W. H. VAN SICKLER, Jr.

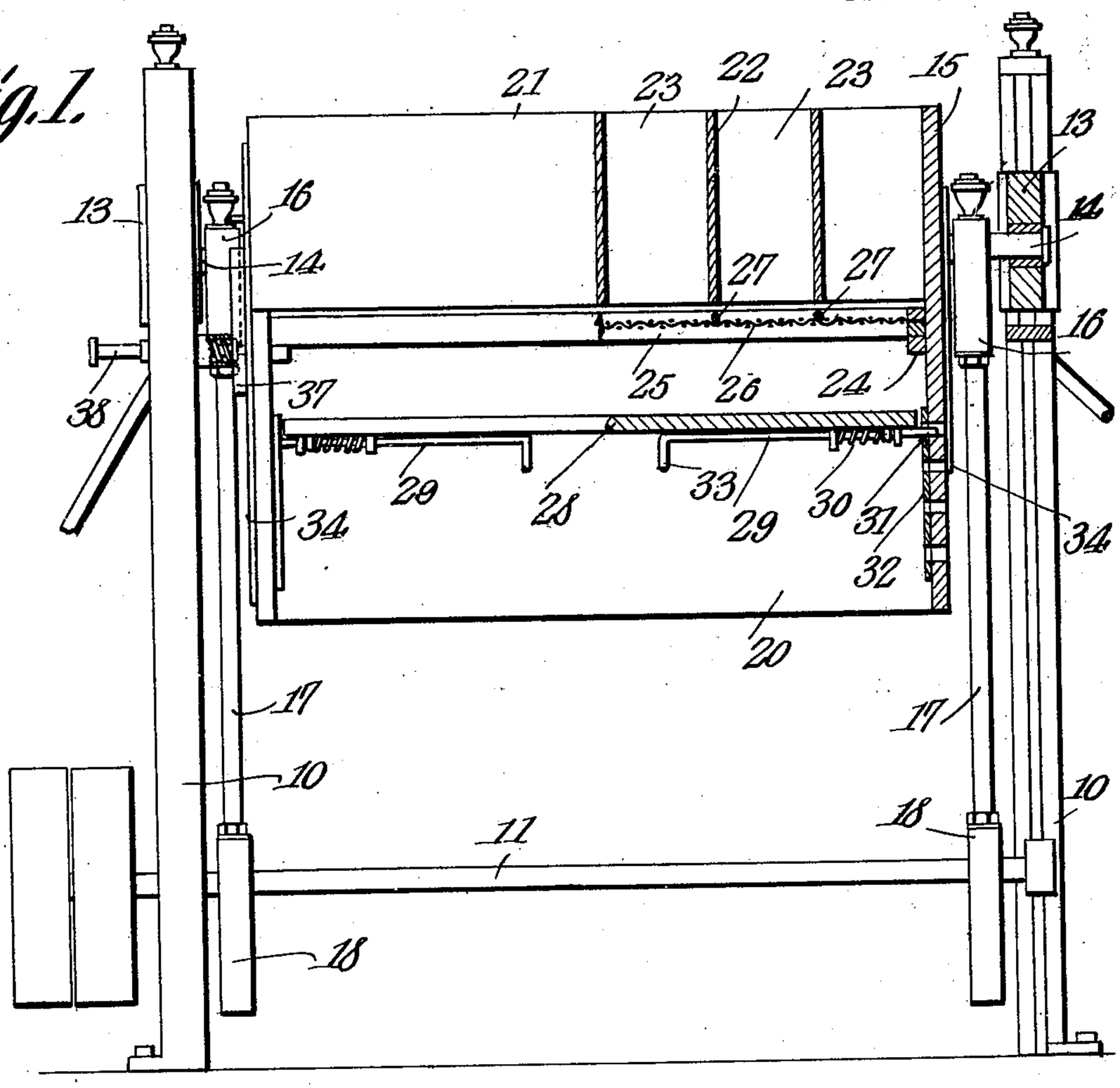
MACHINE FOR REMOVING STEMS FROM BROOM CORN.

APPLICATION FILED DEC. 16, 1908.

925,615. Patented June 22, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



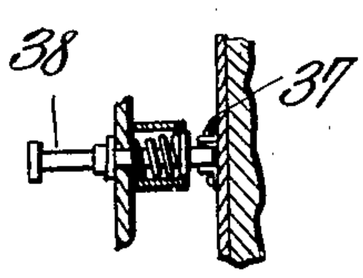


Fig. 5.

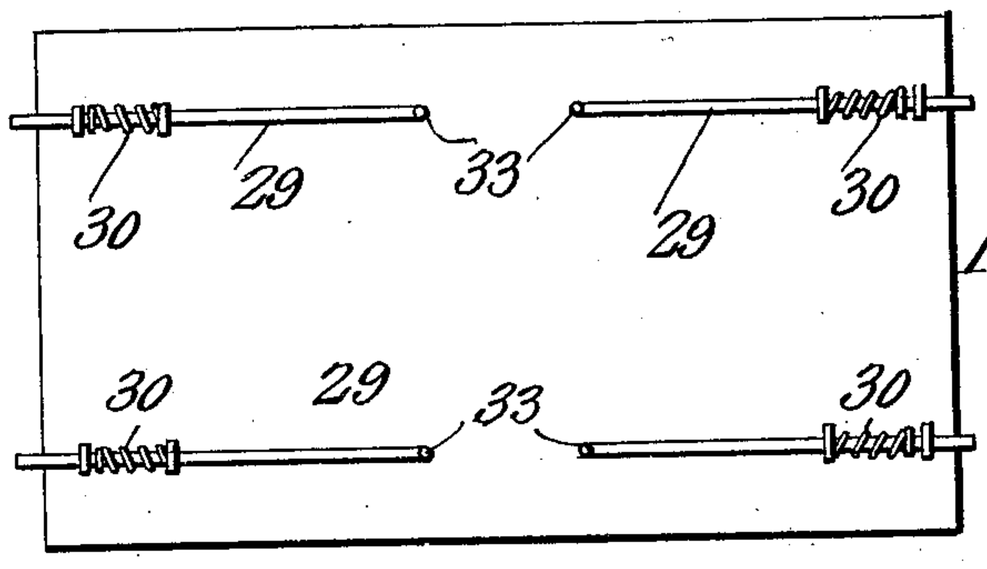


Fig. 4.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

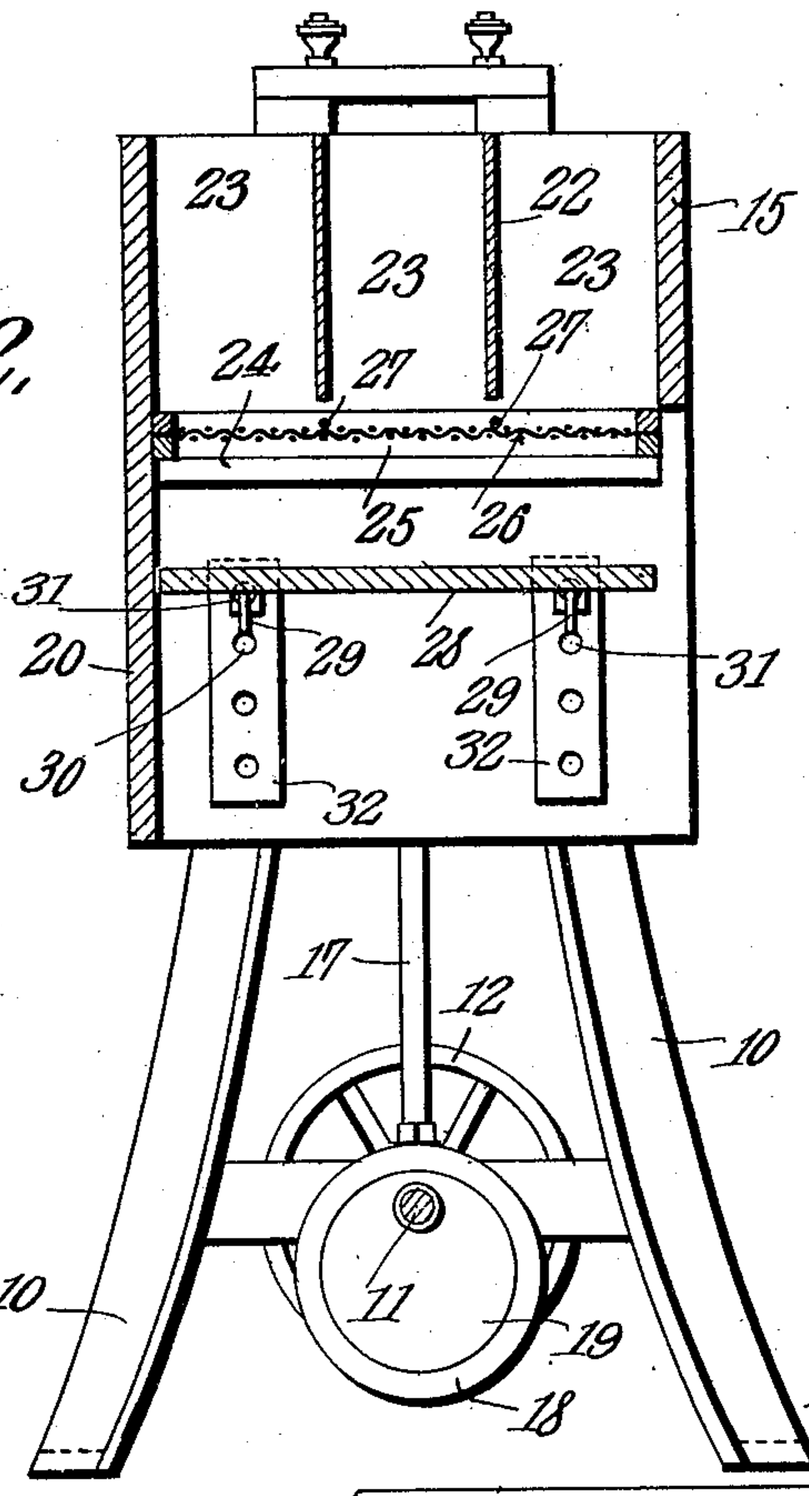


Fig. 6.

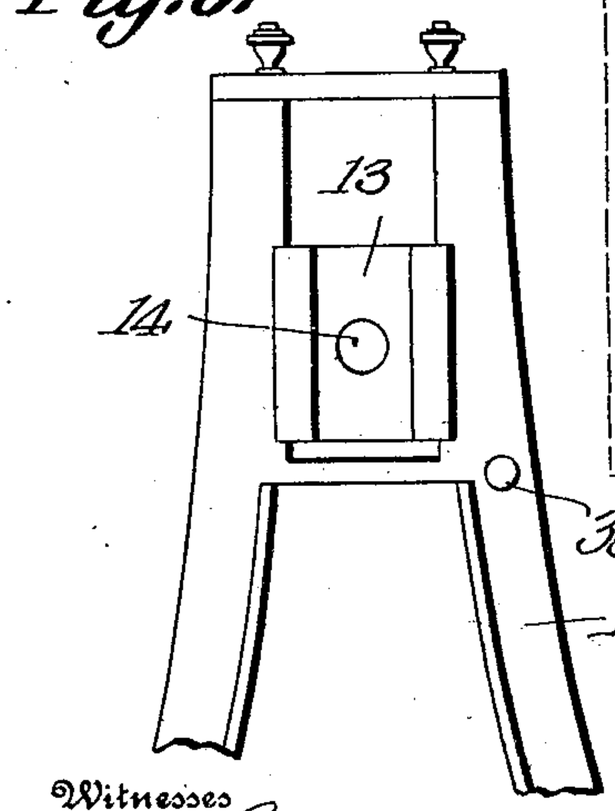
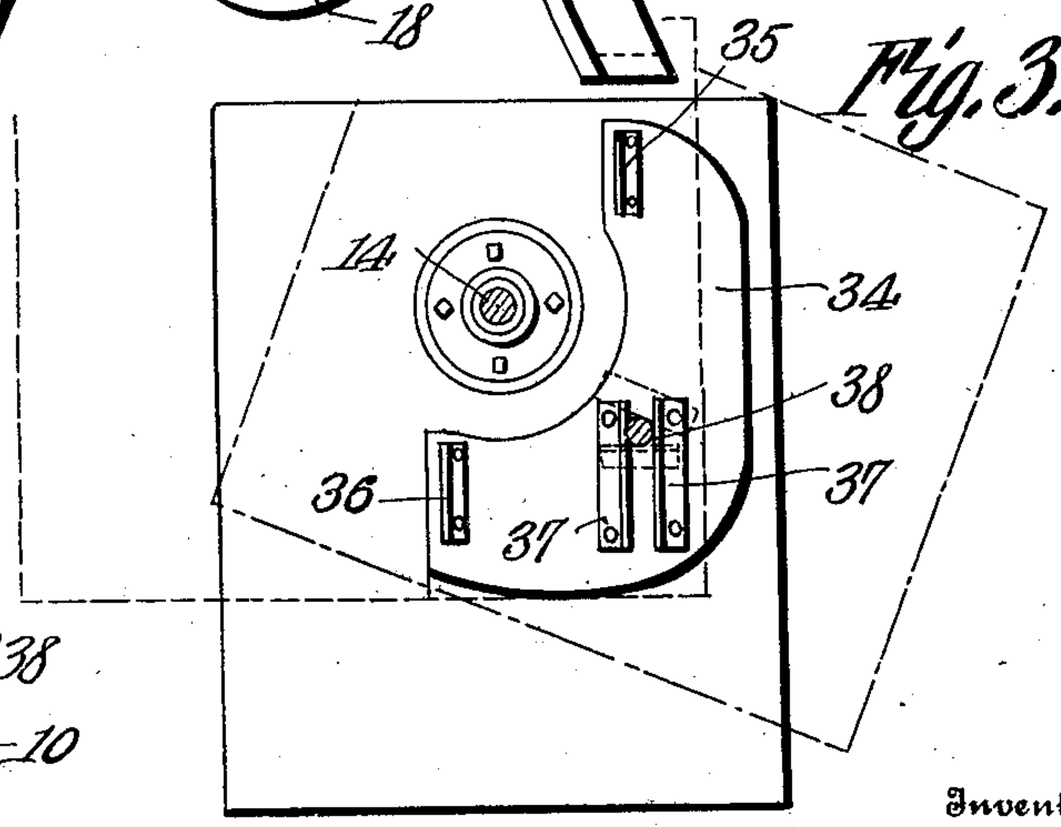


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. VAN SICKLER, JR., OF AMSTERDAM, NEW YORK.

MACHINE FOR REMOVING STEMS FROM BROOM-CORN.

No. 925,615. Specification of Letters Patent. Patented June 22, 1909.

Application filed December 16, 1908. Serial No. 467,910.

To all whom it may concern:

Be it known that I, WILLIAM H. VAN SICKLER, JR., a citizen of the United States, residing at Amsterdam, in the county of Montgomery and State of New York, have invented a new and useful Machine for Removing Stems from Broom-Corn, of which the following is a specification.

It is the primary object of the present invention to improve, generally, the construction of broom corn stemming machines, and one of the primary objects of the invention is to provide a machine of this class which may be adjusted to act upon broom corn whisks of various length, and which may be so adjusted, subsequent to the stemming operation, as to permit of ready removal of the stems of whisks, with a minimum loss of material.

Broadly speaking, the method involved in the present invention resides in placing bunches of the broom corn whisks in compartments formed in a vertically reciprocatory box, with their butt ends resting upon a stemming screen, and then reciprocating the box so as to cause the whisks to gradually feed down through the meshes of the screen, until their butt ends rest upon a fall board supported beneath the screen, it being understood that the stemming operation is performed by the passage of the whisks through the stemming screen, and that the fall board serves to even the butts of the whisks.

In the accompanying drawings:—Figure 1 is a front elevation of the machine, embodying the invention: Fig. 2 is a vertical sectional view, taken in a plane from front to rear therethrough: Fig. 3 is an end view of the box of the machine, showing, in dotted lines, the tilted adjustment which it may be caused to assume: Fig. 4 is a bottom plan view of the fall board of the machine: Fig. 5 is a detail vertical sectional view, showing the means for holding the box in tilted adjustment: Fig. 6 is a detail view, in elevation, of the portion of the frame in which the box of the machine is mounted.

As shown in the drawings, the machine embodying the invention includes a pair of spaced upright frames 10, in which is journaled a horizontal shaft 11, having loose and fast pulleys 12 upon one end thereof, for the attachment of a drive belt, whereby the shaft may be rotated. The upper end of each frame is open, and is arranged to receive a vertically reciprocating slide-block 13, in which are journaled the stub shafts 14, which are secured upon the end walls of a rectangular box 15. These stub shafts 14 also extend through bearing heads 16, at the upper ends of eccentric rods 17, which, at their lower ends, are connected to eccentric straps 18, upon eccentrics 19, fixed upon the shaft 11; it being understood that rotation of the shaft 11 will result in the slide-block 13 being reciprocated rapidly in a vertical plane, together with the box 15, which is supported between them, through the medium of the stub shafts 14. The rear wall of this box 15 is indicated by the numeral 20, and the front wall by the numeral 21, and whereas the rear wall is of a height equal to the height of the end walls 15, the front wall 21 terminates preferably above the middle of the box, as is clearly shown in Figs. 1 and 2 of the drawings. That portion of the box which is defined by the four walls thereof is divided, by means of intersecting, vertically extending partitions 22, into a number of compartments 23, in which the bunches of whisks to be stemmed are to be placed, it being understood that these compartments are open at both their upper and lower ends.

Cleats 24 are secured one upon the inner face of each end wall 15, and support a removable stemming screen, comprising a frame 25, a screen surface 26, and transverse and longitudinal brace rods 27, which latter are so relatively arranged as to extend beneath the partitions 22, to avoid interference with the passage of the whisks of broom corn through the screen.

It will be understood of course that in operation the bunches of whisks of broom corn are placed within the compartments 23 with their butt ends down, and the box 15 is then reciprocated vertically rapidly, so as to gradually work the whisks down through the meshes of the screen sheet 26, in this manner performing the stemming operation. In order to limit the downward feed of the whisks through the screen meshes and to even

their butt ends, and further to provide means whereby the machine may be adjusted to act upon whisks of various lengths, a suitable fall board 28 is supported within the lower portion of the box 15 by means of latches 29, which are mounted upon its upper surface, and are normally held by means of springs 30, engaged thereon, with their outer ends seated in openings 31, formed in the end walls of the box 15, and in plates 32, which are secured upon the said inner faces of the said end walls. The openings 31 are arranged in vertical series and the extremities of the latches are engageable in the openings interchangeably, so that the fall board may be supported at various elevations within the lower portion of the box 15, for the purpose above stated, it being understood that where short whisks are to be stemmed, the board is adjusted to a plane above that in which it is arranged when long whisks are to be stemmed. The inner ends of the latches 29 are provided with handles 33, whereby the latches may be retracted to drop or remove the fall board 28.

From the foregoing description of the invention, it will be understood that after the bunches of whisks have been fed through the screen and their butt ends have been evened upon the fall board 28, the whisks are to be removed from the box, and, in order that this may be accomplished, I provide means for holding the box in such position as will more readily permit of the removal of the bunches of whisks, and such means will now be described.

Secured upon the outer face of one end wall of the box 15 is a plate or casting 34, upon which are formed or secured stops 35, 36, and 37, there being a pair of the latter, arranged at a point intermediate of the former. When the box 15 is in vertical or normal position, the pair of stops 37, which are spaced in parallel relation, are in vertical position, and a spring-pressed pin 38, carried by one of the frames 10, engages between the said stops of the pair 37, and holds the box in vertical or normal position while it is being rapidly reciprocated, as heretofore described. In filling the box with bunches of whisks, the same is tilted to horizontal position, as illustrated in dotted lines in Fig. 3, and is held in position, with the upper end of the box presented forwardly, or toward the operator, by the engagement of the stop 35 with the pin 38. After the stemming operation has been completed, and it is desired to remove the bunches of whisks, the box is tilted with its upper end presented rearwardly upwardly, and its lower end in the direction of the operator, as is clearly shown in dot and dash lines in Fig. 3 of the drawings, the fall-board 28 being then removed from the box and the bunches of whisks withdrawn from the several compartments 23.

From the foregoing description of the invention it will be seen that the machine embodied therein is so constructed and arranged that the whisk-receiving box thereof may be readily positioned to be filled and emptied, and that, consequently, there will be a minimum waste of material as compared with machines having similar boxes in which the bunches of whisks are inserted or removed through the upper end thereof, while the box is in upright position.

What is claimed is:—

1. In a machine of the class described, a box, means for imparting vertical reciprocatory movement to the box, the said box being divided into a number of compartments, a stemming screen disposed within the box, beneath the compartments, a fall board adjustably supported within the box beneath the stemming screen, and means for tilting the box.

2. In a machine of the class described, a box, said box being divided into a number of compartments, means for imparting vertical reciprocatory movement to the box, means for tilting the box, means whereby the box may be held in tilted position, a stemming screen beneath the box, and a fall board adjustably supported beneath the screen.

3. In a machine of the class described, a box, means for imparting reciprocatory movement to the box, the said box being divided vertically into a number of compartments, a stemming screen disposed within the box in a plane directly below the plane of the lower ends of the compartments and covering the combined area of the compartments, a fall board adjustably supported within the box in a plane below that occupied by the screen, and in such manner as to permit of its dropping downwardly from the box, and means for tilting the box.

4. In a machine of the class described, a box, means for imparting reciprocatory movement to the box, means for tilting the box, means for holding the box at tilted adjustment, a stemming screen arranged within the box, a fall board arranged within the box beneath the screen, and spring-controlled latches carried by the fall board and engaging in openings in opposite walls of the box, interchangeably, for supporting said fall board at various elevations within the box.

5. In a machine of the class described, a box, means for imparting vertical reciprocatory movement to the box, means for tilting the box, and means for holding the box at tilted adjustment, the said holding means comprising a plate carried upon one end of the box and provided with stops, and a pin positioned for engagement with the stops.

6. In a machine of the class described, a box, means for imparting vertical reciprocatory movement to the box, means for tilting the box, and means for holding the box at tilted adjustment, the said holding means comprising stops arranged upon one end of the box, and a pin arranged for coöperation with the stops, two of the stops being arranged for the engagement between them of the said pin whereby to hold the box in upright position while in movement.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM H. VAN SICKLER, Jr.

Witnesses:

CHAS. H. BALL,

MAUD VAN SICKLER.