W. ALDRICH.

Force-Feed Apparatus for Grain-Drills.

No. 166,678. Patented Aug. 17, 1875.

Fig. 1.

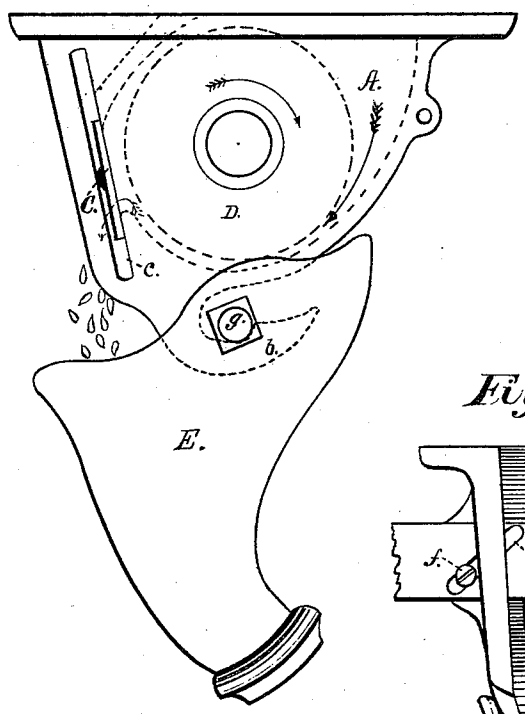


Fig. 2.

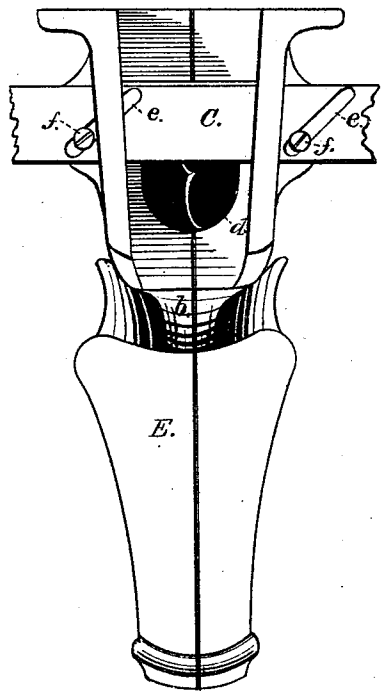
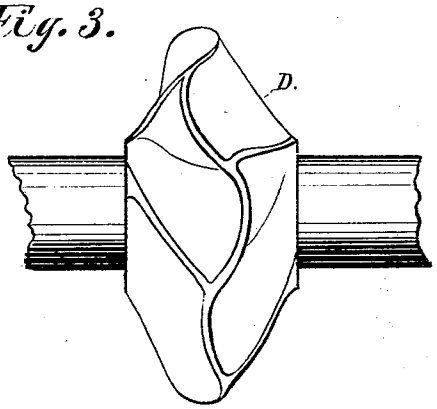


Fig. 3.



Witnesses:

James P. Whitmore

Fletcher J. Emley

Inventor:

Wales Aldrich

by Bock & Company

Attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALES ALDRICH, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO THE DAYTON MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN FORCE-FEED APPARATUS FOR GRAIN-DRILLS.

Specification forming part of Letters Patent No. **166,678**, dated August 17, 1875; application filed June 3, 1875.

To all whom it may concern:

Be it known that I, WALES ALDRICH, of Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Improvements in Force-Feed Apparatus for Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to that class of grain-drills in which a series of agitating-wheels, secured in bearings to the under side of the seed-box, aid in conveying the grain into a corresponding number of spouts, from which it passes through the hoes to the furrows made for its reception; and it consists in the peculiar formation of the feed-wheel and its housing and the receiving-cup, as will be more fully set forth, and the invention distinctly pointed out in the claims.

In order to enable others skilled in the art to make and use my invention, I would thus describe it, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved feeding apparatus. Fig. 2 is a rear view of the same; and Fig. 3 is a representation of the agitating-wheel.

Like parts are indicated by corresponding letters of reference.

A represents a metal chamber, open at the top for communication with the seed-box, whose bottom is correspondingly open. It is of the shape shown, and is cast in two pieces, bolted or otherwise connected together, and provided upon its bottom with a hooked arm, *b*, and upon one side with vertical slots *c*, in which the cut-off slide is confined for the purpose of opening or closing the outlet *d*, as may be required. Upon a shaft journaled in this chamber is the agitating-wheel B, so arranged that no grain can pass from the seed-box into the spouts, except it be conveyed by the recesses of the agitator when revolving. C represents the adjustable cut-off slide, provided with diagonal guide-slots *e*, through which screws *f* pass into shoulders projecting from the chamber A. This slide extends the entire width of the drill, and serves to open or close uniformly the series of chambers. By having it move diagonally with a drawing motion, the quantity of grain desired to be drilled can be regulated with great precision.

The seed-wheel D, Fig. 3, is of peculiar construction, and is designed to force or convey the grain in a uniform quantity from the chamber A into the receiving-cup E, to which the rubber spout is attached. It is of the shape represented, and consists of a metal wheel, whose periphery is composed of short obverse curves forming a zigzag, and each curve being a termination of irregularly-shaped recesses, diminishing in capacity toward the hub of the wheel. These recesses are not radial, but incline at an angle of about thirty degrees from the radius.

By employing this form of wheel, which fits snugly to the sides of the chamber, the grain is conveyed in its recesses without liability of becoming crushed, and no choking of the feeding apparatus can occur, for if the slide be not opened sufficiently to allow the passage of all the grain, the part left is carried around by the revolution of the wheel, and again deposited in the chamber.

The receiving-cup E is of the usual form; and my improvement consists in joining the two parts of which it is composed by means of a rivet or bolt, *g*, which is passed somewhat centrally and near the top from side to side, and is intended to be slipped over the hook *b* to form the connection of the two parts. By this means they may be coupled or disconnected without difficulty or loss of time.

I am aware that the receiving-cup has been connected to the wheel-chamber by means of a swinging stirrup embracing the seed-shaft, and pivoted in the receiving-cup by means of a bolt or rivet; but should it be desirable to disconnect the two parts the bolt or rivet would first have to be withdrawn at the expense of time and trouble. By my arrangement, however, this can be accomplished by simply slipping the rivet over the hook.

Having fully described my invention, I claim and desire to secure by Letters Patent—

1. The herein-described feed-wheel, whose periphery forms a zigzag curved line, and whose sides are irregularly-shaped inclining

recesses, diminishing in capacity from the circumference to the center, substantially as set forth.

2. The chamber A, constructed as described, and provided with the hook *b* and guide-slots *c*.

3. The receiving-spout E, clamped by the bolt or rivet *g*, in combination with the hook *b* of the chamber A, for forming the connection between the two parts, in the manner and for the purpose specified.

Witness my hand this 31st day of May, A. D. 1875.

WALES ALDRICH.

Witnesses:
J. P. WHITMORE,
CHAS. M. PECK.