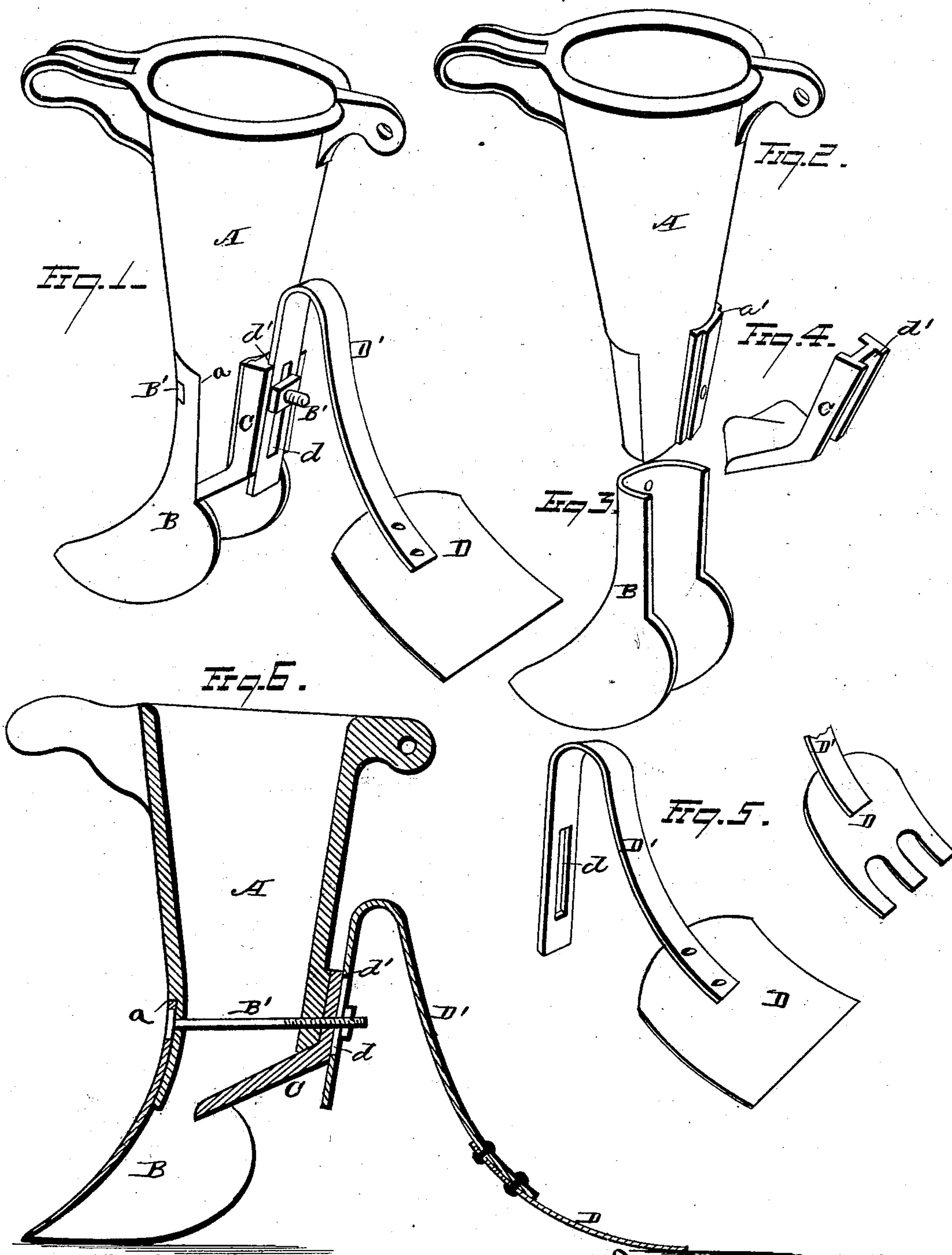


J. STRAYER.  
Grain-Drill.

No. 221,004.

Patented Oct. 28, 1879.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JACOB STRAYER, OF SOUTH BEND, INDIANA.

## IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **221,004**, dated October 28, 1879; application filed July 2, 1879.

*To all whom it may concern:*

Be it known that I, JACOB STRAYER, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to a new and useful improvement in grain-drills; and it consists of the parts and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a device embodying the principles of my invention. Fig. 2 is a separate view of the hoe; Fig. 3, a separate view of the shoe; Fig. 4, a separate view of the scatterer; Fig. 5, a separate view of the coverer; Fig. 6, a longitudinal central section of the device shown in Fig. 1.

In the said drawings, A is the hoe. This is cast in a solid tubular form, and is provided at *a* with a suitable seat for the reception of the shoe B.

C is a scatterer, made separable from the hoe. The hoe, at its rear portion, is provided with a seat for the reception of the shank of this scatterer. This seat is made in the form of an outstanding tongue, *a'*, and the scatterer is provided with a corresponding groove, *c*, so that when the scatterer is placed in position on the hoe a single bolt will hold it firmly in place.

The scatterer C is carried forward at its middle point beneath the hoe; but upon each side of this middle point it is hollowed out so as to leave free spaces between the scatterer and the lower edge of the hoe, through which the grain may fall with certainty, and without liability of clogging at this point. The upper surface of the scatterer may or may not be provided with a ridge for deflecting the grain as it falls through the hoe.

A bolt, B', serves to fasten the shoe to the hoe, and at the same time secures the scatterer to the rear portion of the hoe.

D is a coverer. Its shank D' fits into a longitudinal groove, *d'*, in the rear part of the scatterer, and is provided with a slot, *d*, whereby the shank may be adjusted up or down on the scatterer, thereby regulating its action upon the soil.

The gatherer may be made plain across its end, or its end may be provided with slots, so as to leave the coverer in a forked condition at the end.

By uniting the scatterer to the hoe by a tongue-and-groove connection, all tendency of the scatterer to rotate on the hoe is prevented, and the grain-passages are thus kept always the same.

In the employment of a detachable scatterer, I do not confine myself to its use solely with solid hoes, for it is equally applicable with separable hoes.

What I claim is—

1. The combination, with the scatterer, whose shank has tongue-and-groove engagement with the hoe, of the coverer, whose shank has tongue-and-groove engagement with the rear side of said scatterer-shank, substantially as set forth.

2. In a grain-drill, the combination, with a solid hoe and an independent scatterer, of a shoe and a transverse bolt which passes through the front and rear sides of the hoe, and through the shanks of both the scatterer and the shoe, substantially as set forth.

3. In a grain-drill, the combination, with a solid hoe, an independent scatterer, and a coverer, of a shoe and a bolt which passes through the shanks, respectively, of said shoe, scatterer, and coverer, and also through both the front and rear sides of said hoe, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB STRAYER.

Witnesses:

LUCIUS HUBBARD,  
WILLIAM L. KIZER.