

(No Model.)

G. W. CUMNOCK.
SPINNING MACHINE.

No. 370,324.

Patented Sept. 20, 1887.

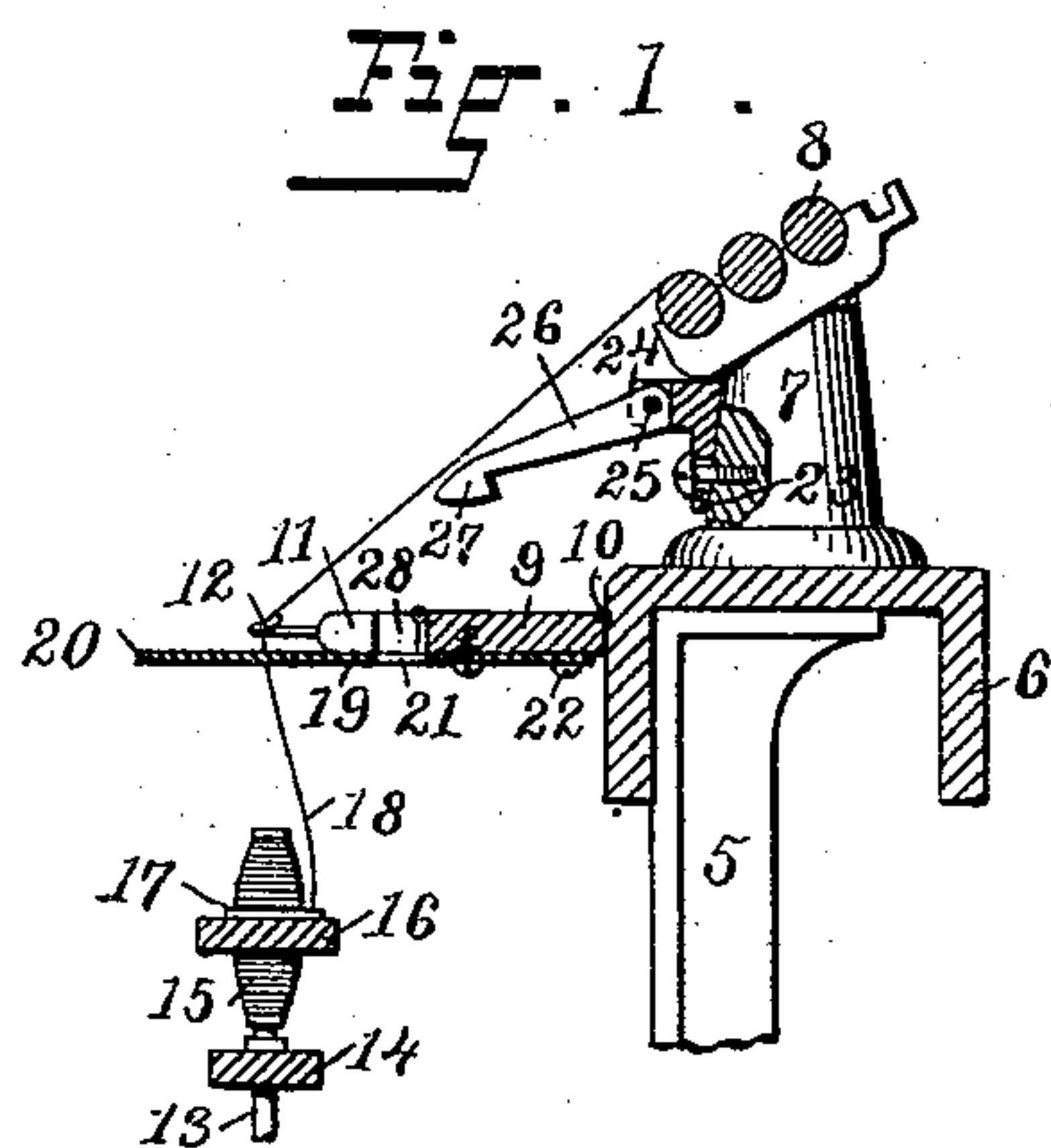


Fig. 2.

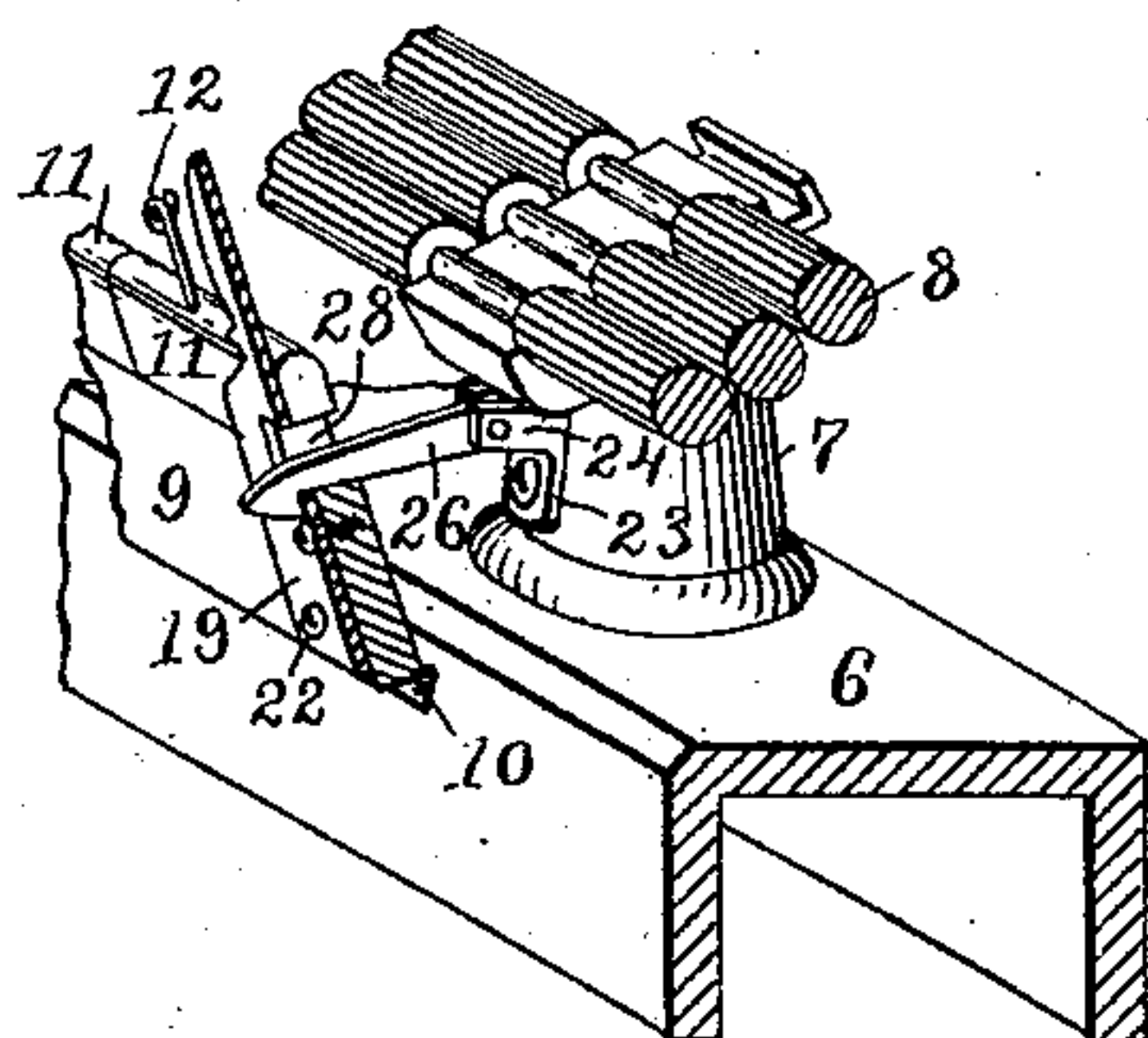
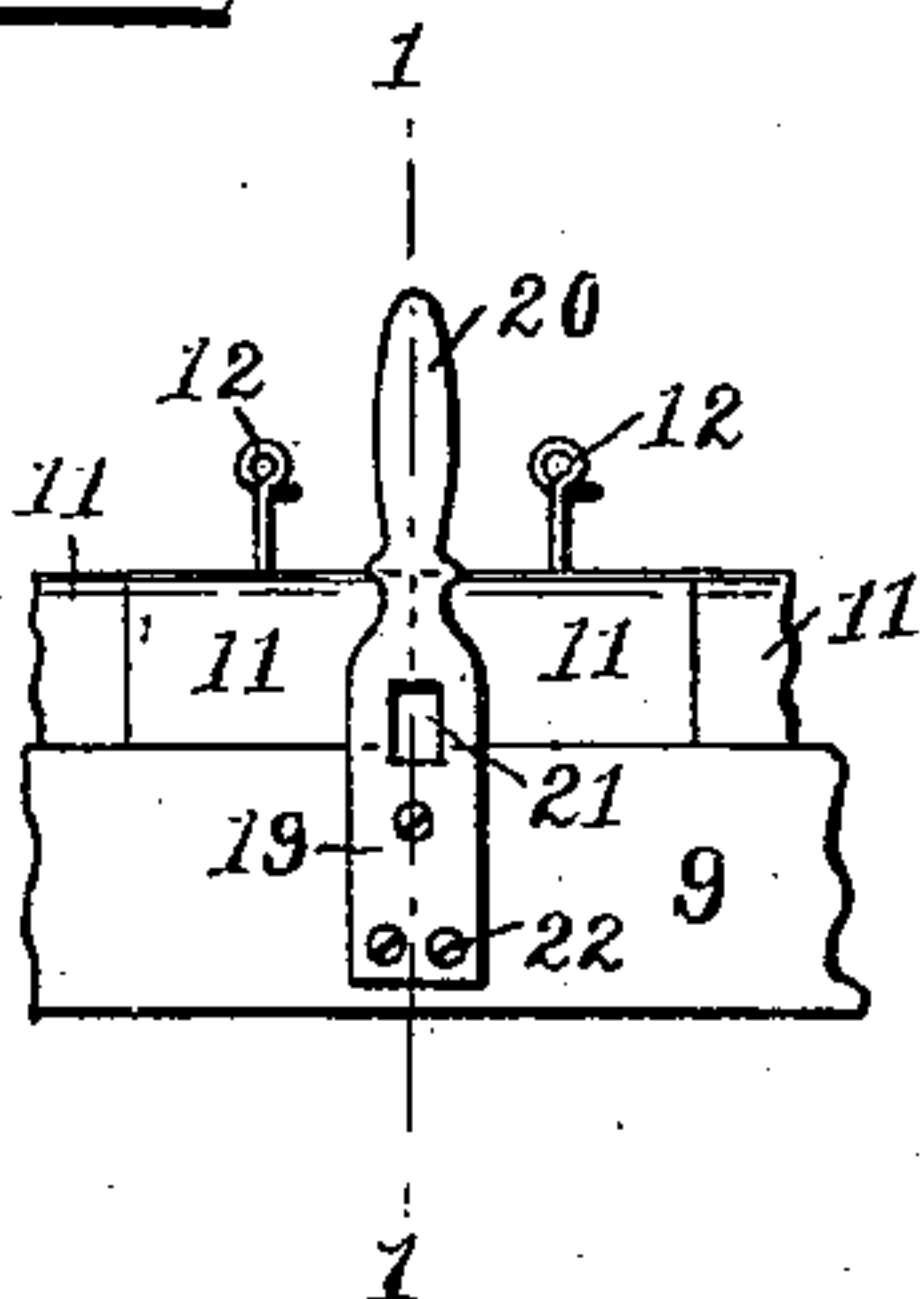


Fig. 3.



WITNESSES:

Chas. H. Luther Jr.
M. F. Bligh.

INVENTOR:

George W. Cumnock
by Joseph A. Miller & Co
Attys

UNITED STATES PATENT OFFICE.

GEORGE W. CUMNOCK, OF WOONSOCKET, RHODE ISLAND.

SPINNING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 370,324, dated September 20, 1887.

Application filed November 8, 1886. Serial No. 218,232. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CUMNOCK, of Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to spinning-machines, such as ring, flyer, and cap spinning-frames, in which the guide-wires are mounted upon a guide-board, which is hinged upon the roller-beam of the machine.

15 In this class of spinning-machines the hinged guide-board permits of the guide-wires being raised and lowered simultaneously, so that the filled bobbins may be doffed and replaced at the same time, and, moreover, each guide-wire is individually controlled by an independent block hinged to the guide-board.

20 In the operation of doffing and replacing the bobbins upon the spindles it is desirable to use mechanism whereby the yarn may be maintained taut, to prevent looping and kinking, which affects the quality of the yarn, and, further, to prevent displacement of the yarn from the guides because of slack.

25 The objects of my invention are to provide a simple mechanism for holding the guide board and blocks out of the way while doffing.

30 To the aforesaid purposes my invention consists in the certain novel and peculiar constructions and arrangements of the several parts of the mechanism, all as hereinafter fully described and claimed.

35 In the accompanying drawings, illustrating my invention, Figure 1 represents a vertical sectional view of a portion of a spinning-machine, sufficient to illustrate my improved mechanism shown co-operating therewith, the section being taken on line 1 1 in Fig. 3 through the vertical joint made by the abutting faces of two adjacent guide-blocks. Fig. 2 represents a perspective view of Fig. 1, with the guide-board locked in elevated position by the detent, so as to allow doffing of the bobbins, which are here omitted. Fig. 3 represents a detached under side view of the guide-board and accompanying guide-blocks, shown in portions, together with my locking-plate and handle.

In the said drawings like numbers of reference designate corresponding parts throughout.

55 I have here illustrated my invention as embodied in an ordinary form of ring-spinning machine, in which 5 designates a portion of the side frame of the machine, upon which is secured the roller-beam 6, having the superposed roller-stand 7, which is provided with a head in which the set of rolls 8 are journaled. The guide-board 9 extends horizontally across the front of the machine, and is hinged to the roller-beam 6 by means of hinges 10. A set of guide-blocks, 11, are hinged upon the guide-board, and each one is provided with a guide-wire, 12. The spindle 13 (shown in portion in Fig. 1) passes up through the bolster-rail 14, and carries the bobbin 15. The traverse or ring-rail 16 is provided with ring 17. The yarn 18 runs from rolls 8 through guide-wire 12, and the traveler, which is not shown, on the ring 17 to the bobbin 15.

75 The foregoing-described parts are well-known parts of a spinning-machine, and are arranged and operated in the usual manner, and with which may be used my improved doffing mechanism, which I will now proceed to describe.

80 The locking-plate 19 is flat, and is provided with an integral handle, 20, and has an aperture or slot, 21, cut through the body of the plate. The end of the locking-plate remote from the handle is secured by means of screws 22 upon the under side of the guide-board 9, so that the slot 21 may be clear of said board and the handle may project outwardly, as indicated.

85 Upon the roller-stand 7 is fixed by means of a screw, or otherwise suitably secured thereto, a bracket, 23, provided with two outwardly-extending ears, 24, through and between which passes the fixed hinge-pin 25, upon which turns the gravity-locking detent 26, which is provided with an eye for said hinge-pin. The outer free end of the detent 26 is formed with a hook, 27, which is adapted and designed to pass through the slot 21 in the locking-plate in the direction of from the upper to the under face of said plate and the hooked end of the detent to engage and lock with the slot in an obvious manner and as clearly indicated.

95 100 In order to give the locking-detent 26 free

access to the slot in the locking-plate, which is conveniently set back under the guide-blocks, I cut away the abutting faces of two adjacent guide-blocks, 11, as at 28, which cut-
 5 away portions form an opening which registers with the slot in the locking-plate, so as to allow the detent to pass through and lock with the locking-plate, as above described.

It is to be observed that the slot of the locking-plate may be reached by the detent by
 10 forming an opening through the body of a guide-block 11, in preference to cutting away the side edges of a pair of guide-blocks, as I have shown.

15 The locking detent 26 is constructed to hang outwardly and slightly downwardly, as shown in Fig. 1, and is loosely hinged or pivoted, as before described, so that it has a slight play or oscillation in a vertical plane, and when it is
 20 knocked or tripped upwardly it will gravitate into normal position.

From the above description it will be readily understood that when it is desired to simultaneously elevate the guide-board and the
 25 superposed guide-blocks and guide-wires the operator manipulates the handle 20 of the locking-plate and pushes the handle up into the raised position of Fig. 2, and this movement causes the opening in the guide-blocks and the
 30 slot in the locking-plate to pass over the hooked end of the gravity-detent 26, which is tripped by said plate, and then falls by its own weight into the locked position of Fig. 2. When it is
 35 desired to lower the guide-board into the position of Fig. 1, the operator seizes the handle 20, and at the same time lifts the detent 26 out of engagement with locking-plate 19, whereupon the board may be released and lowered.

There may be various modifications made in
 40 the principal parts of my invention, without, however, making a substantial departure from

the spirit of the same as herein described and claimed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 45

1. The combination, with a roller-beam and a superposed roller-stand, of a guide-board hinged to said roller-beam, a set of guide-blocks hinged upon said guide-board and each block provided with a guide-wire, a locking-plate provided with a handle and secured upon the under side of said guide-board and having a slot formed in the body thereof, the handle projecting out from said guide-board and the slot disposed clear of the board, the guide-
 55 blocks cut away to form an opening registering with the slot in the locking-plate, a hinge-bracket secured upon said roller-stand, and a gravity-locking detent hinged by one end to said bracket and having the other end hooked, substantially as described, whereby upon raising the guide-board the detent may project through the opening in said guide-blocks and the slot of the locking-plate and may be tripped into the locked position, as set forth. 65

2. The combination of the roller-beam 6, the superposed roller-stand 7, the hinge-bracket 23, and the gravity-detent 26, hinged to said bracket, the guide-board 9, hinged to said roller-beam and provided with the set of hinged
 70 guide-blocks 11, each having a guide-wire, 12, and the locking-plate 19, provided with slot 21, and having the integral handle 20 and secured upon the guide-board, the guide-blocks cut away, as at 28, all substantially as and for
 75 the purpose herein described.

In witness whereof I have hereunto set my hand.

GEORGE W. CUMNOCK.

Witnesses:

J. A. MILLER, Jr.,
 M. F. BLIGH.