

E. A. OLIVER.
 SEED GRADING MACHINE.
 APPLICATION FILED MAR. 17, 1913.

1,089,433.

Patented Mar. 10, 1914.

2 SHEETS—SHEET 1.

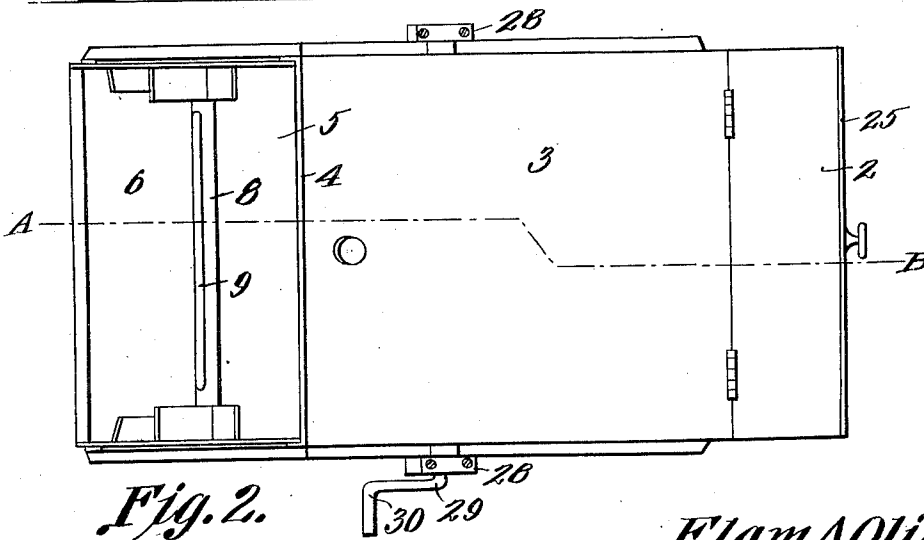
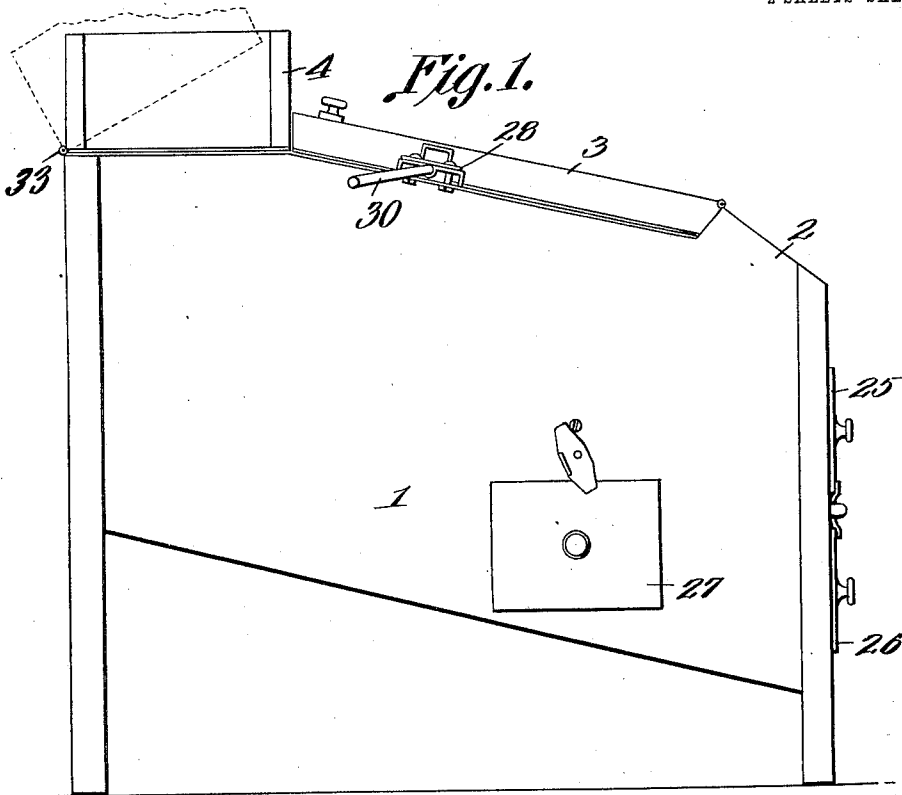


Fig. 2.

Witnesses
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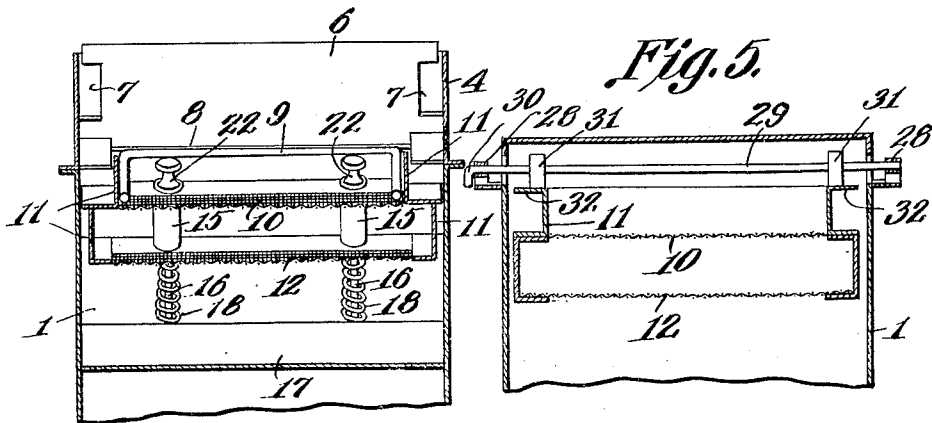
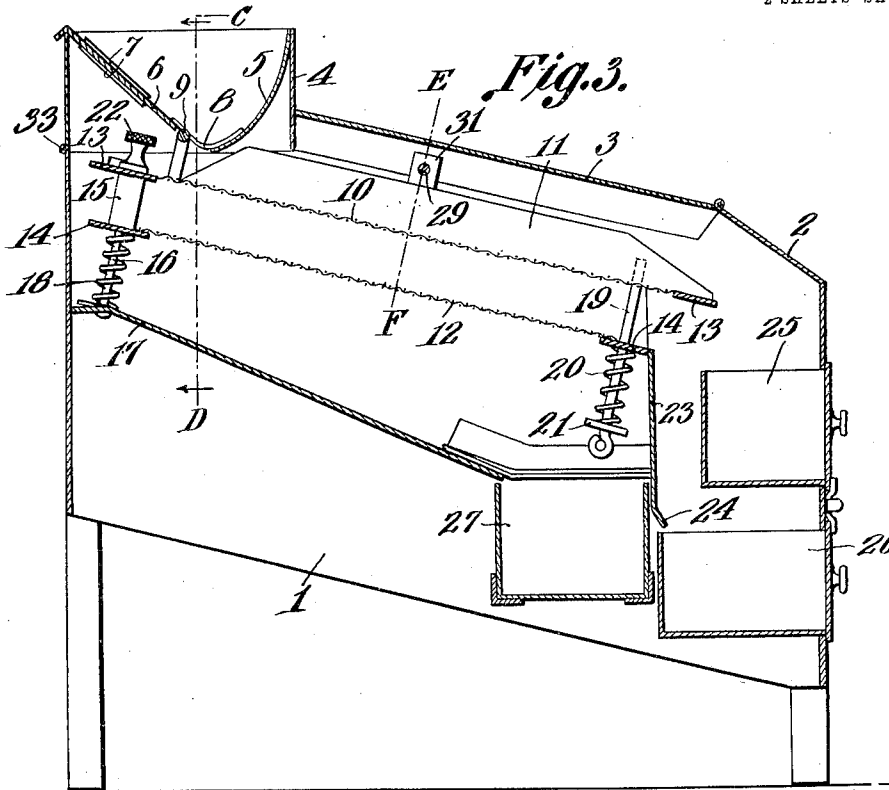


Fig. 4.

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

ELAM ALPHEUS OLIVER, OF BELLEVILLE, WISCONSIN.

SEED-GRADING MACHINE.

1,089,433.

Specification of Letters Patent.

Patented Mar. 10, 1914.

Application filed March 17, 1913. Serial No. 754,931.

To all whom it may concern:

Be it known that I, ELAM ALPHEUS OLIVER, a citizen of the United States, residing at Belleville, in the county of Dane and State of Wisconsin, have invented a new and useful Seed-Grading Machine, of which the following is a specification.

This invention relates to separators particularly designed for grading seed corn and the like, the object being to provide a machine of this character which is simple and compact in construction and will not readily get out of order.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a side elevation of the machine. Fig. 2 is a plan view thereof. Fig. 3 is a longitudinal section on line A—B Fig. 2. Fig. 4 is a section on line C—D Fig. 3. Fig. 5 is a section on line E—F Fig. 3.

Referring to the figures by characters of reference 1 designates a casing having a fixed top 2 and a hinged top 3, said hinged top extending up to a hopper 4 arranged at one end of the casing. One wall of the hopper is formed of a curved fixed plate 5 while the opposed wall of said hopper consists of a flat plate 6 removably mounted between supporting cleats 7. A discharge opening 8 is formed between the lower edge portions of the plates 5 and 6 and extends practically throughout the width of the hopper. This opening is adapted to receive a bail-like rod 9 constituting an agitator and spreader, this rod upstanding from the upper end portion of the upper screen 10 of the separator. This screen is inclined and is disposed between side walls 11 which extend upwardly and downwardly from the sides of the screen 10 and are connected at their lower edges by a lower screen 12. The side walls are connected by upper and lower cross strips 13 and 14 and interposed between the cross

strips 13 and 14 at the upper or receiving ends of the screens are spacing sleeves 15 through which extend guide posts 16. These posts extend upwardly from the upper or rear end of an inclined board 17 and springs 18 are mounted on the posts and bear at one end against said board and at their other ends against the adjacent cross strip 14. Thus the upper ends of the screens are yieldingly supported. Pivotally connected to the sides of the housing 1 at points beyond the lower end of the inclined board 17 are posts 19 extending loosely through the adjacent strip 14 and springs 20 are mounted on these posts and bear downwardly upon collars 21 on the posts and upwardly against the strip 14. Adjusting nuts 22 are mounted on the posts 16 and by means thereof the upper ends of the screens can be adjusted downwardly so as to place the springs 18 under any desired degree of compression. As shown in Fig. 3 the upper screen 10 projects downwardly and forwardly a greater distance than does the lower screen 12 so that tailings from the upper screen will be discharged beyond the tailings from the lower screen.

The lower or front strip 14 of the lower screen 12 normally bears against a vertical partition 23 the lower end of which is provided with the forwardly extending curved lip 24. A drawer 25 is arranged within the front end of the casing and is overhung by the discharge end of the screen 10. Another drawer 26 is mounted within the front end of the casing below drawer 25 and extends rearwardly a sufficient distance to be overhung by the lip 24. A laterally movable drawer 27 is mounted in one side of the casing or housing 1 and is overhung by the lower end of the inclined board 17.

Removably mounted within bearings 28 upon the sides of the housing or casing 1 is a shaft 29 which can be rotated in any suitable manner, as by means of a crank arm 30. Secured to this shaft are angular blocks 31 which bear downwardly on wings or wear plates 32 extending laterally from the side walls 11 above screen 10. Thus it will be seen that by rotating shaft 29 these blocks will depress the walls 11 in rapid succession, said walls being promptly shifted upwardly by the springs 16 and 20 as soon as the corners of the blocks pass out of contact with the wings 32. Thus the screens will be

thoroughly agitated and any material deposited on them will be kept in motion. Material placed in the hopper will feed downwardly onto the upper screen and the proper distribution of this material will be insured by the spreading rod 9 which will move upwardly and downwardly within the opening 8 as the screens are agitated. The material deposited on the upper screen 10 will gravitate downwardly therealong and the finer seeds will drop onto screen 12 while the coarser ones will be discharged as tailings from screen 10 and into the drawer 25. The material passing through screen 10 will be deposited on screen 12 where a second separation takes place, the larger seeds discharging as tailings from the end of the screen 12 and into the drawer 26 while the finer particles will be deposited onto the board 17 and gravitate into the drawer 27.

Should it be desired to remove the screens, the hinged cover 3 can be swung back, the hopper 4, which is hinged at 33, can be swung back bodily as indicated by dotted lines in Fig. 1, the nuts 22 can be removed, and the screens lifted off of the posts 16 and 19. It is to be understood of course that shaft 29 is removable when it is desired to remove the screens.

What is claimed is:—

In a separator the combination with a casing, of a seed hopper supported upon one end portion of the casing, superposed screens for receiving material from the hopper, the upper screen projecting downwardly beyond one end of the lower screen, an inclined board under the lower screen, a partition beyond the lower end of the inclined board and supporting the lower end of the lower screen, a removable receptacle extending under the discharge end of the upper screen and spaced from the partition to form a passage for tailings from the lower screen, a removable receptacle arranged under the first named receptacle for receiving the tailings from said passage, and a removable receptacle for receiving tailings from the inclined board, said last named receptacle being removable laterally from the casing while the remaining receptacles are removable from one end of the casing.

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

ELAM ALPHEUS OLIVER.

Witnesses:

VALENTIN BREJLING,
NICHOLAS H. GERBER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."