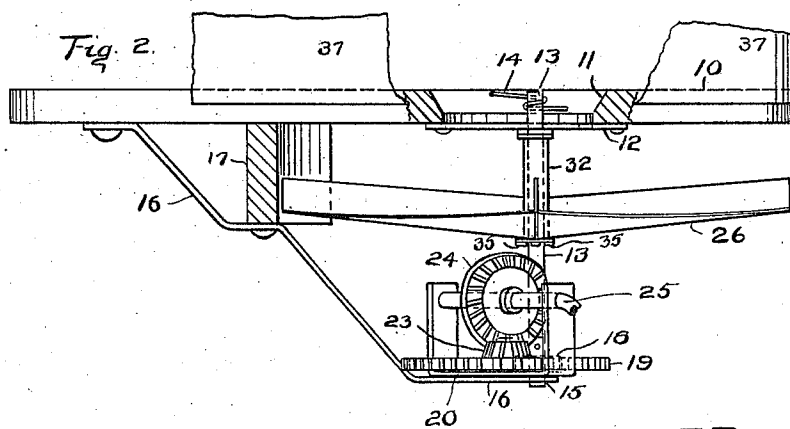
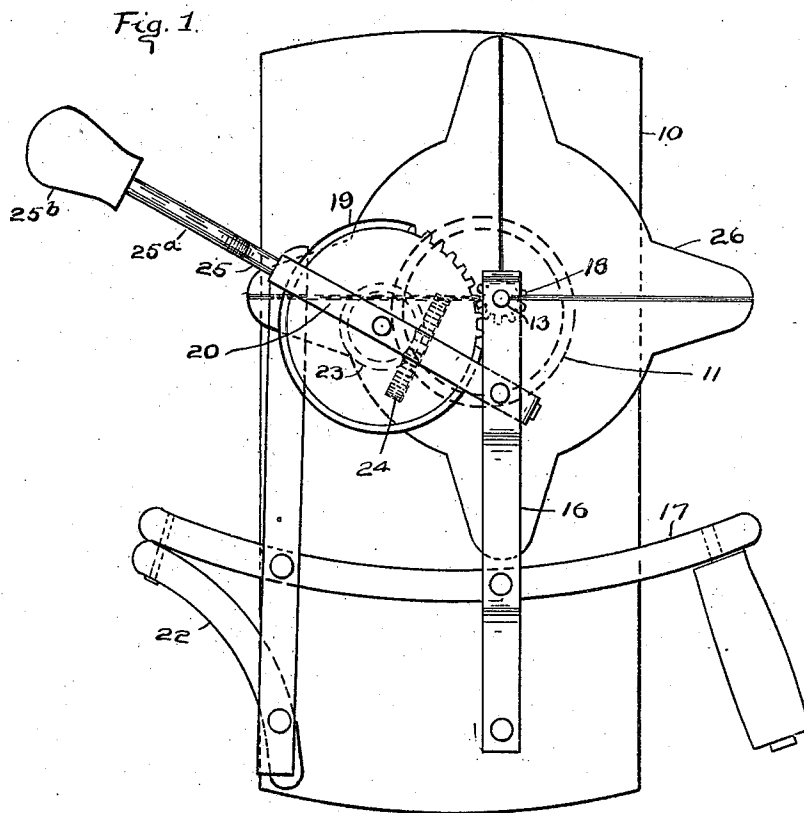


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HAND SEEDER.  
APPLICATION FILED FEB. 24, 1910

963,067.

Patented July 5, 1910.

2 SHEETS—SHEET 1.



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James F. Rittenhouse

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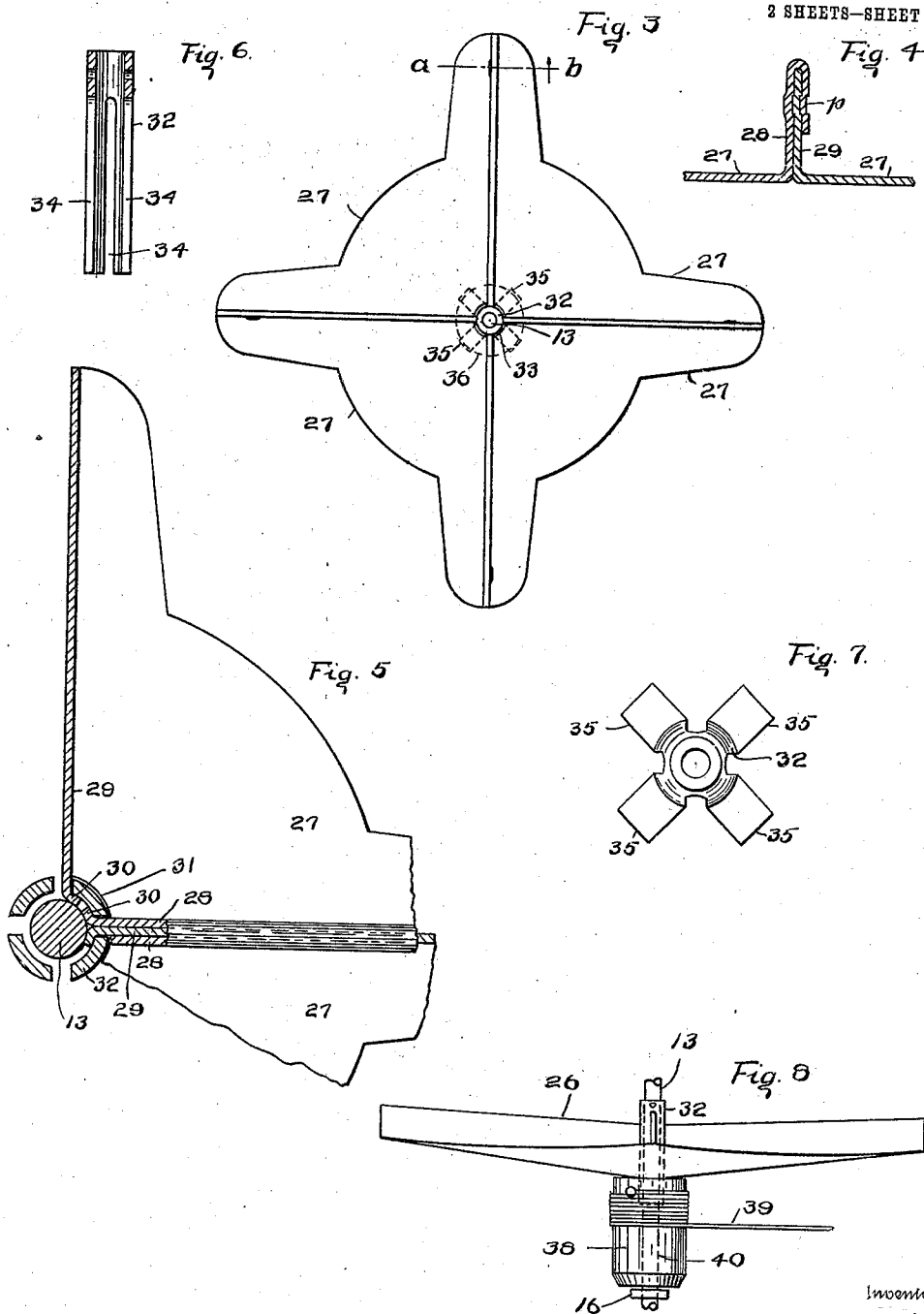
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# UNITED STATES PATENT OFFICE.

JAMES F. RITTENHOUSE, OF LIBERTY MILLS, INDIANA.

HAND-SEEDER.

963,067.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed February 24, 1910. Serial No. 545,576.

*To all whom it may concern:*

Be it known that I, JAMES F. RITTENHOUSE, a citizen of the United States, residing at Liberty Mills, in the county of Wabash and State of Indiana, have invented new and useful Improvements in Hand-Seeders, of which the following is a specification.

My invention relates to hand seeders and particularly to an improved construction of distributing wheel therefor.

In Letters Patent No. 927,429 issued July 6, 1909, is disclosed a distributing wheel having two blades formed out of a single sheet of metal, the wheel being secured to its driving shaft without the use of solder.

The object of my present invention is to improve upon the invention of said Letters Patent No. 927,429, by forming the wheel of a plurality of individual blades which are secured together and to the driving shaft without the use of solder.

It consists in the novel features of construction and arrangement hereinafter described and illustrated in the drawings, in which—

Figure 1 is a bottom view of a seeder provided with my invention; Fig. 2, a side elevation of the same some parts being in section; Fig. 3, a plan view of the distributing wheel and shaft; Fig. 4, an enlarged vertical section on line *a—b* of Fig. 3; Fig. 5, an enlarged sectional plan view of a part of the wheel illustrating the manner of securing each blade to the shaft; Fig. 6, a vertical section of the ferrule; Fig. 7, a plan view of the ferrule removed from the shaft and distributing wheel; and Fig. 8, an elevational view of a modification of the wheel driving device.

Referring to the drawings, I provide the base 10 with the usual feed opening 11 and plate 12 which covers a part of the opening on the under side of the base. Through this plate passes a vertically arranged shaft 13, the upper end of which protrudes into opening 11 and is provided with a stirrer 14. The lower end of the shaft has a bearing 15 in a support 16 which is secured at one end to base 10 and to a curved wall 17 which is secured to the under surface of the base, in the same manner as is shown in Letters Patent 927,429. A pinion 18 is secured to shaft 13 preferably adjacent to bearing 15, and meshing with the pinion is a gear wheel 19 which is journaled on a support 20, the

support being secured to support 16 and to a bar not indicated by reference character in Fig. 1, but which extends rearwardly and is secured to wall 17 and to a curved brace 22 which is attached to base 10 and to wall 17. Brace 22 is curved so that it may be brought into contact with the body of the user and aid him in holding the device when he is operating it.

Gear wheel 19 carries on its upper surface a pinion 23 into which meshes a gear wheel 24 which is mounted on a shaft 25. Shaft 25 is supported in upwardly extending extensions of support 20 and it is provided with a crank 25<sup>a</sup> and handle 25<sup>b</sup> by which it may be rotated.

A suitable distance beneath base 10 a distributing wheel 26 is secured to shaft 13. This wheel 26 is formed of any number of blades or portions 27, which are preferably constructed of thin metal such as tin. Each blade has its side edges turned upwardly a sufficient distance to form flanges 28 and 29 which are arranged to radiate from shaft 13. Flange 28 is of sufficient height to enable it to be lapped or bent over flange 29 on the adjacent blade 27, and secured to it near the outer extremity by punching the metal of both flanges as illustrated in Fig. 4 at *p*. This punching, which is longitudinally arranged in the flanges prevents all vertical movement of the overlapping flanges.

The blades 27 are secured to the shaft 13 in the following manner. The inner extremities 30 of the flanges on each blade are bent toward each other and the metal of each blade is cut out to form an opening 31 around shaft 13 through which passes the lower end of a ferrule 32. This ferrule surrounds the shaft and is secured to it by a rivet 33. Slots 34 in the ferrule permit it to pass over the flanges on the several blades and the extremities 35 of the ferrule which pass through opening 31 are bent outwardly against the under surface of the blades. A washer 36 may be placed on the ferrule beneath the blades and the ends 35 bent outwardly over it. The inner bent ends 30 of the flanges extend through slots 34 in ferrule 32 and pass between the ferrule and shaft 13. The ferrule being tightly secured to the shaft 13, holds ends 30 tightly against the shaft, thereby fixing the blades 27 which form the distributing wheel to that shaft. The flanges when in contact as above de-

scribed form ribs which radiate from the shaft and add considerable strength and rigidity to the wheel, and also serve to catch the seed which falls onto the wheel and guide it toward the periphery of the wheel.

A suitable bag 37 is secured to base 10 and the usual regulating slide, not illustrated in the drawings, will be arranged under opening 11 in the base to control the passage of the seed from the sack onto wheel 26.

In Fig. 8 I illustrate a modification of the driving mechanism for driving the distributing wheel 26. Instead of the gears and pinions and crank above described I may use the well known spool 38 and cord 39 which is secured and wound thereon and which is operated in the usual manner. Spool 38 is provided with a central opening 40 through which passes shaft 13, the shaft closely fitting the opening. The extremities 35 of ferrule 32 are not in this case bent outwardly but spool 38 is driven over them so that the ferrule is securely fixed in the spool.

It is apparent that I have formed a strong, rigidly and cheaply constructed distributing wheel which is soldered in no point whatever.

What I claim is:

1. In a device of the class described the combination with a base having a shaft revolubly supported thereon, and means connected to the shaft for rotating it, of a distributing wheel on the shaft comprising a plurality of blades which are secured together by overlapping flanges on their adjacent side edges, means in the overlapping flanges to prevent relative vertical movement of the same, and means connected to the shaft and engaging the inner ends of the flanges whereby the wheel is secured to the shaft.

2. In a device of the class described the combination with a base having a shaft revolubly supported thereon, and means con-

nected to the shaft for rotating it, of a distributing wheel on the shaft comprising a plurality of blades which are secured together by overlapping flanges on their adjacent side edges, means in the overlapping flanges to prevent relative vertical movement of the same, and a ferrule secured to the shaft and passing through the wheel and engaging the inner extremities of the flanges whereby the wheel is secured to the shaft.

3. In a device of the class described the combination with a base having a shaft revolubly supported thereon, and means connected to the shaft for rotating it, of a distributing wheel on the shaft comprising a plurality of blades which are secured together by overlapping flanges on their adjacent side edges, means in the overlapping flanges to prevent relative vertical movement of the same, and a slotted ferrule secured to the shaft and engaging the inner ends of the flanges to force them laterally against the shaft, the lower extremities of the ferrule passing below the blades and being bent outwardly beneath the same.

4. In a device of the class described the combination with a base, a shaft revolubly mounted thereon, and means connected to the shaft for rotating it, of a distributing wheel on the shaft comprising a plurality of blades radiating from the shaft, each blade having a vertically arranged flange on each side edge, the inner extremities of which are bent toward each other, one of said flanges overlapping the adjacent flange of another blade, a punched out portion in the overlapping flanges whereby relative vertical movement of the flanges is prevented, and a ferrule secured to the shaft, passing through the blades and forcing the inner extremities of the flanges laterally against the shaft.

JAMES F. RITTENHOUSE.

Witnesses:

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