

No. 745,671.

PATENTED DEC. 1, 1903.

L. E. ROBY.
SEED TUBE FOR GRAIN DRILLS.
APPLICATION FILED JUNE 21, 1902.

NO MODEL.

Fig. 1.

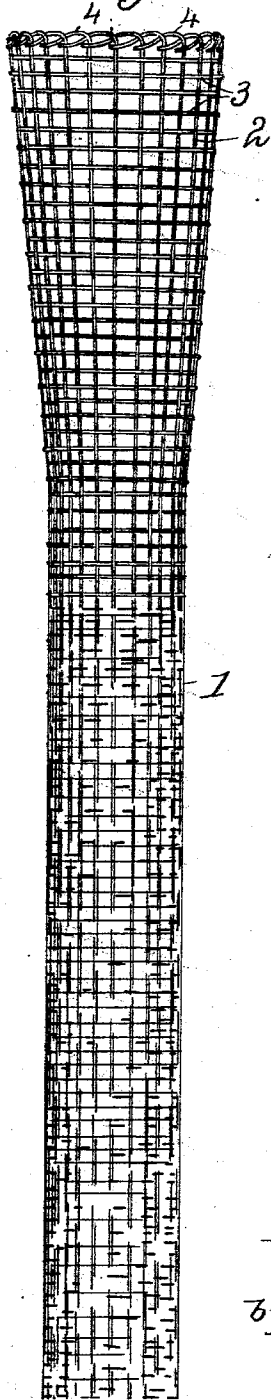
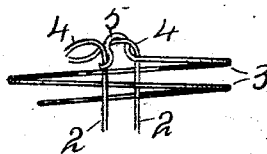


Fig. 2.



Fig. 3.



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UNITED STATES PATENT OFFICE.

LUTHER E. ROBY, OF DECATUR, ILLINOIS.

SEED-TUBE FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 745,671, dated December 1, 1903.

Application filed June 21, 1902. Serial No. 112,688. (No model.)

To all whom it may concern:

Be it known that I, LUTHER E. ROBY, of the city of Decatur, county of Macon, and State of Illinois, have invented a certain new and useful Seed-Tube for Grain-Drills, of which the following is a specification.

The object of this invention is to provide a non-collapsible and durable grain-tube, which will maintain an interior surface sufficiently unbroken to convey the smaller grains and which will not create an objectionable noise.

The invention is exemplified in the structure hereinafter described, and it is defined in the appended claims.

Heretofore seed-tubes for grain-drills have been made of rubber or analogous composition, of spirally-wound wire, and of imperforate sheet or cast metal. The metal tubes are non-flexible, and they rattle annoyingly in the drill-shanks. The tubes made of spirally-wound wire become lengthened to an extent to leave spaces between coils sufficiently wide to interfere with free passage and guidance of the grain, particularly oats, and the rubber tubes are readily collapsible and unable to stand usage, storage, or shipment. The tubes made of spirally-wound wire are also open to the objection that the elasticity of the tube gives rise to a motion which detaches the tube from the seed-cup.

I overcome the objectionable features of previously-known forms of seed-tubes by making the tubes of woven wire. The wire that I use is of small diameter, and the tubes are preferably made by weaving a woof-wire spirally through lengthwise-disposed warp-wires. The upper ends of seed-tubes are usually enlarged taperingly to fit the seed-cups, and I prefer to form the tapering enlargement by spreading the warp-wires divergently apart at the upper ends of the tubes. A selvage may be formed at the ends of the tubes by bending the ends of the warp-wires each around the one next adjacent and by bending the woof-wire around one of the warp-wires. The selvage may be soldered to give additional security.

In the drawings forming part of this specification, Figure 1 is a diagram of a fragment of a seed-tube, showing the upper end widened and illustrating by means of abnormally

large meshes the preferred mode of constructing the tube. Fig. 2 shows a small fragment of the fabric of the tube and illustrates approximately the actual size of the meshes and the wires. Fig. 3 is a detail showing the spiral arrangement of the woof-wire and illustrating the manner in which the end of the woof-wire may be secured in the selvage.

The tube 1 may be of any desired shape, size, and proportion. The warp-wires 2 are disposed in positions to give the tube its desired form and the woof-wire 3 is interwoven spirally with the warp-wires in an obvious manner. The ends 4 of the warp-wires may be bent one around another, as shown in Fig. 1, and the end 5 of the woof-wire may be bent around one of the warp-wires, as shown in Fig. 3. The wire of which the tube is composed is sufficiently elastic to prevent the tube from collapsing permanently, the meshes of the fabric are sufficiently close to form effective guiding surfaces for the grain, the interweaving of the wires insures permanence of structure, and the tube is sufficiently light and flexible to strike against the walls of the drill-shanks without producing an objectionable clatter.

I claim—

1. A seed-tube for grain-drills composed of a set of lengthwise-disposed warp-wires and a woof-wire interwoven spirally with the warp-wires.

2. A seed-tube for grain-drills composed of a set of lengthwise-disposed warp-wires extending divergently at the upper end of the tube, and a woof-wire interwoven spirally with the warp-wires.

3. A seed-tube for grain-drills composed of a set of lengthwise-disposed warp-wires intertwined at their ends to form a selvage, and a woof-wire interwoven spirally with the warp-wires.

4. A grain-drill seed-tube composed of closely-woven wire-mesh fabric formed to guide the grain through the tube, substantially as described.

5. A seed-tube for grain-drills composed of closely-woven wire-mesh fabric having a selvage edge at the end of the tube.

6. A flexible seed-tube for grain-drills composed of open-mesh woven-wire fabric and

comprising longitudinal and circumferential wires, substantially as described.

7. A seed-tube for grain-drills tapering downwardly from its upper end and composed of fine open-mesh woven-wire fabric
5 having a selvage edge at the upper end of the tube.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

LUTHER E. ROBY.

Witnesses:

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Mrs. THEO. PATTISON.