

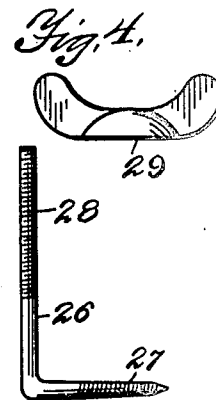
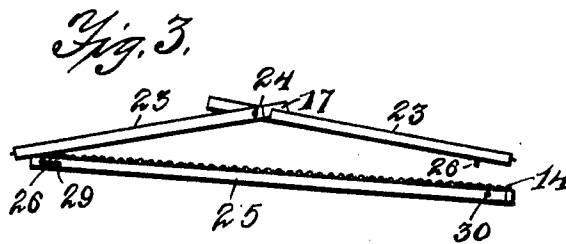
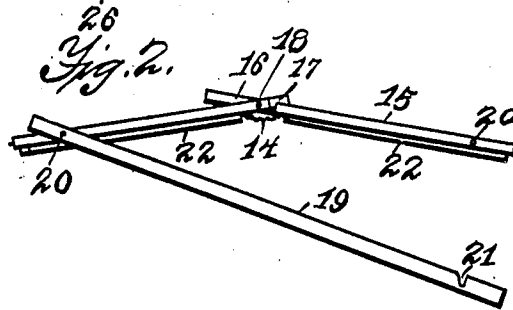
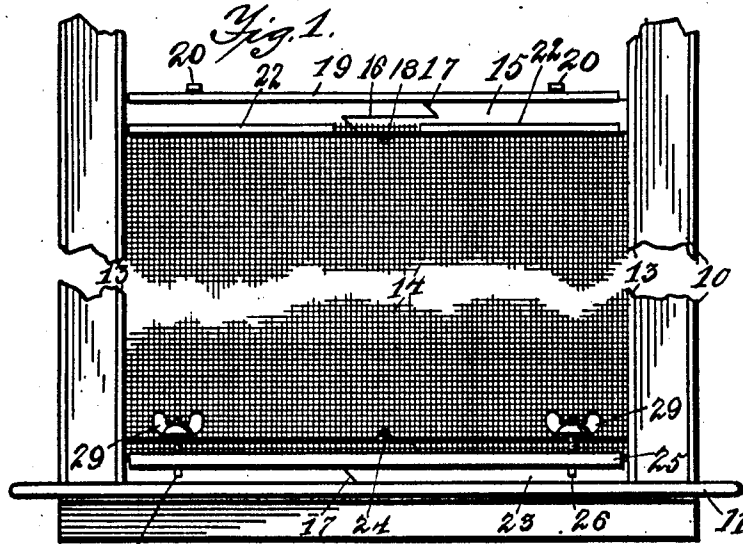
BEST AVAILABLE COPY

E. C. LINDBECK.
WINDOW SCREEN.
APPLICATION FILED MAR. 1, 1912.

1,043,444.

Patented Nov. 5, 1912.

2 SHEETS—SHEET 1.



Inventor

Witnesses
Arthur O. Morse
H. U. Harris

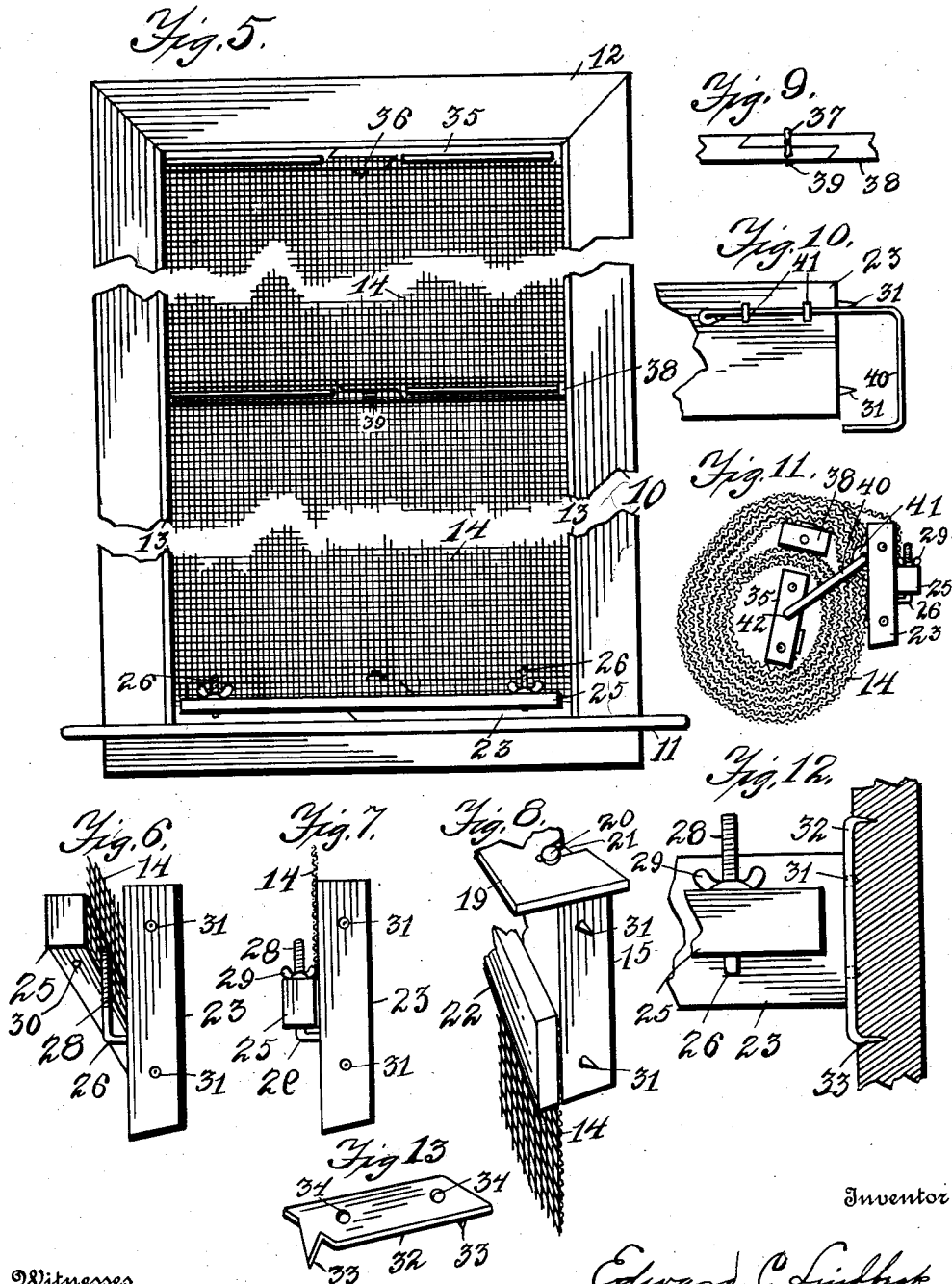
Edward C. Lindbeck
By S. Arthur Baldwin
Attorney

E. C. LINDBECK.
WINDOW SCREEN.
APPLICATION FILED MAR. 1, 1912.

1,043,444.

Patented Nov. 5, 1912.

2 SHEETS—SHEET 2.



Inventor

Witnesses

Arthur O. Morse
H. U. Harris

Edward C. Lindbeck
By S. Arthur Baldwin

Attorney

UNITED STATES PATENT OFFICE.

EDWARD C. LINDBECK, OF JAMESTOWN, NEW YORK, ASSIGNOR OF ONE-HALF TO A.
HENRY JOHNSON, OF JAMESTOWN, NEW YORK.

WINDOW-SCREEN.

1,043,444.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed March 1, 1912. Serial No. 860,838.

To all whom it may concern:

Be it known that I, EDWARD C. LINDBECK, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Window-Screens, of which the following, taken in connection with the accompanying drawings, is a specification.

The invention relates to screens for windows and similar openings, and the object of the improvement is to provide a frameless screen or one which does not use vertical side pieces and which is so arranged as to be easily attached and detached from the window frame and having means for attaching the supporting bars for the screen fabric to the window frame and for stretching said fabric; and the invention consists in the combination and arrangement of the parts as shown in this specification and the accompanying drawings and pointed out in the claims.

In the drawings, Figure 1 is an elevation of the inner side of the lower portion of a window frame with a screen therein. Fig. 2 is a top plan view of the upper cross bar on a half length screen in the open position. Fig. 3 is a similar view of the lower cross bar in the open position, ready for insertion in the window frame. Fig. 4 shows elevations of an angular bracket screw and thumb nut for the same. Fig. 5 is an elevation of the entire window frame, with the exception of certain middle portions, showing a full length window screen in position in said frame. Fig. 6 is an end view of the lower cross bar with the parts in the open position; and Fig. 7 is a similar end view with the parts in the closed position. Fig. 8 is a perspective view of the end of the upper cross bar in a half length screen, that is, the cross bar which is attached to the window frame next to the lower edge of the upper sash, showing the locking bar in position and the spurs in the end of the cross bar. Fig. 9 is an elevation of the simple lock for the middle joint of the central cross bar in a full length screen. Fig. 10 is an elevation of the wire lock for holding the screen in the rolled-up position; and Fig. 11 is an end view of the screen in the said rolled-up

position with the wire lock holding the same. Fig. 12 is an elevation of the end of the lower cross bar and a sectional view of the window jamb with a holding plate thereon for holding the spurs in the end of the cross bar; and Fig. 13 is a perspective view of said plate.

Like numerals of reference refer to corresponding parts in the several views.

The numeral 10 designates the window frame which has a sill 11, top plate 12 and stops 13 with sash grooves therebetween.

The numeral 14 indicates the fabric of the window screen which is preferably of a suitable width to fit between the jambs in the sash grooves and have a selvage on each edge of the fabric 14.

The upper end of a half length window screen as shown in Fig. 1 is provided with a cross bar 15 which has a central hinge joint 16 by means of oblique and lengthwise cuts 17 and a crosswise bolt 18 through the two parts. A lengthwise bar 19 is pivotally attached at one end on top of cross bar 15 by means of nails or screws 20; the other end having a notch 21 which engages the nail 20 for its end when the cross bar 15 is in the straight or closed position, yet which permits of the bending of the joint 16 when the notch 21 is slipped from the nail 20. The screen fabric is preferably attached by means of strips 22 each side of the joint 16 so that said fabric bends at the joint when the jointed cross bar 15 is in the bent position and straightens back against the said cross bar when in the closed position.

The lower end of a full or half length screen is held by means of a cross bar 23 which has a central hinged or pivotal joint 24 similar to the joint 16 in cross bar 15. The cross bar 23 differs from the jointed cross bar 15 in that the screen fabric 14 is attached to the inner side of an adjacent full length locking bar 25, which bar is attached to each of the parts of the jointed bar 23 by means of an angular screw bracket 26. The end 27 of bracket screw 26 is threaded the same as a common wood screw for screwing into the cross bar 23; the long end 28 extends up to receive a threaded thumb nut 29. The cross bar 25 is provided with holes near each end opposite the bracket screws

26 in cross bar 23 so that the cross bar 25 can be slipped onto the parts 28 of the bracket screws and firmly held in place thereon by means of the thumb nuts 29.

5 The bracket screws 26 are spaced apart the exact distance between the holes 30 when bar 23 is in the closed or straight position so that said bar 25 will then lock the jointed bar 23 firmly in the straight position.

10 One end of the bar 25 may be quickly removed from one of the bracket screws 26 by removing the thumb nut 29 and the bar 23 may then be bent in its middle portion and quickly removed from the window casing.

15 It is apparent also that cross bar 15 may first be placed in the window casing and then bar 23 in the casing on the window sill 11, the lower edge of the bar 23 being given the same bevel as the window sill and the locking bar 25 is then pressed downward by means of thumb screws 29 until the screen fabric 14 is stretched tight between the two cross bars 15 and 23.

In order to hold the ends of the cross bars 25 firmly in place in the window jambs at each side, spurs 31 are provided in the ends of the bars, which spurs may be forced into the wood of the jamb in the sash groove, or if it is desired to prevent the marring of the window jamb, a plate 32 having spurs 33 and spaced holes 34 may be provided, the spurs 33 permitting the plate 32 to be driven into the window jamb and held firmly in place and the holes 34 providing openings 35 for the spur or spurs 31.

When a full length window screen which covers the entire window frame and both upper and under sashes is used, a top cross bar 35 is provided which is quite similar to cross bar 15. It is provided with a hinge joint 36 the same as bars 15 and 23 and has the screen fabric 14 attached to the two parts of the bar 35 on each side of said joint 36, and is provided with spurs 31 in each end and may have a locking bar 19 but preferably has a simple locking button pivotally attached to cross plate 37 to hold the joint 36. A middle cross bar 38 is provided which has a central joint 39 the same as the other cross bars and is preferably held in place by means of the button 37, the fabric being attached to said cross bar to hold it stiffly in position against the window jambs.

In order to pack the frameless window 55 screens for shipment or for storing away the screen fabric 14 is wrapped around one of the end cross bars, preferably the upper, and a U-shaped holding wire 40 is provided preferably on the outer cross bar of the roll, 60 being held in place by spaced staples 41 so that it can slide back and forth beneath said staples. The outer end is bent at an angle so as to be insertible in a hole 42 in the end of the inner cross bar when in the rolled

position, as shown in Fig. 11, thereby holding the screen firmly in said rolled position, the holding wires 40 being provided for each end of the screen cross bars.

I claim as new—

1. A window screen consisting of a strip 70 of screen fabric, a jointed cross bar attached across the upper and lower ends of said strip, means on the ends of said cross bars for holding on the opposite window jambs when said cross bars are straightened therebetween, an additional bar on each of said cross bars to hold them in the straight position, and means for removably holding said additional bars on said cross bars. 75

2. A window screen consisting of a sheet 80 of screen fabric, hinge jointed cross bars at the upper and lower ends of said screen fabric, holding means in the ends of said cross bars for attaching to the opposite window jambs, locking bars pivotally attached at 85 one end to each of said jointed cross bars and removably attached at the other ends to said jointed cross bars, one of the ends of said screen fabric attached to one of said locking bars on the adjacent cross bar, and 90 means for vertically adjusting said locking bar to which the screen fabric is attached to stretch said fabric.

3. A window screen consisting of a sheet 95 of screen fabric, cross bars at the upper and lower ends of said screen fabric hinge jointed in their central portion, locking bars pivotally attached at one end to said cross bars and removably attached to said cross bars at their other end to hold said cross bars in a straight position between the window jambs, spurs on the ends of said cross bars for holding on the window jambs, said screen fabric attached to the upper cross bar and to the lower locking bar, and screw brackets on 100 said cross bar for holding said lower cross bar to adjust said locking bar and stretch said fabric. 105

4. A window screen consisting of hinge jointed upper and lower cross bars, spurs in 110 the ends of said cross bars for holding on the opposite window jamb, locking bars for holding said jointed cross bars in the straight position between said window jambs, a sheet of screen fabric attached at 115 one end to the upper cross bar and at the other end to the lower locking bar, screw brackets on the side of said lower cross bar having a vertical portion insertible through said lower locking bar when in the locking 120 position, and thumb nuts on said screw brackets for adjusting said lower locking bar and stretching said fabric, substantially as and for the purpose specified.

5. A window screen comprising a sheet of 125 screen fabric, a jointed cross bar attached to the upper end of said screen fabric, a second jointed cross bar midway of the length of

said screen fabric, locking means for said
jointed cross bars to hold them in the
straight position, a third jointed cross bar
for the end of said screen fabric, a locking
5 bar lengthwise of said third cross bar, said
screen fabric attached to said locking bar,
means for pivotally and adjustably attach-
ing said locking bar to said lower cross bar,
and means on the ends of said cross bars for

holding on the window frame, substantially 10
as and for the purpose specified.

In testimony whereof I have affixed my
signature in the presence of two witnesses.

EDWARD C. LINDBECK.

Witnesses:

H. U. HARRIS,

A. HENRY JOHNSON.