

(No Model.)

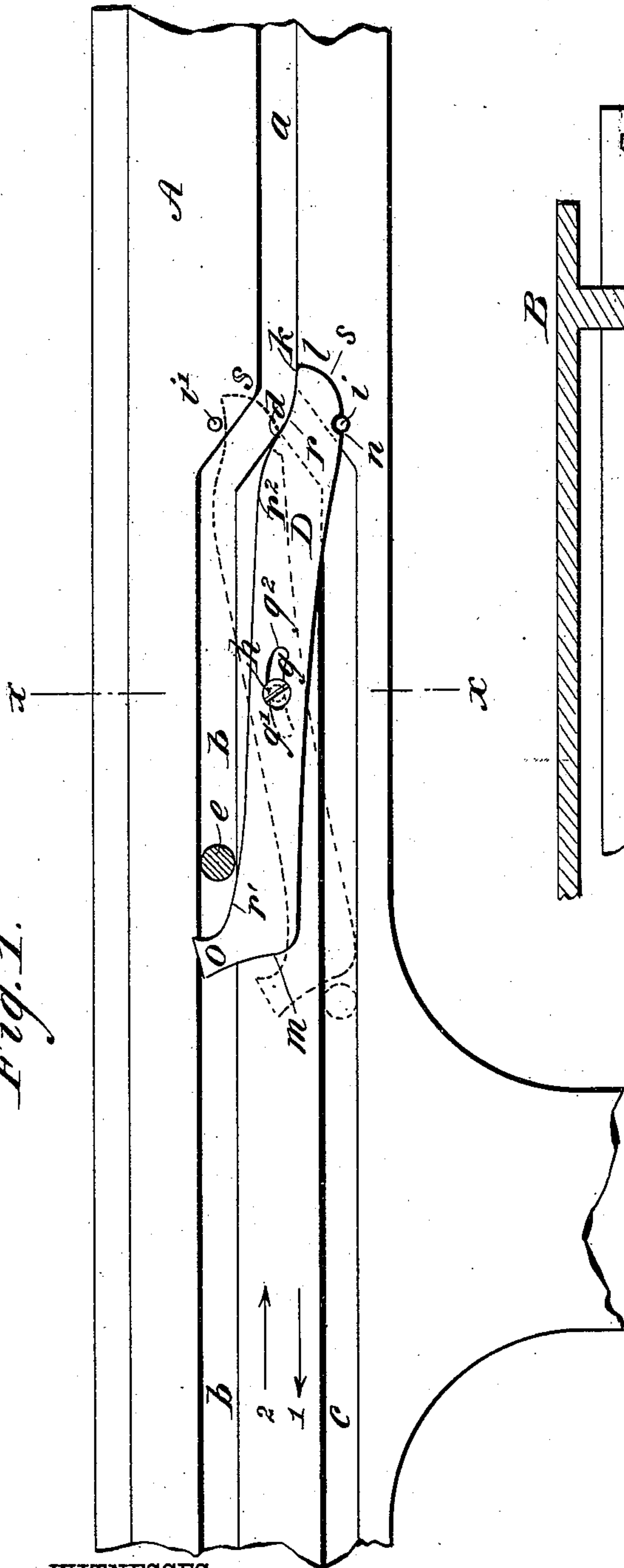
C. GARFF.

AUTOMATIC SWITCH FOR DOVETAILING MACHINES.

No. 333,295.

Patented Dec. 29, 1885.

Fig. 1.

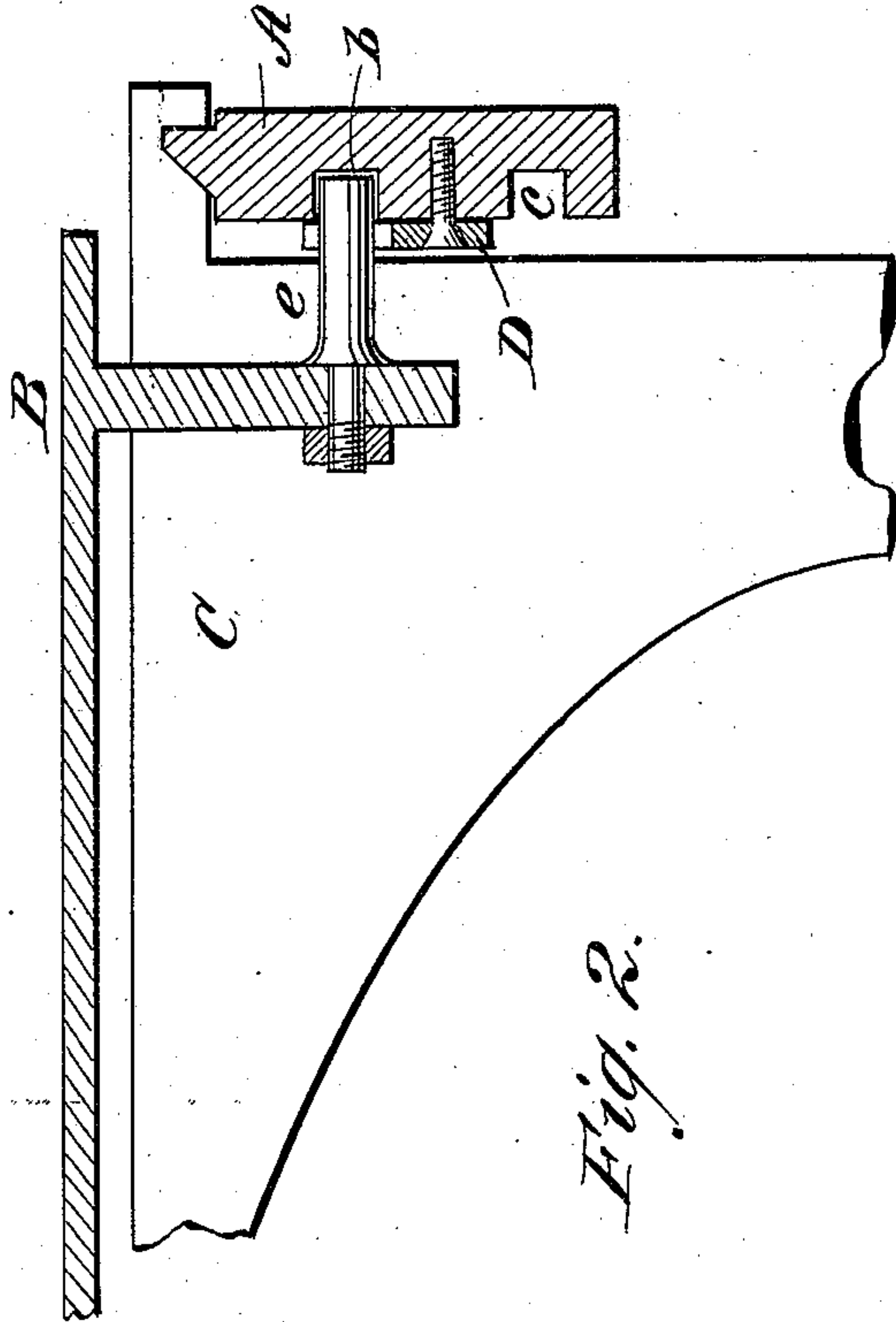


WITNESSES:

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Fig. 2.



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CHRISTIAN GARFF, OF LOGAN, UTAH TERRITORY.

AUTOMATIC SWITCH FOR DOVETAILING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 333,295, dated December 29, 1885.

Application filed August 29, 1885. Serial No. 175,640. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN GARFF, of Logan, in the county of Cache and Territory of Utah, have invented a new and Improved Automatic Switch for Dovetailing-Machines, of which the following is a full, clear, and exact description.

My invention relates to the construction of a device for automatically tilting the table on the reciprocating carriage of a dovetailing-machine; and it consists of a switching-bar pivoted to the side frame so that its point will project beyond the frog, and guide the controlling-pin of the tilting table into the desired groove upon the side of the frame of the machine.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a view of the grooved side rail of a dovetailing-machine with my improved automatic switch applied thereto; and Fig. 2 is a sectional view taken on line *x x* of Fig. 1, which also represents portions of the reciprocating carriage and tilting table.

A represents the side rail of an ordinary form of dovetailing-machine. In this rail A there are formed the usual grooves, *a*, *b*, and *c*, the grooves *b* and *c* branching off from the groove *a* at the point *d* to form the upper and the lower tracks for the pin *e* of the tilting table B of the reciprocating carriage C.

Prior to my invention it has been necessary for the operator to guide the pin *e* into either the upper or the lower tracks, as the necessities of the case required, and to do this the right hand was necessarily employed; but with my automatic switch the operator's right hand is left free, so that with it he can turn the strip of wood he is operating upon end for end while he is drawing the carriage back with his left hand, whereby he is enabled to do at least twenty-five per cent. more work in the same length of time.

This switch (shown at D) consists of a flat bar formed with a central longitudinal slot, *g*, through which there is passed a set-screw, *h*, which serves as the pivotal connection with the side rail, A, the switch being so mounted that its point *k* projects slightly beyond the end of the groove or track *a*. The upper side

of the end of the switch marked *k* is curved downward and then forward, so that at the extreme point *k* the upper side is about in line with the vertical center of the bar from which the switch is formed. The under side of the bar at the end in question is rounded off, as shown at *l*, and at *n* there is a notch arranged to engage with a limit-pin, *i*, a second limit-pin, *i'*, being fixed to the frame above the diverging grooves, to define the upward throw of the point *k*. The heel of the switch (shown at *m*) is rounded off, and projects upward at an incline above the upper side of the switch-bar to form the projection *o*, the forward side of which is rounded as shown.

The operation of the switch is as follows: When the carriage is moving in the direction of arrow No. 1, and the switch is in the position shown in full lines in Fig. 1, the pin *e* will be guided from the groove *a* into the groove *b* by the upper face, *r*, of the point of the switch D. The continued movement of the pin *e* through the groove *b* will bring it against the surface *r'* and slightly depress the heel of the switch, thereby breaking the connection between the notch *n* and the pin *i*, so that as the pin continues to advance and strikes the projection *o* it will carry the switch with it until the movement of the switch is stopped by the set-screw *h* striking the end *g'* of the slot *g*. This movement of the switch will overbalance it, and cause it to drop to the position shown in dotted lines, where it is held by the pin *i'*. When the carriage returns in the direction of arrow No. 2, the groove *b* will be clear until the pin *e* strikes the surface *r''* and depresses the point of the switch to run into the groove *a*, after which the switch at once returns to its position against the pin *i'*, so that when the carriage again moves forward in the direction of arrow No. 1 the pin *e* will be guided into groove *c*, simply lifting the heel of the switch in its passage. When, however, the carriage returns in the direction of arrow No. 2, the pin *e* will strike the heel of the switch and carry it along until the end *g'* of the slot *g* strikes against the set-screw *h*, and the point of the switch drops onto the pin *i*, the pin *e* simply raising the point of the switch to pass into the groove *a*. This operation is repeated in the order named, so that the pin *e* rides alternately in the grooves

b and *c*. Such a switch as I have described saves both time and material, as the operator cannot possibly make mistakes by forgetting which way he has switched.

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

1. In a dovetailing-machine, the combination, with the tilting table provided with a pin, of the side rail formed with grooves and provided with a switch formed with an elongated slot, and connected to the rail by a set-screw, substantially as described, and for the purpose specified.

15 2. The combination, with the tilting table carrying the pin *e*, of the side rail, *A*, formed with grooves *a*, *b*, and *c*, and provided with a switch, *D*, which is connected to the rail by a screw, *h*, that passes through a slot, *g*, substantially as described.

3. The combination, with the tilting table *B*, carrying a pin, *e*, and the side rail, *A*, formed with grooves *a*, *b*, and *c*, of a switch, *D*, formed with a slot, *g*, heel *m*, and point *k*, and connected to the rail by a screw or bolt 25 which passes through the slot *g*, substantially as described.

4. The combination, with the tilting table *B*, carrying pin *e*, and the side rail, *A*, formed with grooves *a*, *b*, and *c*, and having projecting pins *i i'*, of a switch, *D*, formed with a slot, *g*, and connected to the rail by a screw which is passed through said slot. 30

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Witnesses:

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