

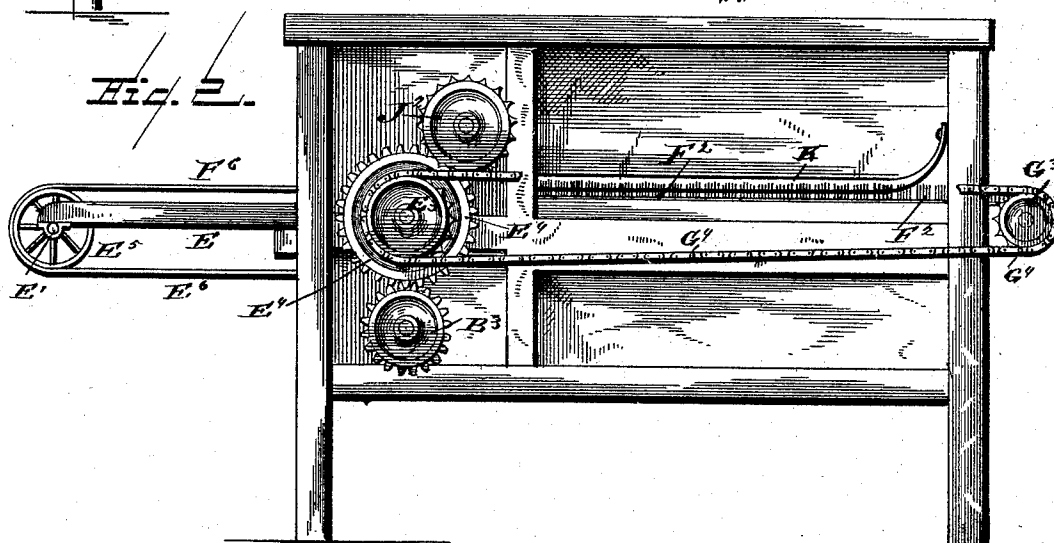
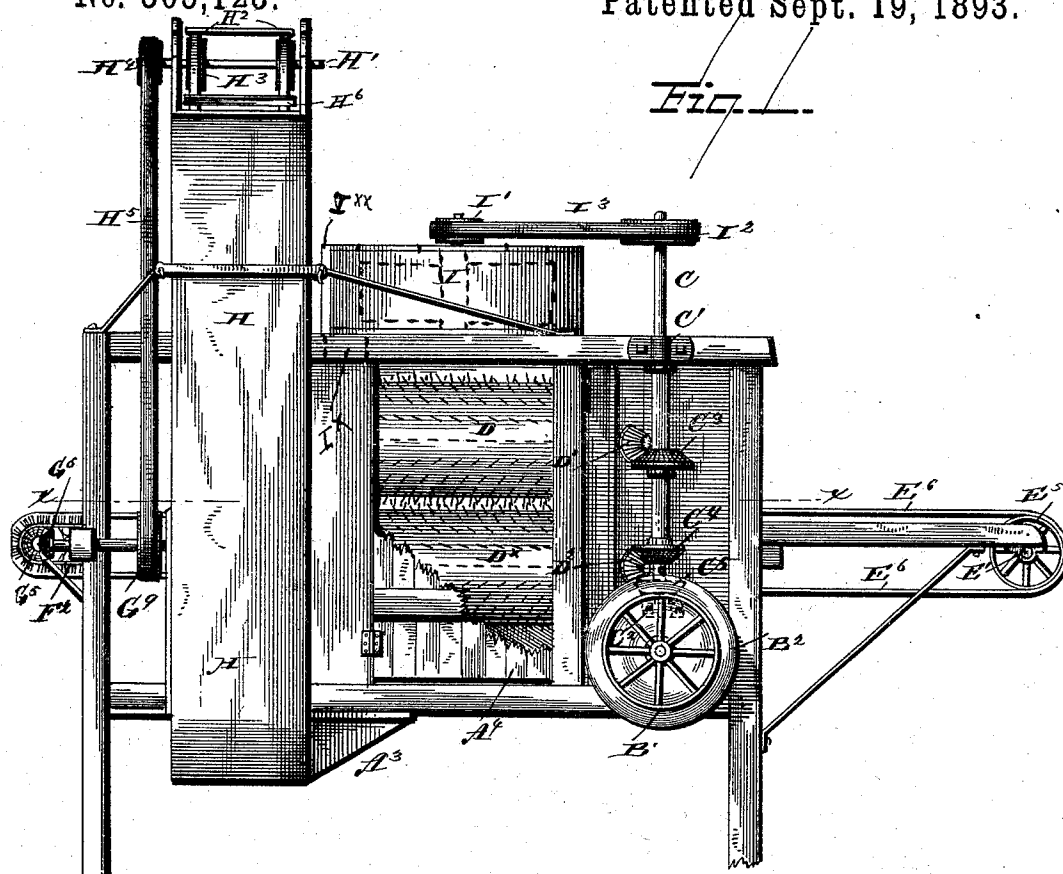
(No Model.)

2 Sheets—Sheet 1.

F. W. REESE.
BROOM CORN CLEANER.

No. 505,128.

Patented Sept. 19, 1893.



WITNESSES:

S. C. Giles,
W. S. Duwall.

INVENTOR:

Frederick W. Reese.
BY *E. B. Stocking*
ATTORNEY.

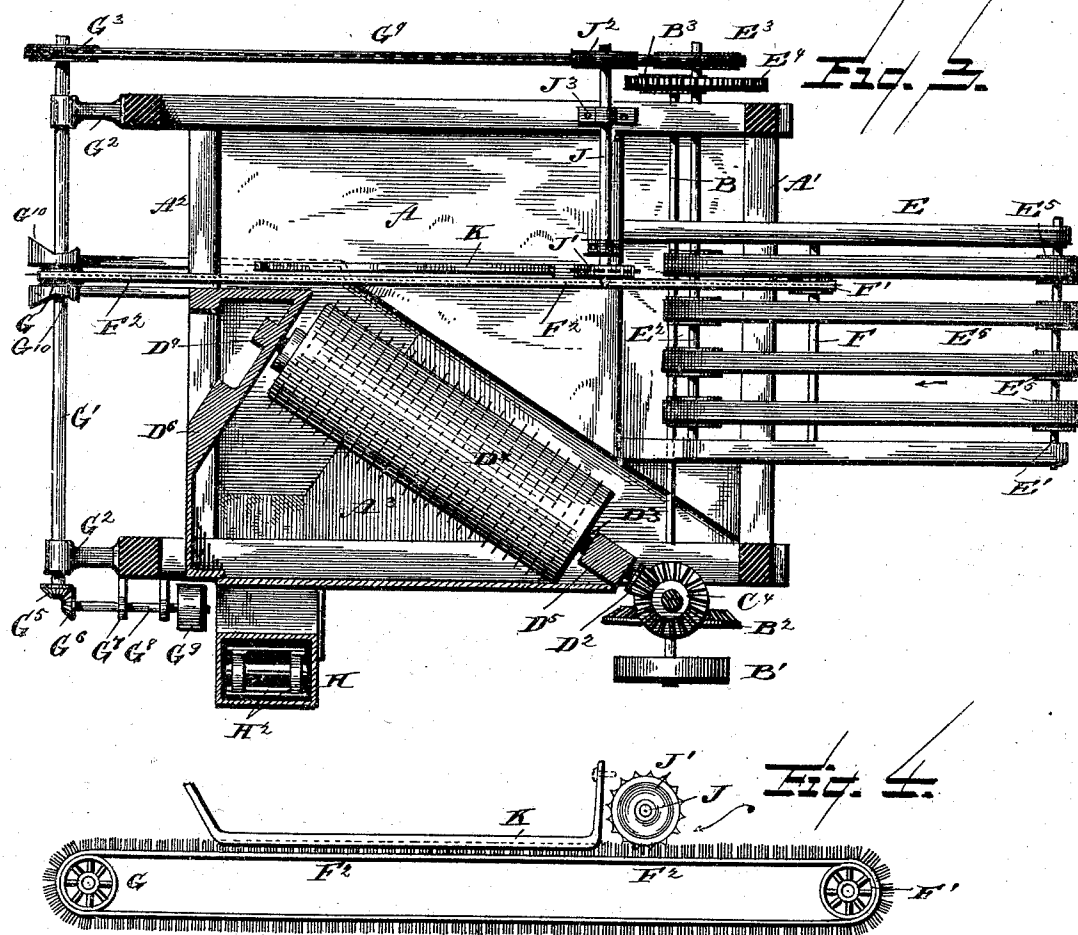
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L. C. Hills,
W. S. Duwall.

Inventor:

Frederick W. Reese.
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UNITED STATES PATENT OFFICE.

FREDERICK W. REESE, OF PARIS, ILLINOIS.

BROOM-CORN CLEANER.

SPECIFICATION forming part of Letters Patent No. 505,128, dated September 19, 1893.

Application filed August 2, 1887. Serial No. 245,943. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. REESE, a citizen of the United States, residing at Paris, in the county of Edgar, State of Illinois, have invented certain new and useful Improvements in Broom-Corn Cleaners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in broom corn cleaners, of that class disclosed in the patent to Anderson, No. 413,883, dated October 29, 1889; having for its object among others to provide simple means whereby the soot and dust from the cylinders is conducted away and the dust caught and carried away from the refuse bin as it floats therefrom. To this end I arrange an exhaust fan and up-take above the meeting lines of the cylinders and over the refuse bin as more fully hereinafter disclosed.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof be particularly pointed out in the claims.

Referring to the drawings: Figure 1 is a side elevation of a broom corn cleaner constructed in accordance with my invention. Fig. 2 is a similar view showing the opposite side of the machine, certain portions being removed, in Figs. 1 and 2 (as for example, collars G^{10}) for the purpose of clearer illustration. Fig. 3 is a transverse section taken on the line $x x$ of Fig. 1 showing the interior of the machine. Fig. 4 is a detailed side elevation hereinafter referred to.

Similar letters of reference indicate similar parts throughout the drawings.

A represents, in this instance, a rectangular casing provided with openings, A' , A^2 , respectively at its front and rear ends, and with a depending hopper, A^3 , at one corner thereof. A door, A^4 , is provided at one side of the machine, whereby access to the interior of the case and its internal mechanism is afforded.

Mounted upon a shaft, B, passing through the lower portion of the front of the machine is a drive-pulley, B' , and adjacent thereto upon said shaft, is a master-gear, B^2 . At the opposite end of the shaft B, is mounted a sprocket wheel B^3 . Journalled in bearings C' , C^2 , at the side of the casing and directly in line with, and at a right angle to, the shaft

B, is a vertical shaft C, carrying beveled gears, C^3 , C^4 , C^5 , the lower one, C^5 , meshing with and receiving motion from the master gear B^2 , and thus imparting a rotary motion to the vertical shaft C, and the gears; C^3 , C^4 , meshing with similar gears D' , D^2 , projecting from the casing and mounted upon the shafts of the upper and lower cylinders D, D^x , respectively, which are provided with teeth, said cylinders being arranged diagonally across the casing and above the hopper A^3 , and journaled in bearings, D^3 , D^4 , the former being formed in a post D^5 and the latter in a casting or bracket D^6 , secured to the frame work of the casing and projecting therein.

Projecting from the front of the casing and in a line with the opening A' , is a frame E, supporting at its outer end a shaft E' , and at its rear end a shaft E^2 , passing outside of the casing and carrying a sprocket-wheel E^3 , and a gear E^4 . Pulleys E^5 , are mounted on the shafts E' E^2 , those upon the shaft E^2 , being rigid therewith and those upon the shaft E' , being mounted loosely thereon. Belts or aprons pass over the pulleys E^5 . The framework E, is also provided with an intermediate shaft F, upon which is mounted a sprocket-wheel F' , over which runs a continuous toothed or comb belt F^2 . This belt passes through the machine on a line with the space between the cylinders D, D^x , and its rear end extends beyond and through the rear opening A^2 , in the casing and over a sprocket-wheel G, mounted upon a shaft G' extending across the rear of the machine and supported in brackets or bearings G^2 , projecting rearwardly from each side of the rear end of the machine. At one end of the shaft G' , is a sprocket G^3 , over which an endless chain passes and connects the said sprocket with the sprocket E^3 , mounted on the shaft E^2 . At the opposite end of the shaft G' , is a small bevel gear G^5 , which meshes with a similar gear G^6 , mounted at the side of the machine upon a shaft G^7 , journalled in bearings G^8 , said shaft being provided at its opposite end with a pulley G^9 .

Communicating with the bottom of the hopper A^3 so as to receive the contents thereof, is an elevator H, which is arranged at the side of the casing and may be projected to a desired point. Mounted upon the usual shaft H' , within the elevator are the elevating belts

H², and pulleys H³. A small pulley H⁴, is mounted at one side of the elevator upon the shaft H', and a belt H⁵, connects the same with the pulley G⁹.

- 5 Mounted upon the top of the casing is a rotary blower I, which receives motion from a pulley I', leading from which, and to a pulley I², mounted upon the upper end of the vertical shaft C, is a belt I³.
- 10 A shaft J, carrying a toothed wheel J', upon its inner end, and a sprocket wheel J², upon its outer end, is mounted in bearings J³ and is arranged back of the belts E⁶, the toothed wheel thereof being directly over and in line
- 15 with a toothed or comb belt F². A guard, or guide K, is secured to the framework of the casing and extends longitudinally therewith and in line with and adjacent to the toothed or comb belt F².
- 20 The advantage of the toothed wheel, J', is the novel species of packing action introduced by the same, inasmuch as the straw is grasped from a point more forward than the teeth on the belt, into which the said wheel
- 25 is destined to carry said brush. The effect of this forward grasp of the teeth on the wheel, is to pack the brush in little bundles in between the teeth on the belt, and thus hold the same much more securely, when said
- 30 bundles are carried under the guide, than would be the case, were the brush not so compacted.

- The operation of my invention is as follows:—The brush being laid upon the belts
- 35 E⁶, which are in motion and are driven through the medium of the gear E⁴, meshing with the gear B³, mounted upon the shaft B, which in turn is driven by the driving pulley B', is carried through the opening A', into
- 40 the machine and passes under the toothed wheel J', which presses them down between the moving toothed belt F². The belt F², receives its motion through the sprocket G, shaft G', sprockets E³, chain G⁴, and gear
- 45 B³. After the brush has been packed down between the teeth of the belt F², said belt carries the same on under the guard K. The heads or brush part have by this time reached the toothed rollers, which receive
- 50 motion from the vertical shaft C, and pass between the same, during which operation the seed are torn or knocked from the brush and fall into the hopper A³, where they are taken up by the elevator and delivered into
- 55 any receptacle provided for their reception. The dust and other foreign matter are drawn up through an opening i^x by the rotary blower

I, and, if the machine be operated out doors is blown up over the heads of the operators, or, if it be indoors, it may be discharged through 60 pipe I^x or any suitable conveyer to the outside. As the seed are stripped from the stems (which is accomplished by the time they have passed through the diagonally arranged cyl- 65 inders), said stems are carried through and delivered into any receptacle or upon the ground at the rear of the machine. The pulley J² is above the sprocket chain G⁴, and rests thereon, and by this means the shaft J and toothed wheel J' are given motion. 70

Any suitable elevator may be employed for raising the seed from the hopper, and in this instance, I secure a series of transverse blades H⁶ to the endless belts H², which blades catch the seed as they fall from the brush and ele- 75 vate them to the top of the elevator where they are delivered.

For the purpose of extricating or raising the stems of the brush from the teeth of the belt F², after they have passed through the 80 cylinders, I provide collars, G¹⁰, at each side of the sprocket G, upon the shaft G'. These collars being greater in circumference than the sprocket G, upon which the toothed belt runs, will raise the stems from between the 85 teeth, and drop the same therefrom.

Having described my invention and its operation, what I claim is—

1. In a machine of the class described and in combination with the cylinders and feed 90 mechanism thereof, a casing provided with front and rear openings and arranged to encompass the cylinders and to permit of the introduction and egress of the material to be operated upon, an exhaust apparatus for with- 95 drawing the dust and similar refuse collecting within the cleaning compartment of the machine, and an elevating mechanism, all substantially as and for the purpose described.

2. The combination with a pair of diagonally-arranged cylinders and the feed mechanism, of a casing provided with front and rear openings, an elevator and an exhaust mechanism and up-take located above the meeting line of the cylinders and over the 105 refuse collecting bin, substantially as and for the purpose specified.

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

FREDERICK W. REESE.

Witnesses:

HENRY VAN SELLAR,
S. I. HEADLEY.