

(No Model.)

T. R. CRANE.  
AGITATOR FOR FERTILIZER DRILLS.

No. 418,501.

Patented Dec. 31, 1889.

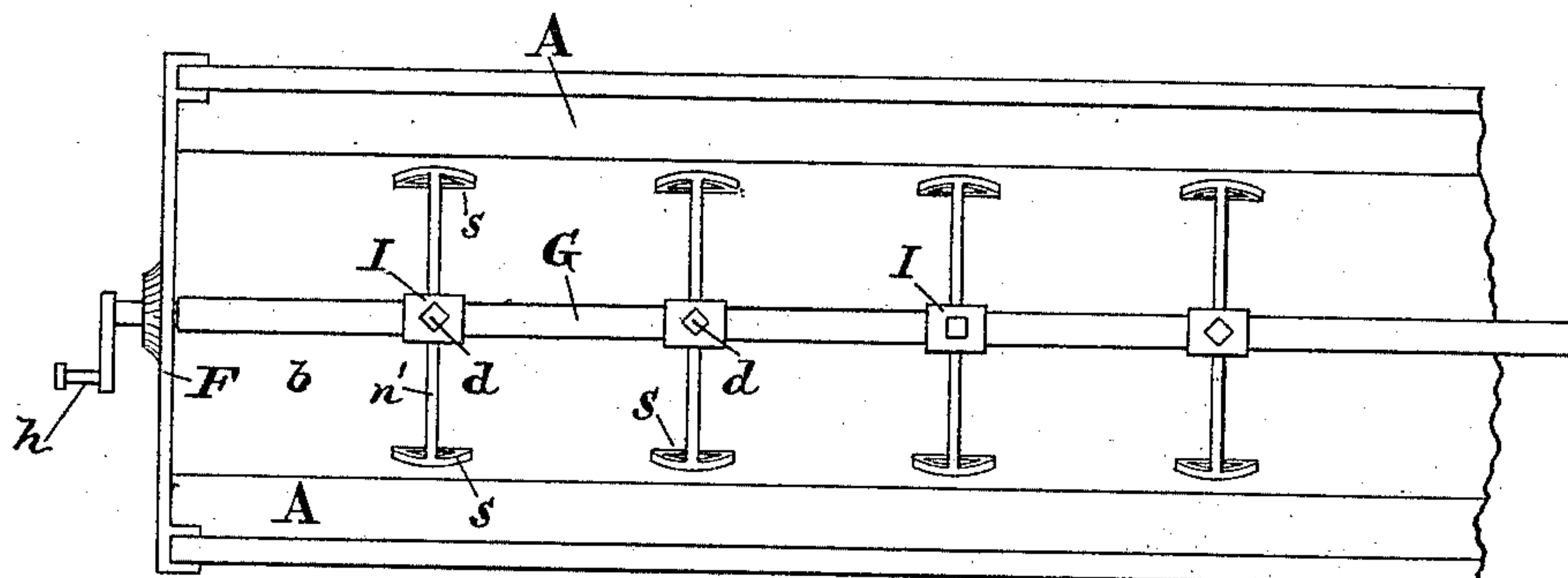


Fig. 1.

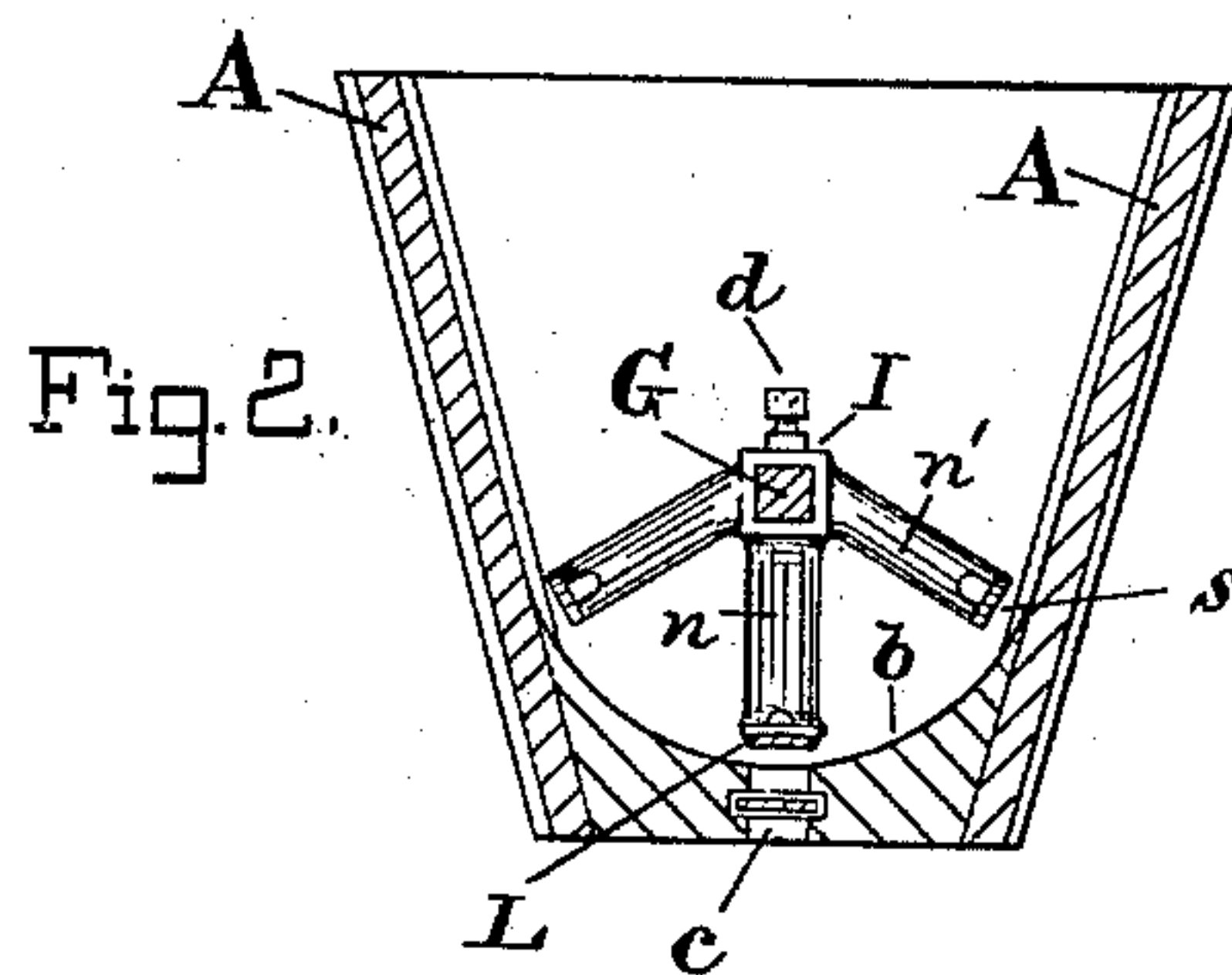


Fig. 2.

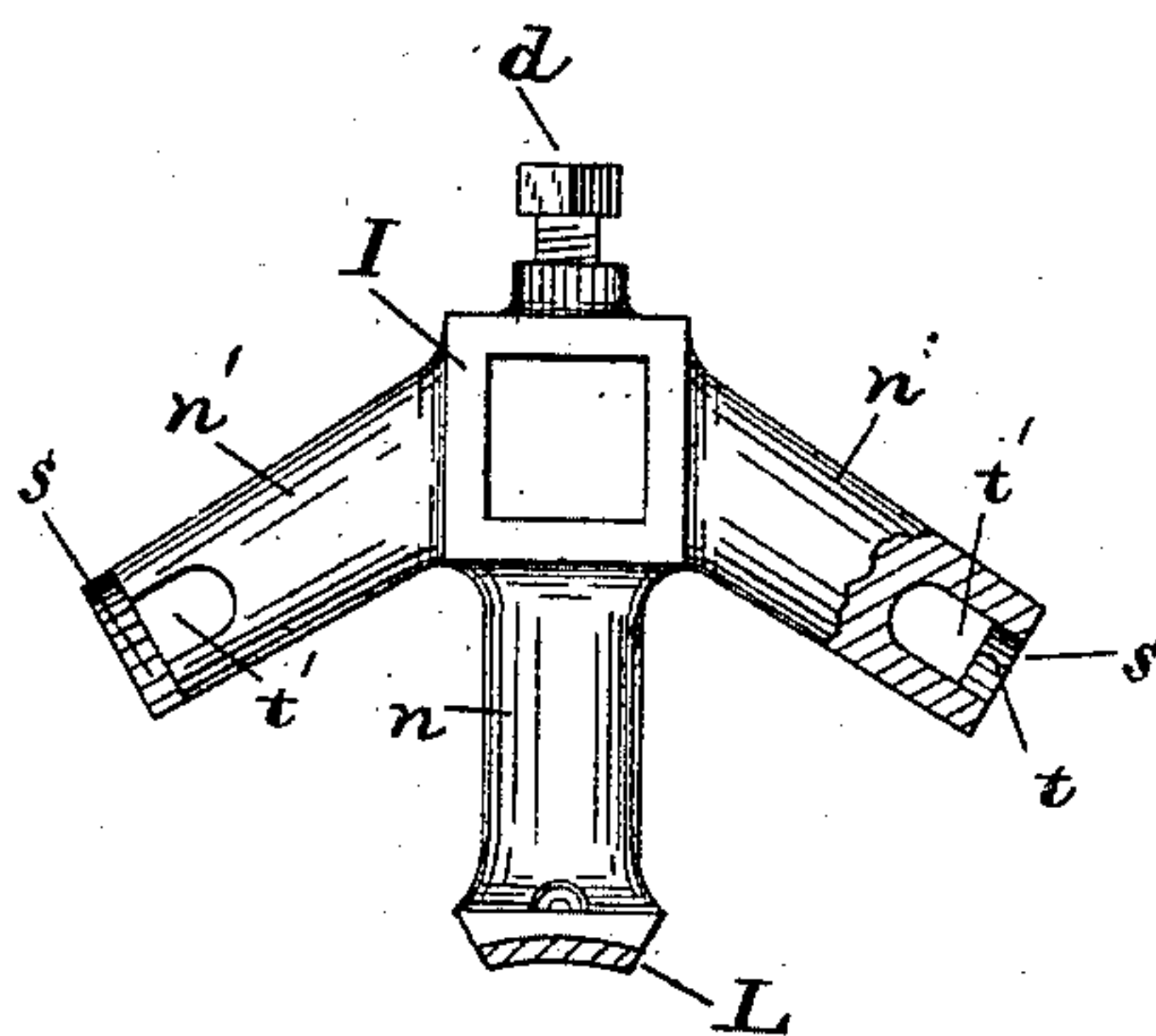


Fig. 3.

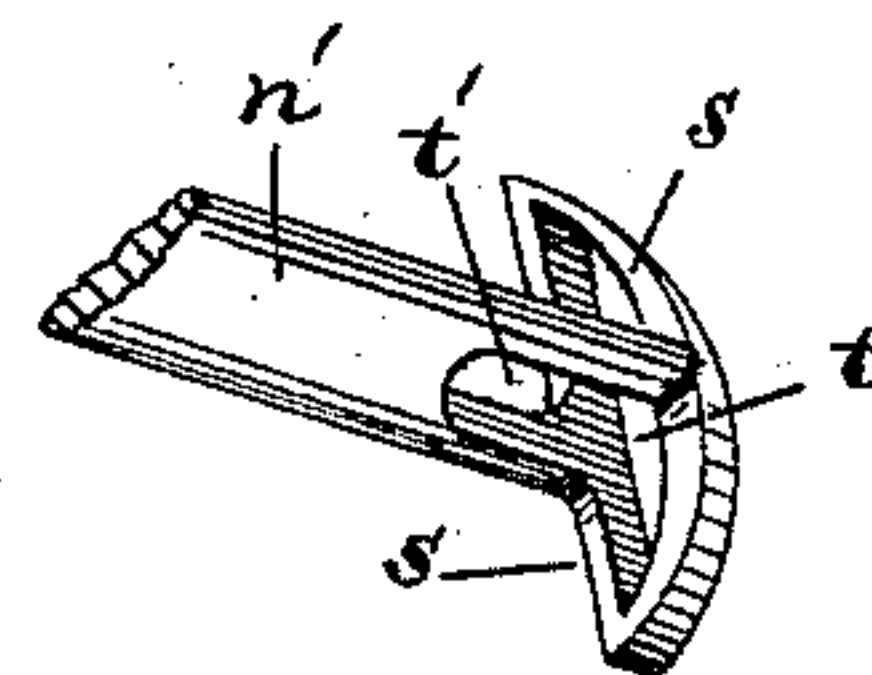


Fig. 4.

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# UNITED STATES PATENT OFFICE.

THOMAS R. CRANE, OF HEATHSVILLE, VIRGINIA.

## AGITATOR FOR FERTILIZER-DRILLS.

SPECIFICATION forming part of Letters Patent No. 418,501, dated December 31, 1889.

Application filed May 4, 1889. Serial No. 309,547. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS R. CRANE, a citizen of the United States, residing at Heathsville, in the county of Northumberland and State of Virginia, have invented certain new and useful Improvements in Agitators for Fertilizer-Drills, of which the following is a specification.

My invention relates to an improved agitator for fertilizer-drills, and has for its object to provide an agitator device with an improved prong and foot to sweep the fertilizer into the discharge-openings.

Referring to the accompanying drawings, Figure 1 is a top view. Fig. 2 is a cross-section of the hopper, showing the agitator. Fig. 3 is a side view of the agitator, and Fig. 4 is a perspective view of one foot of the agitator.

The fertilizer-box, as usual, has sloping sides A and a concave bottom *b*, of any desired kind, provided with discharge-openings *c*, arranged in a line extending lengthwise of the box. Any well-known device may be employed to regulate or entirely stop the discharge of the fertilizer. A rock-shaft G extends through the box and has bearings in the end F. On the outside this shaft has a crank-arm *h*, by which the shaft is made to rock.

Each agitator comprises a head I, fitted on the rock-shaft and made fast thereto by a set-screw *d*. Each agitator is above an opening *c*. An arm *n* and two side prongs *n'* project from the said head. The center arms of all the agitators are connected by a bar L. Each side prong *n'* has a foot *s*, which projects in opposite directions from the prong. This foot has a slot *t*, and the foot forms a ring or frame *s* around the slot, and the end of the prong also has a slot *t'*, which is open into the slot of the foot. In other words, the foot-slot *t* and the prong-slot *t'* unite and

really form one slot, and this is the improvement which forms the subject-matter of the present invention.

In operation the rock-shaft G causes the prongs of the agitator and the bar L to vibrate or swing and stir the fertilizer in the hopper and prepare it for passing out the discharge-openings *c*. It has been found, however, that the old style of foot on the prongs allows the fertilizer material to become compacted between the face of the foot and the concave bottom *b* of the hopper, the fertilizer material will adhere to the face of the old-style foot and become encrusted thereon, and this hard material on the foot then rubs against the concave bottom and occasions friction and makes the machine run hard, and sometimes breaks or causes stoppage of the machine. The slot *t t'* in the foot and prong of the agitator remedies this difficulty without impairing its efficiency. Instead of compacting and becoming encrusted the fertilizer material will pass through the foot-slot.

Having described my invention, I claim—

1. In combination with a fertilizer-hopper having a concavity at its bottom, a rock-shaft, and an agitator having prongs provided with a slotted frame-foot *s*, as and for the purpose set forth.

2. The agitator for the hoppers of fertilizer-drills, comprising a head I, having prongs, each provided with a foot which projects laterally in opposite directions and has a central slot *t*, which unites with a slot *t'* in the prong.

In testimony whereof I affix my signature in the presence of two witnesses.

THOMAS R. CRANE.

Witnesses:

JOHN E. MORRIS,  
JNO. T. MADDOX.