(No Model.) 2 Sheets—Sheet 1.

F. C. ARMBRUSTER.

WINDOW.

No. 549,483. Patented Nov. 12, 1895.

Fig. 1.

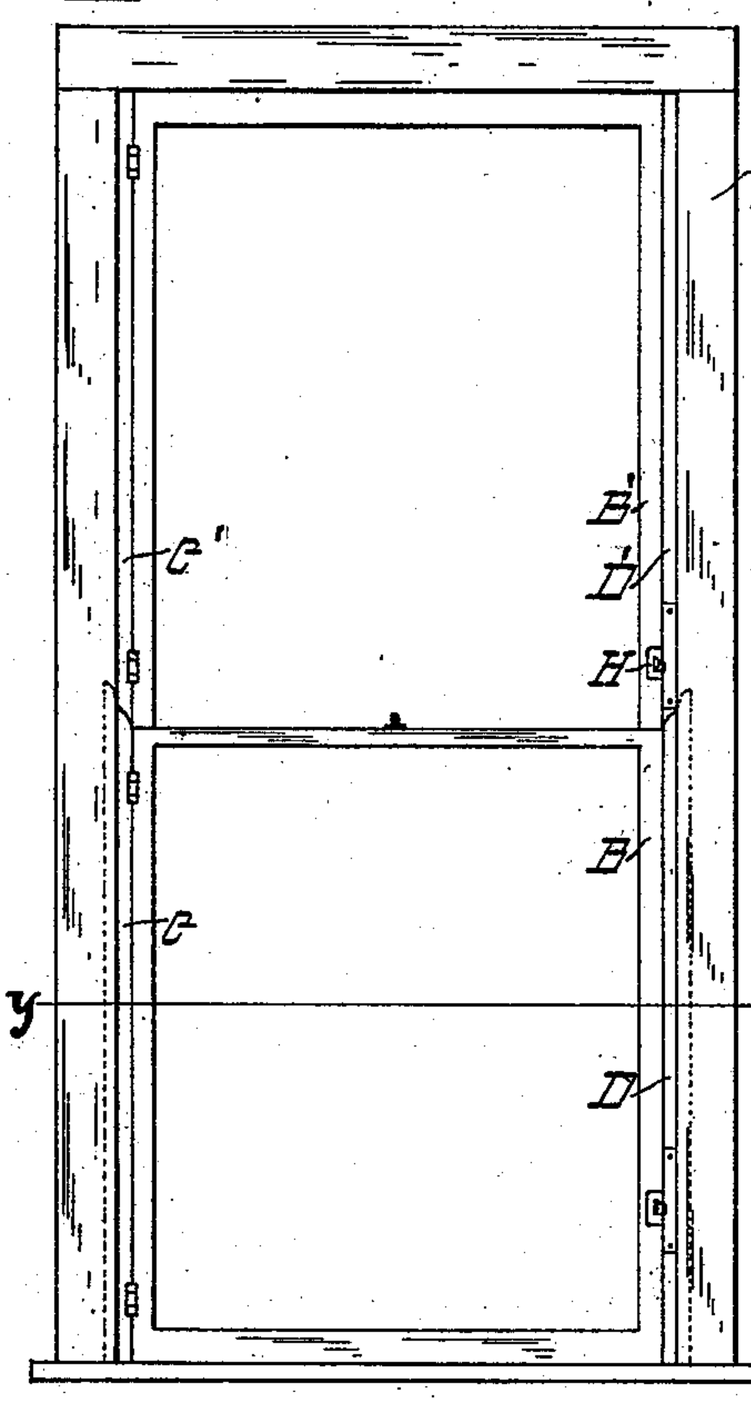


Fig. 2.

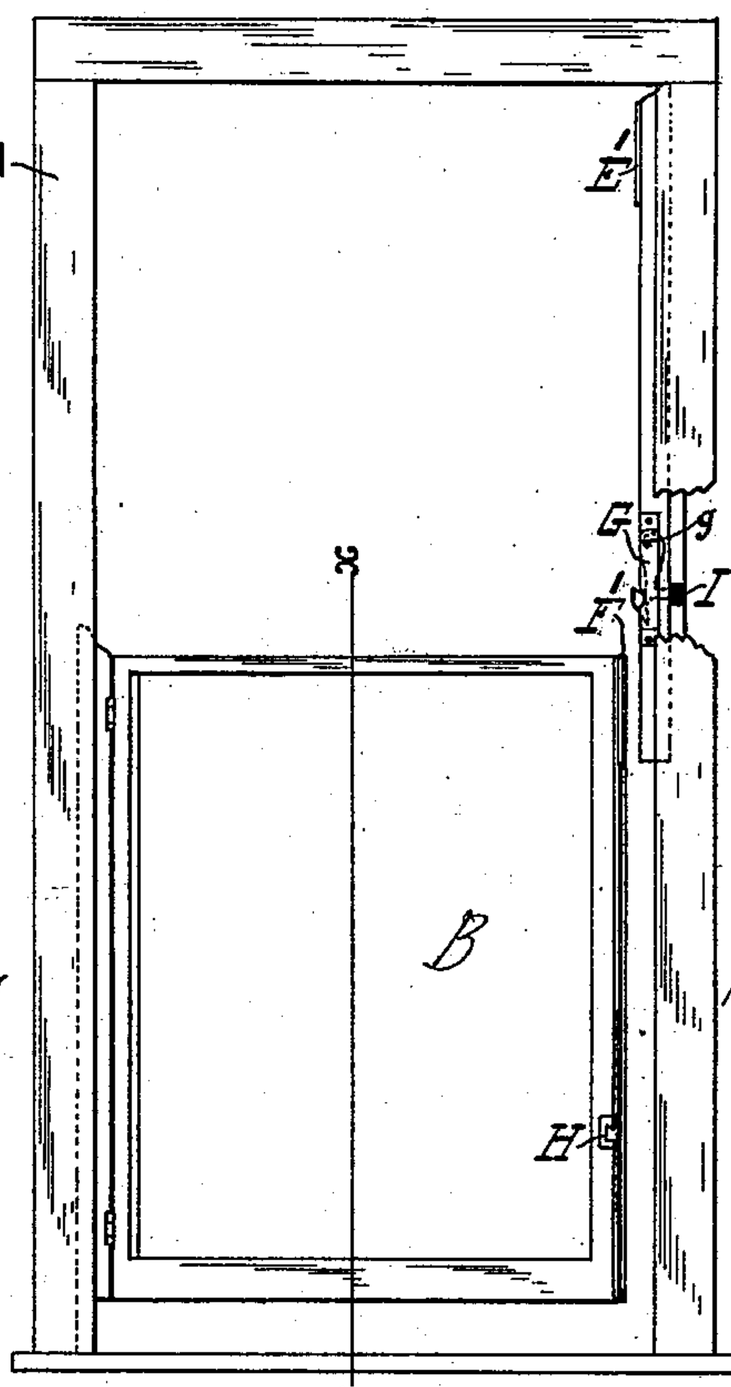


Fig. 3.

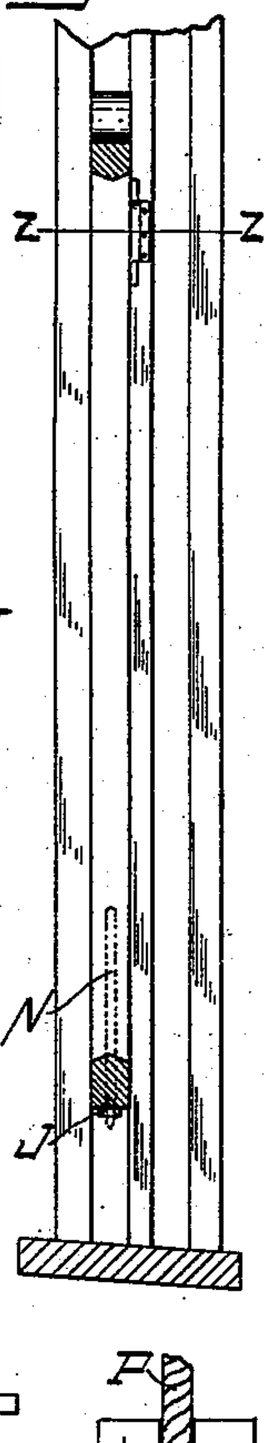


Fig. 5.

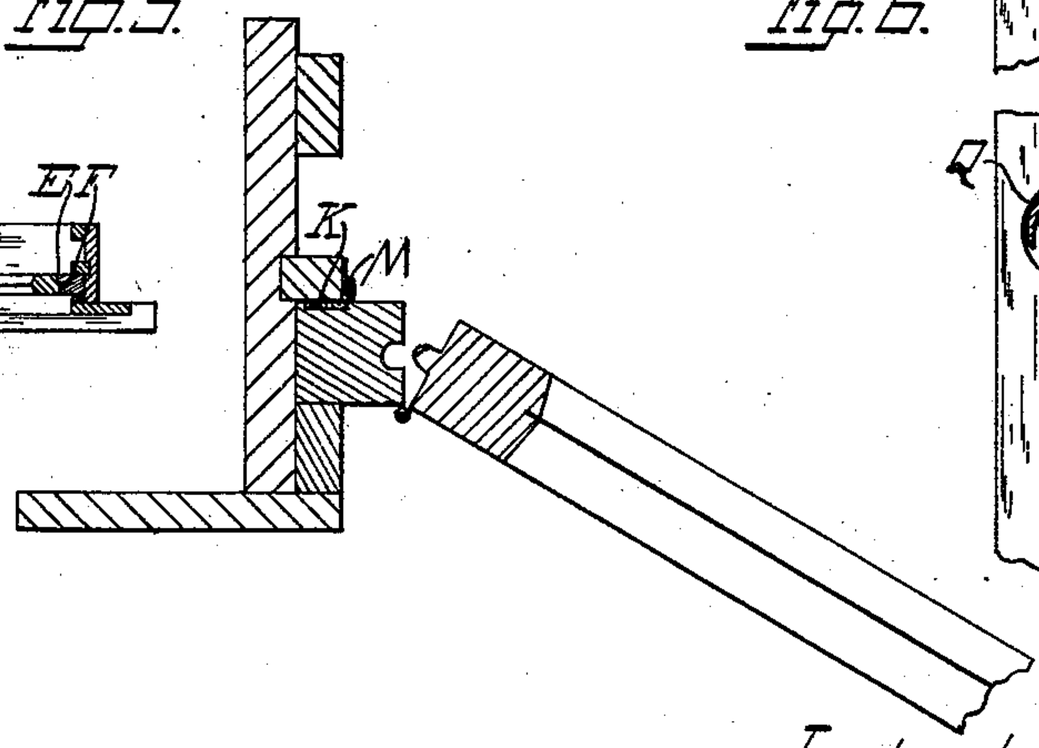


Fig. 6.

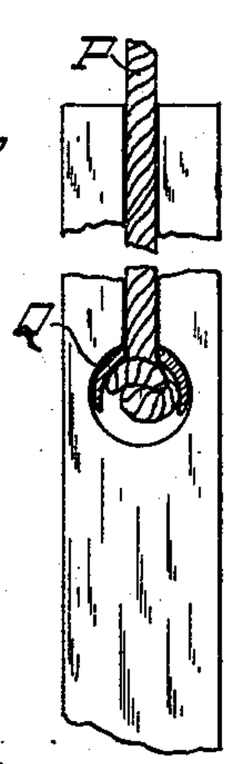
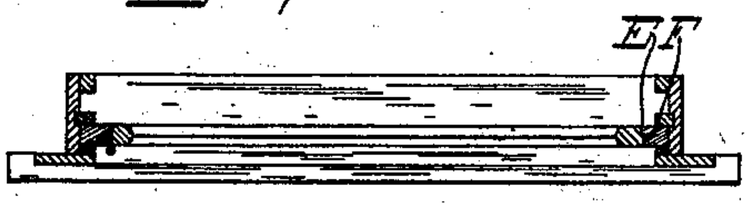


Fig. 4.



Witnesses:

Fred A. Otto.

E. W. Sawyer

Inventor

Frank C. Armbruster

By Erwin Wheeler & Wheeler

Attorneys.

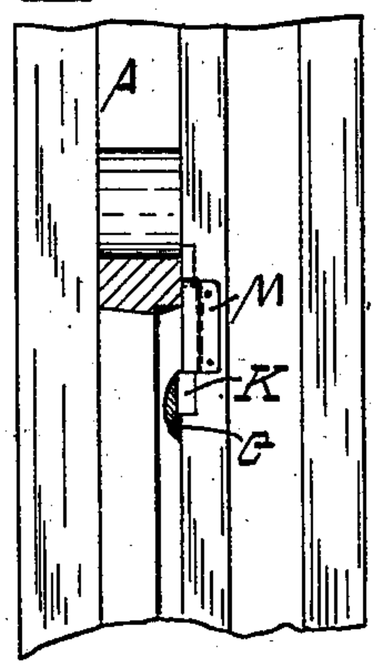
(No Model.) 2 Sheets—Sheet 2.

F. C. ARMBRUSTER.

WINDOW.

No. 549,483. Patented Nov. 12, 1895.

Fig. 7.



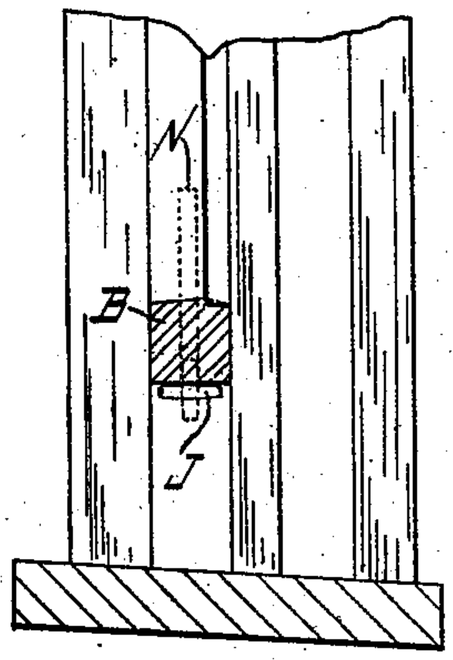


Fig. 8.

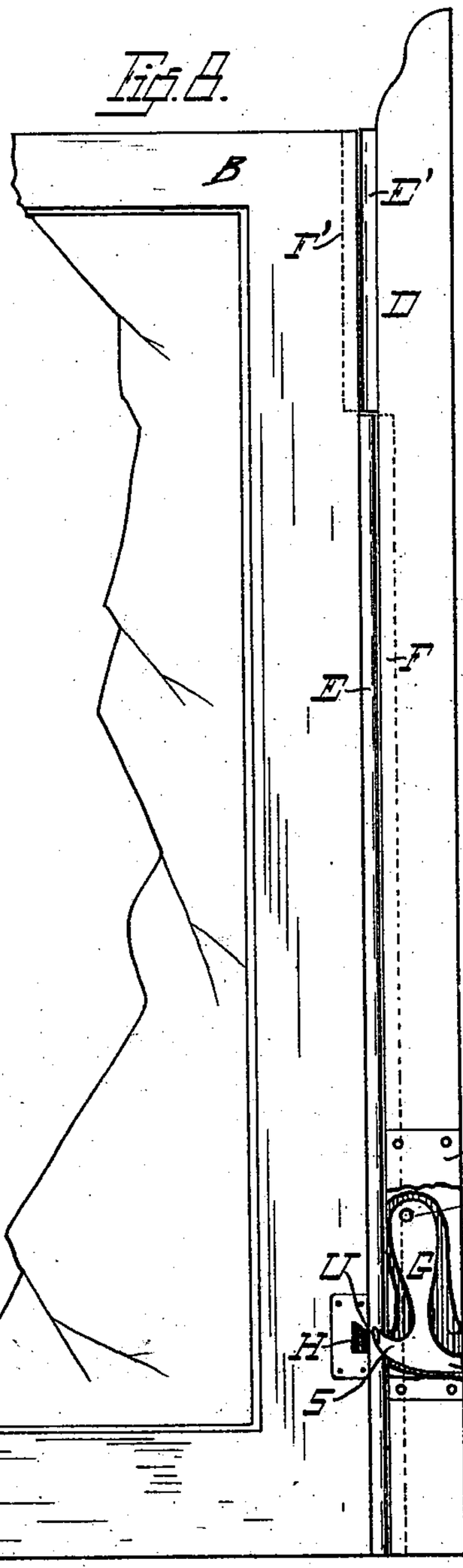


Fig. 9.

Witnesses:
Ferd. A. Otto.
Lill Pfefferkorn.

Inventor
Frank C. Armbruster
By Erwin Wheeler & Wheeler
Attorneys.

UNITED STATES PATENT OFFICE.

FRANK C. ARMBRUSTER, OF MILWAUKEE, WISCONSIN.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 549,483, dated November 12, 1895.

Application filed June 27, 1895. Serial No. 554,195. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. ARMBRUSTER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Windows, of which the following is a specification.

My invention relates to the construction of windows, and pertains especially to certain novel and useful improvements in that form of construction described in the specification forming part of Letters Patent of the United States No. 503,189, issued to me on the 15th day of August, 1893.

The object of my present invention is, first, to provide a more adequate means for controlling the movement of the sliding strips and for locking them to and releasing them from the sash; second, to provide a more simple, neat, and durable construction than that heretofore used.

In the following description reference is had to the accompanying drawings, in which—

Figure 1 is an elevation showing my window as viewed from the interior of the building. Fig. 2 is a similar view with the upper sash removed, and showing the lower sash as it is when swung upon its hinges for the purpose of washing the window. Fig. 3 is a left-hand section view drawn on the line *x x* of Fig. 2. Fig. 4 is a section view drawn on the line *y y* of Fig. 1. Fig. 5 is an enlarged detail section view drawn on the line *z z* of Fig. 3, and showing the stop for holding the left-hand strip in position when the window is swung upon its hinges. Fig. 6 is a detail view showing the knot-engaging bulb of the weight-cords. Fig. 7 is an enlarged view of the section shown in Fig. 3 with the center broken away. Fig. 8 is a side view of the right-hand edge of the window-sash and strip slightly separated with a portion of the side of the strip broken away to disclose the hammer-shaped catch. Fig. 9 is an edge view of the right-hand side of the strip, showing the projecting lug of the hammer-shaped catch.

Like parts are identified by the same reference-letters throughout the several views.

A is the window-casing.

B and B′ are the lower and upper sash, respectively, each hinged to vertically-sliding strips C and C′, the latter being arranged to move in guideways in the window-casing similar to those ordinarily used for the retention of the sash.

D and D′ are similarly-disposed strips on the right-hand side detachably connected with the sash, as hereinafter explained.

The balance-weights are connected to the strips and the sash supported thereby, as described in my former patent; but my present invention differs from that described in my former patent in the following particulars:

Referring to the lower sash on the right-hand side, the edge of the sash B is provided with the tongue E, extending from the bottom to within a short distance from the top of the sash, and the strip D is provided with a corresponding channel or groove F, into which the tongue E is adapted to fit, as best shown in Fig. 8. Near the top of the sash this matching is reversed, the strip D being provided with the tongue E′ and the sash having the corresponding groove F′. With this arrangement it is obvious that when the sash is raised the strip is necessarily raised also, moving in the guideway of the window-casing as if formed integrally with the sash; but when the sash is lowered it tends to leave the strip in its raised position, thus freeing the former and permitting it to be swung upon its hinges; but as it is desirable to always hold the sash and strip together, except when the window is to be swung open or removed, I have provided the strip D with a two-way catch G, somewhat hammer-shaped when viewed from the side, as best shown in Fig. 8. This catch is located in a recess R in one side of the strip D and pivotally supported at *g*, the weight of the catch tending to cause it to hang normally with the claw or hook S projecting in the path of the edge of the sash. The recess R is covered by a plate T, provided with a slot T′, through which the lug U projects from the tip of the claw S, thus providing means for disengaging the catch from the window-sash.

It will be observed that when the sash and strip are brought together along their entire length the recess H in the sash is opposite the claw or hook S, and the weight of the catch G causes the claw S to automatically engage in the recess H, thus preventing the sash and strip from separating when the former is drawn downward; but it will be observed

that when raised to the position of the strip, as shown in Fig. 2, the claw S may be withdrawn from the recess H by pushing on the lug U, thus causing the stop V to engage in the recess I in the window-casing. The strip is thereby held securely in its raised position, and the sash D can be drawn downwardly until the tongue E is withdrawn from the channel F, thus permitting the sash to be swung upon its hinges. When the sash is again closed, it is raised alongside the strip until the tongue E of the sash engages under the tongue E′ of the strip, lifting the latter slightly and permitting the catch G to swing forward automatically to release the stop V from the recess I and engage the claw S in the recess H. The sash and strip can then be moved together into place and remain together at all times, except when disengaged by pressure on the lug U when the sash is in its raised position.

J is a button attached to the left-hand side of the casing in the path of the strip C, and K is an L-shaped flange attached to the side of the strip near its top and adapted to engage with the stop M of similar shape attached to the window-casing and adapted to prevent the strip from falling outwardly when the lower end of the strip rests upon the button, as shown in Fig. 3. The object of this construction is to prevent the window-sash from falling out when disengaged from the strip D on the right-hand side. The hinged strip being held at the top by the flange K and supported at the bottom by the button J, it is obvious that the window may be swung open without falling out, while at the same time it is supported on the bottom free from contact with the window-sill; but when it is desired to close the window the button is turned to a vertical position and is then adapted to fit into the channel N and permit the strip to be lowered into contact with the sill.

It is obvious that as the sash is lowered past the button the flange K is released from the stop G, and the sash and strip C can then be readily removed from the casing, if it is desired to remove the window.

The connecting weight-cord P is inserted through the knot-retaining bulb Q, the latter being shaped like an inverted cup and adapted to fit into a recess in the edge of the strip, thus inclosing the knot and preventing the frayed end of the rope from getting caught between the strip and the guideway of the casing.

The upper and lower sash being both constructed in the manner herein described, it is obvious that both can be swung into the building and washed or removed from the casing when it is desired to make repairs.

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

1. The combination with the casing and sash of a window, of the vertically sliding hinged strip located on one side of the window sash, and the detachable sliding strip located on the other side of the sash and provided with the tongue E′, and groove F′, the edge of the sash being provided with the counter-groove F and tongue E, together with a locking device for temporarily holding the strip in engagement with the sash, during the downward movement of the latter, substantially as described.

2. The combination with the casing and the sash of the window, of the sliding hinged strip located on one side of the window casing and the detachable sliding strip located on the other side of said casing, the flanges K and M attached to the hinged strip and the window casing respectively, and adapted to engage with each other when the sash is near the lower sill, together with the button or stop adapted to hold the window with said flanges in engagement, when the former is swung upon its hinges, said button or stop being adapted, when turned vertically, to fit into a channel or recess in the rear of the strip, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

FRANK C. ARMBRUSTER.

Witnesses:

E. J. PATTERSON,

LEVERETT C. WHEELER.