

(No Model.)

W. J. B. HUNTER.
SASH OPERATING DEVICE.

No. 464,567.

Patented Dec. 8, 1891.

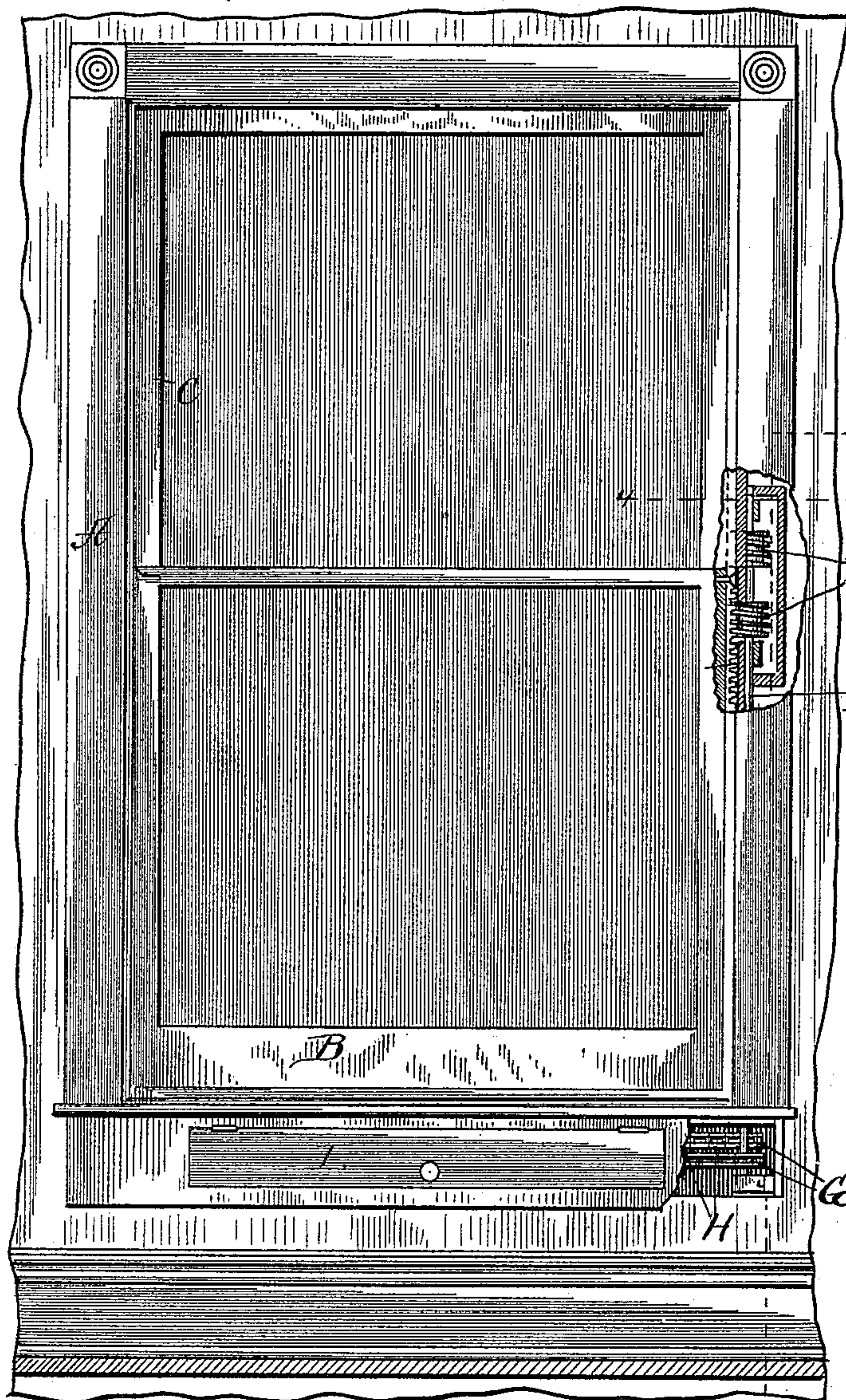


Fig 1

Fig IV

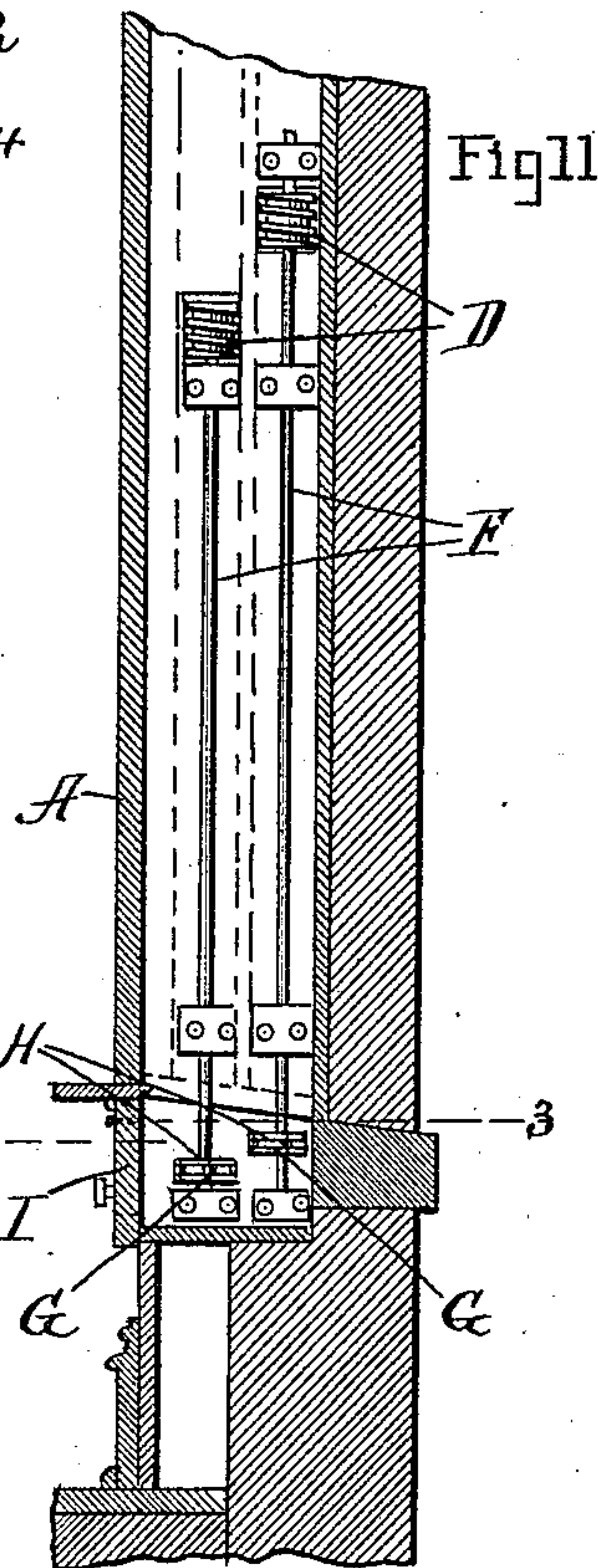
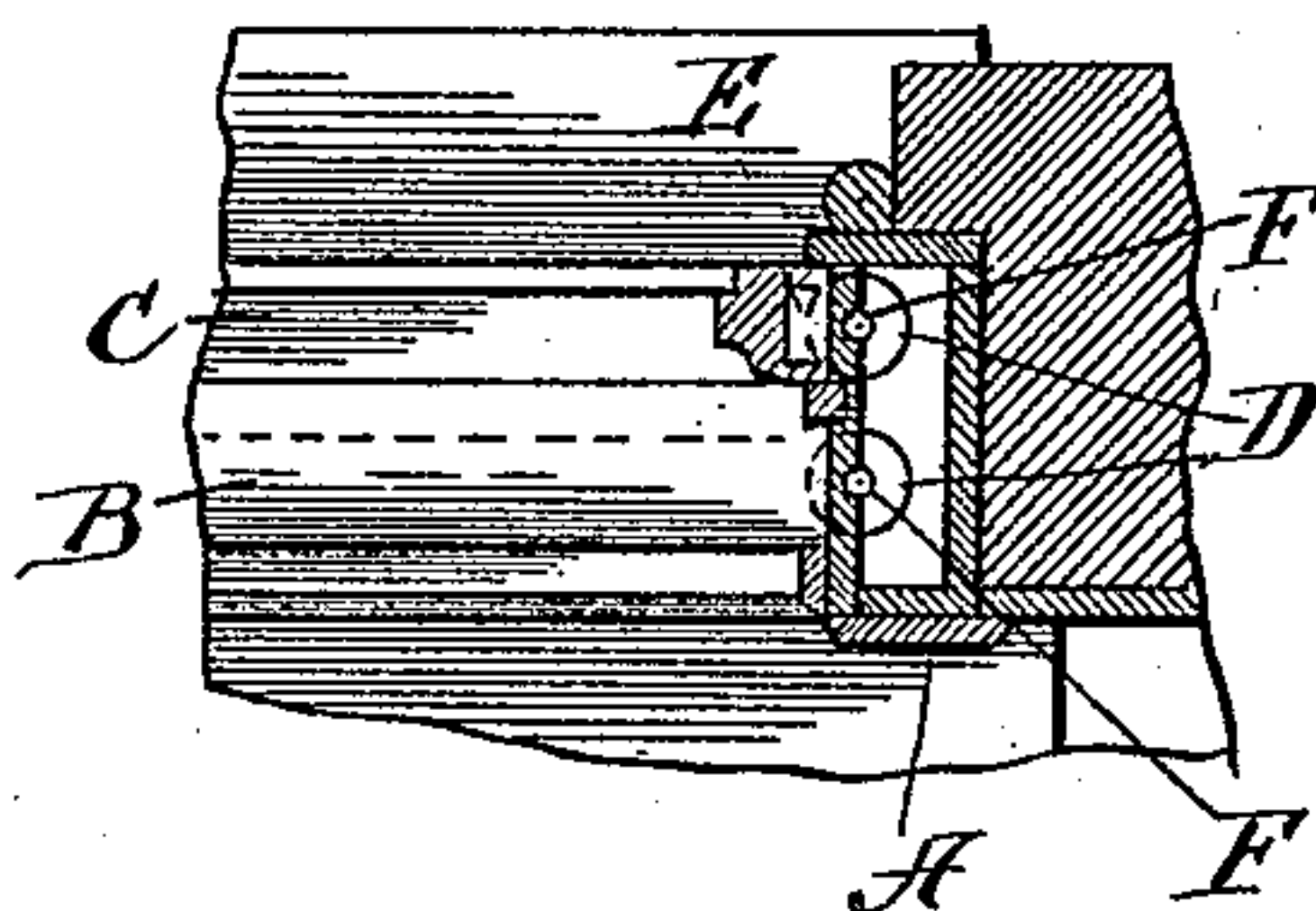


Fig 11

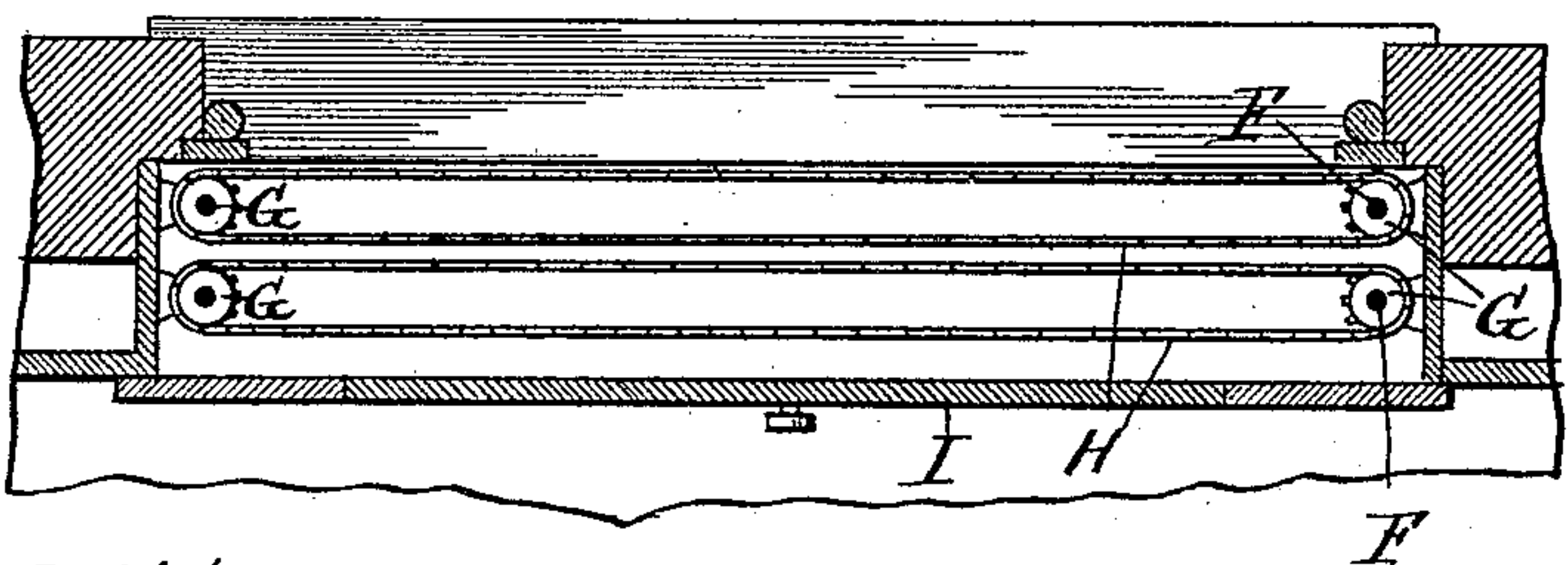


Fig 3

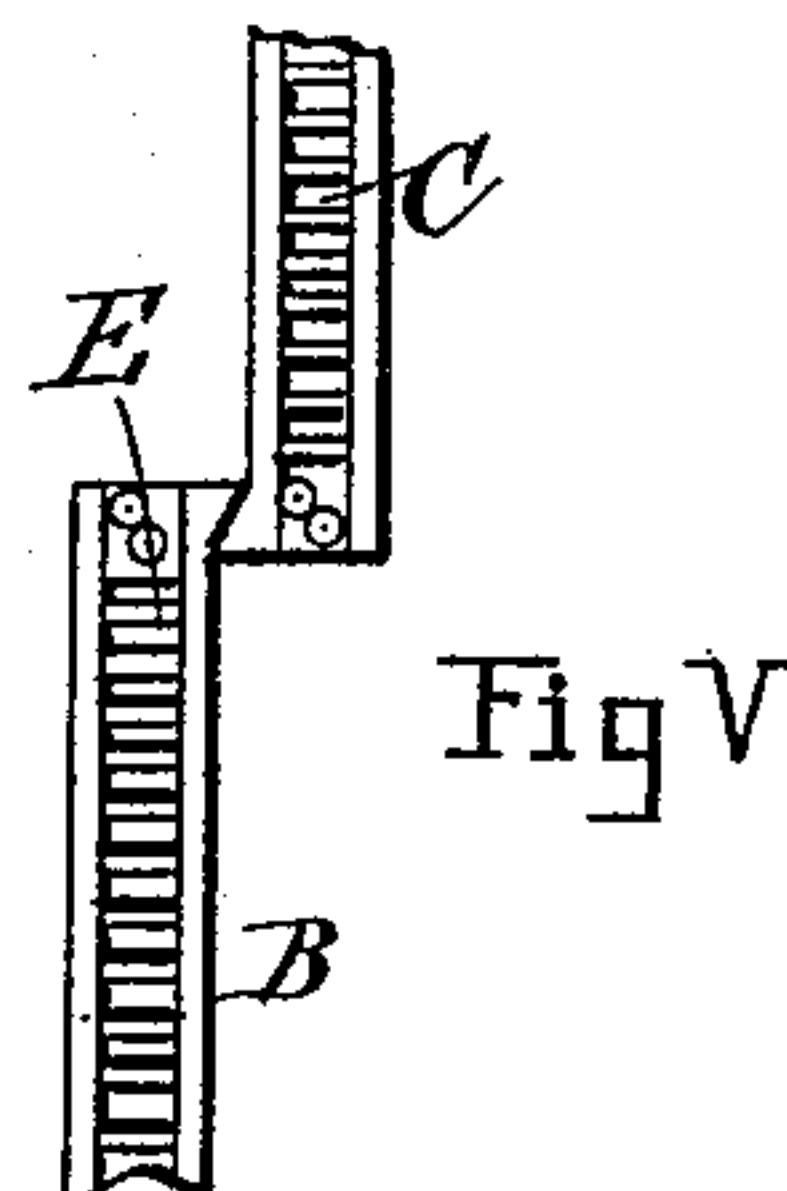


Fig 5

Witnesses
W. C. Coates.
D. J. Le Moyne

Inventor
Walter J. B. Hunter
by
Louis V. Le Moyne
his atty

UNITED STATES PATENT OFFICE.

WALTER J. B. HUNTER, OF CHICAGO, ILLINOIS.

SASH-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 464,567, dated December 8, 1891.

Application filed February 3, 1891. Serial No. 379,954. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. B. HUNTER, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have
5 invented a new and useful Improvement in Devices for Raising and Lowering Sashes, of which the following is a specification.

My invention consists of details of construction and operation hereinafter more fully
10 described, and particularly pointed out in the claim.

Figure 1 is a side elevation of a window with part of the casing broken away, showing my invention. Fig. 2 is a sectional view on
15 lines 2 2, Fig. 1. Fig. 3 is a sectional view on lines 3 3, Fig. 2. Fig. 4 is a sectional view on lines 4 4, Fig. 1. Fig. 5 is an edge view of a portion of the sash, showing the racks.

A represents the window-frame; B, the
20 lower sash; C, the upper sash; D, the worm-screws; E, the racks; F, the rods; G, the chain-wheels; H, the chains, and I the door in the window-apron. The worm-screws D are set into the pulley-stile with their threads
25 projecting beyond its face, one a little above the other, the upper one engaging the rack on the upper sash and the lower one the rack on the lower sash. These worm-screws are attached to one end of the rods F and the
30 chain-wheels G to the other end. Both sides of the window are provided with racks, worm-screws, &c., in the same manner. The chain-wheels G are connected by the chains H in order to revolve the worm-screws on each side
35 simultaneously.

The operation of my device is as follows: The door I is raised and the chains H drawn from one side to the other by the hand revolving the worm-screws on each side and raising

or lowering the sash, as desired. Both sashes 40 are operated in the same way. The arrangement of the chains one above the other, as specified, renders both chains readily accessible.

Some of the advantages of my invention 45 are that the window cannot be opened from the outside, the mechanism is compact and requires little space in the pulley-stile, making it practical to construct the frames of iron instead of wood, and the sash can be more 50 easily taken out of the frame.

I do not wish to limit myself to the exact construction shown and described, as the same may be slightly varied without departing
55 from the spirit of my invention.

I am aware of English patents No. 1,252 of 1881 and No. 5,770 of 1829, and make no claim to the invention therein disclosed.

What I claim, and desire to secure by Letters Patent, is—

The herein-described device for raising and lowering window-sashes, consisting of a window-casing provided with a recess underneath the sill, a door for closing said recess, window-sashes mounted to slide in the casing and provided with racks E, rods F, arranged in each
65 side of the casing and provided with worms to engage said racks and having sprocket-wheels on their lower ends within the recess in the casing, and sprocket-chains connecting
70 said rods in pairs and arranged within the said recess one above the other, substantially as set forth.

WALTER J. B. HUNTER.

Witnesses:

L. V. LE MOYNE,
F. J. LE MOYNE.