No. 842,066. PATENTED JAN. 22, 1907.

A. S. BEYMER.

FURROW OPENER FOR SEED PLANTERS.

APPLICATION FILED MAY 14, 1906.

2 SHEETS—SHEET 1

Fig. 1.

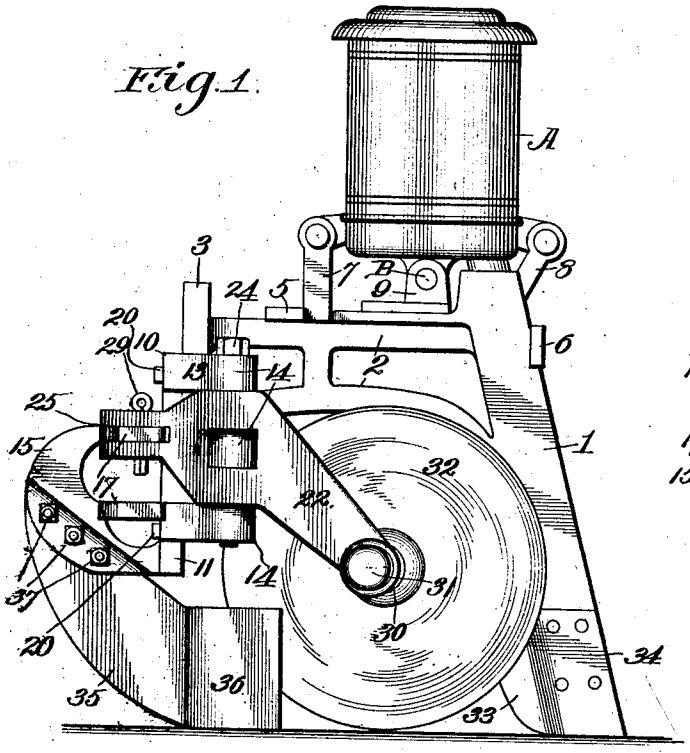


Fig. 5.

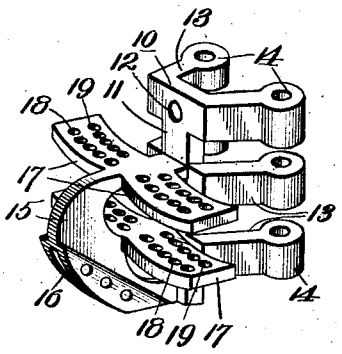


Fig. 2.

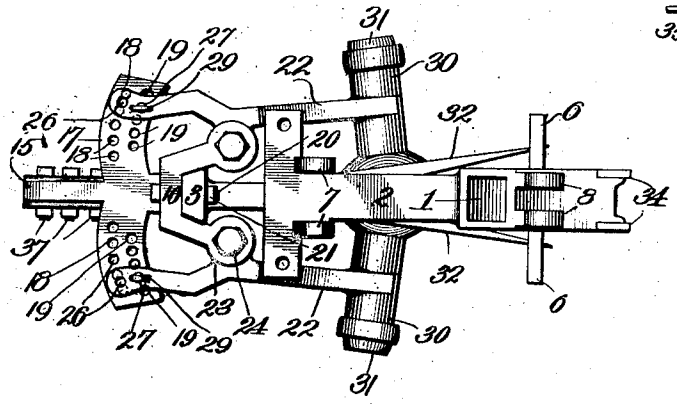


Fig. 6.

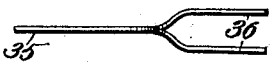
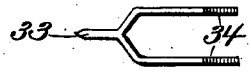


Fig. 7.



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2 SHEETS—SHEET 2

Fig. 3.

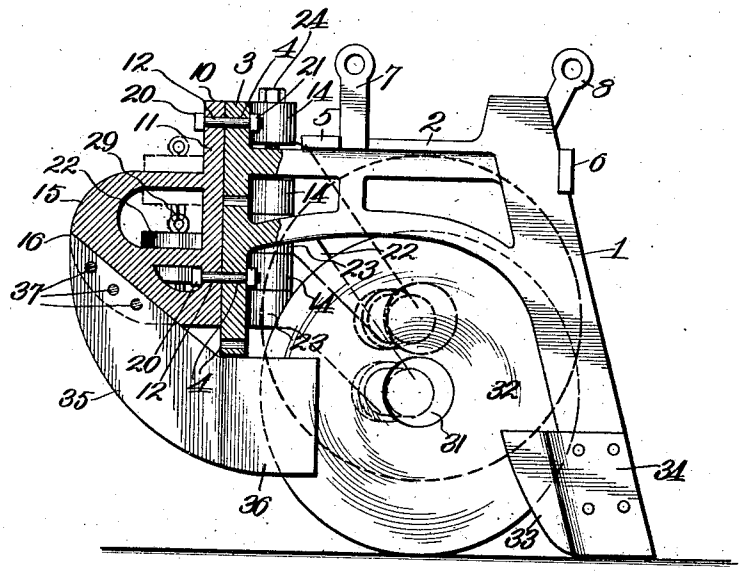
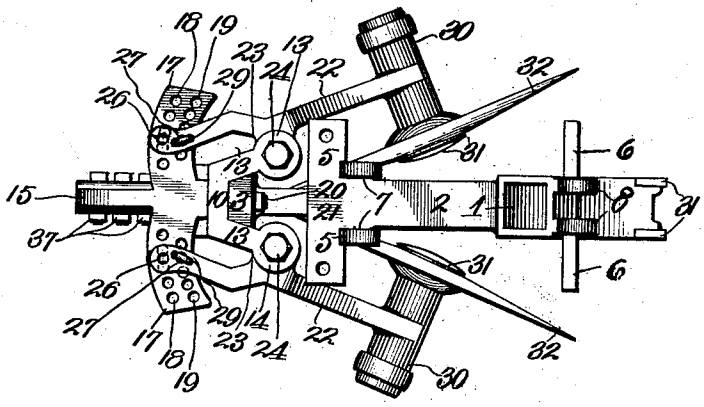


Fig. 4.



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ADELBERT S. BEYMER, OF KANSAS CITY, MISSOURI.

FURROW-OPENER FOR SEED-PLANTERS.

No. 842,066. Specification of Letters Patent. Patented Jan. 22, 1907.

Application filed May 14, 1906. Serial No. 316,678.

To all whom it may concern:

Be it known that I, ADELBERT S. BEYMER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Furrow-Openers for Seed-Planters, of which the following is a specification.

This invention relates to furrow-openers for seed-planters, and has for its object to produce a device of this character adaptable for use in surface or deep planting.

A further object is to produce a furrow-opener with disks adjustable to produce furrows of varying widths and vertically-adjustable with respect to the shank-runners.

A still further object is to produce a furrow-opener having front runners vertically adjustable with respect to the back runners.

With these general objects in view the invention consists in certain novel and peculiar features of construction and organization, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a side view of a furrow-opener embodying my invention as arranged for surface planting. Fig. 2 is a top plan view of the same with the seedbox or hopper omitted. Fig. 3 is a side view with the front part in central vertical section, as arranged for deep or furrow planting, said figure also showing the disks elevated in dotted lines. Fig. 4 is a top plan view with the parts arranged as in Fig. 3. Fig. 5 is a detail perspective view of the adjustable bracket forming the direct support for the front runner and the disks. Fig. 6 is a top plan view of the front runner. Fig. 7 is a similar view of the rear runner.

In the said drawings, 1 indicates the usual tubular shank or seed-tube. 2 indicates a bar projecting forwardly therefrom, and 3 an upright at the front end of bar 2, said parts constituting a rigid frame and of integral formation by preference. The upright 3 is provided with four equispaced bolt-holes 4. The bar is cast with laterally-projecting lugs 5, and the shank is cast with laterally-projecting lugs 6, said lugs 5 and 6 providing convenient means for the attachment of the customary cross-bars (not shown) forming parts of a corn-planter or kindred machine. For convenience in supporting the said box or hopper A the rigid frame is provided with upwardly-projecting arms 7 and 8 and also carries a bearing 9 for the shaft B for imparting motion to the seed-dropping mechanism of the hopper, said mechanism not being shown, because it forms no part of this invention.

10 indicates a bracket constructed as follows; 11 indicates the body portion, provided near its upper and lower ends with bolt-holes 12, spaced apart to correspond with the first and third or second and fourth bolt-holes 4, and projecting divergently rearward from the body portion 11 are the equidistant arms 13, terminating in vertically-perforated heads 14.

15 indicates a vertical web or rib projecting forwardly from the body portion 11 of the bracket and having its lower edge bifurcated, as at 16.

17 indicates arms projecting laterally from the web 15 and provided near their front and rear edges with vertical holes 18 and 19, respectively, said holes, by preference, bearing a staggered relation. 20 indicates bolts extending through holes 12 and registering holes 4 of the upright portion of the rigid frame, and 21 nuts engaging the rear ends of said bolts and clamping the bracket rigidly to the frame, as shown most clearly in Fig. 3, where it will be noticed said bolts engage the first and third holes 4, and therefore support the bracket at its highest point of adjustment, the second and fourth holes 4 being functionless at such time.

22 indicates a pair of arms provided at suitable distances from their ends with a pair of inwardly-projecting vertically-perforated ears 23, the ears of each arm being spaced apart a distance slightly exceeding the height of one of the heads 14 of the bracket hereinbefore described, so that said ears may fit between said heads when arranged as shown in Fig. 1 or as shown by dotted lines in Fig. 3. At times the upper ears of said arms will fit between a pair of heads 14 and the lower ears below the bottom heads 14, as shown in full lines, Fig. 3. In either event the arms are pivotally united to the bracket by vertical bolts 24 extending through the alined heads and ears in order to adapt said arms for lateral adjustment. The front ends of the arms 22 are bifurcated, as at 25, to snugly embrace the upper or lower arms 17 of the bracket, according to the vertical adjustment of the pivoted arms, and said bifurcated portions of the arms are provided with vertical holes 26 and 27 to register, respectively, with the holes

18 and 19 of arms 17 of the bracket, spring-cotters 29 extending through holes 27 and 19 or 26 and 18 to secure the arms 22 in the desired position of lateral adjustment. It will be seen that when one of the holes of an arm 22 registers with one of a series of holes of arm 17 the other hole of said arm breaks joint with respect to the second series of holes in arm 17. This arrangement therefore gives a finer lateral adjustment of the disks. The arms 22 are provided at their rear ends with hub portions 30, forming journals for the shafts 31 of disks 32, the forward edges of said disks occupying a plane forward of pivotal points 24 in order that the lateral adjustment of the disks while changing their angular relation to each other shall not materially vary the distance between their front edges. 33 indicates the rear runner, provided with branch arms 34, secured to opposite sides of shank 1. 35 indicates the front runner, having its rear end terminating in rearwardly-diverging arms 36, said arms projecting rearwardly beyond the front edges of the disks. The upper edge of the runner 35 engages the bifurcation 6 of web 15 and is bolted thereto, as at 37.

For surface planting the parts are arranged as shown in Fig. 1—that is to say, the runners and disks occupy the same horizontal plane at their lower edges, and the disks are adjusted laterally to bring them almost in a parallel relation to open a narrow furrow, as is customary in surface planting, the seed passing from the hopper down through the shank in the customary manner. When it is disired to use the furrow-opener for deep or furrow planting, the front runner is secured in the position shown in Fig. 3. The disks are also usually arranged as shown in dotted lines, said figure, and are, by preference, adjusted laterally to the position shown in Fig. 4 in order to open up and widen the furrow in which the rear runner travels for the purpose of effecting the deposit of the seed therein. Under certain conditions it may be found desirable to operate the machine with the front runner elevated and the disks in the position shown in full lines, Fig. 3, and to accommodate such conditions the disks and front runner are made independently adjustable.

From the above description it will be apparent that I have produced a furrow-opener for seed-planters embodying the features of advantage enumerated as desirable and which is obviously susceptible of modification in various particulars without departing from the principle of construction involved. For example, an ordinary cultivator-shovel may be employed as a furrow-opener in lieu of the rear runner under some conditions.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A frame having a front runner having rearwardly-projecting arms, and a pair of forwardly-converging disks having their front edges disposed between the arms of the runner.

2. A frame having a front runner having rearwardly-projecting arms, a pair of forwardly-converging disks having their front edges disposed between the arms of the runner, and a rear runner in longitudinal alinement with the front runner.

3. A frame having a front runner having rearwardly-projecting arms, a pair of forwardly-converging disks having their front edges between the arms of the runner, a tubular shank rearward of and in longitudinal alinement with the front runner, and a runner for said shank.

4. A frame having a front runner having rearwardly-projecting arms, a pair of arms pivoted to the frame at opposite sides of the runner, and forwardly-converging disks carried by said arms and having their front edges adjacent each other and between the pivotal points of said arms and rearward of and in longitudinal alinement with the runner.

5. A frame having a front runner having rearwardly-projecting arms, a pair of arms pivoted to the frame at opposite sides of the runner, forwardly-converging disks carried by said arms and having their front edges adjacent each other and between the pivotal points of said arms and rearward of and in longitudinal alinement with the runner, laterally-projecting arms rigid with said frame, and means for securing the disk-carrying arms forward of their pivotal points, to said laterally-projecting arms.

6. A suitable frame provided with a runner, a vertically-adjustable bracket secured to said frame and equipped with a depending runner in longitudinal alinement with and forward of the first-named runner, arms pivoted to said frame for movement laterally, forwardly-converging disks carried by said arms between said runners, and means for adjustably securing said disk-carrying arms forward of their pivotal points, to said bracket.

7. A frame having a tubular shank provided with a runner, forwardly-converging disks forward of said runner, and a vertically-adjustable runner in front of said disks.

8. A frame having a shank provided with a furrow-opener, a vertically-adjustable runner forward thereof, and vertically and laterally adjustable disks between said runner and furrow-opener.

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

ADELBERT S. BEYMER.

Witnesses:

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G. Y. THORPE.