

W. Russell
Cotton & Hay Press

No. 74603

Patented Feb. 18. 1868

Fig. 1.

Fig. 2.

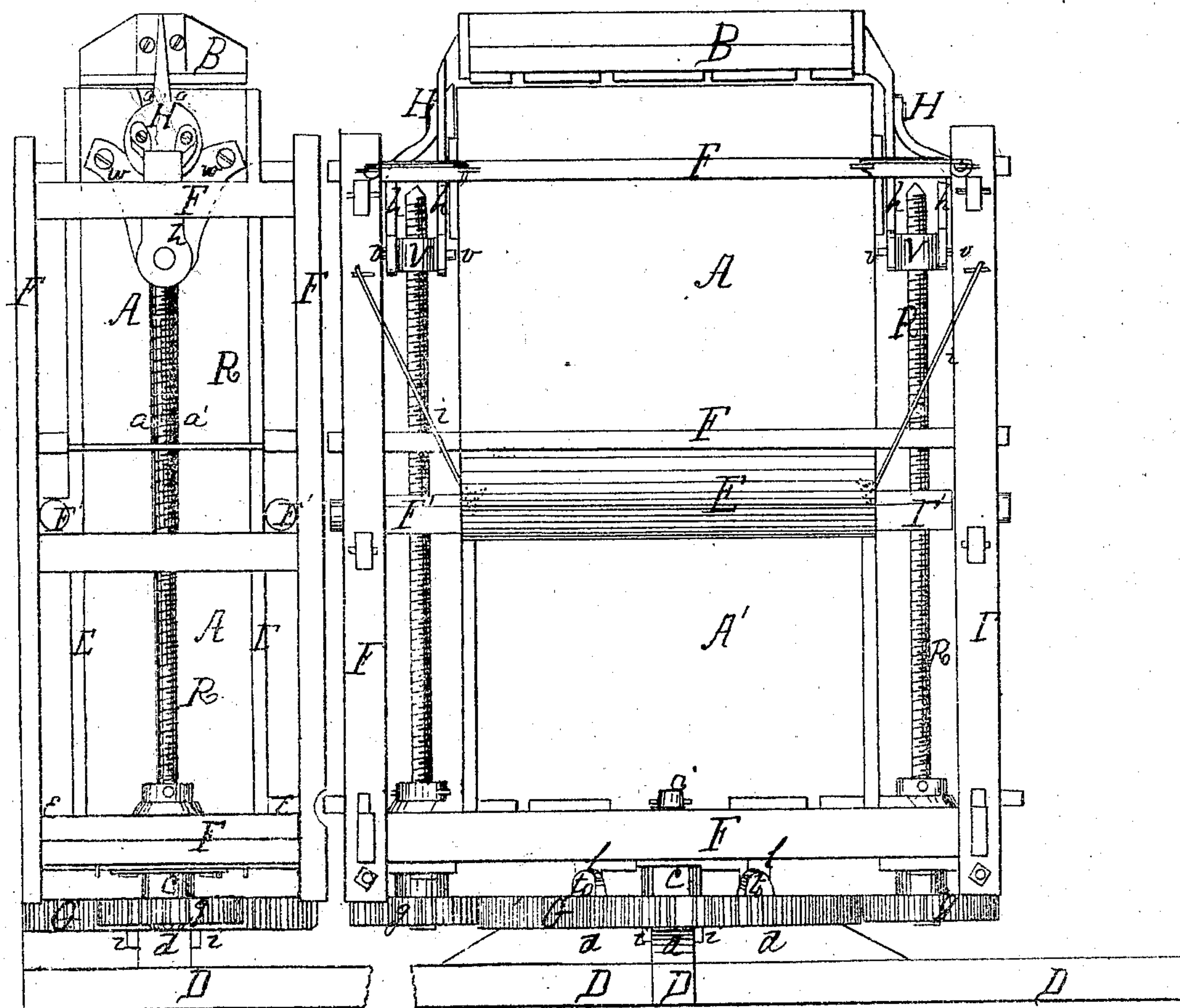
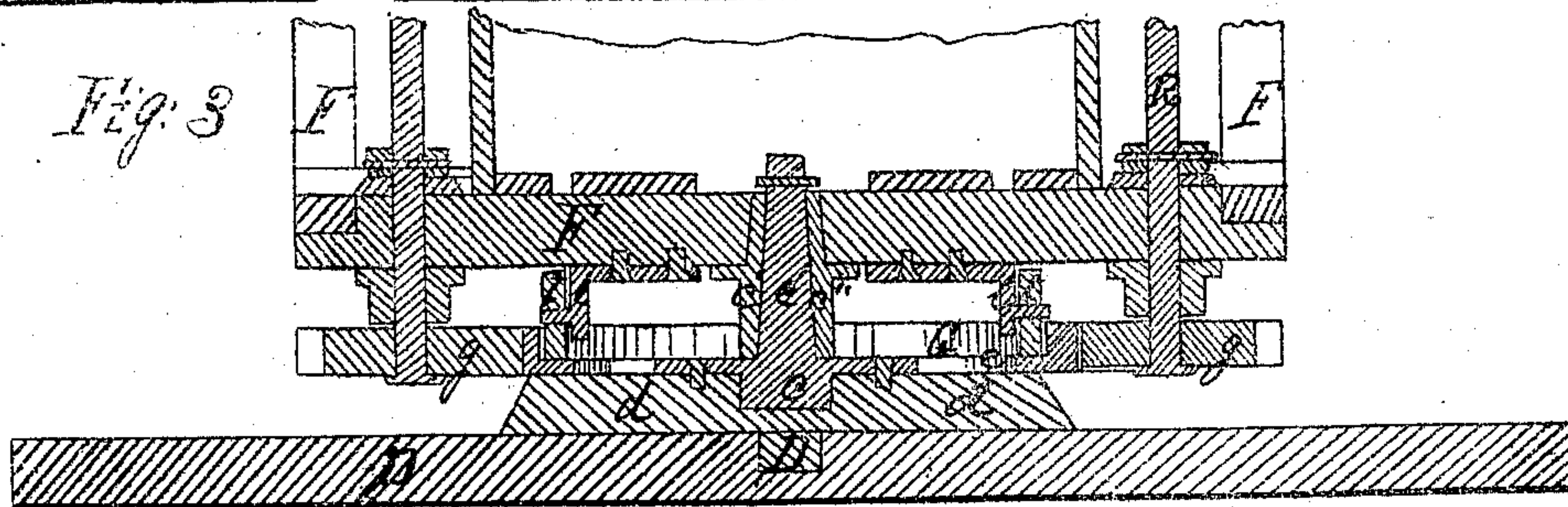


Fig. 3.



WITNESSES

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WILLIAM RUSSELL, OF ATLANTA, GEORGIA, ASSIGNOR TO HIMSELF AND
GEORGE WINSHIP, OF SAME PLACE.

Letters Patent No. 74,603, dated February 18, 1868.

IMPROVED COTTON AND HAY-PRESS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM RUSSELL, of Atlanta, in the county of Fulton, and State of Georgia, have invented a new and improved Cotton and Hay-Press; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, and in which—

Figure 1 is an end view of my invention.

Figure 2 is a side elevation of the same; and

Figure 3 is an axial section through the lower part of the same.

This invention relates to that class of presses in which the power is applied to the follow-block by revolving the press-box.

My improvement consists in working the follow-block upon two screw-rods, in a device for causing the follow-block to adjust itself, and in a device which enables the apparatus to be used as a stationary or portable press, and to be worked either by rotating the press-box upon a fixed wheel, or rotating the wheel while the box is stationary.

Similar letters of reference indicate corresponding parts in the several figures.

In the drawings, A represents the box, B the follow-block, and F F the frame which supports the box. In fig. 2, the lower part of the box A' is represented as being open, a portion, E, of one or two sides being made so as to open vertically for the removal of the bale. F' is a roller, supporting the doors E of the press, and allowing it to open, as above described. When open, it is supported at the outer edge by rods or chains, r r. e e are bars, which confine the doors in position when closed. D D are two bed-pieces or sleepers, crossed at right angles at their centre and framed together. Upon them rest two similar short pieces d d, so connected with the lower timbers as to be easily detached from them when desired. At the centre of the pieces d d, on their upper surface, is fixed a brass, cast-iron, or chilled plate, c, having a central vertical spindle, c', projecting upward from it, and working in a box or socket, c'', in the centre of the bottom of the box A, for the purpose of supporting the latter and allowing it to rotate easily. G is a large gear-wheel, resting on the pieces d d, and prevented from turning by lugs i i, between which the timbers d d closely fit. Around the lower inner edge of the rim of this wheel a flange, o, projects inward all around the wheel, forming a track upon which travel four rollers or trucks, t t, working in pins projecting from lugs l l, fixed to the under side of the box. These rollers are not to support the weight of the box, but are to steady the box when it is nearly filled with hay, cotton, &c., and becomes top heavy. On each side of the box is a stout vertical screw rod, R R, having fixed to its lower end a small gear-wheel g g, gearing into and rotated by the wheel G, and thus turning the screw-rods. From each end of the follow-block projects a stout arm, H, of the form shown in the drawings, extending from the follow-block through a long vertical slot in the ends of the box, then bending down and dividing into two stout plates or lugs h h, which receive and support trunnions v v of a nut, V, through which passes the screw-rod R. The top of the slots in each end of the box is seen at a, fig. 1, where the slot widens out to receive the arm H, when it is raised above the box, and guide it into the slot. The main portion of the slots can be seen in black lines at a' a', fig. 1, behind the screw-rod R, and extending down as far as it is necessary for the arm H to descend with the follow-block. Guide-plates w w may be fixed to the end of the box, to aid in conducting and steadying the arms H H into their proper position as the follow-block enters the box and begins to descend.

The operation of a press thus constructed is as follows: The box and frame, supported as described, are turned slowly by any convenient power. As the box turns, the small gear-wheels g g are rotated by contact with the large wheel G, and turn the screw-rods R R on each end of the box, screwing the nuts V V up or down, as the case may be, and with them the arms H H, in which the trunnions bear, and the follow-block B to which the arms are fixed. The follow-block is thus made to ascend or descend through the whole length of the box A, as far as desired. The screw-rods project upward far enough to elevate the follow-block entirely above the top of the box, as seen in figs. 1 and 2. When in that position it can be turned over away from the top of the box

so as to completely uncover the entrance to the box, and remove all obstructions to the feeding of the cotton, &c., to the press. The arms H H working on the trunnions *v v*, freely allow of this, and when the screw is operated again, and the follow-block begins to descend, the expanded upper extremity *a a* of the slots *a' a'*, intercepts the arms and guides them and the follow-block into position again.

I have thus far been describing the press as it works when operated as a portable press. When it is desired, however, to use it in a gin-house or in any building as a stationary press, it may be suspended near its middle from some floor of the building, so as to leave the upper portion, A, of the press above, and the lower portion A' below the floor. The lower crossed timbers D D are then to be removed, which may be easily done, as they are constructed with a view to that purpose. Having removed them, the operator will then attach a suitable sweep to the large gear-wheel G, or to the short crossed timbers *d d* connected with it, and apply his power by means of the sweep. The box being stationary, and the wheel G rotating by the power applied at the sweep, the operation of the press will be the same as above described. When the follow-block is elevated and rests on one side of the top of the box out of the way, its weight will be mainly supported by the guide-pieces *w w*, upon which rests a projection from the inner side of the arms H H, thus pivoting the arms, as it were, upon the guide pieces. At the instant the power is now applied, it operates upon the lower extremity of the arms, pulling them down and raising their upper ends to a vertical position, thus bringing the follow-block directly over the press-box again. The rollers *t t* will support the box in case the spindle *c'* should be broken or damaged. The press will operate well by thus using the rollers without the spindle, though, as before remarked, the primary object of the rollers is to steady the press, not to furnish means for rotating it.

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

1. I claim, when used in a cotton and hay-press, the combination of the stationary vertical screw-rods R R with the movable nut V, having the trunnions *v v*, and the arms H H, for the purpose of moving the follow-block up and down, while allowing it to be turned aside from the top of the press-box, all the parts referred to operating substantially in the manner and for the purposes specified.

2. The bent arms H H attached to the follow-block, and provided with ears *h h*, which are supported by and pivoted upon a nut or other device, working up and down by the action of screw-rods R R, substantially as and for the purpose set forth.

3. The gear-wheel G, provided with the inner rim *o o*, and fixed to the wooden beams *d d*, substantially as and for the purpose set forth.

4. The combination of the screw-rods R R with a follow-block fixed to pivoted arms, so as to turn back away from the top of the press-box when elevated above it, substantially as described.

5. The combination of the press-box A with the gear-wheels G *g*, screw-rods R R, arms H H and follow-block B, all the parts being constructed and operating together substantially in the manner and for the purposes specified.

To the above specification of my improvement, I have signed my hand, this first day of October, 1867.

WM. RUSSELL.

Witnesses:

JAMES H. GRIDLEY,
N. K. ELLSWORTH.