

(No Model.)

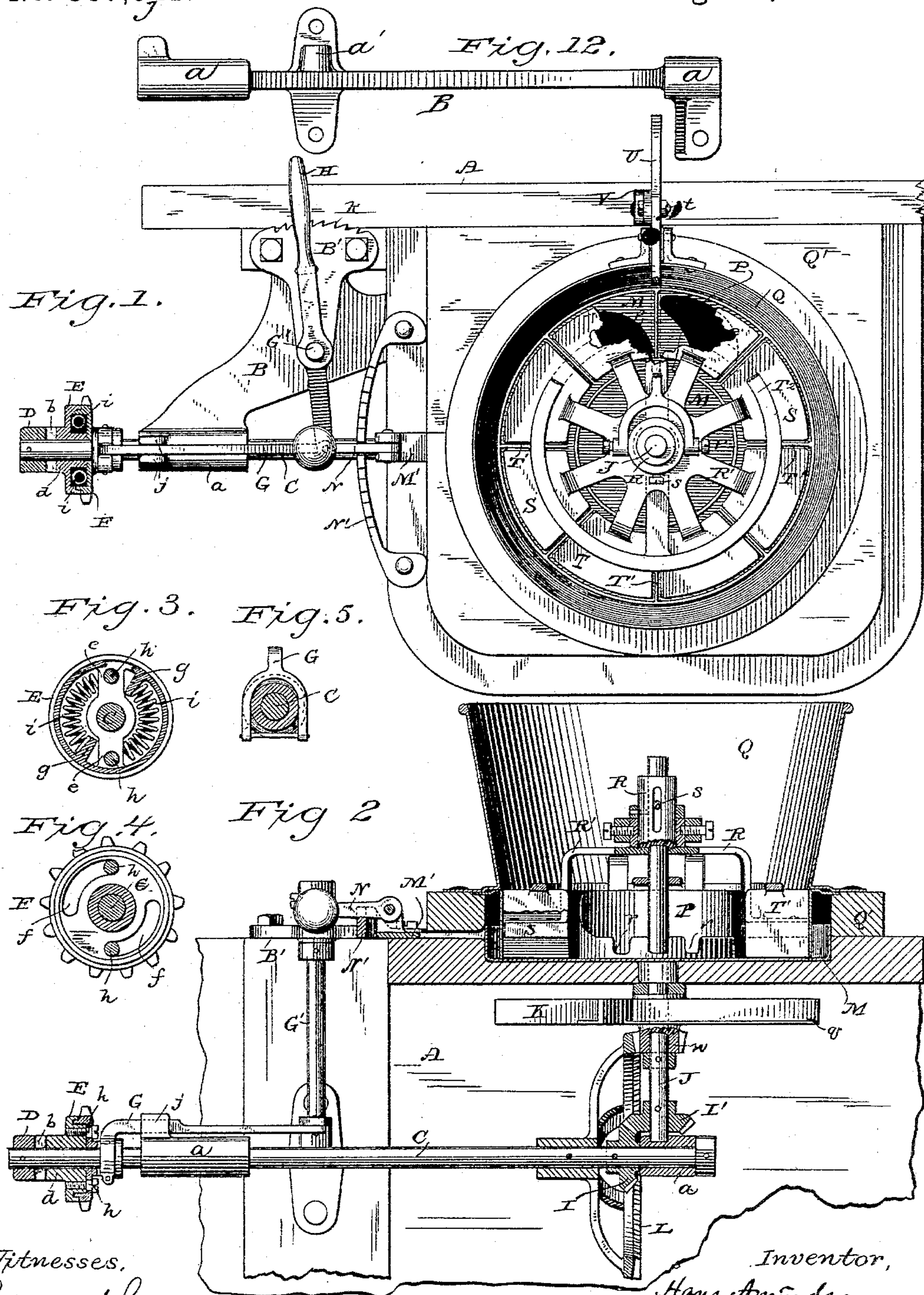
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H. AMUNDSON.

SEED SOWER.

No. 387,941.

Patented Aug. 14, 1888.



Witnesses,
Geo. W. Young,
N. E. Oliphant,

Inventor,
Hans Amundson,

By J. H. Underwood,
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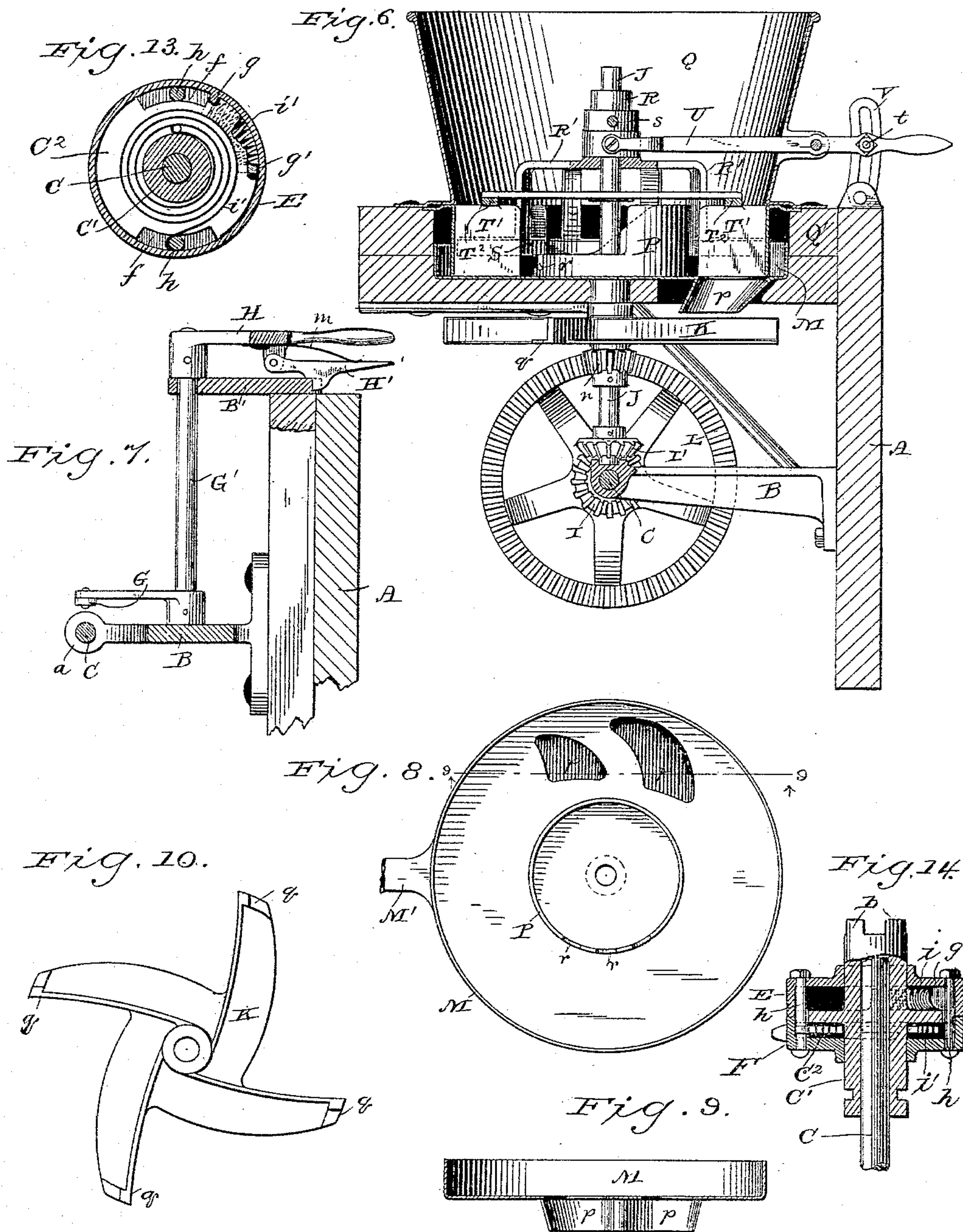
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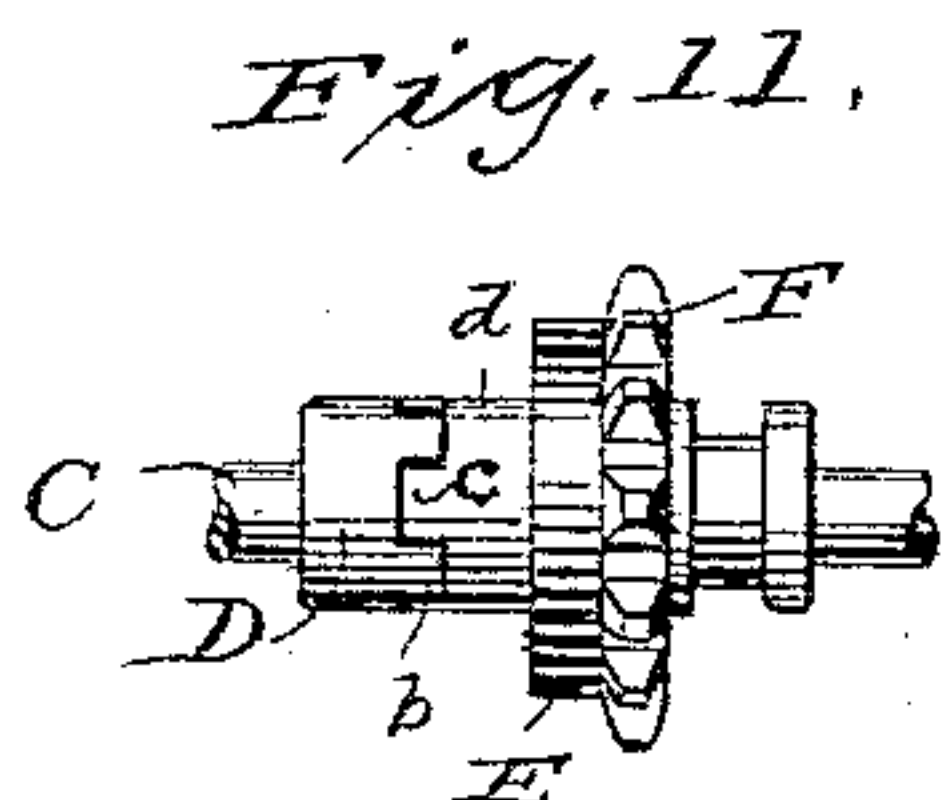
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UNITED STATES PATENT OFFICE.

HANS AMUNDSON, OF RACINE, WISCONSIN.

SEED-SOWER.

SPECIFICATION forming part of Letters Patent No. 387,941, dated August 14, 1888.

Application filed August 30, 1887. Serial No. 248,242. (No model.)

To all whom it may concern:

Be it known that I, HANS AMUNDSON, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Seed-Sowers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to seed-sowers; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a plan view of a seeder constructed according to my invention; Fig. 2, a vertical transverse section of the same; Figs. 3, 4, and 5, detail views of the clutch mechanism; Fig. 6, a longitudinal vertical section of my seeder; Fig. 7, a detail view of the clutch-lever; Fig. 8, a plan view of the feed-box; Fig. 9, a section taken on line 9 9, Fig. 8; Fig. 10, a plan view of the distributor; Fig. 11, a detail view of the clutch, and Fig. 12 a similar view of a bracket employed in my machine. Figs. 13 and 14 are sectional views of another form of clutch.

Referring by letter to the drawings, A represents the right-angular frame or support, that is designed for attachment to the rear of an ordinary farm-wagon. Secured to the vertical portion of the frame A is a bracket, B, provided with bearings *a a* for a horizontal shaft, C. By the employment of a single bracket I am enabled to cheapen the cost of the machine by lessening the number of pieces that constitute the same, and also insure the bearings *a a* for the shaft C being in line with each other. Keyed to the outer end of the shaft C is a hub, D, provided with clutch-teeth *b*, that engage similar teeth, *c*, on the loose hub *d* of a shell, E. The inner face of the shell is provided with lugs *e*, that are bored out and tapped to receive set-screws *h*, that pass through segmental slots *f* in a sprocket-wheel, F, and serve to hold said shell and the sprocket-wheel together, as best shown in Fig. 2. Arranged within the shell E, between the lugs *e* thereon and lugs *g* on the sprocket-wheel F, are spiral springs *i*, and secured to the hub of said wheel is a horizontal spanner-arm, G, that operates in a guide formed by two lugs, *j j*, on the bracket B, and is connected to a vertical crank-

arm, G' that has its bearings in said bracket and another bracket, B'. The bracket B' is provided with serrations *k*, that engage with a dog, H', pivoted to a hand-lever, H, that is secured to the upper end of the crank-arm G', and a spring, *m*, is arranged between said lever and dog to automatically hold the latter in operative position.

Keyed to the shaft C is a pinion, I, that meshes with another pinion, I', on a vertical shaft, J, that is stepped in the bracket B at *a'* and has loosely arranged thereon a distributor, K, the latter having its hub provided with teeth *n*, that mesh with a gear-wheel, L, on the first-named shaft.

The horizontal portion of the support A is cut away to receive a circular feed-box, M, and this box is provided with an arm, M', that has pivoted thereto a weighted dog, N, the latter being designed to engage a rack, N', on said support. By operating the arm M' of the feed-box M the delivery-spouts *p* of said box are brought more or less on either side of the center of the distributor to vary the throw of the seed, and it will be noticed that I provide the distributor-wings at their outer ends with right-angle flanges *q*, the latter serving to retard said seed, and thereby prevent it from being thrown too far.

Centrally arranged in the feed-box M is a circular flange, P, that forms with the base of said box a cup to receive the seed from the hopper Q, that is bolted to a suitable base-board, Q'. About one half of the flange P is of less height than the other, and is provided with a series of seed openings, *r*.

Held on the distributor-shaft J by means of a pin, *s*, is a slotted sleeve, R, and depending from this sleeve are a series of right-angular arms, R', each of the latter carrying a cut-off block, S, for the seed-passages *r* in the flange P. Each of the cut-off blocks S is fitted between two radial flanges, T', on an annulus, T, and this annulus extends down into the feed-box M, said flanges being strengthened by a ring, T², integral therewith or connected thereto.

Pivotally connected to the sleeve R just above the cut-off arms R' is a lever, U, that passes through and is fulcrumed to the hopper Q. The lever U has a set-bolt, *t*, that passes

through a slotted plate, V, on the support A, and this plate may be provided with a scale or index.

By a movement of the lever U the cut-off blocks S are raised or lowered to vary or entirely close the seed-openings *r* in the flange P. The seed, escaping through the openings *r* in the flange P, is forced along by the radial flanges T' on the annulus T to the delivery-spouts *p* of the box M and drops on the distributor to be broadcasted.

The sprocket-wheel F is intended to be connected by a drive-chain to a similar wheel that is usually secured on the rear wheel of the vehicle to which my seeder may be attached, and said seeder is thrown in or out of operation by a movement of the lever H. When this lever H is operated to cause an engagement of the clutch-teeth on the hub D and shell E, the machine will not start until the springs *i* have been compressed, and thus I avoid any strain or jerk during said operation.

The distributor being loose on its shaft and connected by a small pinion with a large gear-wheel, its rotation is very rapid as compared with that of the feed mechanism driven by said shaft, the latter being geared, as above described, to the shaft that is driven by the sprocket-gear.

In Figs. 13 and 14 I have shown another form of clutch, that consists of a sleeve, C', on the shaft C, this sleeve being provided with an annular plate, C², the latter having recesses *f* in its periphery to serve as guides for pins or bolts *h*, that unite the shell, E and sprocket-wheel F, as best illustrated by Fig. 14. The shell E in this form of clutch has a lug, *g*, between which and a lug, *g'*, on the plate C² is arranged a spiral spring, *i*, and to said plate and one of the pins or bolts *h* are connected the respective ends of a coil-spring, *i'*, as best illustrated in Fig. 13. Instead of the spiral spring in this form of clutch, I may use another coil-spring, the latter being fastened to the shell and plate on the sleeve in a manner similar to that described for the one already employed. The latter form of clutch is for the same purpose and has the same action as the one previously described, the main difference being that instead of two spiral springs I employ one or two coil-springs, and in both forms the resistance of the springs is against the rotation of the drive-shaft.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In a seed-sower, the combination, with the main drive-shaft and distributor-shaft, of a single bracket provided with a step for said distributor-shaft and having each of its ends in the form of a bearing for said main shaft, substantially as set forth.

2. In a seed-sower, a distributor having the outer ends of its wings provided with right-angle flanges, substantially as set forth.

3. In a seed sower, the combination of a distributor, a seed-box having delivery-openings and a central circular flange having one side thereof provided with vertical seed-passages, a series of vertical cut-offs for the seed-passages, an annulus provided with a series of radial flanges and arranged adjacent to the cut-offs, and suitable mechanism for rotating the distributor and annulus, substantially as set forth.

4. In a seed-sower, the combination of a drive-shaft, a hub keyed thereto and provided with clutch-teeth, a shell loose on the shaft and interiorly provided with lugs *e*, a sprocket-wheel secured to the shell and having lugs *g* that enter the same, springs arranged between the lugs on said shell and those on the sprocket-wheel, and suitable means for actuating the loose section of the clutch mechanism, substantially as set forth.

5. In a seed-sower, the combination of the feed-box M, provided with the arm M', flange P, and spouts *p*, the pivoted dog N, rack N', distributor K, shaft J, sleeve R, having depending arms R', cut-offs S, annulus T, provided with the radial flanges T', the lever U, and suitable means for driving said distributor and shaft, substantially as set forth.

6. In a seed-sower, the combination of the shaft C, hub D, provided with clutch-teeth *b*, the shell E, having lugs *e*, sprocket-wheel F, having the slots *f* and lugs *g*, the spiral springs *i*, spanner-arm G, crank-shaft G', hand-lever H, spring-dog H', and serrated bracket B', substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Racine, in the county of Racine and State of Wisconsin, in the presence of two witnesses.

HANS AMUNDSON.

Witnesses:

S. S. STOUT,
ALONZO LOBDELL.