

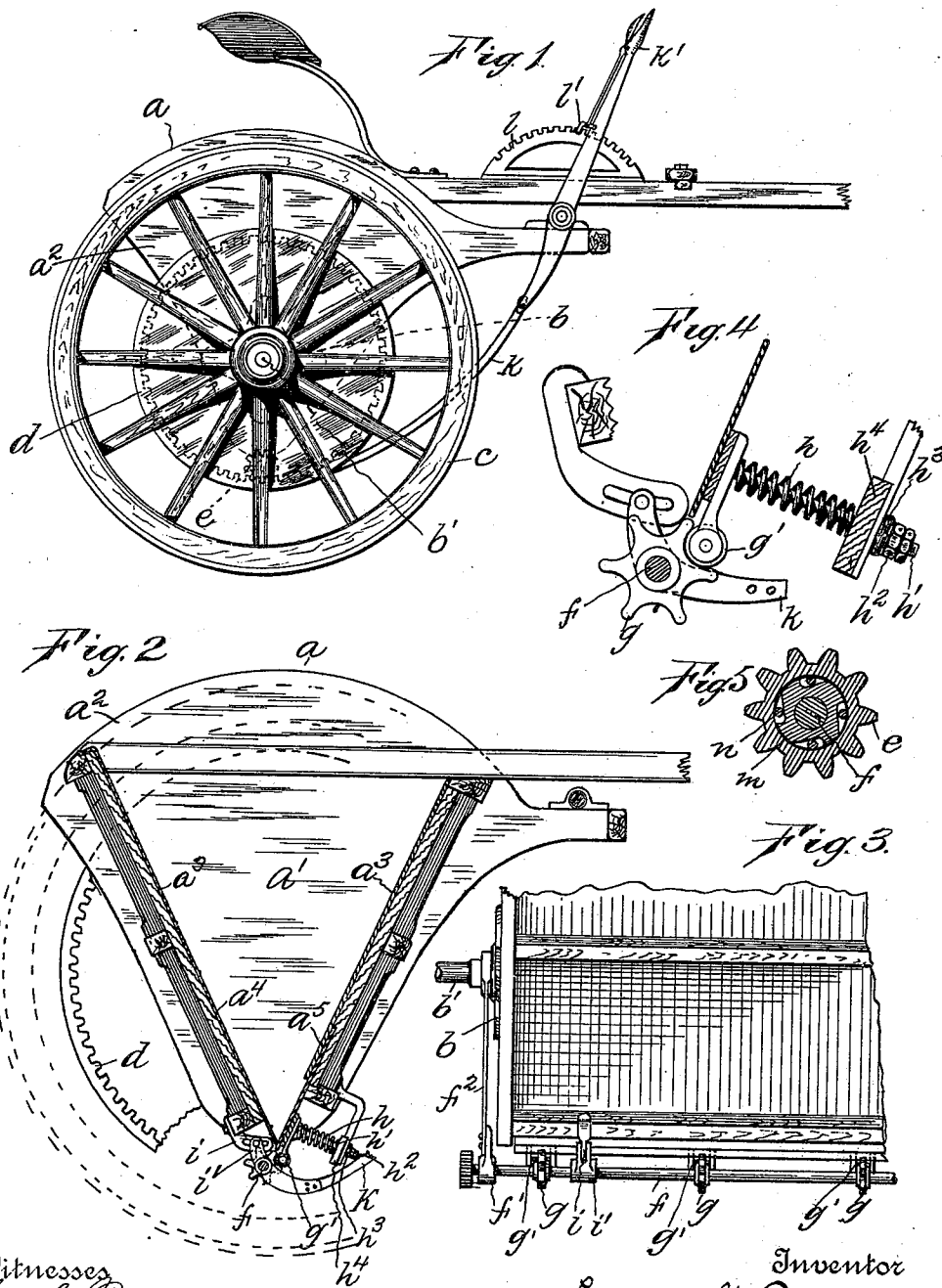
**No. 683,903.**

**Patented Oct. 8, 1901.**

**L. H. BREWER.**  
**SEED SOWING APPARATUS.**

(Application filed Oct. 17, 1900.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## SEED-SOWING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 683,903, dated October 8, 1901.

Application filed October 17, 1900. Serial No. 33,364. (No model.)

*To all whom it may concern:*

Be it known that I, LOWELL H. BREWER, a citizen of the United States of America, and a resident of East Hartford, in the county of Hartford and State of Connecticut, (whose post-office address is East Hartford, Connecticut,) have invented a certain new and useful Seed-Sowing Apparatus, of which the following, when taken in connection with the accompanying drawings, is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

My invention relates to the class of devices which are commonly used for distributing seeds, fertilizers, or other materials over the ground, and is more especially adapted for use in distributing materials such as are used as a top dressing for the earth—such, for instance, as ashes or finely-ground cotton-seed.

The object of my invention is to produce a machine which will be simple in its construction and cheap to manufacture and at the same time provide a device which will operate effectively and will distribute materials very evenly without liability of their becoming too much scattered as they are applied. To accomplish these results, the distributing mechanism is operated directly from the wheels which support the structure, so that all movement of the wheels as the device is drawn or otherwise propelled over the ground, even though it is uneven, would be positively transmitted to the mechanism which causes the material to be scattered from the distributor.

Referring to the drawings, Figure 1 is a side elevation of the device. Fig. 2 is a cross-sectional view. Fig. 3 is a detail side view of a portion of the mechanism looking from the left of Fig. 2. Fig. 4 is a detail view, on a large scale, of the trip mechanism. Fig. 5 is a detail view, on a large scale, of one of the driving-pinions and appurtenant parts.

In the accompanying drawings the letter *a* denotes the distributor-frame, which may be made in any desired manner and of any desired form, though it is preferably built up with a wooden frame of a considerable width and has its sides sloping toward each other, forming a pocket *a'*, within which the material to be distributed may be carried in the desired quantity. This distributor-frame is

of course closed at its ends by walls *a<sup>2</sup>* and preferably has its interior lined with sheet metal, (denoted at *a<sup>3</sup>*.) Upon both of the ends are secured brackets *b*, which carry the axle-arms *b'*, which in turn support the wheels *c*. Rigidly attached to the wheels and concentric with their axes are internal gears *d*, and these internal gears mesh with pinions *e*, arranged upon the main operating-shaft *f*. This shaft *f* is journaled in bearings *f'*, which are pivotally hung, as by arms *f<sup>2</sup>*, from the axle-brackets *b*. This arrangement always insures the pinions, being in proper mesh with the internal gears, no matter what the position of the distributor may be in relation to the wheels. It is obvious that such a construction is essential, inasmuch as the tongue or neap by which the device as a whole is drawn over the ground does not always lie in the same plane, but swings in a vertical plane about the axis of the wheels. At intervals along this shaft *f* are arranged star or trip wheels *g*, which may have any desired number of teeth and are adapted to cooperate with rolls *g'* for the purpose of opening or closing the bottom of the distributor.

As stated above, the interior of the distributor is lined with sheet metal, and this preferably extends slightly beyond the frame at the bottom, so that the metal plates forming the sheathing for opposite walls of the distributor are brought into close contact. One of these sheet-metal walls, as *a<sup>4</sup>*, is stationary, while the other is so located with relation to the bottom of the side wall that it may be sprung backward, permitting an opening along the bottom of the distributor. To secure the best results, the portion of the lining which is left to vibrate is made of a harder material than the rest of the sheathing, as sheet-steel, and is firmly supported at one end, as at *a<sup>5</sup>*, by being inserted between sheathing *a<sup>3</sup>* and the frame. At intervals along this vibrating plate are arranged brackets containing rollers, so positioned that they will be engaged by the star-wheels *g*. It is obvious that as the pinion-shaft is rotated by the movement of the wheels *c* and gears *d* the vibrating plate will be forced backward, permitting material within the distributor to fall out at its bottom. To cause this plate to resume its normal position with required rapid-

ity, springs *h* are arranged upon the back of the plate and are held in position about the bolts *h'*, which are provided with adjusting-nuts *h<sup>2</sup>* and a buffer *h<sup>3</sup>*, the latter coöperating  
5 with stop-bar *h<sup>4</sup>*, which prevents the vibrating plate being forced against the sheathing of the opposite wall with such force as to injure it.

To provide a means for adjusting the width  
10 of the opening at the bottom of the distributor, slotted brackets *i* are secured to the frame-work near the bottom, and dependent from these brackets are hangers *i'*, which encircle the pinion-shaft *f* and by their position deter-  
15 mine the position of the shaft and its star-wheels with relation to the rolls *g*. The connecting-rods *k*, operated by handle *k'*, are secured to the brackets *i'*, and a movement of the handle *k'* will move the pinion-shaft *f*  
20 farther away from or closer to the rolls *g*, dependent upon the movement of the handle, whereby the rotation of the star-wheels *g* will move the vibrating plate more or less, as desired. A segment *l*, provided with peripheral  
25 teeth, coöperates with the stop *l'*, conveniently located on the handle *k'*, to hold the lever, with the connecting-rods and pinion-shaft, in any desired adjustment.

In Fig. 5 of the drawings there is shown  
30 one of the pinions *e* and its connection to the shaft *f*. It is obvious that if one of the wheels rotates faster than the other, as in turning a corner, a considerable torsional strain will be put upon the shaft *f* unless  
35 means were provided for releasing the pinion during backward movement of the wheels. To obviate this difficulty, a ratchet and pawl  
40 *m n* are arranged intermediate with the pinion and the shaft, so that the frame will be driven only during the forward motion of the wheels.

I claim as my improvement—

1. In combination in a device of the class  
45 specified, a distributor adapted to carry material, a vibrating plate at the mouth thereof, a friction-roll carried by the plate, a rotating

shaft having a star-wheel for moving said roll, a hanger supporting said shaft, and means for adjusting the position of the hanger.

2. In combination in a device of the class  
50 specified, a distributor adapted to carry material, a vibrating plate at the mouth thereof, a friction-roll carried by the plate, a rotating shaft having a star-wheel for moving said roll  
55 and a driving-pinion, supporting-wheels for the machine, gears carried thereby and in mesh with said pinion, arms hung on the axis of said wheels and having bearings in which said shaft is journaled, and means for moving the shaft around said axis but with re-  
60 spect to said friction-roll.

3. In combination in a device of the class  
specified, a distributor adapted to carry material, a vibrating plate at the mouth thereof,  
65 a friction-roll carried by the plate, a rotating shaft having a star-wheel for moving said roll, a bracket depending from the distributor-frame and having a slot, a hanger supporting  
70 said shaft and having one extremity adjustably pivoted in said slot, and means for adjusting the other extremity of the hanger to move the star-wheel with respect to the friction-roll, substantially as described.

4. In combination in a device of the class  
75 specified, a distributor adapted to carry material, a vibrating plate at the mouth thereof, a shaft having a star-wheel for moving said plate, a driving-pinion on said shaft, supporting-wheels for the machine, gears carried  
80 thereby and in mesh with said pinion, arms hung on the axis of said wheels and having bearings in which said shaft is journaled, a hanger supporting said shaft and having one extremity connected by an adjustable  
85 pivot with the distributor-frame, and means for adjusting the other extremity of the hanger to move the star-wheel with respect to the friction-roll, substantially as described.

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