No. 710,251. Patented Sept. 30, 1902.

F. G. COLLEY.

SEEDING MACHINE.

(Application filed June 21, 1902.)

(No Model.)

Fig. 1.

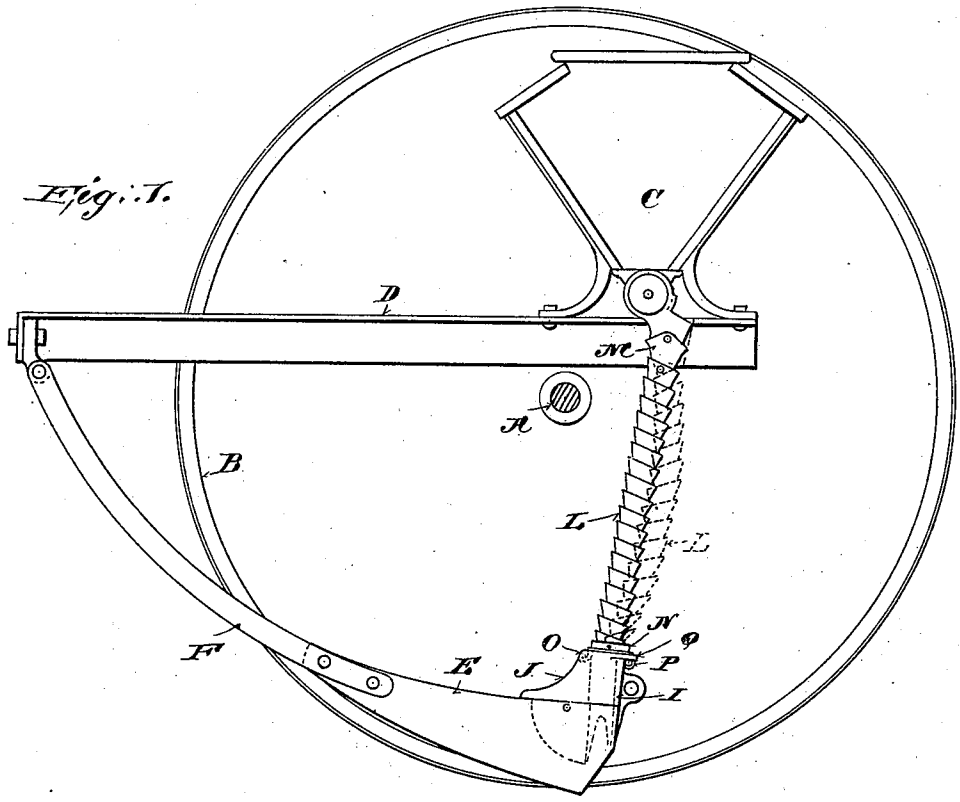


Fig. 2.

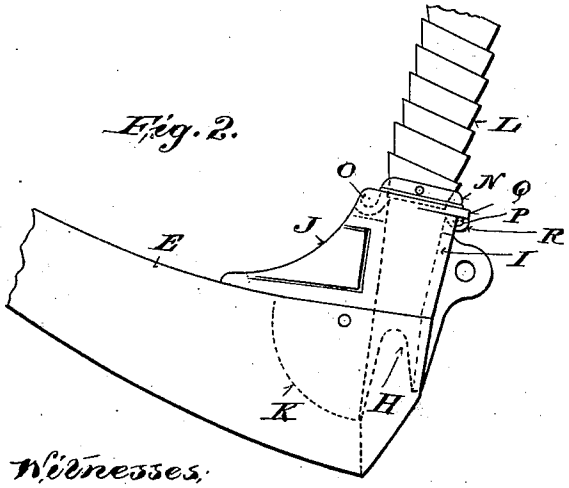
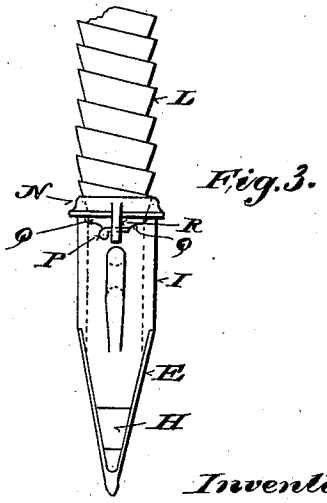


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERICK GEORGE COLLEY, OF MACEDON, NEW YORK, ASSIGNOR TO BICKFORD AND HUFFMAN COMPANY, OF MACEDON, NEW YORK, A CORPORATION OF NEW YORK.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 710,251, dated September 30, 1902.

Application filed June 21, 1902. Serial No. 112,703. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK GEORGE COLLEY, a British subject, and a resident of Macedon, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Seeding-Machines, of which the following is a specification.

My invention relates to seeding-machines or grain-drills, and more particularly to that class of seeding-machines known as "shoe-drills," wherein a furrow is formed by a shoe or wedge-shaped device, the grain being deposited in the furrow in the ordinary manner.

In one form of shoe-drill it has been customary to conduct the seed or grain from the distributing device to the shoe by means of a rubber or other flexible tube; but as this tube is not extensible longitudinally it may not be connected to the shoe, and it has been necessary to provide the shoe with an elongated boot or conduit within which the flexible tube is inserted and may play to an extent sufficient to permit the upward and downward movement of the shoe without disengaging the tube therefrom. The employment of this elongated boot or conduit makes the shoe heavy and cumbersome and difficult and expensive to manufacture, and, moreover, renders it liable to breakage. In another form of shoe-drill telescopic metal tubes or conveyers have been employed, which telescope within the elongated boot or conduit attached to the shoe and which also are not connected to the boot, although sometimes provided with stops on the telescoping member to limit its motion with respect to the boot. This form of drill is also open to the objections arising from the employment of the long heavy boot or conduit, and the rigid telescopic members themselves are liable to fracture, and unless especial provision be made for pivotally attaching them to the grain-distributer they may not be zigzagged or "staggered" when it is desired to transpose the position of the alternate rows in the customary manner. To obviate these objections and the necessity for providing the shoe with an elongated boot or conduit within which the grain-tube or other conveyer may float or play, I propose to employ a shoe provided with a short boot, which is cheaper, lighter, and more durable, and to employ in connection therewith a grain-tube which is both flexible and telescopic, which may be attached positively to the boot and does not float therein, thereby securing the advantages of flexibility to permit staggering or zigzagging and all the advantages of telescoping, in that the tube, although being attached to the boot, will accommodate itself to the movements of the shoe.

To this end my invention consists in the construction and combination of parts now to be described and as finally pointed out in the claims.

Referring to the drawings, wherein the same parts are indicated by the same letters of reference in all the views, Figure 1 is a sectional view of so much of a grain-drill as is necessary to illustrate the application of my invention, showing a single shoe and its connected parts. Fig. 2 is a detail side view on a larger scale, illustrating more particularly the connection of the tube to the boot; and Fig. 3 is a similar detail end view.

The axle A, wheel B, hopper C, frame D, shoe E, and drag-bar F form no part of my invention and may be of any desired or approved construction.

On the upper part of the shoe E is secured the short boot I, which is provided with the wedge-shaped piece K, designed to enter between the two parts of the shoe E and the projecting piece J, overlying the top of the shoe. In this boot or conduit I the passage H for the distribution of the grain is formed. (See Figs. 2 and 3.) The flexible and telescopic tube L is connected at its upper end at M to the grain-delivering mechanism in the customary manner and at its lower end to the boot I, preferably by means of the ring N, which is riveted or otherwise secured to the tube. As shown in the drawings, the ring N is provided with a forwardly-inclined lug O, which passes under a pin formed in the casting J, and at its rear side with a smaller projecting lug, which passes through a recess in the shoulder Q of the casting J and is detachably secured thereunder by means of a pin P. The

tube itself forms no part of my present invention, so long as it be both flexible and telescopic. For purposes of the present case I have illustrated such a flexible and telescopic tube as that disclosed in the United States Patent to G. Commichau, No. 499,713, dated June 20, 1893. It will be seen that by this arrangement I am enabled to employ a shoe with a light, simple, and inexpensive boot; that the tube being both flexible and telescopic may be positively attached to the boot; that because of its telescopic construction it readily accommodates itself to all upward and downward movements of the shoe, and that because of its flexibility the shoes may be readily staggered, and, moreover, it is not so liable to fracture as the rigid telescopic tubes.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a seeding-machine, the combination of a grain-delivery mechanism and a shoe, with a flexible telescopic tube connected at one end to the grain-delivery mechanism and positively connected at the other end to the shoe, the flexible and telescopic construction of the tube permitting it to yield both laterally and longitudinally.

2. In a seeding-machine, the combination of a grain-delivery mechanism and a shoe, the shoe being provided with a short boot, with a flexible telescopic tube connected at one end to the grain-delivery mechanism and positively connected at the other end to the boot, the flexible and telescopic construction of the tube permitting it to yield both laterally and longitudinally.

3. In a seeding-machine, the combination of a grain-delivery mechanism and a shoe, with a flexible telescopic tube connected at one end to the grain-delivery mechanism and detachably connected at the other end to the shoe, the flexible and telescopic construction of the tube permitting it to yield both laterally and longitudinally.

4. In a seeding-machine, the combination of a grain-delivery mechanism and a shoe, with a flexible telescopic tube connected at one end to the grain-delivery mechanism and detachably connected at the other end to the shoe, the said detachable connection comprising two projecting lugs on the tube, a pin formed upon the shoe for engagement with one of the lugs, and a second pin to detachably connect the other lug to the shoe.

5. In a seeding-machine, and in combination with a shoe and a grain-delivery tube, a detachable connection therefor comprising two projecting lugs upon the tube, a pin formed upon the shoe to engage one of the lugs, the shoe being also formed with a recess to embrace the other lug, and a pin to hold the lug in the recess.

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

FREDERICK GEORGE COLLEY.

Witnesses:
B. G. THOMAS,
D. C. TICKNOR.