

No. 652,394.

Patented June 26, 1900.

A. LAGUS.

MEANS FOR RAISING OR LOWERING WINDOWS.

(Application filed Nov. 7, 1899.)

(No Model.)

2 Sheets—Sheet 1.

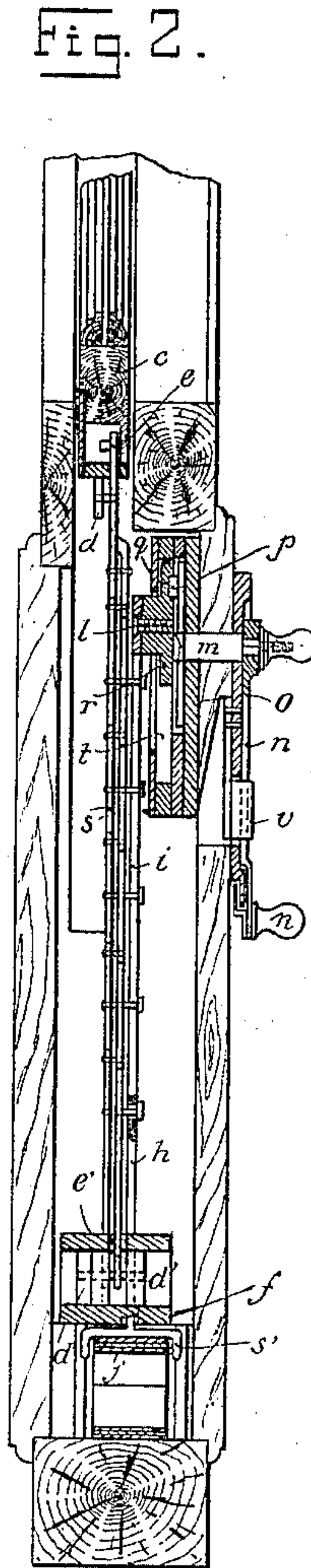
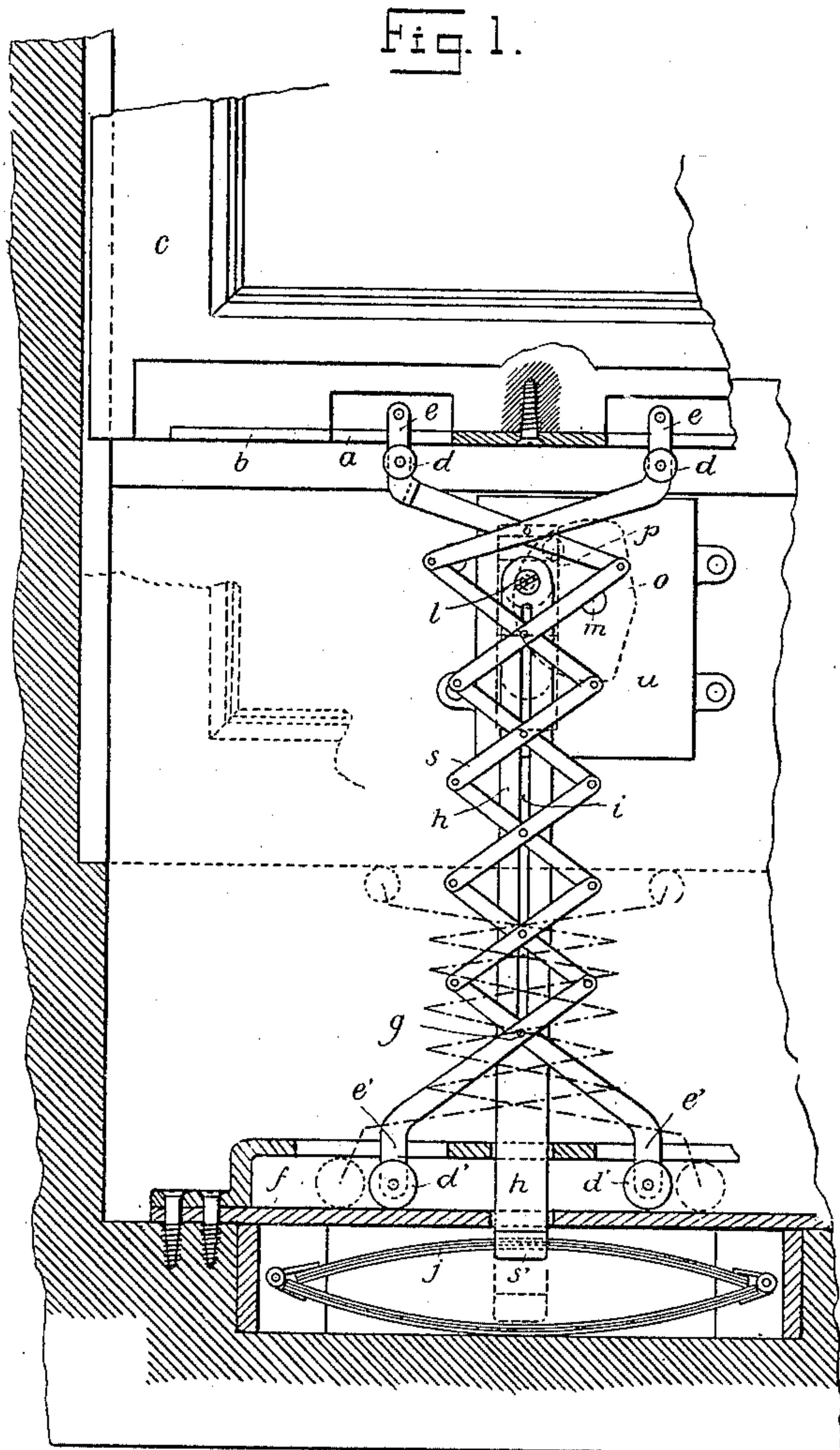
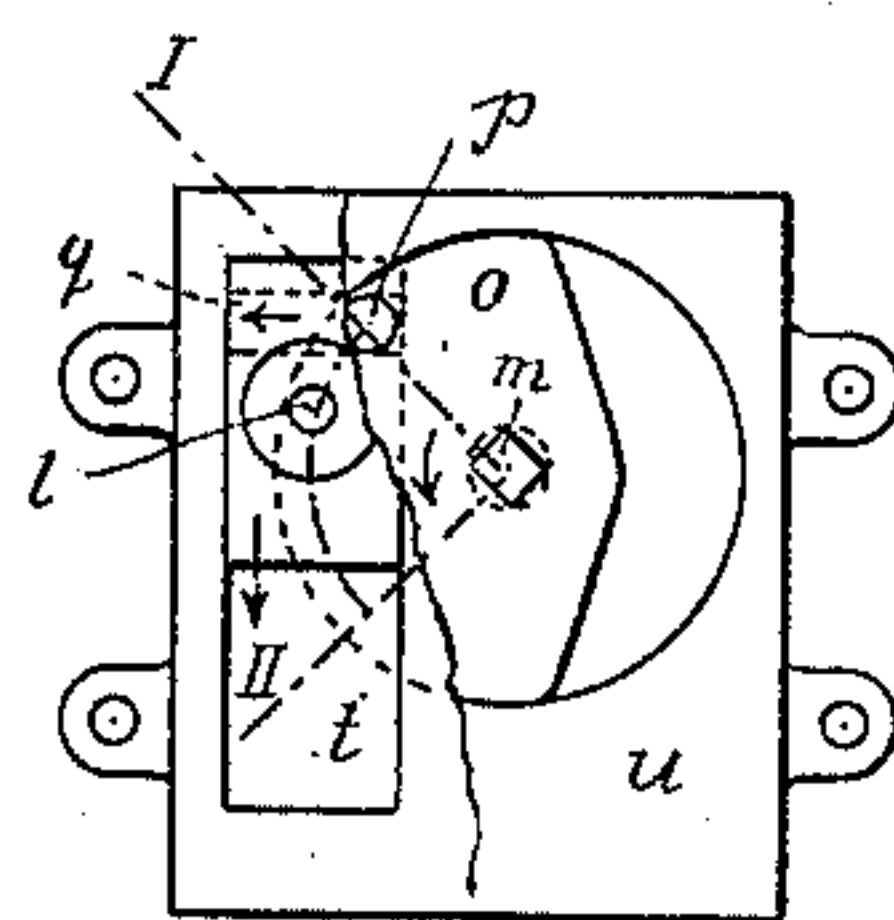


Fig. 3.



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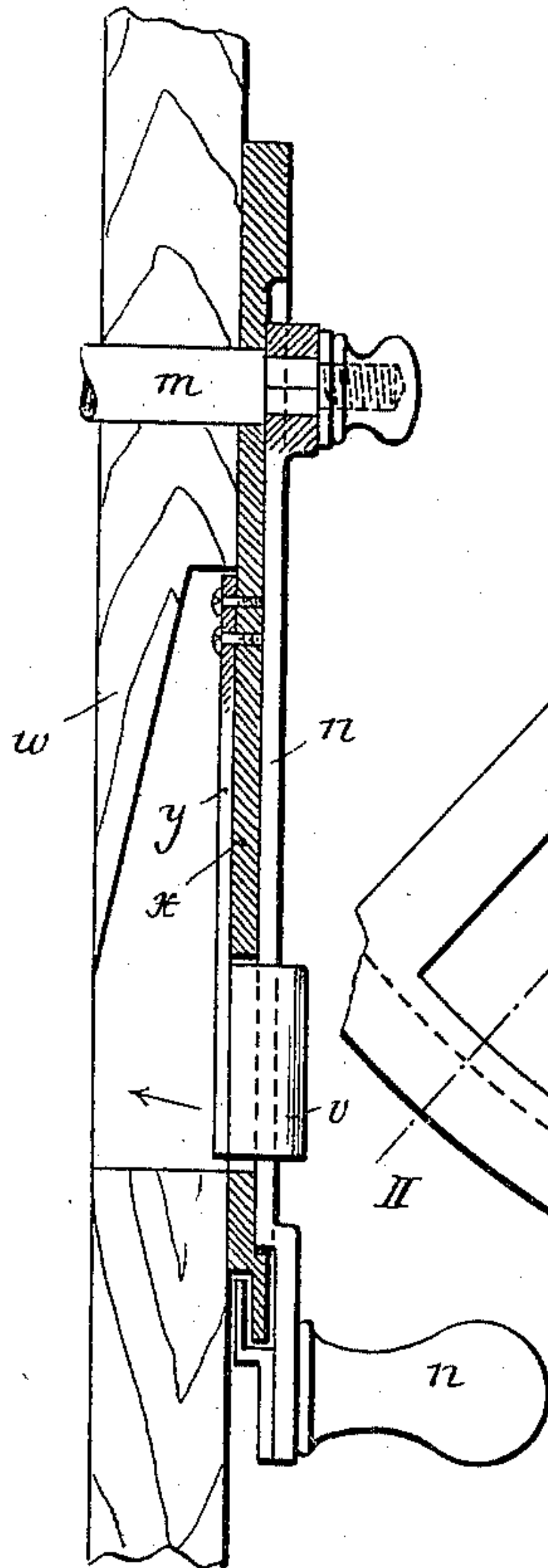


Fig. 4.

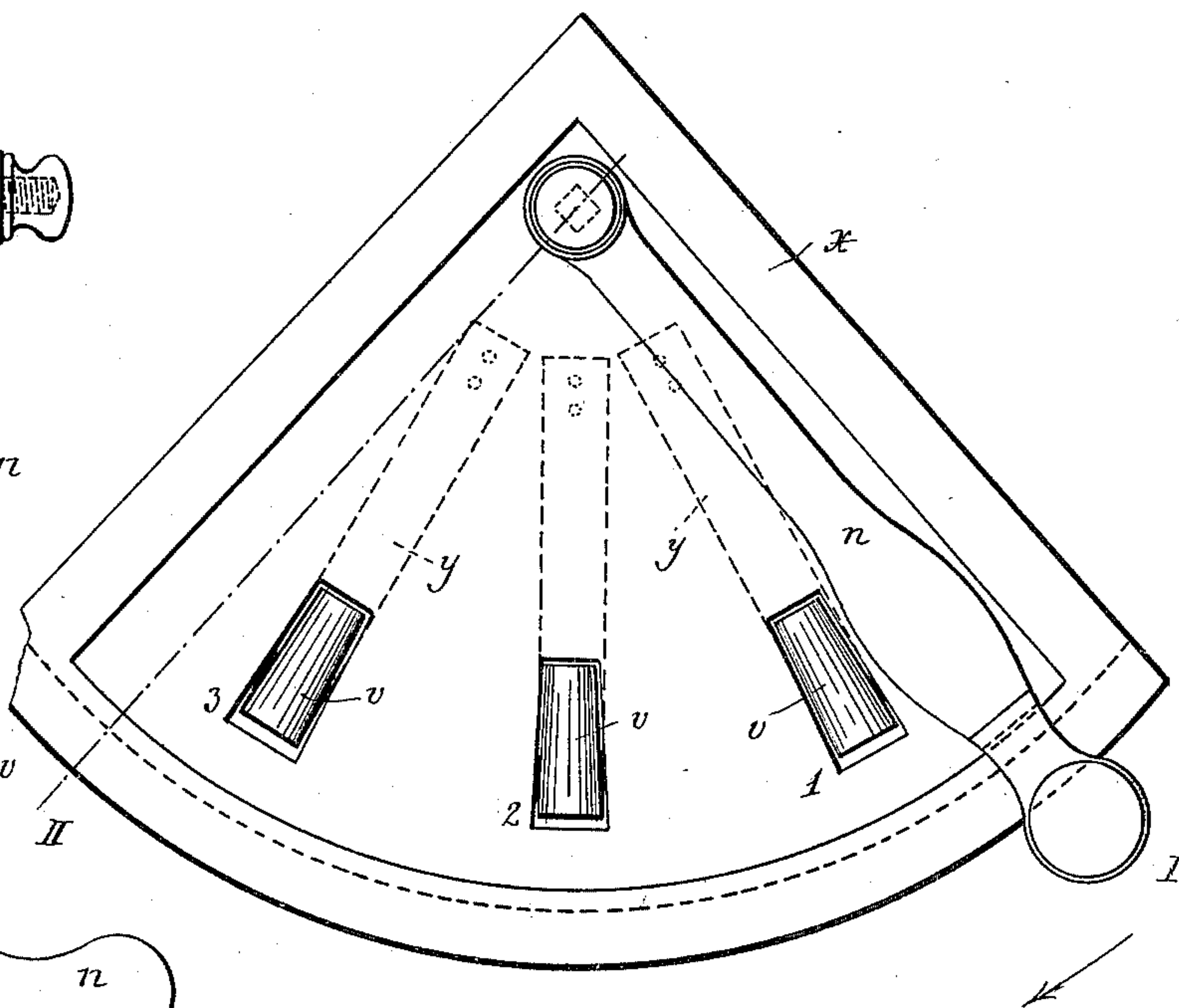


Fig. 5.

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ALBERT LAGUS, OF PRAGUE, AUSTRIA-HUNGARY.

MEANS FOR RAISING OR LOWERING WINDOWS.

SPECIFICATION forming part of Letters Patent No. 652,394, dated June 26, 1900.

Application filed November 7, 1899. Serial No. 736,187. (No model.)

To all whom it may concern:

Be it known that I, ALBERT LAGUS, a citizen of the Empire of Austria-Hungary, residing at Prague-Karolinenthal, in the Kingdom of Bohemia, Austria-Hungary, have invented certain new and useful Improved Means for Raising or Lowering Windows and the Like, of which the following is a specification.

The present invention relates to a contrivance for raising and lowering windows and the like and is especially adapted in connection with the sliding windows of carriages. For this purpose a lazy-tongs device connected with the window-frame is so arranged upon or within the lower or covered part of the door that it can be extended or contracted at will by turning or moving an operating part or handle suitably arranged on the inner side of the door and within easy reach of the hand of the occupant, by which means the window may be raised or lowered.

The invention is illustrated, by way of example, as applied to a carriage-door.

Figure 1 is an elevation of the device, the outer or protecting portion of the door being removed. Fig. 2 is a transverse longitudinal section through the carriage-door, and Fig. 3 represents a detail of the operating mechanism. Figs. 4 and 5 are respectively a sectional and a front view relating to the stops for holding the window at different elevations.

In a groove *a* of the bottom bar *b* of the window-frame *c* are arranged plates *e*, connected to the two top members of a lazy-tongs *s*, and in contact with and running on the under side of said bar *b* are rollers *d*, connected to said members and intended to facilitate the movement of the lazy-tongs. The lazy-tongs are arranged between the double boarding of the carriage-door, and the two bottom members are also provided with rollers *d'*, running on a rail or guide *f*.

The pin *g*, connecting the two bottom members of the lazy-tongs, is securely connected with or inserted in a vertical bar or plate *h*, provided with a longitudinal slot *i*, in which are guided the central pivot-pins of the lazy-tongs. This guide-bar passes through the bar *f* and rests at *s'* on an arched or other spring *j*, the latter constantly tending to push the guide-bar upward, and with it the lazy-

tongs *s* and the window-frame *c*, connected to the latter.

On the upper end of the guide-bar *h* at 1 is arranged a crank device *m n*, which when turned in one or the other direction will raise or lower the window. This crank device is arranged as follows: The axle *m* of the crank *n* passes through the inner board of the door, Fig. 2, and is secured to the center of a segmental disk *o*, provided with an eccentrically-fixed pin *p*. The pin *p* engages in a horizontal groove *q* of a guide-block *r*, movable vertically in a recess *t*, provided for that purpose in the casing *u*, inclosing the actuating-disk *o*, the guide-block *r* being pivotally connected with the guide-bar *h* by means of the pin *l*.

The device acts in the following manner when, say, the window is to be lowered or opened, in which case the handle *n* will be turned toward the left, Fig. 3. In this movement the segment-shaped plate *o* and the pin *p* participate, with the result that the guide-block *r* is pressed vertically downward, the latter carrying with it the guide-bar *h*. In the movement of the guide-bar, however, the lazy-tongs become involved, owing to the pin *g* connecting the two parts, and thus also the window-frame, which descends and occupies the position indicated in dotted lines, Fig. 2. When turning the handle in the opposite direction, the movements of the various parts of the mechanism described are reversed, resulting in an upward movement of the window-frame, in which movement it is assisted by the effect of the spring *j* on the guide-bar *h*.

In order to be able to fix the window at intermediate positions, several stops or catches *v* are arranged in the path of the crank-handle on the inner part of the door, which stops give way when forced by the crank, but otherwise secure the latter, and with it the window, in the different corresponding positions. This mechanism is shown more particularly in Figs. 4 and 5. On a segmental plate *x*, on which the crank-handle *n* is guided, several stops or catches *v* (three, for example) are arranged in the path of the crank-handle by means of suitable plate-springs *y*. By such arrangement the stops *v* will give way when

force is applied to the crank, and they will be moved into the space of the door in the direction of the arrow, Fig. 4. The position 1 of the crank-handle *n* shown in Fig. 5 corresponds to the closed position of the window. If the crank-handle is moved between the stops 2 and 3, the window is opened a third of its stroke. It will be understood that the stops are only moved by forcing the crank-handle *n*, but otherwise secure the latter, and with it the window, in the different corresponding positions.

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

1. Apparatus for raising and lowering windows by means of a lazy-tongs device operated by a crank-handle, comprising a pin, on a plate connected to the crank-handle, engaging with a vertically-movable guide-block connected to a vertical guide-bar to which the

pivot-pin of the two bottom members of the lazy-tongs is connected, substantially as described.

2. Apparatus for raising and lowering windows comprising a slotted guide-bar, a lazy-tongs device, the pivot-pin of the two lower members of which is connected thereto, rollers at the extremities of the end members of the lazy-tongs, a guide-block on said bar provided with a horizontal groove, a crank-plate with a pin engaging said groove, and a crank-handle, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT LAGUS.

Witnesses:

H. DONZELMANN,
ADOLPH FISCHER.