

(No Model.)

H. AMUNDSON & M. S. FIELD.

SEEDER.

No. 321,880.

Patented July 7, 1885.

Fig. 1.

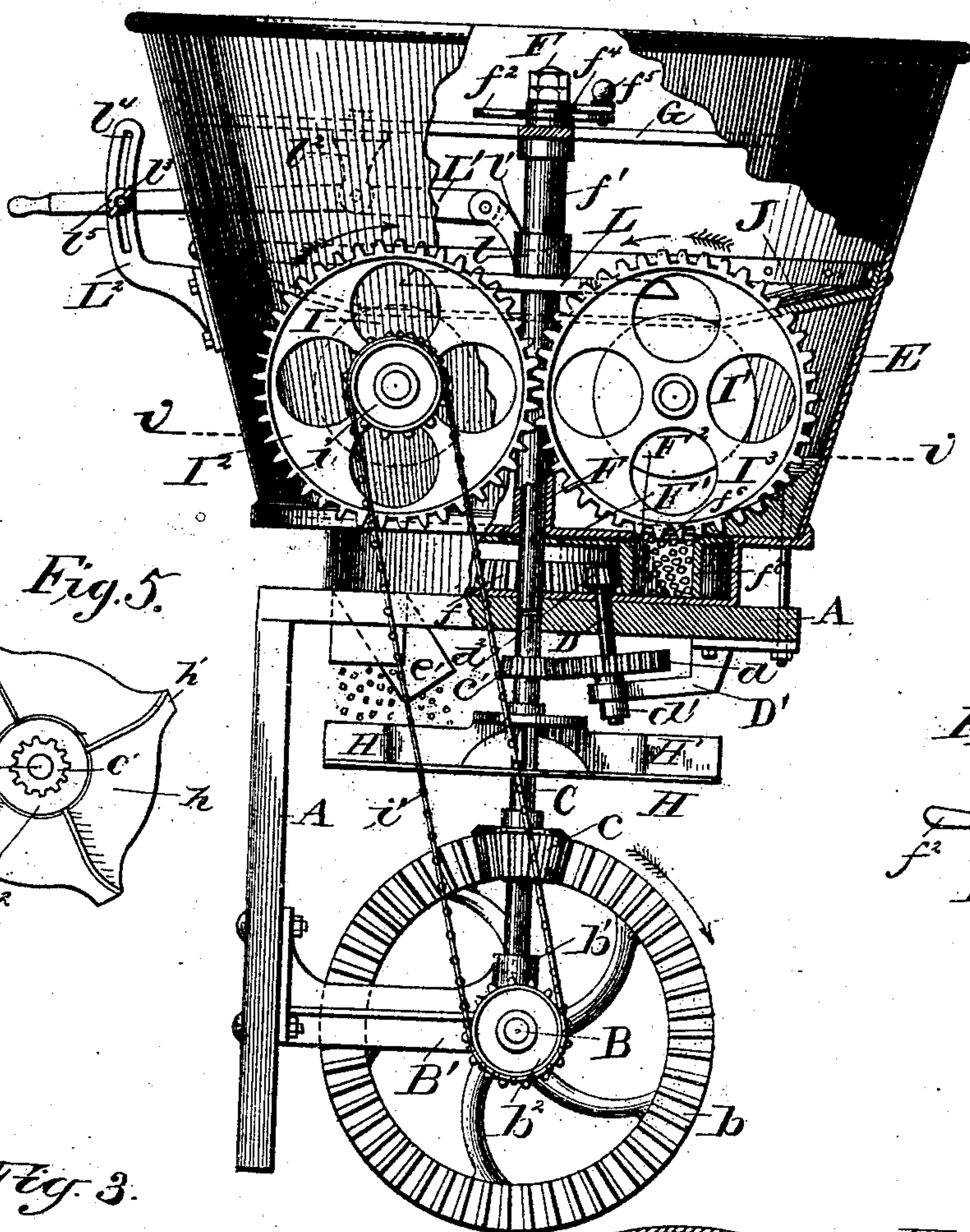


Fig. 5.

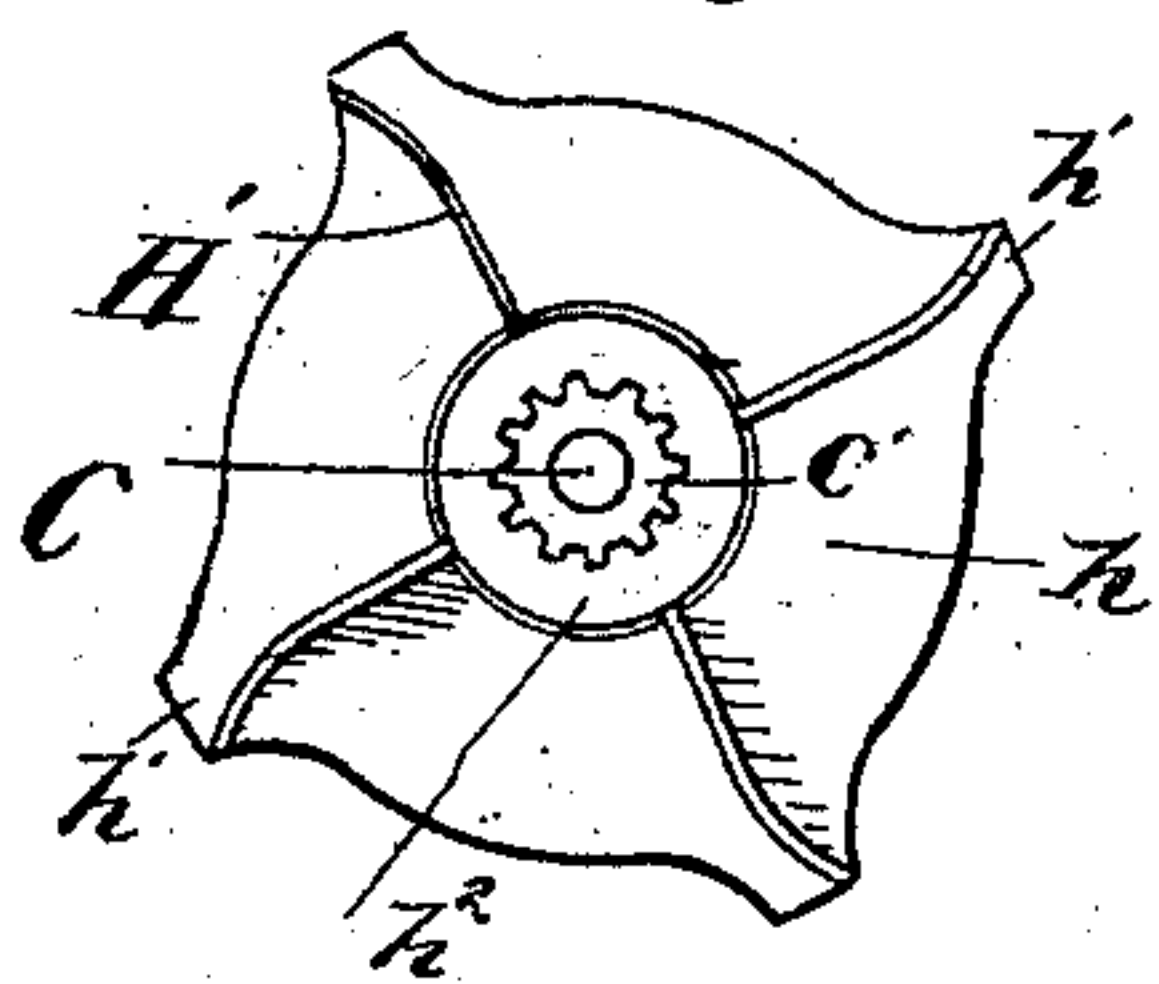


Fig 4.

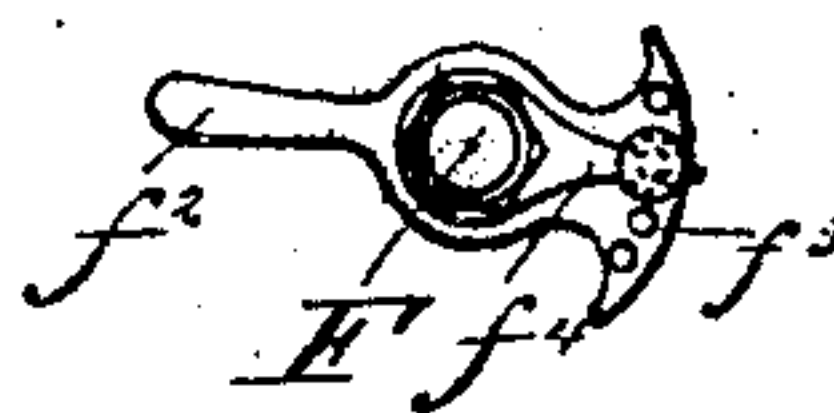


Fig. 3.

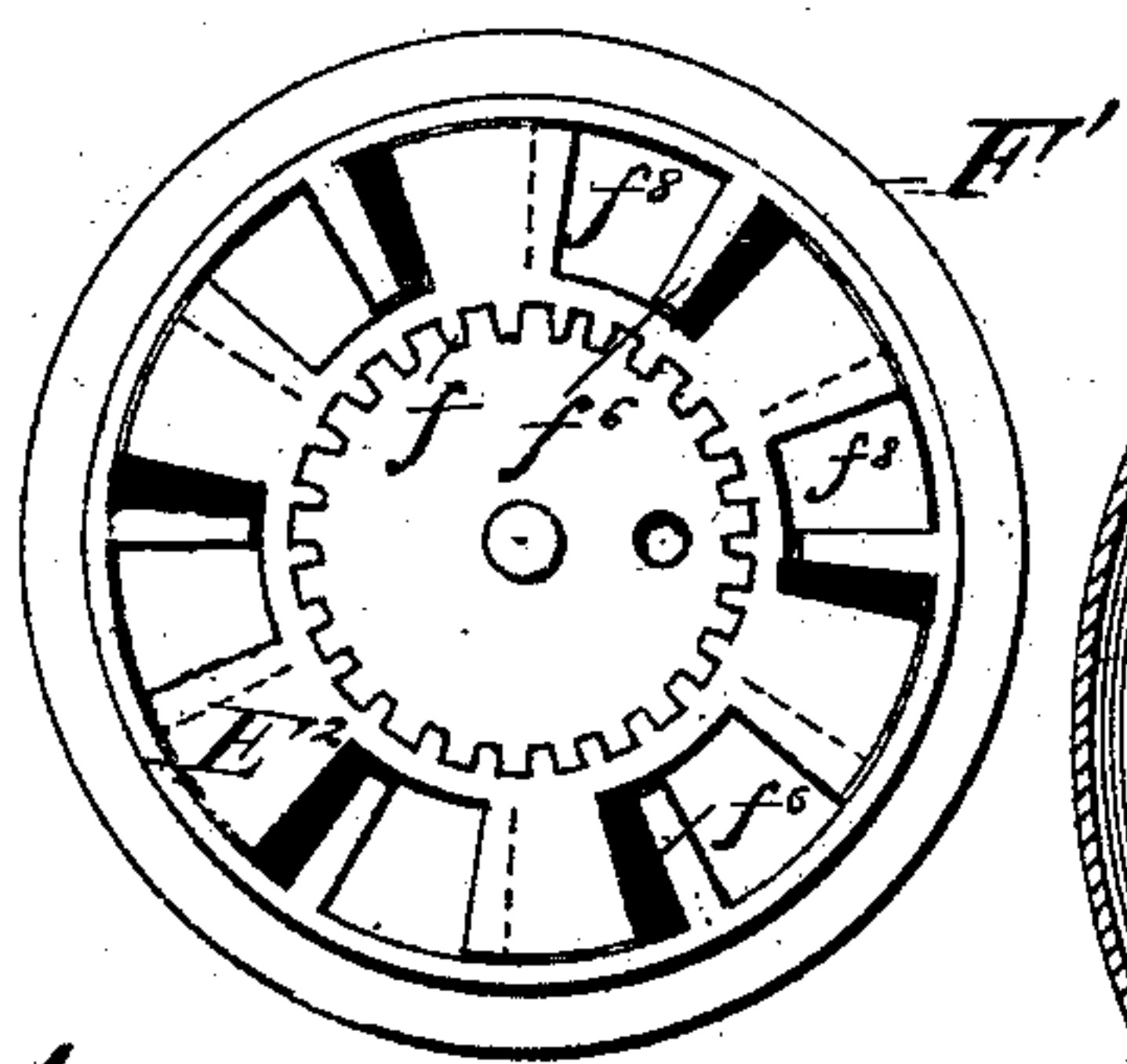
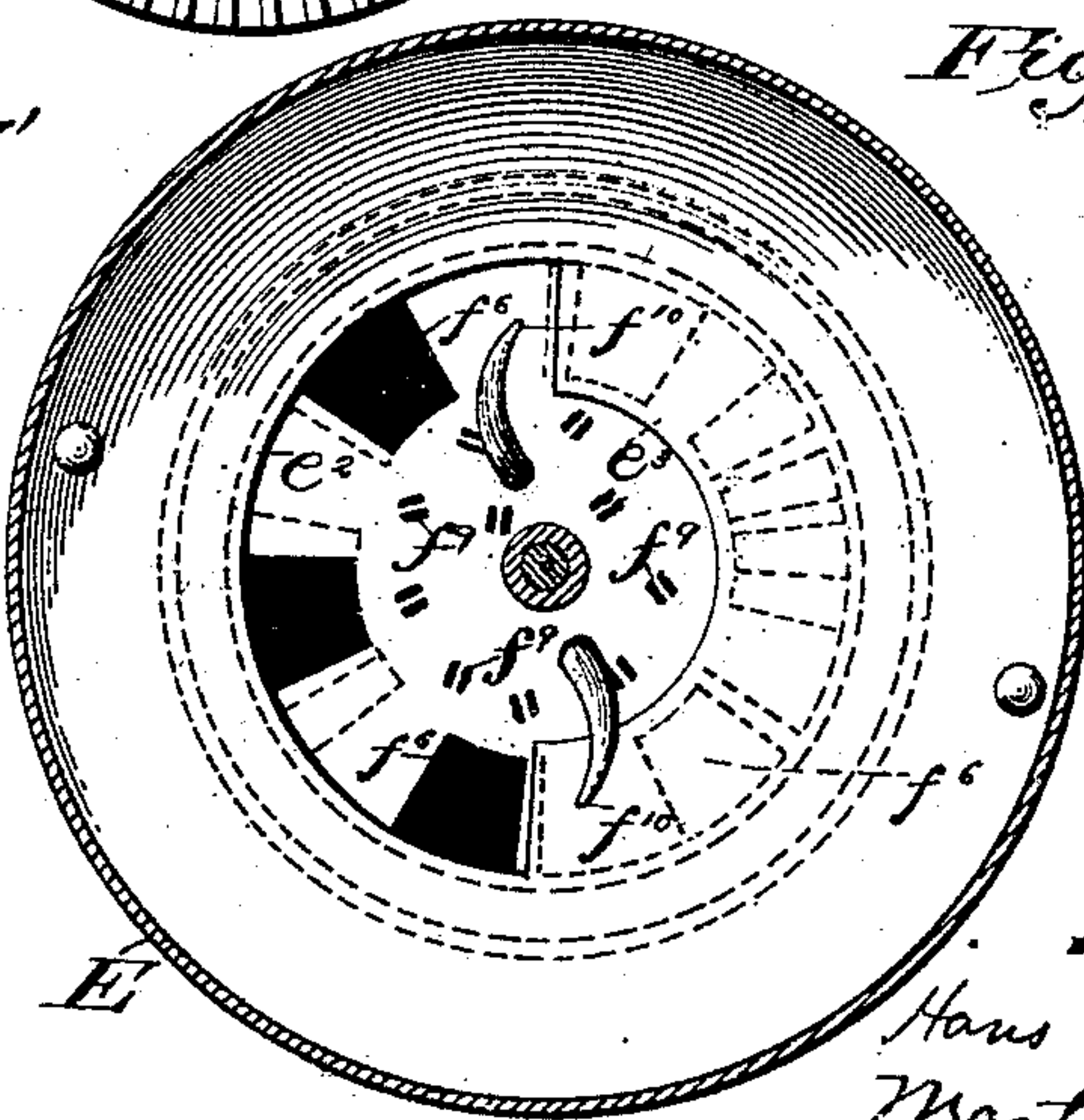


Fig. 2



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UNITED STATES PATENT OFFICE.

HANS AMUNDSON AND MARTIN S. FIELD, OF RACINE, WISCONSIN

SEEDER.

SPECIFICATION forming part of Letters Patent No. 321,880, dated July 7, 1885.

Application filed November 23, 1884. (No model.)

To all whom it may concern:

Be it known that we, HANS AMUNDSON and MARTIN S. FIELD, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Seeders; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention relates to improvements in force-feed seeding-machines, and will be fully described hereinafter.

In the drawings, Figure 1 is a broken elevation of a device embodying our invention. Fig. 2 is a sectional top view of the feed-box on line *vv* of Fig. 1. Fig. 3 is an under side view of the feed-wheel; and Fig. 4 is a top view of the feed-adjusting device. Fig. 5 is a plan view of the fan on a reduced scale.

A indicates the frame of our device, which may be mounted on its own wheels or attached in any convenient manner to any light vehicle, its drawing-shaft B being connected through suitable gear with the axle of the said vehicle. This shaft has a bearing in the outer end of the bracket B' fastened to the frame A, and carries the drive-wheel *b*, which meshes with the pinion *c*, secured to the vertical shaft C, the lower end of which bears in the bearing-stud *b'*, formed in the upper edge of the bracket B', while its upper end is journaled in the horizontal portion of the frame, and carries below this latter another pinion, *c'*. With this pinion meshes the pinion *d*, fastened onto the shaft D, the lower end of which has a bearing at *d'*, in the outer end of the bracket D', fastened in the frame A. The upper end of the shaft D bears in the said frame and passes upward through the bottom of the feed-box E, carrying above this latter the pinion *d''*. This pinion meshes with an internal gear, *f*, cut into the under side of a disk, F², fastened to the vertical shaft F. The lower end of this shaft is journaled in the frame A, opposite and above the shaft C, while its upper end is projected upward through the feed-box and carries with it the feed-wheel F'. This latter is provided on its upper face with a long sleeve, *f'*, through which the said shaft F passes up freely. The upper end of the sleeve is pivoted in the center of the spider G, fastened on the inner periphery of the feed-box, and carries slightly above the upper face of the said spider the

horizontal hand-lever *f''*, the short arm of which is formed as a segment, with perforations, as at *f'''*, in its outer edge.

The upper end of the shaft F projects slightly above the hand-lever *f''*, and carries a horizontal arm, *f''*, the outer end of which has a perforation, as shown, coinciding with either one of the perforations of the hand-lever *f''* to receive the adjusting-pin *f'''*, by means of which the shaft F is connected to the feed-wheel F'. This feed-wheel has a series of segmental slots cut close to its outer edge, as at *f''*, and is provided outside of the slots with a circular flange, *f''*, projecting vertically from its lower face. Within this flange fits loosely the disk F², mentioned above, in the outer rim of which are cut the segmental notches *f'''*, of a size to correspond with the slots *f''*. The adjustment which the feed-wheel may receive through the lever *f''*, the arm *f''*, and the adjusting-pin *f'''* will cause the solid parts between the notches of the disk to close more or less the slots of the feed-wheel, and as each slot comes opposite a slot cut in the bottom of the feed-box E the seed will be dropped out in the two-way chute *e'*. Slightly below the lower end of this chute an upward air-draft is directed against the seed by the wings of a fan, H, fastened onto the shaft C, which scatters the grain over the ground in a uniform manner. This fan is made with a lower horizontal plate, *h*, provided with a central opening, the four corners of the plate *h* being formed with projecting portions *h'*, while above the opening is a round plate, *h''*, perforated to fit upon the shaft C, and between the plates *h* and *h''* there extend the wings H', the said wings evenly terminating with a corner edge of the portions *h'*, and being curved so as to be somewhat out of a vertical line, the result of which is to draw a current of air up through the opening in the plate *h*, and direct this upward draft, as stated, against the descending seed.

Journaled in suitable bearings fastened at opposite points in the inner periphery of the seed-box E are the feed-rollers I I', the shafts of which have each one end extended and passed through the said box, and are geared to one another through their respective pinions I² and I³. The shaft I carries also a sprocket-pinion, *i*, and this pinion is connected through

the chain-belt i' to a sprocket-wheel, b^2 , that is fastened to the horizontal shaft B. Fastened onto the inner periphery of the seed-box E, slightly above the feed-rollers I I', is the guard-plate J, in the center of which an oblong opening is cut of such a size that its edges will be brought close to the rear sides and ends of the rollers slightly below the upper edges of the same. Suspended slightly above the oblong opening of the guard-plate J is the feed-regulating plate L, which is centrally perforated and carries fastened onto its upper face, so as to coincide with its perforation, the sleeve l . This latter is adapted to work loosely on the sleeve f' , and is provided with an eared lug, l' , that is hinged onto the inner end of the hand-lever L', fulcrumed to the lower end of a bracket, l^2 , fastened in the under side of the spider G. The outer end of the hand-lever L' is extended through a suitable slot made in the seed-box, and is provided with an adjusting-pin, l^3 , which is received in the slot l' of an arm, L^2 , bolted to the outer periphery of the seed-box. The lever L' may be held at any point of the said arm by means of the fastening-nut l^5 , according to the quantity of seed it is desired to feed to the rollers I I'.

The seed-box E is provided just above the feed-wheel F' with a flange, e^2 , that projects all around and slightly overlaps the outer rim of the said feed-wheel, and this flange is extended on the side of the slot cut in the bottom of the said box, as shown at e^3 , to keep the seed from falling directly down through the said slot. The feed-wheel F' is provided with lugs f'' , arranged in spirals projecting vertically from its upper face, and these lugs, together with the horn-shaped lugs f^{10} f^{10} formed in the said upper face, are designed to guide the seed toward the slots f^6 .

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

1. In a seeder, in combination with a seed-box having a slot in its bottom and a flange above and opposite the said slot, a rotating feed-wheel mounted between the slotted bottom and the flange of the box and having a

series of slots coinciding in turn with the bottom slot, a disk interposed between the said bottom and the feed-wheel and having extensions formed in its rim, and means, substantially as described, to connect the feed-wheel and the disk so that more or less of the surface of the disk-extensions is brought opposite the slots of the feed-wheel, and to rotate the same so connected, substantially as and for the purpose set forth.

2. In a seeder, in combination with a seed-box and a feed-wheel revolving in the bottom of the same through suitable driving connections, substantially as described, a pair of feed-rollers mounted in the said seed-box above the feed-wheel and suitably connected to the driving mechanism, a dish-shaped plate fastened in the periphery of the seed-box above the rollers and having a central opening, the edges of which are adapted to close the space at the rear and ends of the said rollers, and a feed-regulating plate adapted to be held in various adjustments above the central opening of the dish-shaped plate, substantially as and for the purpose set forth.

3. In a seeder, in combination with a seed-box having a slotted bottom and a spout depending therefrom, a horizontal fan suitably mounted below the said seed-box, and adapted to be rotated so as to produce an upward draft against the descending seed, substantially as and for the purpose set forth.

4. In a seeder, in combination with a feed-box, a feed-wheel having a series of slots cut close to its outer rim, and having spirally-arranged lugs and horn-shaped lugs in its upper face adapted to direct the seed toward the slots, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands, at Racine, in the county of Racine and State of Wisconsin, in the presence of two witnesses.

HANS AMUNDSON.
MARTIN S. FIELD.

Witnesses:

STANLEY S. STOUT,
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