

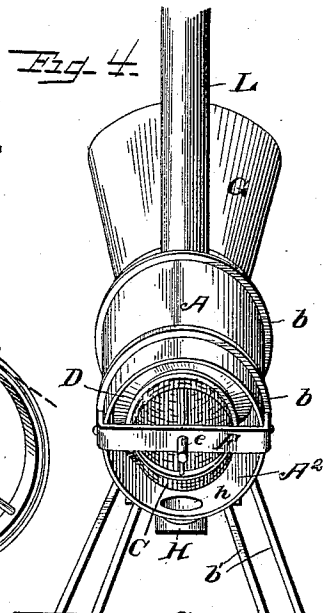
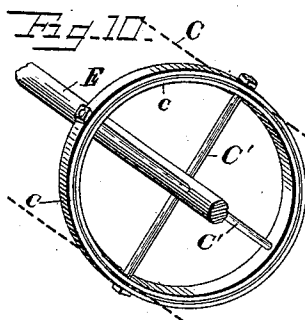
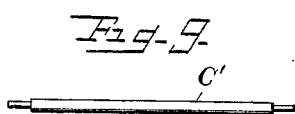
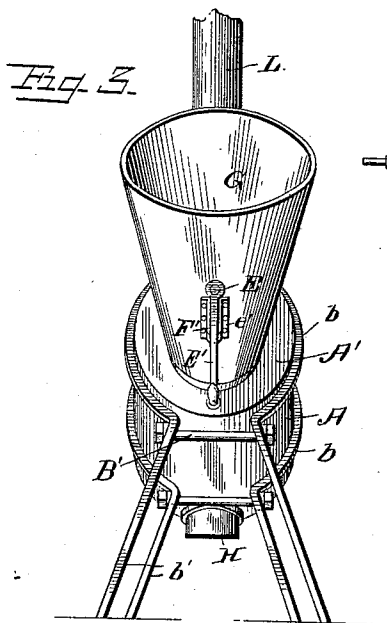
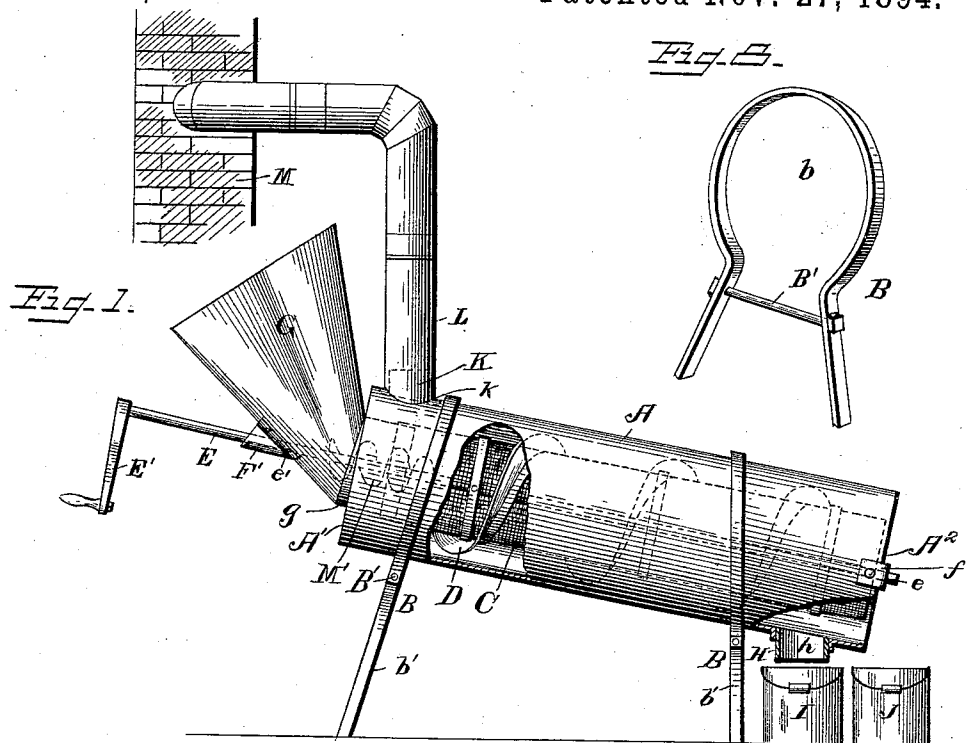
(No Model.)

2 Sheets—Sheet 1.

F. A. PEARSONS.
ASH SIFTER.

No. 529,947.

Patented Nov. 27, 1894.



Witnesses
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H. S. Shepard.

Inventor
Fillmore A. Pearsons,
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his Attorney

(No Model.)

2 Sheets—Sheet 2.

F. A. PEARSONS.
ASH SIFTER.

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Fig. 2.

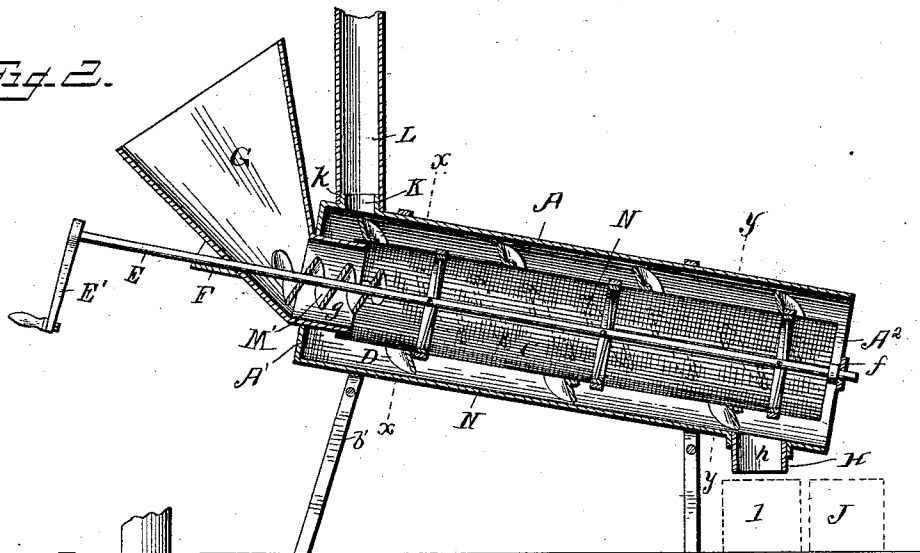


Fig. 5.

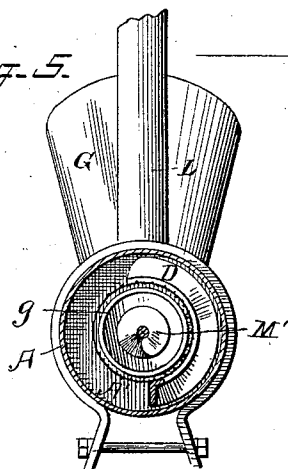


Fig. 11.

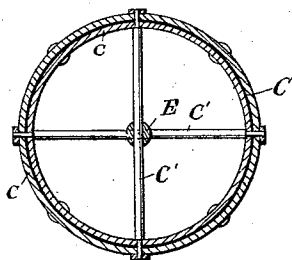


Fig. 6.

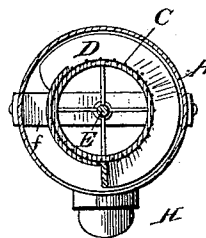
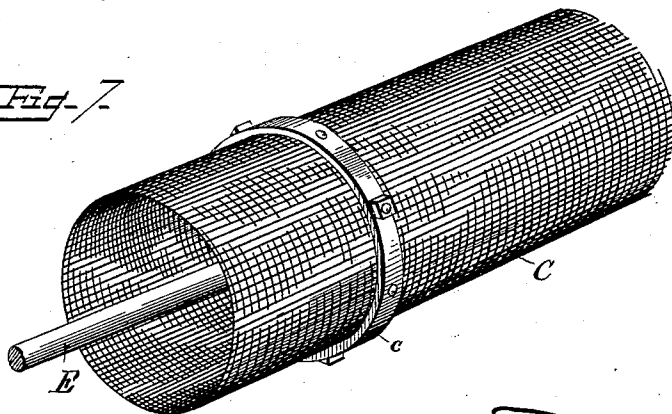


Fig. 7.



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UNITED STATES PATENT OFFICE.

FILLMORE A. PEARSONS, OF RUTLAND, VERMONT.

ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 529,947, dated November 27, 1894.

Application filed February 19, 1894. Serial No. 500,763. (No model.)

To all whom it may concern:

Be it known that I, FILLMORE A. PEARSONS, a citizen of the United States, residing at Rutland, in the county of Rutland and State of Vermont, have invented a new and useful Ash-Sifter, of which the following is a specification.

This invention relates to that class of ash sifters which embody an inclined rotary screen operating in a shell or casing.

The object of my invention is to provide a simple and improved sifter of this character, which will possess advantages in point of inexpensiveness, convenience, rapidity of operation, durability, effectiveness, and general efficiency, and which will effectually obviate the inconvenience and disadvantages occasioned by the dust usually arising in the operation of ash sifters.

In the drawings:—Figure 1 is a side view of an ash sifter embodying my invention, parts being broken away to show the interior construction. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a front end view. Fig. 4 is a rear end view. Fig. 5 is a vertical transverse sectional view, taken on the line $x-x$, Fig. 2, and looking toward the front end. Fig. 6 is a vertical transverse sectional view, taken on the line $y-y$, Fig. 2, and looking toward the rear end. Fig. 7 is a perspective view of the screen, detached. Fig. 8 is a perspective view illustrating one of the pairs of legs. Figs. 9, 10, and 11 are detail views.

Corresponding parts in all the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the casing or shell, which is mounted in inclined position upon suitable legs, B B. The casing is preferably cylindrical in shape and constructed of sheet metal, but it is obvious that it may be of any suitable or adapted shape, and that it may be constructed of any suitable material. The casing is provided with a closed upper end, A', and with an open lower end, A², the latter forming the discharge end of the device.

The respective pairs of legs B are preferably formed of a single strip of metal bent

into shape and comprising a central cylindrical portion, b , adapted to embrace the casing, from which central portion extend divergent legs, b' , a transverse nutted rod or bolt, B', being passed through the legs at a point below the central portion b to bind and secure the leg device B in position.

C designates the rotary screen, which is of less diameter than the casing and is suitably mounted therein longitudinally. Upon the outer surface of the screen is provided a longitudinally-extending spiral worm or fin, D, which embraces the screen and occupies the space between the screen and the wall of the casing. The screen is provided with interiorly-arranged webs or spokes, C' C', to which is connected a longitudinal shaft, E, having bearings in the casing, by which shaft the screen is rotated. The bearing for the lower end, e , of the shaft is preferably provided in a cross piece, F, extending across the lower end of the casing and having angle ends, $f f$, secured to the sides of the casing. The upper end of the shaft projects forwardly from the casing, as at e' , and is provided with a crank or handle, E', by which the shaft may be operated. It will be understood that the screen may be of suitable or adapted length with relation to the casing, but it is preferably somewhat shorter than the casing.

G designates a hopper, which is provided with a neck, g , at an angle to its main or body portion, which neck or extension passes through an opening in the upper end of the casing and enters and, approximately corresponds to, the upper or receiving end of the screen.

Near the lower end of the casing an opening, h , is provided in its bottom, from which extends a conducting pipe, H, adapted to convey and deposit the ashes in a suitable pail or receptacle, I. A similar pail or receptacle, J, may be provided at the lower end of the casing to receive the coal from the screen.

An opening, k , is provided in the top of the casing at its upper end, from which opening projects a pipe, K, to which may be connected a draft pipe, L, extending to a chimney, M,

by which construction the dust arising from the operation of the sifter is effectually carried off. The dust flue is attached at the highest point of the cylindrical shell or casing A, the latter being in inclined position and having the closed upper end and open lower end, by which relative construction and arrangement the complete withdrawal of the dust is effected.

- 10 A worm or similar device, M', may be provided upon the portion of the shaft E which passes through the throat of the hopper, to feed or force the ashes into the screen. It will be noted that the bearing for the upper end e' of the shaft E is formed in the wall of the hopper, as shown at F', the relative arrangement and construction being such that the upper end of the shaft extends through the throat of the hopper and projects from or beyond the latter.

- I prefer to employ spokes C' C' of the construction herein illustrated, said spokes being headed at both ends and passing through the shaft at right angles to each other, by which arrangement the shaft is retained in central position with relation to the screen without fastening the spokes to the shaft. At the outer ends of the spokes are provided two cylindrical bands, c c, secured upon the headed spokes and arranged to embrace the web of the screen, as shown, by which the parts are securely bound and retained in position.

- The operation and advantages of my invention will be readily understood. When ashes are placed in the hopper and the screen revolved, the ashes will pass through the screen to the shell or casing and be carried by the worm to the opening h, while the coal and cinders will be effectively screened as they pass through the rotary screen by gravity, and will pass off from the open end of the screen.

- My improved ash sifter is especially designed for convenient and effective use in cellars where there are furnaces, by reason of its anti-dust construction, but it can of course be as well employed for out door use, in which latter case the dust pipe may be dispensed with. It is also obvious that my improved sifter is adapted for convenient and efficient use in sifting sand, grain, seed, or other substances or materials.

- Under some circumstances, I may employ a worm or fin inside the screen, surrounding the shaft, to prevent the coal from running too fast, under which circumstances a shorter screen or casing may be used. This inside worm or fin is shown in dotted lines at N, Fig. 2.

- By manifest variation in the detail construction and arrangement, it is obvious that in lieu of the casing A, my improved screen may be adapted for use in connection with a barrel or box or similar device.

Having thus described my invention, I

claim and desire to secure by Letters Patent—

1. An improved ash sifter, comprising the inclined shell or casing having the open lower end and the opening h, legs or supports B B, the inclined rotary screen mounted in the casing and provided with the worm D and the longitudinal shaft E having the projecting operating end e', and the hopper G provided with the neck or extension g entering the upper end of the screen, substantially as set forth.

2. An improved ash sifter, comprising the inclined casing or shell having the open lower end and the closed upper end and provided with the opening k, the inclined rotary screen mounted in the casing and provided with the spiral worm D and the longitudinal operating shaft, the hopper entering the front end of the casing and the upper end of the rotary screen, and the dust pipe L connected with the opening k and extending to a chimney or other suitable point, substantially as set forth.

3. The herein described ash sifter, consisting of the inclined casing or shell A having the open lower end and the closed upper end and provided with the cross piece F and the openings h and k, from which respectively extend the pipes H and K; the leg pieces B B formed in a single piece comprising the central portion b and the divergent legs b' b' and provided with the securing rod or bolt B'; the inclined rotary screen C mounted in the casing and provided with the spiral worm D and the longitudinal shaft E having the projecting ends e and e'; the hopper G having the neck or extension g entering the front end of the casing and the upper end of the screen, substantially as set forth.

4. In an ash sifter of the class described, comprising the inclined casing or shell having an open lower end and a closed upper end, and an inclined rotary screen mounted in the casing,—a dust pipe L extending from the top of the upper closed end of the inclined casing to a chimney or other suitable point, substantially as set forth.

5. The combination, with the casing or shell, of the leg pieces B B formed in one piece and comprising a central portion b corresponding to and embracing the casing, divergent legs b' b', and a transverse rod or bolt passing through the divergent legs at a point below the central portion, substantially as and for the purpose set forth.

6. In an ash sifter, comprising the inclined casing or shell having an open lower end and closed upper end, the inclined rotary screen mounted in the casing and provided with a longitudinal operating shaft, and the hopper having a neck or extension entering the closed front end of the casing and the upper end of the screen,—the dust pipe L extend-

ing from the top of the upper closed end of the inclined casing to a chimney or other suitable point, substantially as set forth.

5 7. An ash sifter having an inclined casing or shell provided with an open lower end, an inclined rotary screen mounted in longitudinal position within the casing and of less diameter than the latter and provided with an exteriorly-arranged spiral worm or fin occu-

pying the space between the screen and the casing, and a hopper entering the upper end of the screen, substantially as set forth. 10

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

FILLMORE A. PEARSONS.

Witnesses:

E. V. ROSS,

J. M. BUSHEY.