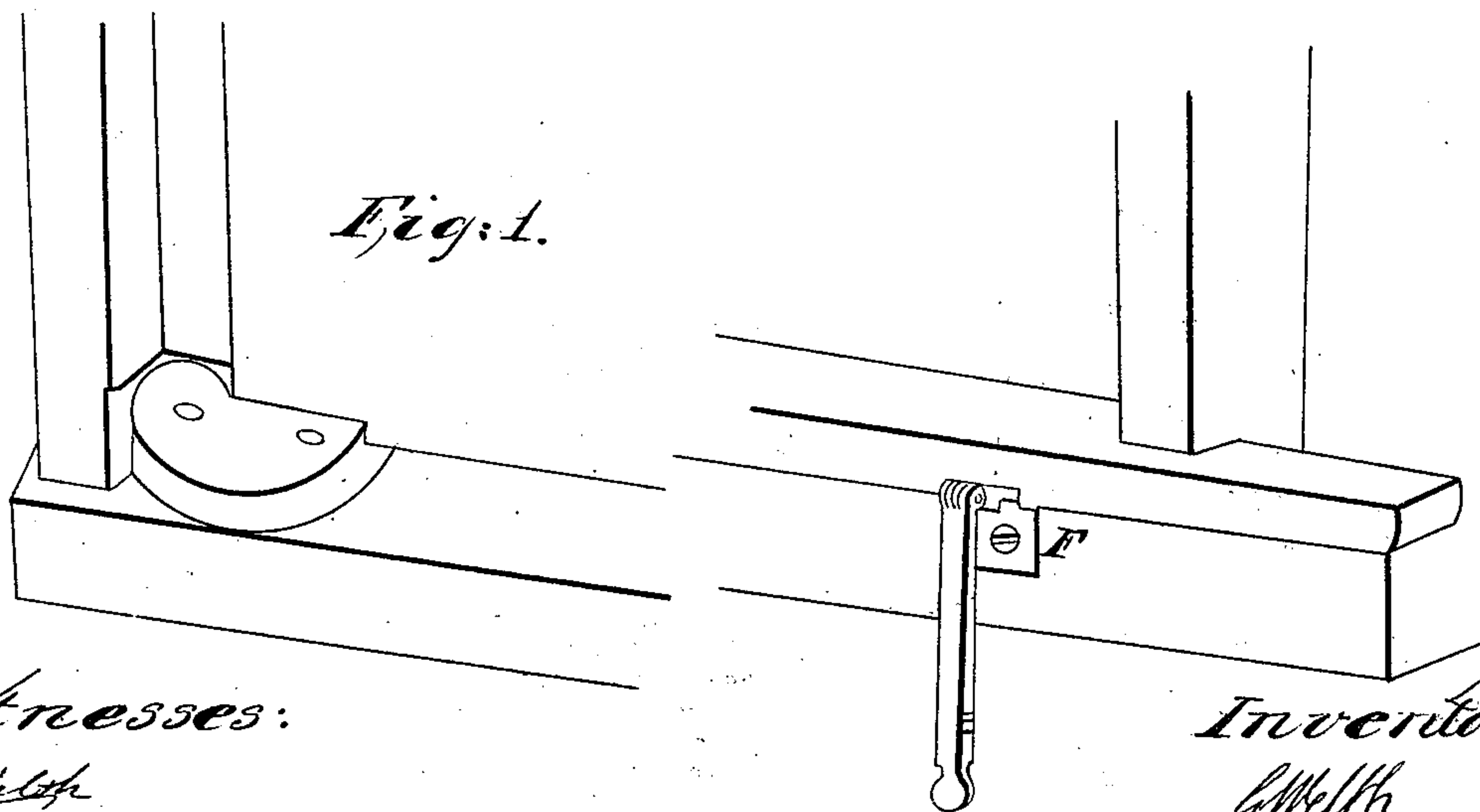
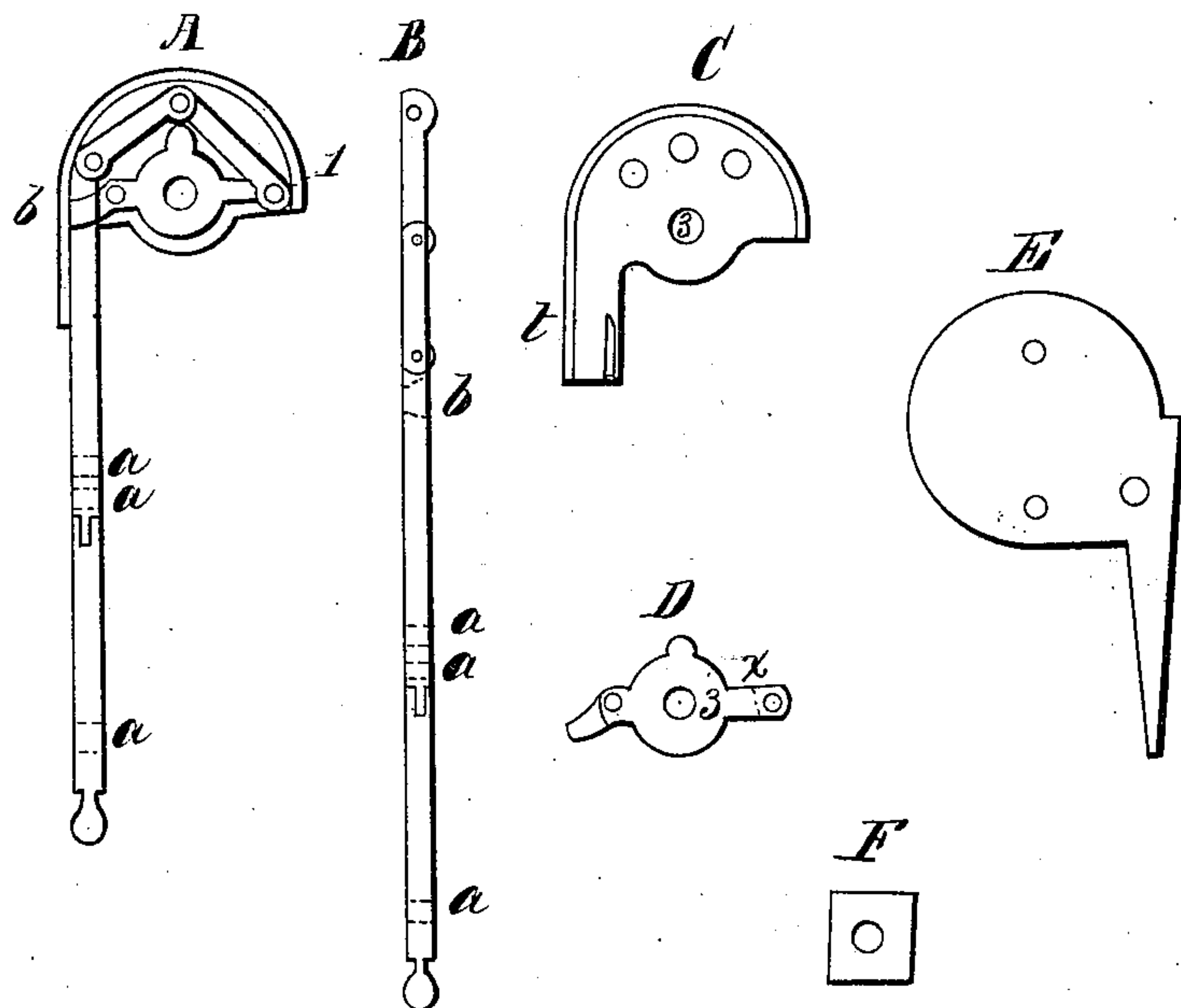


G. Welsh,
Shutter Worker.

N^o 7042.

Patented Jan. 22, 1850.



Witnesses:

G. Welsh
Chas. F. Hughes

Inventor:

G. Welsh

UNITED STATES PATENT OFFICE.

GEORGE WELSH, OF WASHINGTON, DISTRICT OF COLUMBIA.

CHAIN AND FLANGE APPARATUS FOR OPENING AND CLOSING WINDOW-SHUTTERS.

Specification of Letters Patent No. 7,042, dated January 22, 1850.

To all whom it may concern:

Be it known that I, GEORGE WELSH, of the city of Washington, in the District of Columbia, have invented new and useful Improvements in Opening, Closing, and Fastening Window Shutters and Blinds; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My improvement consists in passing through the lower part of the window frame, a sliding bar with two joints, or links, at its end, the extreme of which is hitched to a stud, or pin, (1) on an arm extending from a nut, or pulley, placed; to turn horizontally on a stud in the center of a semi-circle, formed by a curved flange, or rim which has one end extended a short distance in a straight line, *t*, which is placed at a proper distance from the stud in the center on a bottom of similar dimensions for the purpose of supporting and guiding the links on the end of the bar in a circular and horizontal direction when it is moved either in or out, which bottom, with the center stud and flange are all firmly fastened together, or cast in one piece, and screwed on the sill of the windows; the center stud to coincide with the joint pin of the hinge or axis of motion of the shutter. The nut, or pulley is connected with the shutter by an arm, or connecting pin, partly formed of a round plate, (E) which is firmly fastened on the lower end of the shutter, the round part hitched to the nut or pulley, by studs and holes, in such manner that it will cover the curved flanges, pulley and end of the bar. All being thus connected, and the bar moved, in or out, the shutter will be moved accordingly, and may be opened or closed at pleasure by pushing or pulling the straight bar; the curved flange serving to guide the links, when pushing; and the nut, when pulling. By making notches, at proper places, in the bar, as shown at (*a*) and (*b*) in the drawings, and by fastening on the inside casing of the windows a metal plate for the notches to catch on, the shutter may be fas-

tened, when open or closed, or may be set to an intermediate angle. The notch at (*b*) will receive one of the arms (*e*), of the center nut, D, when the bar is pushed in, and hold it fast. A joint may also be made on the bar, so that when it is drawn in the projecting end will drop down close to the inside of the wall. The arm *e* on the center nut is an auxiliary to the fastening effected by the straight bar and links for holding the shutter firmly in place when the straight bar is pushed in.

In the accompanying drawings, letter A, represents the apparatus as it would appear when all put together, with the exception of the connecting arm, between it and the shutter.

B, is the jointed bar, the end (1) of which is provided with a hole to hitch on the stud or an arm *x* of the center nut, or pulley.

C, is the curved flange with the center stud (3) connected with it by the bottom; D, the center nut, or pulley with arms, studs or holes by which to hitch the connecting arm between it and the shutter; E, the arm for connecting the shutter with the other works; F, (Fig. 2,) is the plate fastened on the inside casing, for the notches *a, a*, in the bar to catch on.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination of links and a center nut with a stationary curved flange, extension to the chain, to guide the links in such a manner that they may be operated to turn the center pulley or nut either by pushing or pulling as herein described.

2. I also claim in combination with the sliding bar and links herein described, the arm *e* on the center nut, and the notch *b* on the bar, for locking the shutter and taking the pressure off of the links when the bar is pushed in and the shutter fastened as described.

G. WELSH.

Witnesses:

L. WELSH,
P. A. FITZHUGH.