

F. S. THURSTON.
FEEDING DEVICE.
APPLICATION FILED SEPT. 14, 1920.

1,423,698.

Patented July 25, 1922.
2 SHEETS—SHEET 1.

Fig. 2.

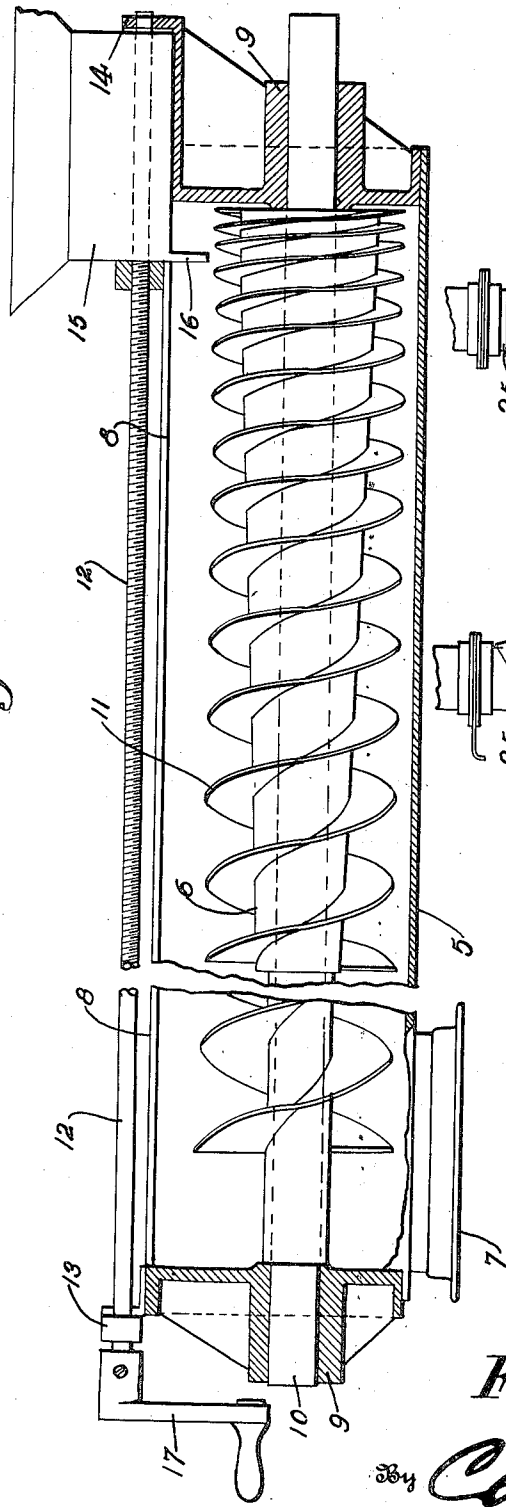


Fig. 3.

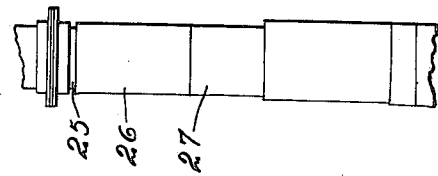
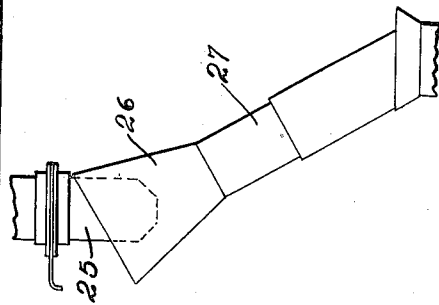


Fig. 4.



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FEEDING DEVICE.

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UNITED STATES PATENT OFFICE.

FRANK S. THURSTON, OF CHICAGO, ILLINOIS.

FEEDING DEVICE.

1,423,698.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK S. THURSTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Feeding Device, of which the following is a specification.

The present invention has reference to feeding devices, and more particularly to feeding devices of the spiral or worm type, it being the primary object of the invention to provide a novel means employed in connection with the spiral or worm feed for regulating the discharge of material from the feeding device.

A further object of the invention is the provision of means adapted to be adjusted at the will of the operator for moving a delivering spout longitudinally of the spiral feeding device, whereby the quantity of material deposited within the feeding device may be increased or diminished.

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 drawings:—

Figure 1 is a side elevational view of a machine constructed in accordance with the invention.

Figure 2 is a longitudinal sectional view through the feeding device.

Figure 3 is a front elevational view of a delivering spout disclosing a modified form thereof.

Figure 4 is a side elevational view of the delivering spout.

Figure 5 is a fragmental elevational view of one end of the device.

Referring to the drawings in detail, the reference character 5 designates a relatively long tubular housing adapted to house the spiral feeding device indicated by the reference character 6, the housing being provided with a discharge opening 7 and a receiving opening 8, the receiving opening being formed substantially the entire length of the housing so that material may be fed to the

housing throughout the length of the feeding device.

Formed at each end of the housing 5 is a bearing 9, which bearings accommodate the shaft 10, which in turn supports the spiral conveyor 11 forming the important feature of the invention, and as shown the conveyor 11 tapers toward the discharge end of the housing, the distance between the adjacent convolutions varying throughout the length of the shaft, so that greater or less quantities of material may be fed to the discharge end of the housing by adjusting the delivering spout to overlie predetermined sections of the spiral feed or conveyor.

Disposed above the housing 5 is a threaded shaft 12 which operates in the bearings 13 and 14 arranged at opposite ends of the housing, the shaft being for the purpose of moving the receiving hopper 15 longitudinally of the housing 5, the receiving hopper 15 being provided with an extension 16 positioned between the walls of the receiving opening 8 to prevent material from spilling over the sides of the housing when running at high speed or near the maximum capacity. It might be further stated however that an operating handle 17 has connection with one end of the shaft 12, whereby movement of the operating handle 17 causes a relative movement of the shaft 12.

In the present showing, the feeding device is employed as a mixing device for the blending of seeds of various natures, the housing being shown as supported by the legs 18 at one end thereof, and the support 19 at the opposite end thereof, a movable delivering spout indicated at 20 having connection with a suitable discharge hopper 21, there being ball and socket joints indicated at 22 and 23 for permitting movement of the tube 20 with relation to the feed hopper 24 and the discharge hopper 21.

In the form of the invention as illustrated by Figures 3 and 4 of the drawings, a spout 25 is shown as extending into the funnel-shaped mouth 26 of the delivering tube 27, which connection may supplement the ball and socket joint as shown by Figure 5 of the drawings, with equally desirable results.

In the operation of the device, it is obvious that, due to the taper of the spiral feeding device 6, a greater quantity of material will be permitted to pass into the housing 5 at the discharge end thereof than at

the feed end thereof, and that the distance between the adjacent convolutions of the spiral being greater at the discharge end will also permit of greater quantities of material passing into the housing 5. Therefore, when the receiving hopper 15 is moved to overlie various portions of the spiral feeding device, greater or less quantities of material are fed to the housing 5 at the will of the operator.

Having thus described the invention, what is claimed as new is:—

1. In a feeding device, a tubular housing, bearings supported at the ends of the housing, said housing having an opening formed in the upper surface thereof and having a discharge opening formed at one end thereof, a spiral conveyor operating within the tubular housing, a threaded shaft operating above the opening, a receiving hopper movable along the threaded shaft for accurately distributing material within the housing,

and means carried by the hopper for preventing material fed to the housing from being thrown therefrom.

2. In a feeding device, a housing, a spiral conveyor operating through the housing, a feeding hopper movable along the upper surface of the housing and adapted to feed material to the housing throughout the length of the spiral conveyor, an extension forming a part of the feeding hopper and extending into the housing to contact with the material fed to the housing, and prevent the same from being thrown from the housing, and means for moving the feeding hopper throughout the length of the housing.

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

FRANK S. THURSTON.

Witnesses:

ALOM S. THURSTON,
ELLEN GARNETT.