No. 823,111. PATENTED JUNE 12, 1906.

E. C. FOLTZ.

SEED SEPARATOR.

APPLICATION FILED DEC. 26, 1905.

Fig. 1.

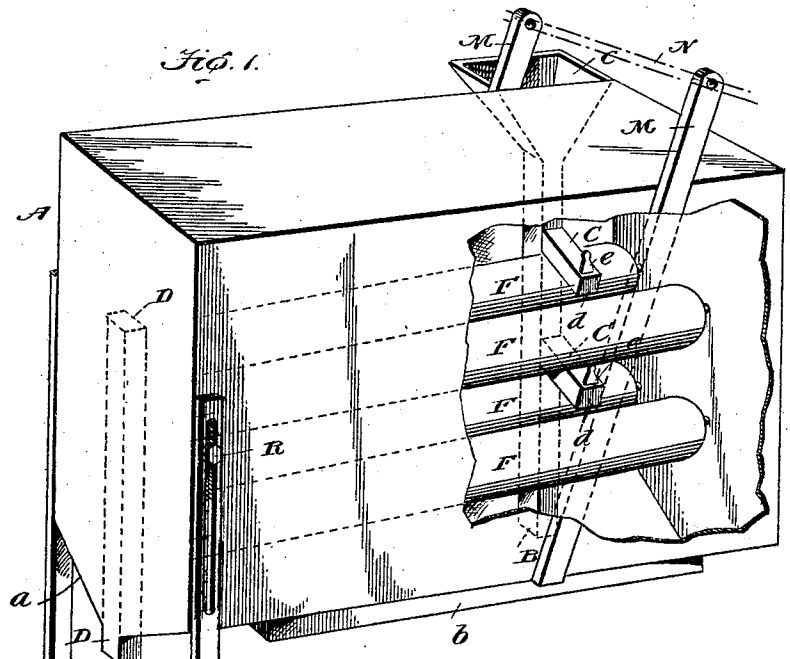


Fig. 2.

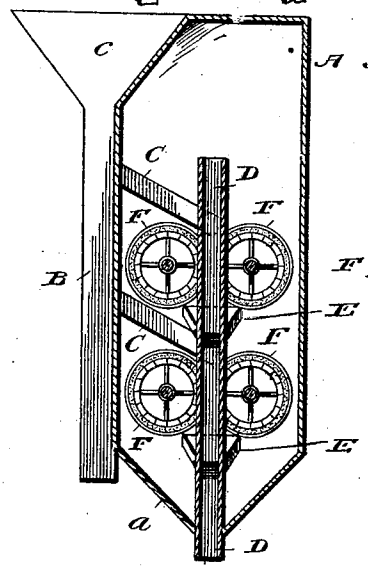


Fig. 3.

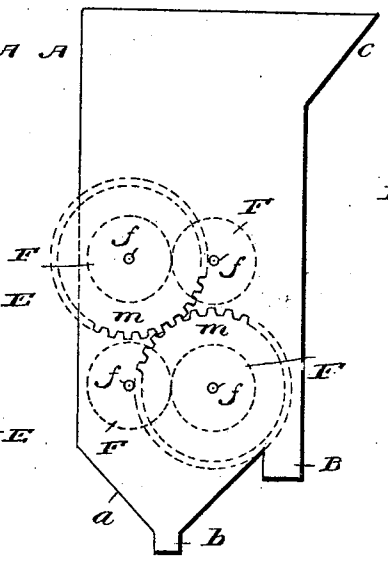
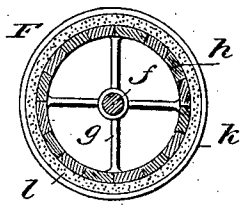


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDWIN C. FOLTZ, OF LOUISVILLE, KENTUCKY.

SEED-SEPARATOR.

No. 823,111. Specification of Letters Patent. Patented June 12, 1906.

Application filed December 26, 1905. Serial No. 293,408.

To all whom it may concern:

Be it known that I, EDWIN C. FOLTZ, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Seed-Separators, of which the following is a specification.

My invention pertains to seed-separating machines; and it contemplates the provision of a simple, compact, and highly efficient machine designed more particularly for separating clover-seed from what are known as "buckhorn-seed."

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are considered in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view showing the machine constituting the present and preferred embodiment of my invention with the casing thereof partly broken away. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a detail view illustrating the spur-gearing through the medium of which the rolls of the machine are preferably connected, and Fig. 4 is an enlarged section taken transversely through one of the rolls and illustrating the structure thereof.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is the casing of my novel machine, which is preferably rectangular in horizontal section and has an inclined bottom *a*, from which depends a discharge-spout *b* for buckhorn-seed and other refuse, and B is a vertical conduit, arranged at one side and adjacent to one end of the casing A and having a hopper *c* at its upper end. At intermediate points in its height the said conduit B is provided with two (more or less) inclined spouts C, which extend laterally inward therefrom and have discharges *d* disposed in the vertical center of the machine and controlled by suitable gates or valves *e*.

D is a vertical conduit arranged at one end of the casing A and adapted to discharge clover-seed into bags or other receptacles placed to receive the same, and E E are troughs declined toward and communicating with the conduit D and arranged to receive clover-seed from the lower ends of the gutters formed between the rolls F comprised in the two pairs of rolls illustrated and conduct such seed to the said conduit D.

As best shown in Figs. 1 and 2, the pairs of rolls F are arranged one above the other, with the peripheries of the rolls of each pair in contact, and the rolls are slightly inclined in the direction of their length this latter in order to assure the passage of clover-seed in the gutter formed between the rollers in each pair toward the conduit D.

In structure the rolls F are identical, and therefore a detailed description of the roll shown in Fig. 4 will suffice to impart a definite understanding of all. The said roll, Fig. 4, comprises a shaft *f*, a spider *g* fixed to the shaft, staves *h*, of wood or other suitable material, carried by the spider, a covering *k*, and a pad or cushion *l*, preferably of cork linoleum, surrounding the staves *h* and interposed between the same and the covering *k*. The covering *k* is of cotton cloth of the proper texture to extract the buckhorn and other weed seeds from the clover-seed, and the pad or cushion *l* has for its function to lend elasticity to the roll, this with a view of precluding leakage between the periphery of the roll and the periphery of the complementary roll, against which it is held, Fig. 2.

The ends of the shafts *f* of the rolls F are journaled in the opposite end walls of the casing A, and the shaft of a roll in one pair is connected with the shaft of an opposite roll in the next pair through the medium of intermeshed spur-gears *m*, Fig. 3, whereby it will be apparent that when the first-mentioned roll is rotated in one direction the second-mentioned roll will be rotated in the opposite direction. It will also be apparent that inasmuch as the rolls of each pair are in contact one of the rolls will derive motion from the other and will be turned in the opposite direction with reference to the other.

Fixed to and extending upwardly from the casing A are arms M, which are designed to be pivoted to and swing on a suitably-supported horizontal rod N, this in order that the rolls F and the separator as a whole may be inclined to a greater or less extent as it is desired to increase or diminish the speed of the clover-seed in passing along the gutters formed by and between the rolls, the inclination being increased when the clover-seed is mixed with but a small portion of

buckhorn-seed and diminished when a larger quantity of buckhorn-seed is in the clover-seed.

In order to adjustably support the lower end of the casing A and retain the casing in the inclined position in which it is placed, I provide the slotted uprights P and set-screws R, which extend through the slots of the uprights and into the casing.

In virtue of the construction described in the foregoing it will be apparent that by simply inclining the casing A to the extent desired and adjustably fixing the same all of the rolls F are positioned to suit the condition of the seed and secure the best results in a given time.

In the practical use of my novel machine seed fed by any suitable means to the hopper *c* is conducted by the conduit B and spouts C to the upper ends of the gutters formed by and between the rolls F. The clover-seed thus delivered to the rolls will pass down the gutters mentioned and be discharged from the machine through the troughs E and the conduit D. The buckhorn-seed and other refuse present will, however, be extracted from the clover-seed by the cloth coverings of the rolls F and carried outwardly and dropped into the casing A, from whence the same will pass through the discharge *b*.

While I have shown my novel machine as comprising two pairs of rolls F, it is obvious that it may have any desired number of pairs of rolls arranged one above the other, the spouts C of the conduit B corresponding in number in all cases to the number of pairs of rolls employed.

Notwithstanding the simplicity and compactness of my novel machine the same is possessed of large capacity and is obviously so constructed as to require but a minimum amount of attention while in operation.

The cushions *l* between the cloth coverings and the bodies of the rolls F do not greatly increase the cost of the rolls, and yet materially increase the efficiency of the machine by precluding leakage or downward passage of the clover-seed between the meeting portions of the rolls.

I claim—

1. In a seed-separator, the combination of a casing mounted to swing vertically, means for adjustably fixing said casing at various angles of inclination, a pair of rolls arranged in the casing with their peripheries in contact, whereby a gutter is formed by and between said rolls, and means for supplying seed to the upper portion of the gutter between the rolls.

2. In a seed-separator, the combination of a casing, pairs of longitudinally-inclined rolls arranged one above the other in the casing; the peripheries of the rolls of each pair being in contact, and each roll comprising a body, a cloth covering, and a cushion surrounding the body and interposed between the same and the cloth covering, an upright conduit, spouts extending laterally from said conduit and having discharges arranged above the upper portions of the gutters between the rolls, and a discharge-conduit having troughs arranged to receive from the lower ends of the said gutters.

3. In a seed-separator, the combination of a rod adapted to be supported in a horizontal position, a casing having arms fixed to and extending upwardly from it adjacent to one of its ends and pivoted on the said rod, supporting means adjustably connected to the opposite end of the casing, pairs of rolls arranged one above the other in the casing; the peripheries of the rolls of each pair being in contact, whereby gutters are formed by and between said rolls, and means for supplying seed to the upper portions of the gutters between the rolls.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWIN C. FOLTZ.

Witnesses:
H. C. NALL,
R. P. DAWSON.