

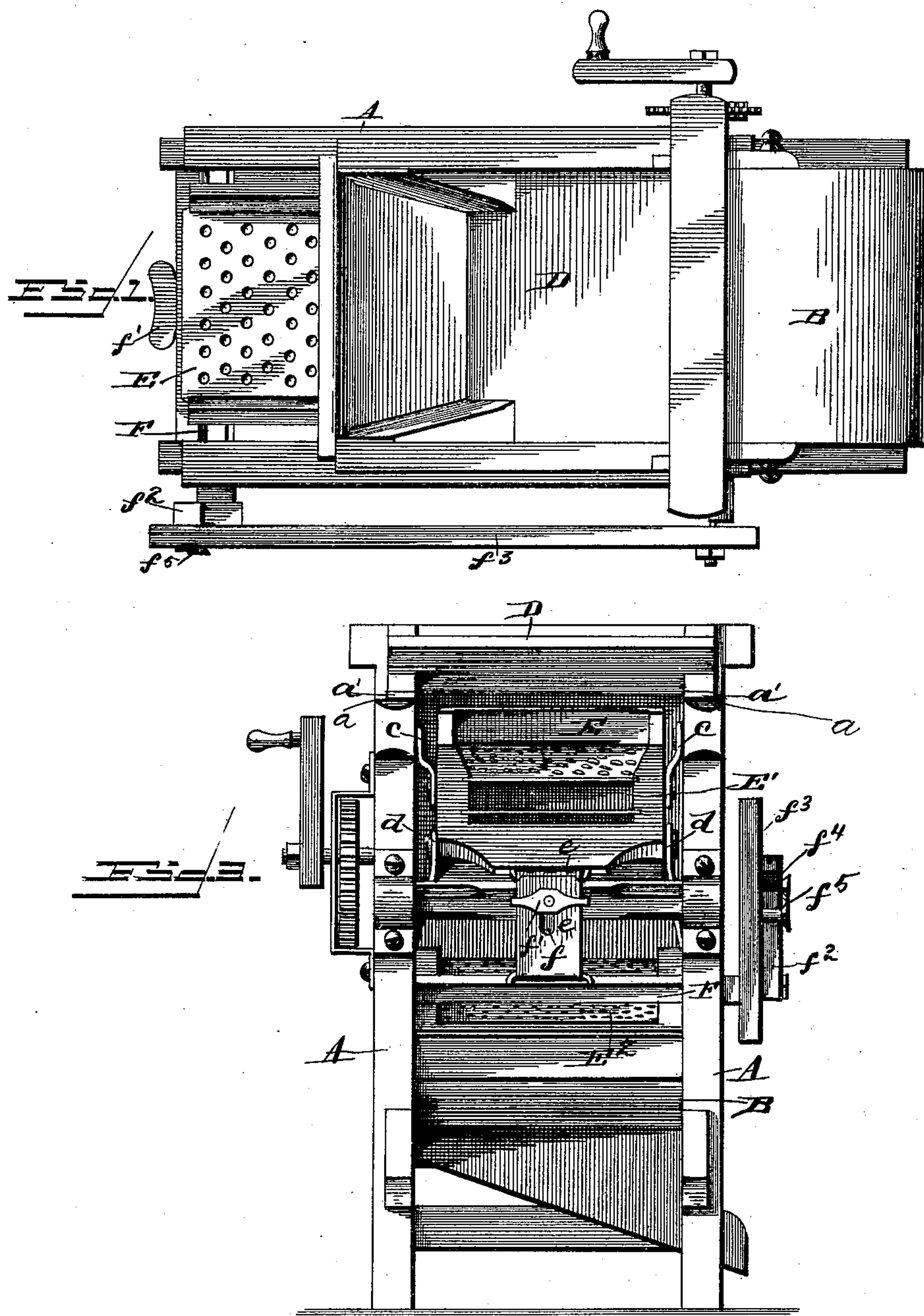
(No Model.)

3 Sheets—Sheet 1.

B. P. BARNEY.
GRAIN CLEANER.

No. 405,070.

Patented June 11, 1889.



Witnesses,
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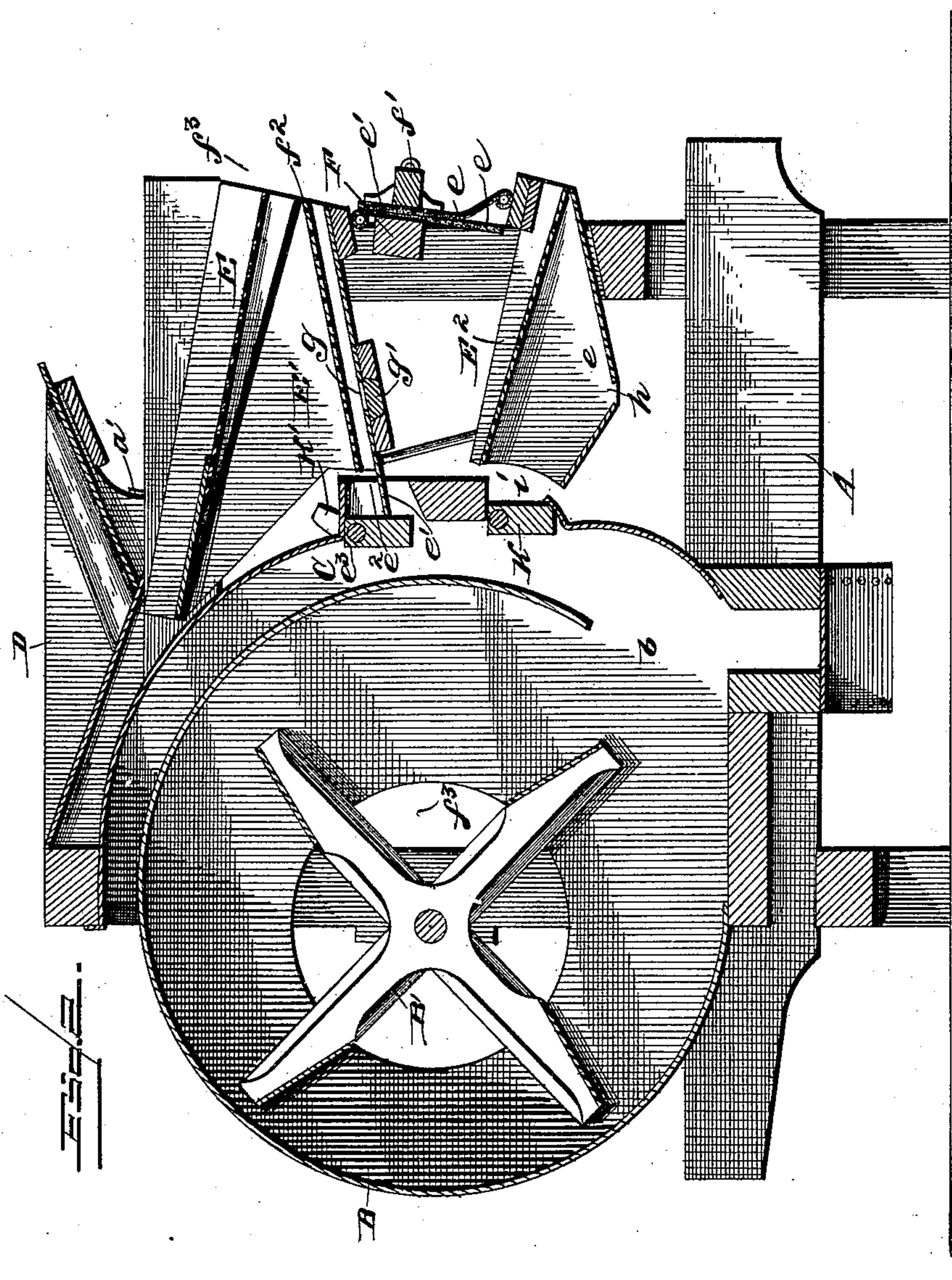
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3 Sheets—Sheet 2.

B. P. BARNEY.
GRAIN CLEANER.

No. 405,070.

Patented June 11, 1889.



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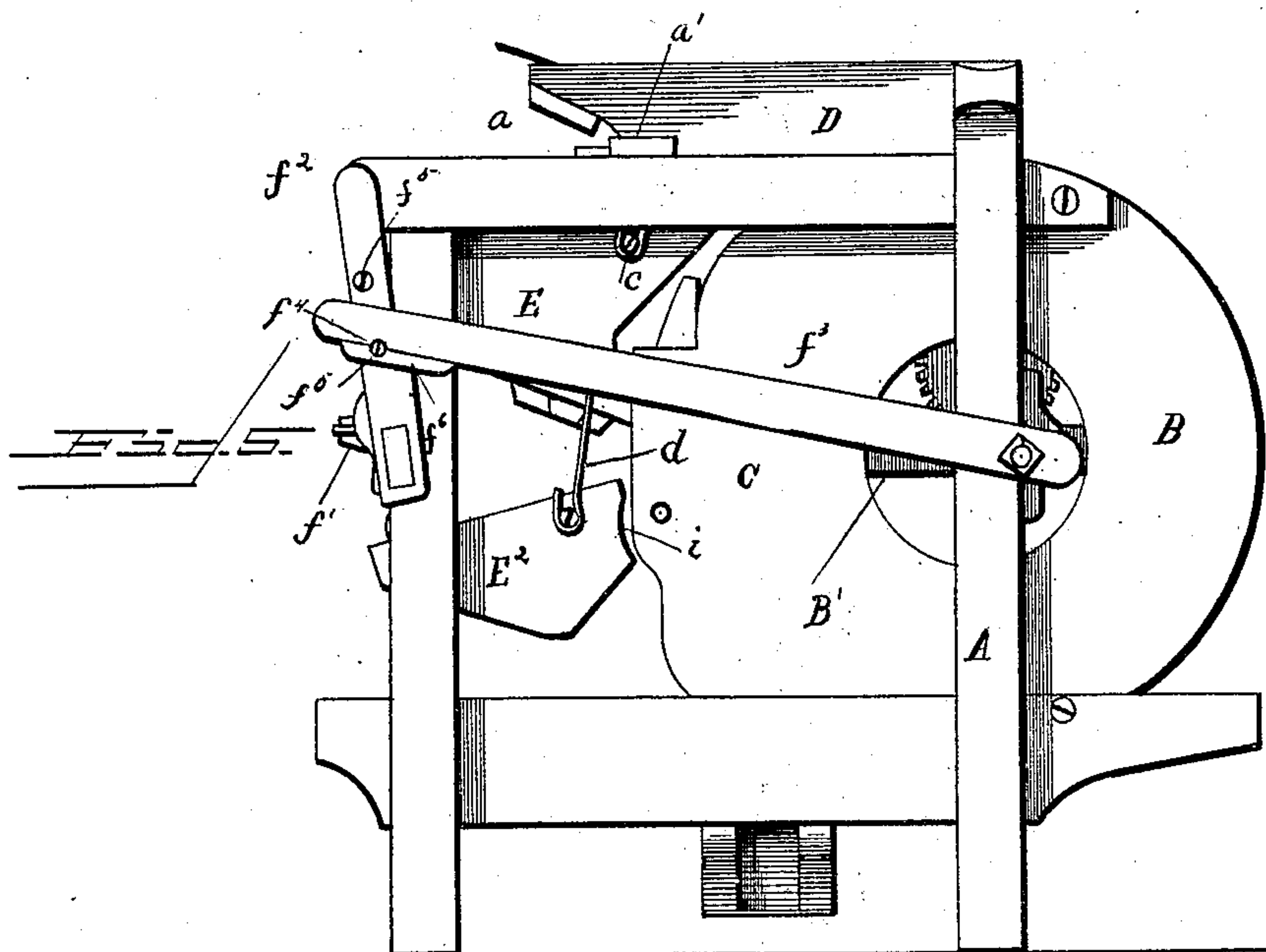
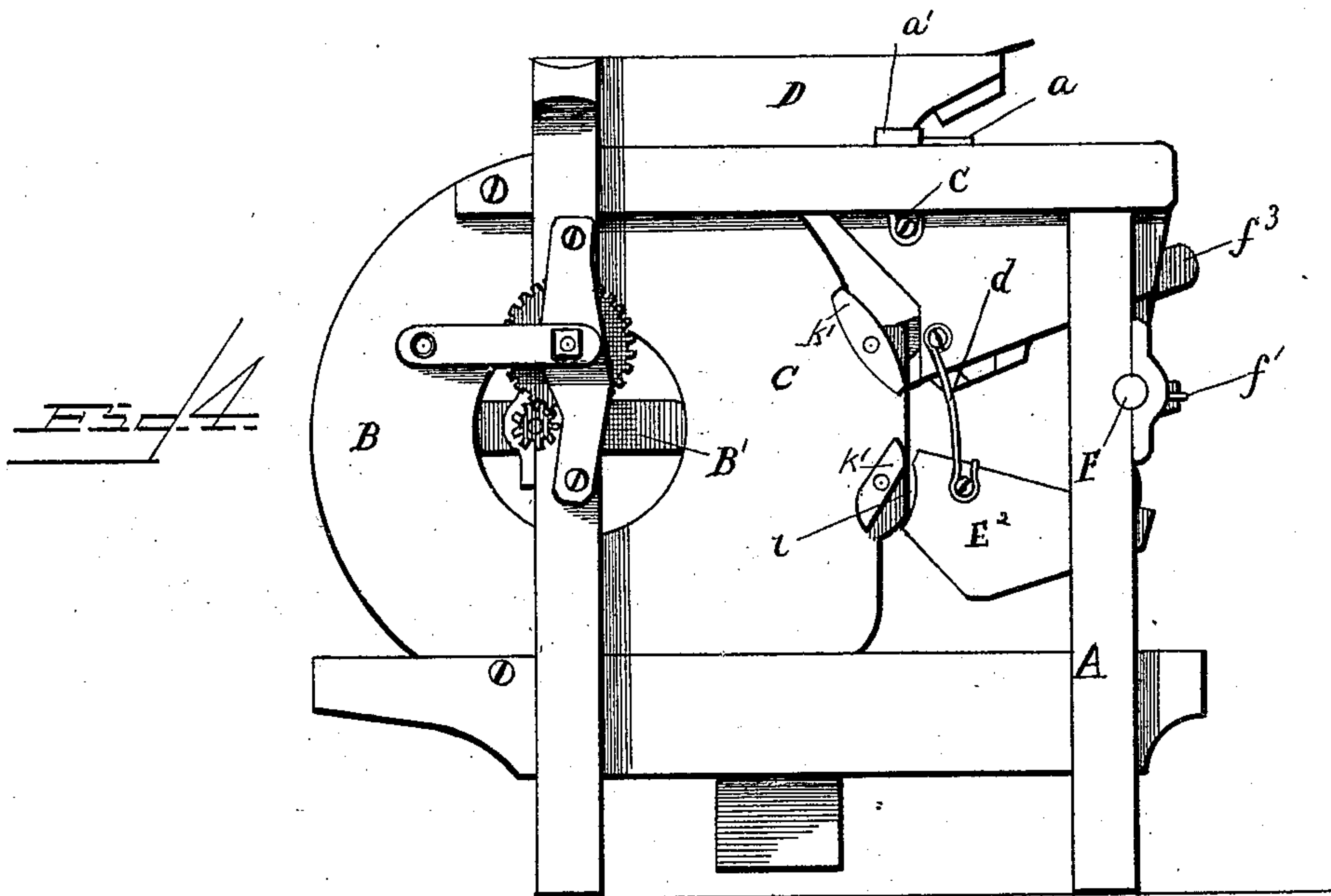
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3 Sheets—Sheet 3.

B. P. BARNEY.
GRAIN CLEANER.

No. 405,070.

Patented June 11, 1889.



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UNITED STATES PATENT OFFICE.

BENJAMIN P. BARNEY, OF HARPER, KANSAS.

GRAIN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 405,070, dated June 11, 1889.

Application filed January 23, 1889. Serial No. 297,304. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN P. BARNEY, a citizen of the United States of America, residing at Harper, in the county of Harper and State of Kansas, have invented certain new and useful Improvements in Grain-Cleaners, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention pertains to certain improvements in grain-separators; and it consists of certain combinations of parts, including their construction, substantially as hereinafter fully set forth and claimed.

15 In the accompanying drawings, Figure 1 is a plan view of my improved grain-separator. Fig. 2 is a sectional elevation thereof. Fig. 3 is a rear elevation, and Figs. 4 and 5 are opposite side views of the same.

20 In carrying out my invention, I employ a suitable frame-work A, within which is suitably bolted or secured a circular fan case or casing B, upon the rear peripheral portion of which is a proximately semicircular trunk or chute C; each of the sides of the fan-case and those of said trunk or chute being in a continuous piece.

25 D is the hopper or feeder removably disposed upon the frame A, with its lower rear corner edges let into socket-like cleats *a a*, each of said cleats consisting of two upwardly and outwardly bent or deflected portions *a' a'* of a single flat plate fastened or applied to the frame A.

35 Within the fan case or casing is hung the rotary fan B', the blast from which passes through an opening *b* in the lower front part of the casing B into the trunk or chute C.

40 E, E', and E² are screens or sieves, the shoe containing the upper ones E E' being hung from the inside of the upper side bars of the frame A by hangers or rods *c c*, the shoe of the lower one of said sieves or screens being hung or suspended from the upper sieve or screen by rods or hangers *d d*, while the two are adjustably connected together by metal straps *e e*, thus permitting them to have imparted thereto a common movement, as presently seen. The straps *e e* are looped one to 50 the lower rear edge of the upper shoe, while the other strap is likewise connected to the

upper rear edge of the lower shoe. The straps *e e* overlap each other and are let into a groove or recess *e'* in a rock-shaft F, supported or journaled in the rear uprights or legs of the frame A. They are also provided in their lap- 55 ping portions with slots *f f*, through which passes a holding and adjusting thumb-screw *f'*, the purpose of which is, in addition, to secure a connection between the screen-shoes 60 and the rock-shaft F, to effect the adjustment of the same, so as to vary their inclination and consequently the inclination of the screens or sieves, as occasion may require. The rock-shaft F has connection, through a crank-arm 65 *f²* at one end and a rod or pitman *f³*, with the fan-shaft, said rod or pitman being connected to said arm and shaft. The connection between the arm *f²* and the pitman or rod *f³* is rendered adjustable, among other ways, by 70 means of an undercut-opening *f⁴* on the pitman or rod, and a series of headed pegs or projections *f⁵*, projecting from the arm. The undercut opening or recess *f⁴* is closed by a button *f⁶*, pivoted upon the under side of the pit- 75 man or rod. This arrangement permits of the variation of the vibratory movement which the shoes, with their sieves or screens, receive from the fan-shaft through the connecting-rod or pitman and arm, enabling them to have a 80 quicker or slower movement or vibration, as may be desired.

The lower screen or sieve E' has an opposite inclination from that of the topmost sieve or screen E, and empties upon a short imper- 85 forate coincidently-inclined plate *e'*, extending into an opening *e²* of an extension *e³* of the trunk or chute C. In the bottom of the sieve or screen E' is a transverse discharge-opening *g*, which is covered by a slide *g'*. The pur- 90 pose of this is to permit of the exit or discharge therethrough of grass-seed when treating the same. It falls upon the sieve or screen E² and through it, and out through the opening 95 *h* in the tapering portion of the bottom of said screen E², finally lodging or being received in a receptacle suitably disposed. The inner end of the shoe of the screen or sieve E² is provided with a spout extension *i*, which coincides or registers with an opening in the trunk or 100 chute C, thus receiving suction action of the blast from the latter to remove the chaff or

worthless light particles. The opening e^2 of the extension e^3 of the air or blast trunk C opposite the screen or sieve E' and the opening of the spout extension i of the sieve or screen E^2 are each provided with a blast-regulating valve K, suitably hung in the sides of the fan-case and provided with suitable means in the form of button-shaped levers k' k' for adjusting the valves as required. By this arrangement the amount of blast which it is desired to impart to the grain on the screens can be varied according to circumstances. The fan-shaft with its fan is revolved by means of gearing and a crank in the usual way, as shown.

From the above it will be seen that the chaff or refuse matter is wholly taken from the screens or sieves by the blast set up by the blast of the fan and drawn into the trunk or chute C, and then by the blast itself is carried and thrown out of the chute or trunk away from the operator or attendant, as desired.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the blast-fan, the fan-case, the blast-trunk extending over the fan-case toward the front thereof and having the valved openings, the grain-receiving spout at the bottom of said trunk, the upper shoe having its bottom board arranged to discharge into said trunk and provided with a slide-covered opening, and the lower screen-shoe arranged to receive from the upper shoe, whereby the grain may at will either be discharged from the upper shoe through the blast or receive a second sifting, substantially as specified.

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

BENJAMIN P. BARNEY.

Witnesses:

GEO. M. FORTUNE,
W. P. ROY.