(No Model.)

R. G. COOK.

ASH SIFTER.

No. 549,994. Patented Nov. 19, 1895.

Fig. 2.

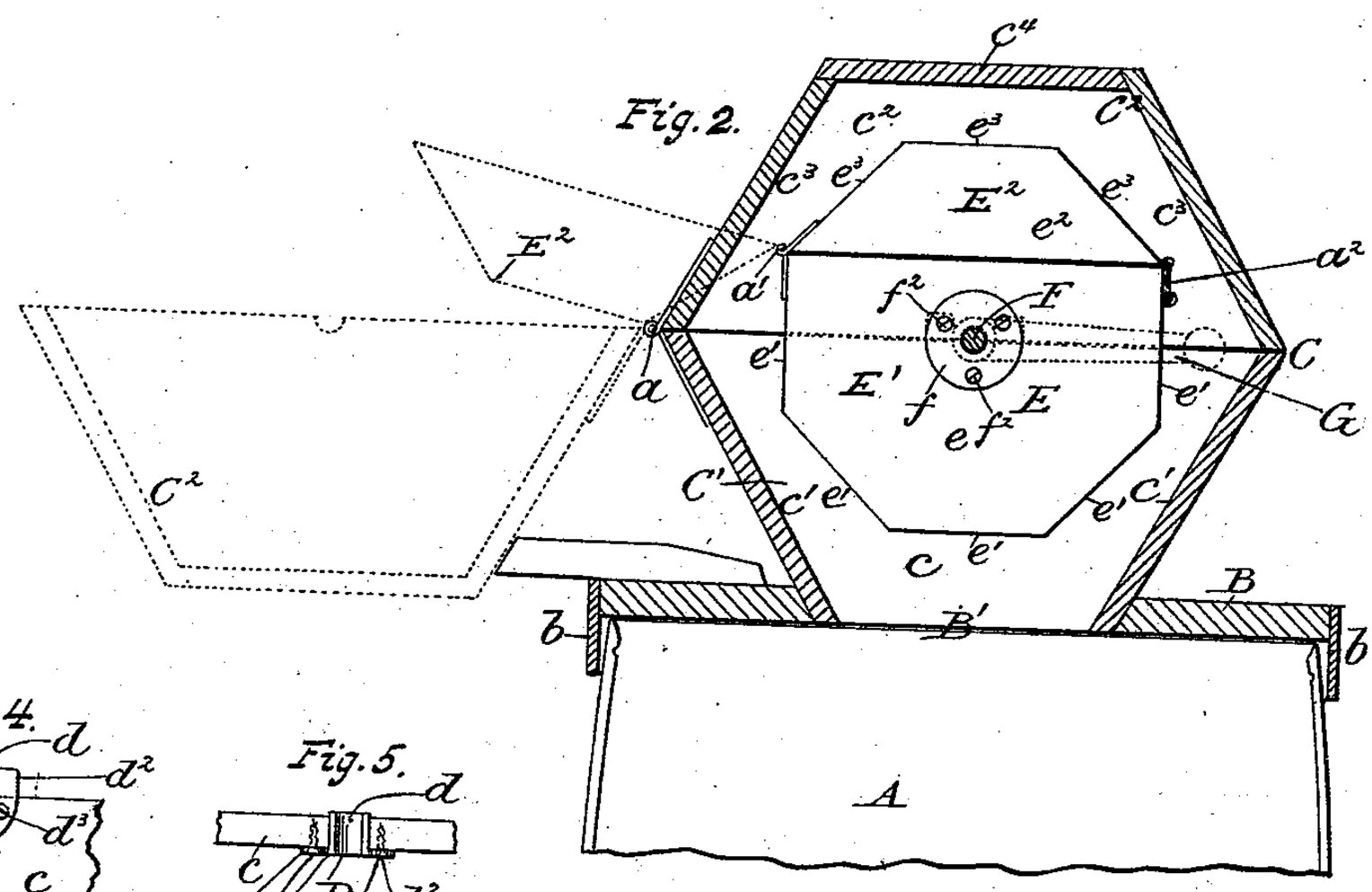

Fig. 4.

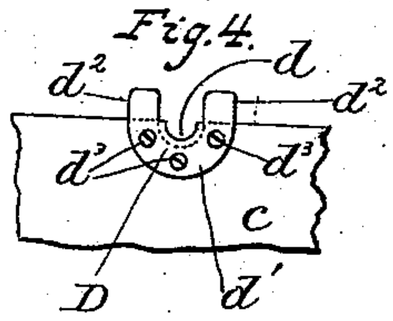

Fig. 5.

Fig. 1.

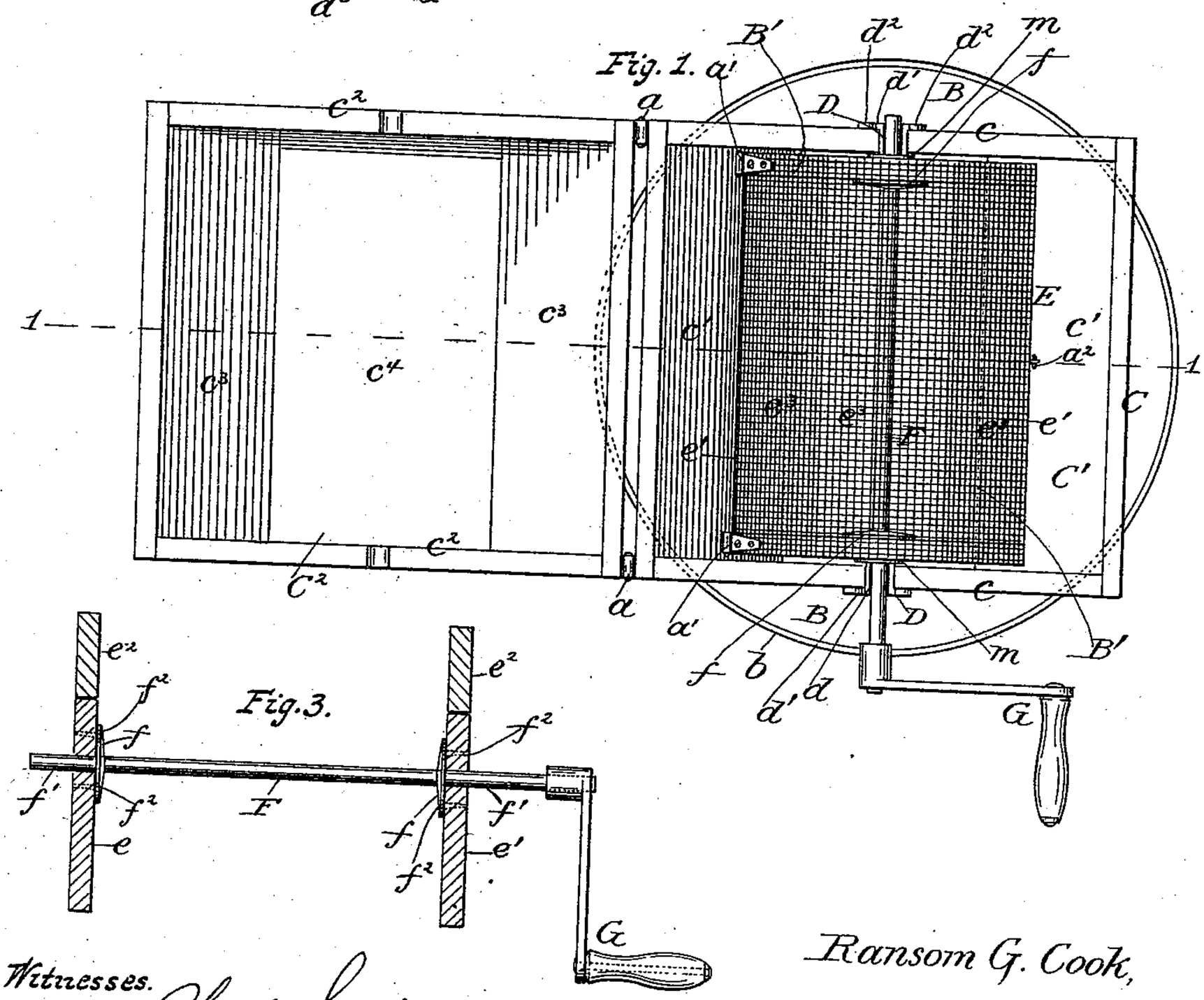

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

RANSOM G. COOK, OF ALBANY, NEW YORK.

ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 549,994, dated November 19, 1895.

Application filed October 18, 1893. Serial No. 488,485. (No model.)

To all whom it may concern:

Be it known that I, RANSOM G. COOK, a citizen of the United States, and a resident of Albany, Albany county, New York, have invented certain new and useful Improvements in Ash-Sifters, of which the following is a full, clear, and exact description.

My invention relates to improvements in revolving ash-sifters; and it consists of the combination of parts and devices hereinafter described, and specifically set forth in the claim.

The object of my invention is to combine with a cover of an ash-receptacle a sectional case which may be opened at will for access to its chamber, which has communication with the ash-receptacle through the said cover, and a sectional polygonal-form screening-cylinder capable of being removed at will from the said case, and having heads which are sustained in place by flange-collars fixed to a central shaft which has end journals for revolving in bearings provided in the ends of the lower section of the case, with one section of said screen hinged to the other, so as to be opened at will, whereby mixed ashes and cinders may be readily introduced into the said screening-cylinder, and the said cylinder will itself be inclosed about by a dust-tight case, which will admit the escape of ash-dust only in direction of the passage-way from the case to the covered receptacles below when the screening-cylinder is revolved, and allow an operator to readily transfer clinkers from the said screening-cylinder to the passage-way between it and the case to the receptacle below, while the unburned coal or cinders may at will be readily discharged from the said cylinder. I attain this object by the means illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of an ash-sifter embodying the improvements in my invention with the hinged section of the case thrown back and exposing the screening-cylinder and passage-way to the receptacle below. Fig. 2 is a sectional view taken at line 1 in Fig. 1. Fig. 3 is a view illustrating the shaft of the screening-cylinder, its fixed collars, and the stationary sections of the heads of said cylinder which are secured thereby. Fig. 4 is a view from the inside of the bearings of the screening-cylinder shaft and the means for their secure attachment to the stationary end pieces of the outer case, and Fig. 5 is a vertical view of the same and a section of the screening-cylinder shaft.

The same letters of reference refer to similar parts throughout the several views.

In the drawings, A is a receptacle for ashes and clinkers from sifted coal-ashes, which may be made of any suitable material and with any form and size that may be preferred.

B is the base of my improved ash-sifter, which base serves as a cover to the receptacle A, intended to receive the ashes and clinkers when separated from the coal-cinders. This base B is preferably provided with a downwardly-projected rim *b*, which operates to prevent it from shifting on the open end of the said receptacle. B′ is an opening through said base-piece, and is shown by full lines in Fig. 2 and by dotted lines in Fig. 1 to be made through the middle portion of said base, so as to communicate with the chamber of the receptacle A.

C is the case of the screening-cylinder, which case comprises the stationary section C′, secured to the base-piece B, and the removable section C^2, secured by hinges *a a* to said stationary section C′. This stationary section C′ consists of the vertical end pieces *c c* and downwardly and inwardly inclined side pieces *c′ c′*, suitably secured together and to the said base-piece B. The removable section C^2 consists of the end pieces c^2 c^2, downwardly and outwardly inclined side pieces c^3 c^3, and horizontal top piece c^4, all suitably secured together so as to correspond in size and form with the stationary section C′, with which it is hinged by hinges *a a*.

D D are the bearings for the shaft of the screening cylinder, which bearings are made of metal and comprise each the concave-form journal-box *d* and radial flange *d′*, made integral with said box, with portions d^2 d^2 projected above the line of the upper edge of the end pieces *c c*, with which said flanged bearings are secured by screws or rivets d^3, Figs. 4 and 5. These upwardly-projected portions d^2 d^2 of the flanges of the said bearings oper-

ate as side guards to prevent the hinged section C^2 of the case from shifting and so relieve the hinges *a a* from torsional strain.

E is the screening-cylinder, which is contained within the case C. This cylinder is polygonal in form, yet preferably octagonal, as shown, and is composed of the sections E′ E^2. The section E′ forms the body of the said screening-cylinder, and consists of the head-pieces *e e*, made preferably of wood, and the wire-screen side walls *e′*, suitably secured to the said end pieces *e e*. The section E^2 comprises the end pieces e^2 and wire-screen wall e^3, suitably secured to the same, and is hinged to section E′ by any suitable hinges *a′ a′*, while a suitable hook a^2 or its known equivalent is provided to secure the said sections together at their sides opposite to said hinges *a′* when said cylinder and its contents are to be revolved. F is the shaft of this sectional screening-cylinder, and is provided with fixed radial flanges or collars *f* and journals *f′ f′*, which latter are passed through the perforations made in the head-pieces *e e* of the section E′ of the screening-cylinder until the inner sides of said head-pieces *e* have bearing against said flanges *f f*, when the latter is secured to the former by rivets f^2 f^2 or their known equivalents. This shaft F, with its fixed flanges *f f*, secured to the said head-pieces *e* of section E′ of the screening-cylinder, as described, operates to keep the said head-pieces from shifting and also parallel with each other, and by placing said disks or flanges *f* on the inner sides of pieces *e e* space is gained for the thin washers between said heads and the casing, and the screen is thus made longer than would be possible with the flanges *f* outside. This screening-cylinder is introduced into its place within the case B, with the journals *f′ f′* of the shaft F of the said cylinder, into the respective bearings D D, fixed in the end pieces *c c* of the stationary section C′ of the case C. Washers *m m* on the journals *f′ f′*, and between the head-pieces *e e* of screening-cylinder E and the ends of the boxes *d* of the bearings D, operate to hold the said head-pieces of the screening-cylinder from revolving in contact with the end pieces of case C.

When this ash-sifter is to be operated, the upper section C^2 of the case C will be thrown back to position shown by full lines in Fig. 1 and indicated by dotted lines in Fig. 2, and the upper section E^2 of the screening-cylinder E will be turned back from off the lower section E′, when the mixed ashes, clinkers, and cinders will be introduced within the chamber of said lower section E′. The said upper section E^2 will then be turned down on said lower section and secured with the same by the hook a^2 or an equivalent holding-piece. The hinged section of the case C will now be turned down on the stationary section of said case, when the operator will, by means of crank G, provided on an end of the shaft F, revolve at a low speed the said screening-cylinder continuously in one direction, or alternately in opposite directions when the ashes will be loosened from the cinders and clinkers, and, separating from the same, will pass through the meshes of the screening-walls of the cylinder E into the chamber C, and thence be carried by the inclined sides *c′ c′* to the opening B′ of the base-piece B and have passage thence into the receptacle below. When the ashes have been screened from cinders and clinkers, the operator will turn the hinged section E^2 back from section E′, and by hand remove the clinkers from the coal-cinders within said section E′ and drop the same into either of the passage-ways *n n*, between the cylinder E and the inclined sides *c′ c′* of the stationary section of the case C, when they will have passage into the receptacle below. When the cinders have been cleared of the ashes and clinkers, the operator will remove the cylinder E from the case, so that he may conveniently empty the clean cinders into a coal-hod or other receptacle for the same.

By these above-described improvements ashes from stoves, furnaces, ranges, &c, may be readily screened from the cinders and clinkers without the dust of the same escaping into the room, and the clinkers may be readily passed into the receptacle receiving the ashes without necessitating the uncovering of the same.

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

In an ash sifter, the combination with a screening cylinder composed of sections E′ and E^2 hinged together as described, shaft F provided with fixed flanges *f* secured upon the inner sides of the head pieces *e e* of section E′, and also with flanges by rivets or screws, and also with journals *f′ f′* of the case C composed of a stationary section C′ having inclined sides, and a movable section C^2 hinged to said stationary section, bearings D D comprising each the box *d*, semi circular flanges *d′* and upwardly projected portion d^2, and secured to the upper edge portion of the end pieces *c c* of the said stationary section of the said case, washers *m m* on journals *f′ f′* and crank G, substantially as and for the purposes set forth.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

RANSOM G. COOK.

Witnesses:

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