(No Model.) 2 Sheets—Sheet 1.

# S. W. BYERS & H. W. KNIGHT.

## PLANTER.

No. 258,554. Patented May 30, 1882.

*Fig. 1.*

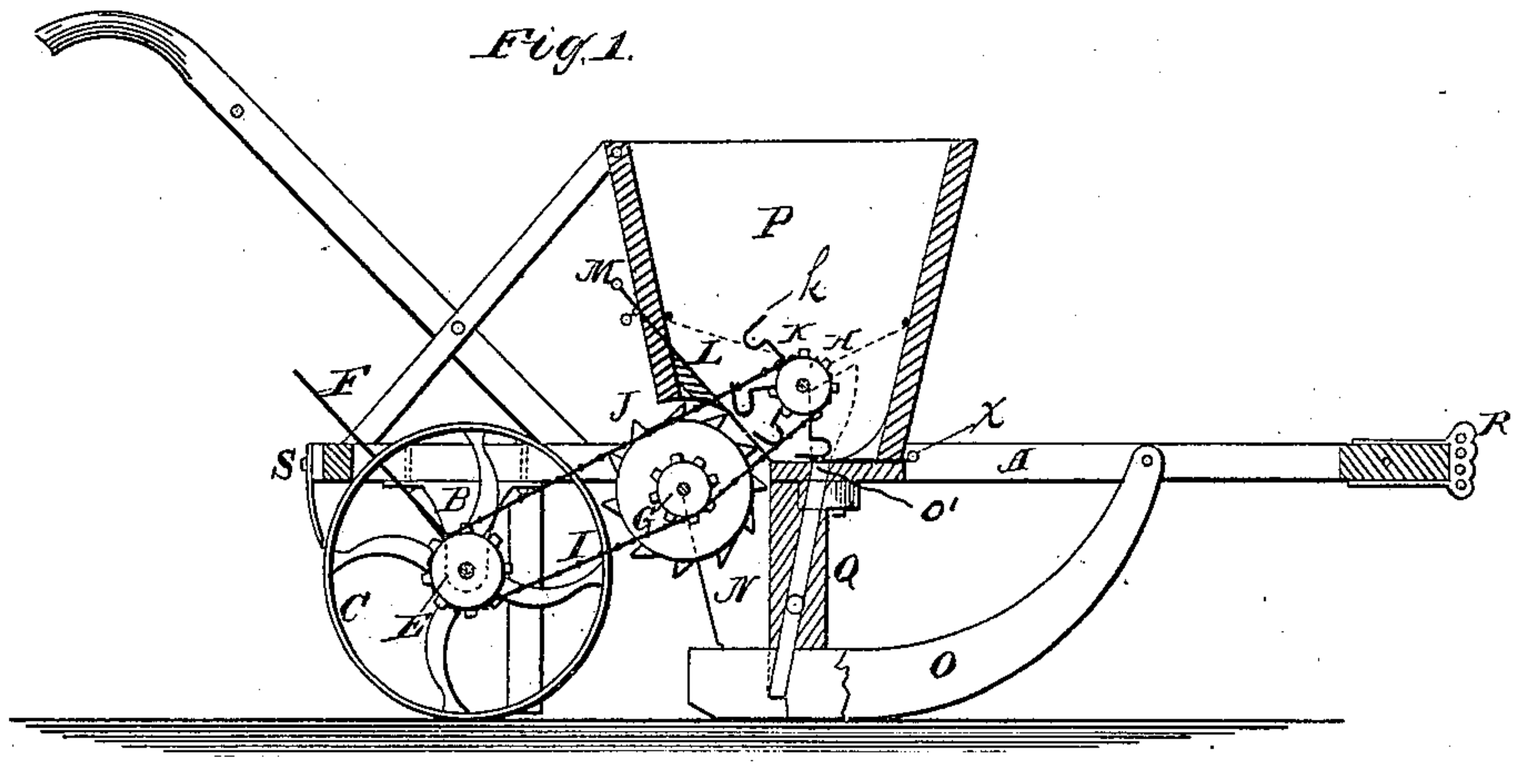



*Fig. 2.*

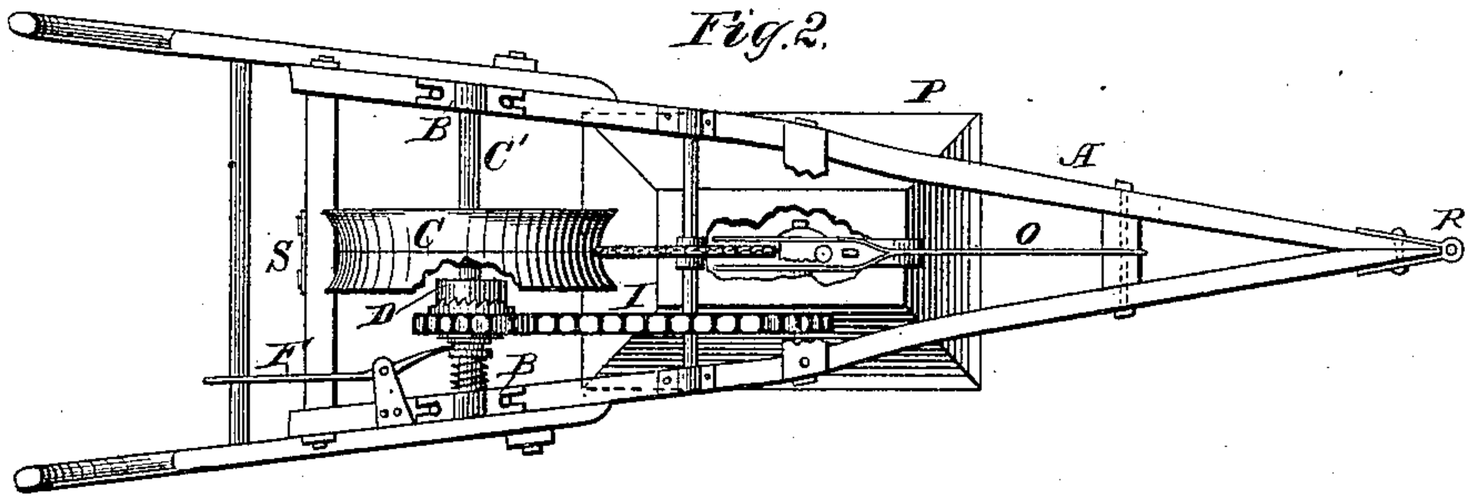
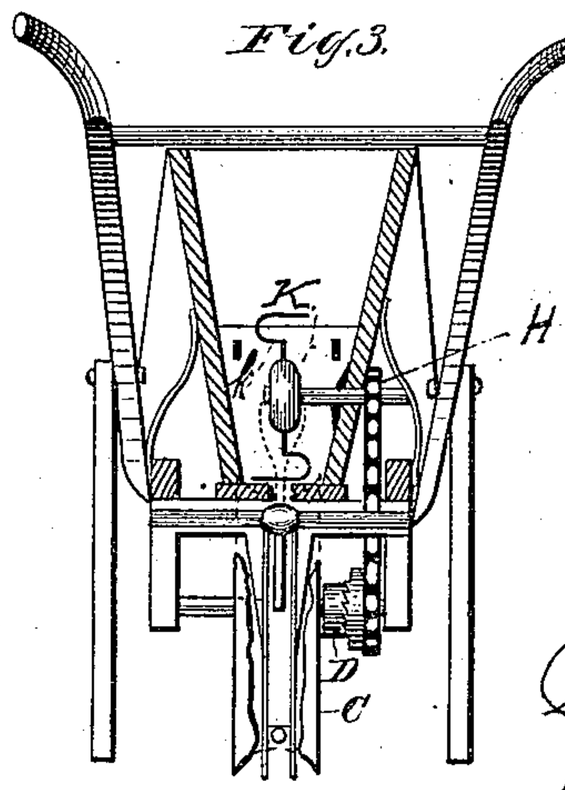



*Fig. 3.*




Witnesses.
Wm. B. Perrin
J. M. Howard

Inventor.
Samuel W. Byers
Henry Whitman Knight

(No Model.) 2 Sheets—Sheet 2.

# S. W. BYERS & H. W. KNIGHT.

## PLANTER.

No. 258,554. Patented May 30, 1882.

Fig. 1.

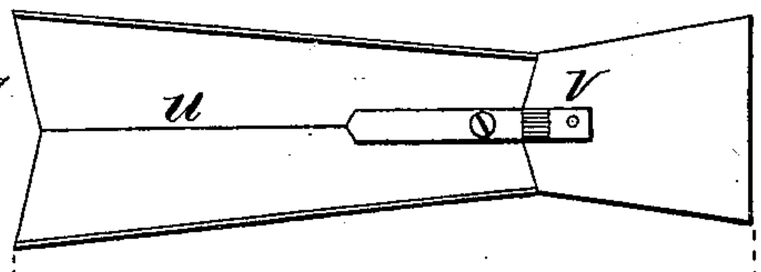



Fig. 6.

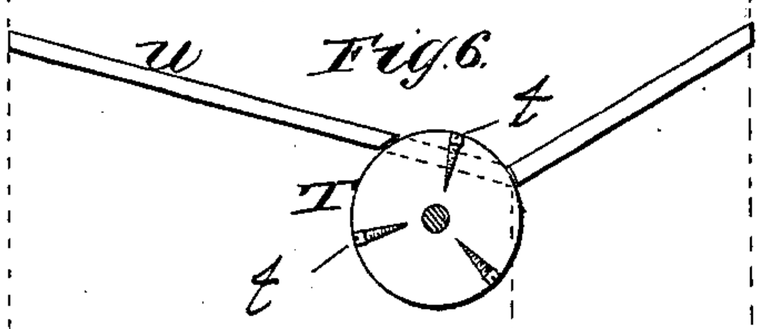



Fig. 10.

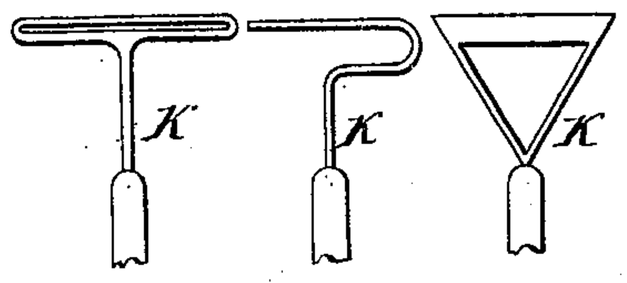



Fig. 4.

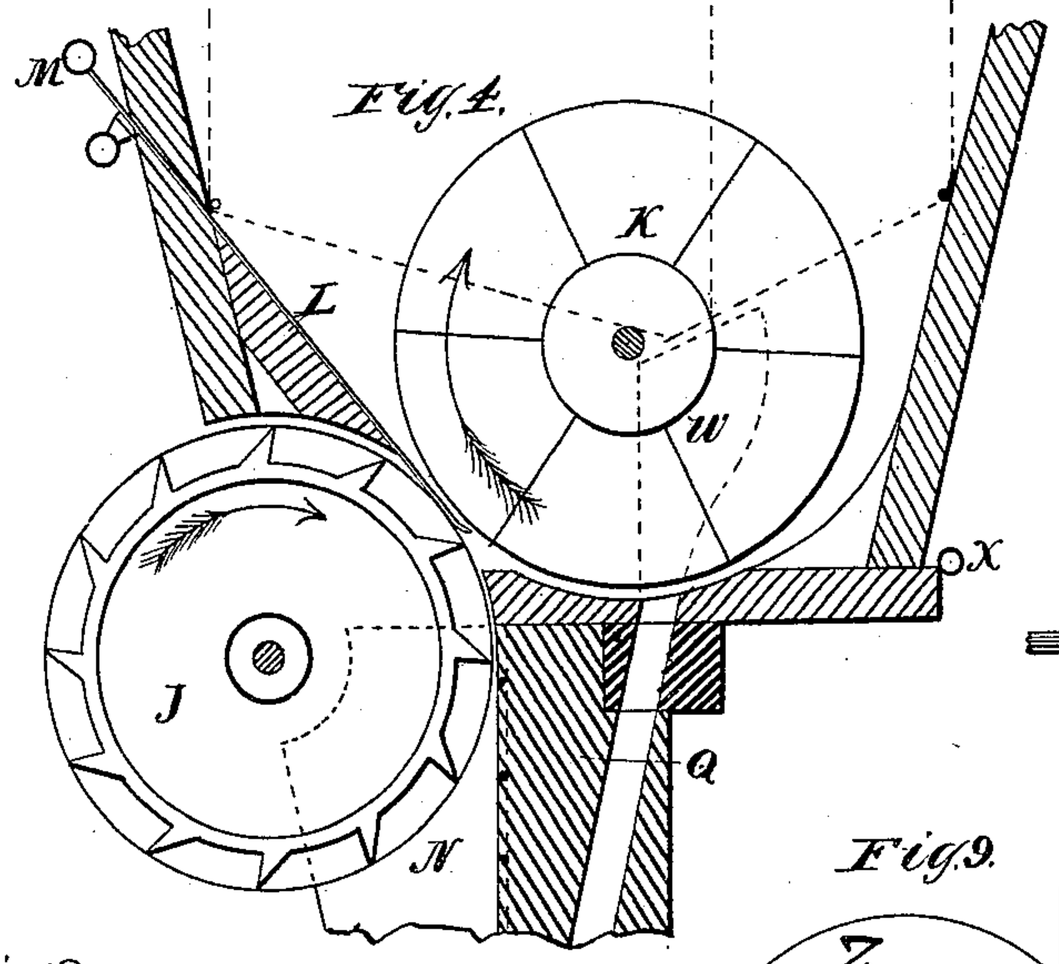



Fig. 5.

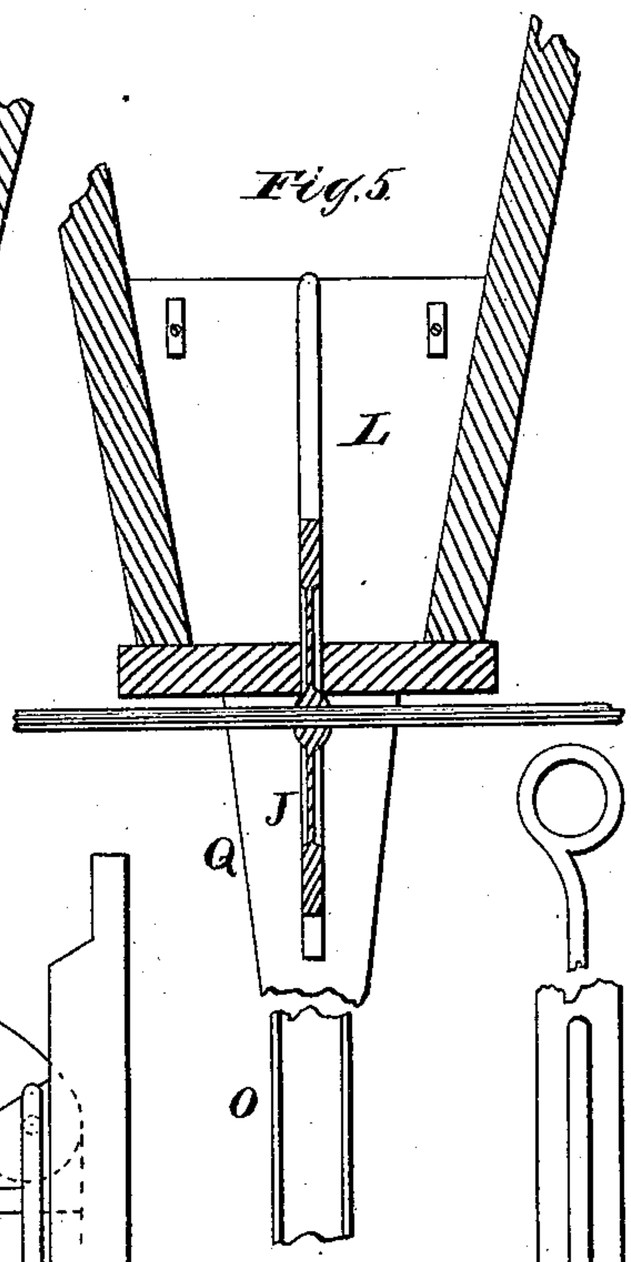



Fig. 8.

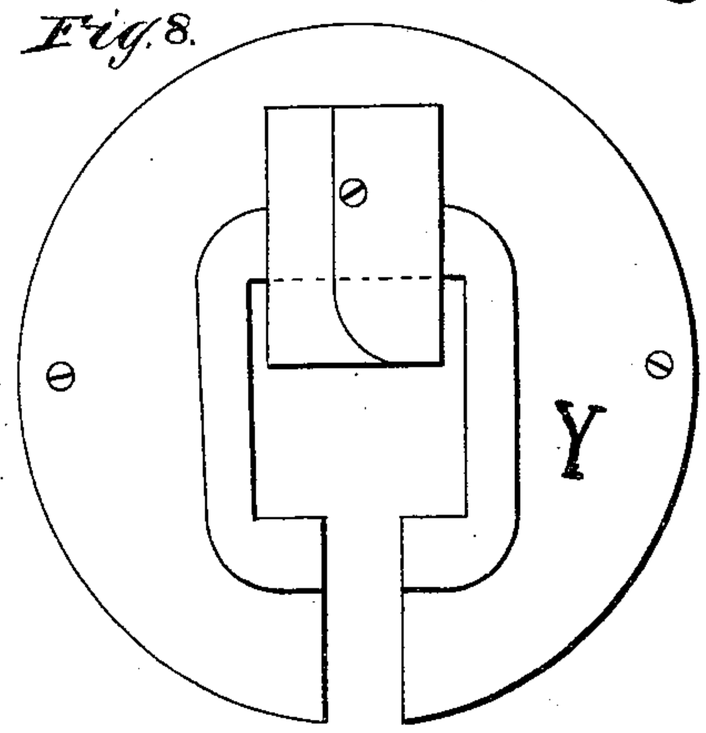



Fig. 9.

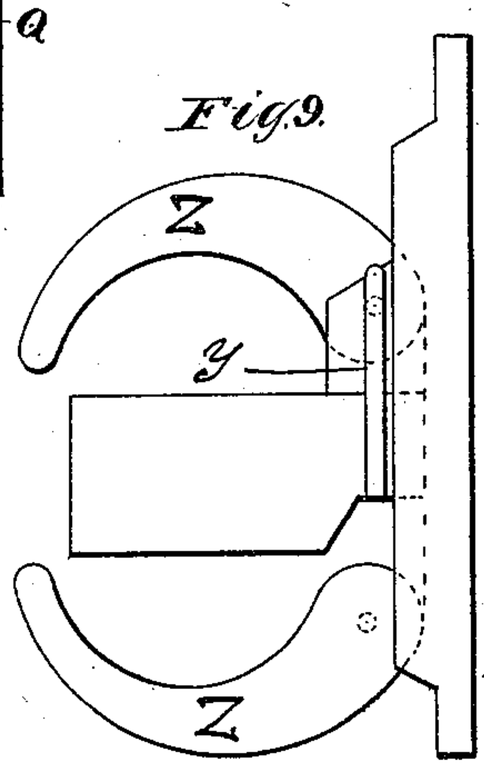



Fig. 11.


Witnesses.

Wm. H. Perrin

J. M. Howard

Inventor.

Samuel Wallace Byers

Henry Whitman Knight

# UNITED STATES PATENT OFFICE.

SAMUEL W. BYERS AND HENRY W. KNIGHT, OF NASHUA, IOWA.

## PLANTER.

SPECIFICATION forming part of Letters Patent No. 258,554, dated May 30, 1882.

Application filed October 29, 1881. (No model.)

*To all whom it may concern:*

Be it known that we, SAMUEL WALLACE BYERS and HENRY WHITMAN KNIGHT, citizens of the United States, residing at Nashua, Chickasaw county, Iowa, have invented certain new and useful Improvements in Planters, to be known as the "Byers & Knight's Combination Planter;" and we do hereby declare that the following is a full and accurate description of the invention, which will enable others to make use of the same.

Figure 1 is a central vertical longitudinal section of a planter embodying our invention. Fig. 2 is a plan of the bottom; Fig. 3, a rear end elevation of the same, and Figs. 4 to 11 are details.

Like letters refer to like parts in all the figures.

A represents the draft-beam, R the clevis, B the bearings of the covering-wheel C, O the shoe, P the seed-box, and S the scraper, all of which parts are constructed and operate in the usual manner. The seed-box P has a slanted bottom, L, which is slotted for the entrance of the toothed feed-wheel J, said slot being covered by the adjustable slide M. The seed-box has also a flat portion in the bottom perforated at O′, which perforation is closed by the adjustable slide X, and communicates with a passage in the standard Q into the shoe O. Within the seed-box is journaled a shaft carrying a sprocket-wheel, H, and a centrally-located agitator, K, provided with curved hook-shaped spokes *k*, arranged both parallel to the shaft and at right angles thereto, as shown. The covering-wheel shaft is also provided with a sprocket-wheel, E, and the feed-wheel J is driven by a similar sprocket-wheel, and all of these wheels are driven by the belt I, the shaft C′ of the covering-wheel C being adjustably secured to the frame, whereby the belt may be tightened and the position of the wheel relative to the seed-box and shoe varied at will. The belt may be composed of separable links in order to adjust its length.

A lever, F, is provided whereby the clutch D may be operated in such manner as to stop the feed and agitator shafts, or permit their rotation as desired during the rotation of the covering-wheel.

In Fig. 10 variations in the forms of the spokes *k* of the agitator are shown. In Fig. 11 an enlarged view of the slide M is given.

In Figs. 4 to 9 are shown devices by which the machine is adapted to plant other seeds than cotton, for which the arrangement and construction thus far described is more directly intended.

A plain bladed or spoked agitator, K, is substituted for that discarded and just described; or a simple roll, as T, Fig. 6, may be used, having screws *t* therein, the depth to which they are driven into the roll determining the capacity of the pockets formed by the holes in which the screws are driven in the rolls, so that more or less grain or seed is permitted to escape at the passage of each pocket by and below the bottom *u* of the seed-box. This construction is shown in plan at Fig. 7.

Figs. 8 and 9 represent devices which are adapted to regulate the feed of fertilizers when distributed by the machine.

Two pivoted jaws, Z, are arranged to cover, or partly cover, the aperture in the bottom of the seed-box in which the fertilizer is stored for distribution, and as the feed-wheel passes between a spring, Y, allows them to temporarily separate when forced apart by substances which would tend to clog the aperture, and to immediately resume their normal position, and thus secure a practically uniform feed.

The operation of the machine will be readily understood by the description thus far given, and it will be seen that the machine can be readily adapted to sow cotton or other lint seed as well as smooth seed of all kinds, and is equally well adapted to spread fertilizers.

What we claim is—

1. The combination of the adjustable covering-wheel shaft C′, wheel C, feed-wheel J, and slotted seed-box P, provided with the agitator K, having the curved spokes *k*, the parts being arranged and operating substantially as shown and described.

2. The combination of seed-box P, having the slanted slotted side L, the perforated bottom, the adjustable slides X M, and the feed-wheel J and agitators K *k*, substantially as shown and described.

SAMUEL WALLACE BYERS.
HENRY WHITMAN KNIGHT.

Witnesses:
WM. B. PERRIN,
J. M. HOWARD.