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H. McC. STANFORD

1,733,833

MACHINE

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Fig. 1.

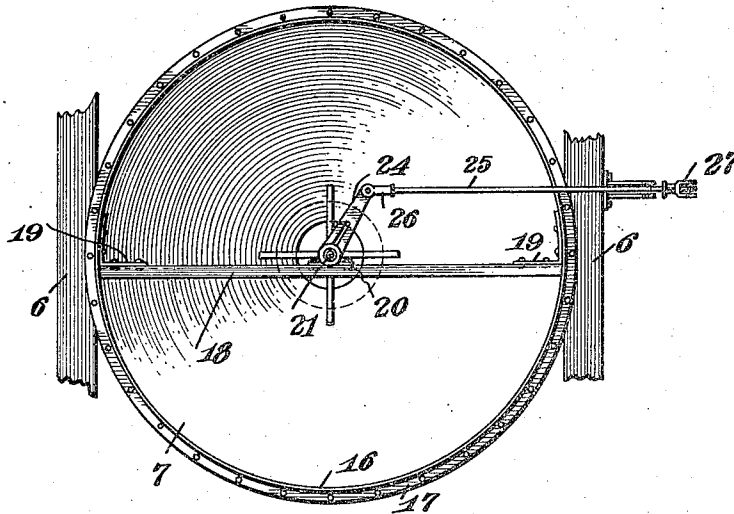


Fig. 2.

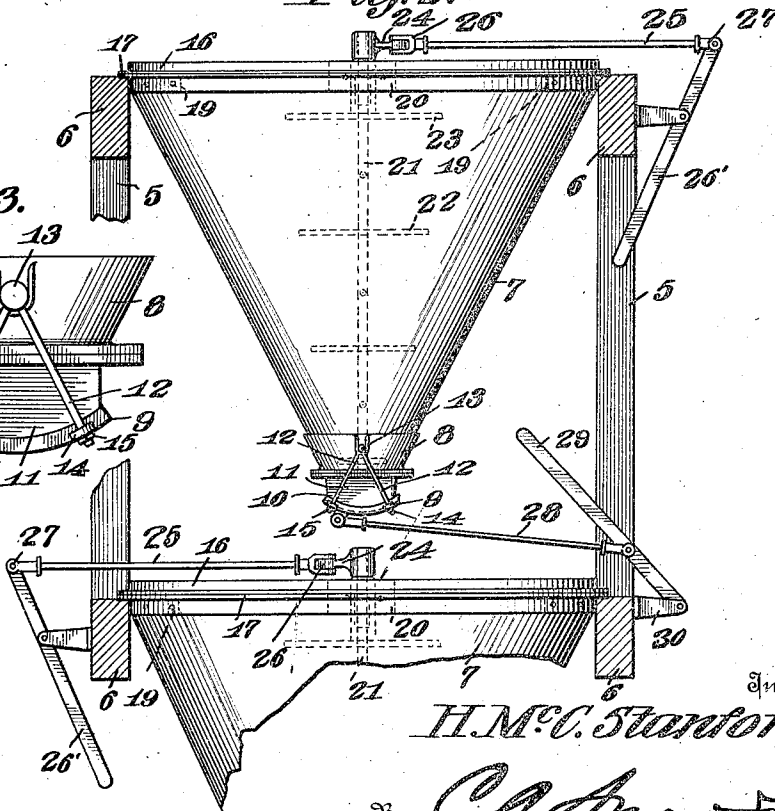
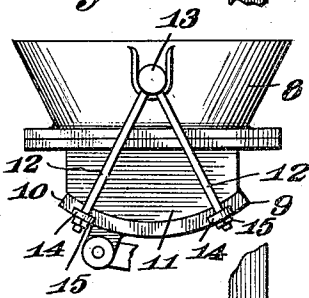


Fig. 3.



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MACHINE

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The present invention relates to a mixing machine, and aims to provide novel means whereby material such as fertilizer may be thoroughly mixed by mechanical means.

5 An important object of the invention is to provide means including hoppers arranged one above the other for receiving the material and passing them from one hopper to the other.

10 A further object of the invention is the provision of agitating means disposed within the hoppers whereby material will be prevented from clogging the hoppers to the end that a continuous flow of material from a hopper to the adjacent lower hopper will be insured.

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, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawing:

Figure 1 is a plan view of the machine.

Figure 2 is an elevational view disclosing 30 the uppermost hoppers of the machine.

Figure 3 is a detail view of the valve.

Referring to the drawing in detail, the reference character 5 indicates vertical supporting members which are held in spaced relation 35 by means of the horizontally disposed bars 6 that act as supports for the hoppers which are arranged one above the other, the discharge end of one hopper being disposed directly over the mouth or open upper end of the adjacent lower hopper so that material passing 40 through one hopper may move into the adjacent lower hopper.

As clearly shown by Figure 2 of the drawing, the hoppers which are indicated at 7 are provided with valve casings 8 which are 45 formed with lower curved edges to conform to the curved surface of the valve member 9 associated therewith, the valve member 9 including lateral upstanding flanges 10 adapted to engage the side walls 11 of the valve casing

to insure against material passing laterally between the valve casing and valve member.

Arms 12 have their upper ends pivotally supported at 13, the lower ends thereof being threaded, are positioned in the ears 14, nuts 15 55 being provided on the arms 12 for adjustably supporting the valve member to insure a tight connection between the valve casing and valve.

At the upper end of each hopper is a supporting ring indicated at 16 which is provided with a lateral flange 17 providing a support to rest on the bars 6, suitable means being provided for securing the ring 16 to the members 6.

Positioned within the upper end of each hopper, is a transversely disposed bar 18 which has its ends secured by means of the angle irons 19. The bearing is indicated at 20 and is of a construction to accommodate 60 the shaft 21 which shaft supports the horizontal arms 22 which are of various lengths, the shorter arms 22 being arranged adjacent to the lower end of the hopper in which they are mounted, while the longer arms 23 are disposed adjacent to the upper end of the shaft 21 so that upon movement of the shaft 21, the arms will move within the material held in the hoppers to agitate the material and cause 65 the material to pass downwardly through the hopper.

The reference character 24 represents an arm extending laterally from the upper end of the shaft 21 which arm has connection with the operating rod 25 at 26, the rod 25 also 70 having connection with the operating arm 26, at 27 so that an operator may by moving the arm 26, move the shaft 21 to cause the arms 22 and 23 to move within the hoppers.

A valve operating rod 28 is shown as having 75 pivotal connection with the arm 29 which has its lower end pivotally mounted between the members 30 that are supported by the horizontal bars 6 disposed adjacent thereto. Thus it will be seen that due to this construction, an operator may, by moving the arm 29 80 move the valve member associated therewith to permit various quantities of material to pass from the hoppers.

From the foregoing it will be obvious that 85

due to this construction, materials may be deposited in the upper hopper of the machine and allowed to gravitate from one hopper to the adjacent lower hopper, to the end that the materials placed in the uppermost hopper will be thoroughly mixed as they pass through the last hopper of the machine.

I claim:—

A machine of the class described including a supporting frame, a hopper supported by the frame, a hopper like valve casing fitted over the discharge end of the hopper, said valve casing including a spout having vertical side walls and having curved free ends, bearing members secured to the side of the valve casing, a curved valve member curved to conform to the curvature of the free ends of the spout, and operating thereagainst, upstanding flanges on the curved valve member, laterally extended ears secured to the valve member, arms extending through the ears, a bearing member formed at the upper ends of the arms and resting in the bearing member of the spout, associated therewith, and means connected with the valve member for moving the valve member to its active or inactive position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

HARWOOD McC. STANFORD.