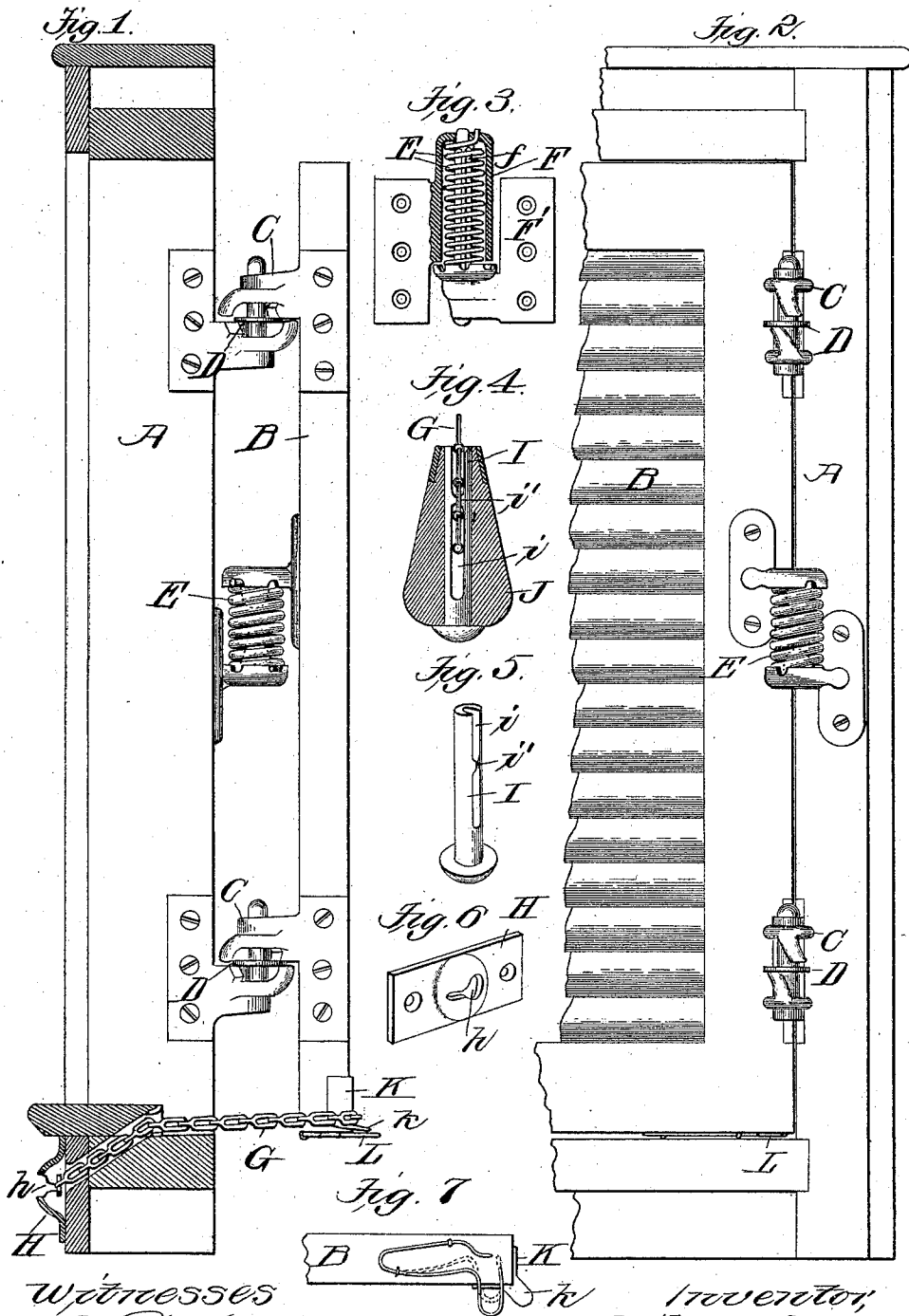


(No Model.)

A. O. SHATSICK.
WINDOW BLIND OPERATOR.

No. 535,176.

Patented Mar. 5, 1895.



Witnesses
G. R. Cornwall
Hugh K. Wagner

Inventor,
Arthur O. Shatsick,
by Paul Bakewell
his atty.

UNITED STATES PATENT OFFICE.

ARTHUR O. SHATSICK, OF ST. LOUIS, MISSOURI.

WINDOW-BLIND OPERATOR.

SPECIFICATION forming part of Letters Patent No. 535,176, dated March 5, 1895.

Application filed September 1, 1894, Serial No. 521,898. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR O. SHATSICK, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Window-Blind Operators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, wherein—

Figure 1 is a sectional view through the window-casing, showing the window-blind and its operating mechanism in end elevation. Fig. 2 is an outside view of a blind in a closed position. Fig. 3 is a detail view of a form of torsional spring and casing. Fig. 4 is a detail sectional view, through the handle or knob, which is placed upon the end of the operating chain. Fig. 5 is a detailed view of the central spindle of the knob. Fig. 6 is a detail view of a spring locking plate; and Fig. 7 is a bottom plan-view of a window-blind, illustrating the flexible chain-retaining foot.

This invention relates to a new and useful improvement in window blind operators, and consists in the construction, arrangement and combination of the several parts, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, A indicates the window-casing, B the window-blind, and C its hinges, said hinges being shown as the common lock hinges. Introduced between the sections of these hinges are washers D, which prevent the parts from becoming locked when the shutter is being operated.

E indicates a torsional spring which is seated in suitable caps, mounted, respectively, on the casing and shutter, said caps being notched around their peripheries, to permit regulation of the tension of the spring. In Fig. 3 I have shown an improved form of casing for the spring which consists of an inverted cup-shaped shell F, in which is arranged the spring E, the other section F' being formed with a spindle *f*, which is seated in the top of a shell F. In this construction, shell F is preferably arranged on the shutter, and the section F' on the casing. Notches are arranged in the section F', in which the end

of the spring may be placed to regulate the tension, the shell holding the spring to its seat by bearing upon the spindle.

G indicates a chain which is attached to the inner face of the shutter and passes through a suitable opening in the sill to the interior of the room. On the inner face of the sill and over the chain opening is a chain locking plate H, which is formed with a key-hole opening *h* for the passage of the chain. The chain in passing through the enlargement of this opening meets with no obstruction, but should it be pulled to one side into the narrow neck, its links will be locked against the shoulders on the plate. This chain locking plate also serves as a wear-plate for the chain opening, and guides the chain in its passage through the sill opening. On the end of the chain, I preferably arrange a hand-grasp or handle, which consists of the central spindle I having a longitudinal groove *i* and two oppositely-projecting lugs *i'*. The chain is laid in this groove, so that the projection *i'* will be between the links thereof and the spool portion of the handle J slipped down over the spindle, thereby locking the chain in position, the lugs or projections *i'* preventing the chain from being pulled out.

Arranged on the inner lower end of the shutter, is a wear-plate K, against which the chain contacts when the shutter is in an open position. I preferably arrange a foot *k* on the lower edge of this wear-plate, which serves to hold the chain in position, should it by any reason become slack, which foot, also, keeps the chain against the corner of the shutter, in order to locate the point of pull on the blind to one side of its fulcrum, thereby preventing any disarrangement and consequent bad working of the mechanism, which would result if the chain slipped below the edge of the blind.

I preferably arrange on the lower inner edge of the blind, in conjunction with the foot *k*, a flexible foot L, which projects inwardly some distance, serving the same purpose as the foot *k*, but which foot L, when the blind is closed, is forced beneath the blind by coming in contact with the sill. This foot L

is advantageous in some instances, because in the use of the foot *k* it might be found necessary to make a pocket in the sill to receive the foot *k*.

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

1. In a blind operator, the combination with the blind, of lock hinges, a washer introduced between the sections of said hinges, a
10 torsion-spring for holding the blind open, a chain, and means for locking the chain, so as to hold the blinds in any adjusted position, substantially as described.

15 2. In a blind-operator, the combination with the blind, of a wear-plate on its lower inner edge, a foot projecting from said wear-plate, a chain which is secured to the blind and adapted to contact with the wear-plate when
20 the blind is in an open position, and a chain locking-plate, which is formed with a key-hole opening co-operating with the links of the chain to lock the same in any adjusted position, substantially as described.

25 3. In a blind-operator, the combination with a blind, of a chain which is secured thereto, a chain locking plate for the chain, and a yielding foot which is secured to the lower in-

ner edge of the shutter for sustaining the chain, substantially as described. 30

4. In a blind-operator, the combination with the blind, of a chain secured thereto, and a handle for the chain consisting of a central spindle grooved longitudinally and formed with opposite projections, and a spool which
35 is slipped over said spindle to lock the chain in place, substantially as described.

5. In a blind-operator, the combination with the blind, of an inverted cup-shaped shell secured thereto, a torsion-spring which is re-
40 ceived in said shell, and a frame section which is formed with a spindle passing through the spring and seated in the upper end of the shell, said frame section being also formed with
45 grooves around the bottom of the spindle for receiving the lower end of the spring to regulate the tension thereof, substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this
50 28th day of August, 1894.

ARTHUR O. SHATSICK.

Witnesses:

F. R. CORNWALL,
HUGH K. WAGNER.