guide ways, of a window frame with means to secure the same therein, in combination with a pair of supplemental screen frames hinged to the main frame, and adapted to be swung inwardly thereon, with devices to lock them in a closed position; substantially as described.

2. A window screen consisting of a main frame adapted to be fitted in the guide ways of a window frame, having devices, such as turn buckles *g g*, to secure the same therein, said main frame being provided with a central horizontal cross piece *c*, and a pair of supplemental screen frames *d d'*, hinged to

said main frame above and below the cross piece *c* respectively, to adapt them to be swung toward each other, and means, such as turn buckles *h h*, to secure said hinged screens temporarily in position in the main frame, substantially as described.

3. A window screen consisting of a main frame provided with the central cross piece, a plate secured to the said main frame at each end of the cross piece above and below the same, a supplementary frame having plates secured to two parts of the frame and provided with pintles engaging recesses in the plate on the main frame, substantially as described.

4. The herein described window screen consisting of a main frame, provided with a central cross piece, a plate secured to said frame at each end of the cross piece above and below the same, the said plate having recesses at each side of the cross piece to receive pintles, two supplementary frames, each pivoted by two plates provided with pintles, said plates being each secured to two parts of the supplementary frame, substantially as described.

In testimony whereof I have hereunto affixed my signature this 21st day of November, A. D. 1892.

JOSEPH DOVER.

Witnesses:

GEO. W. REED,
H. T. FENTON.