

No. 789,593.

PATENTED MAY 9, 1905.

C. DORFFEL.
AUTOMATIC ASH DUMP.
APPLICATION FILED DEC. 15, 1904.

2 SHEETS—SHEET 1.

Fig. 1

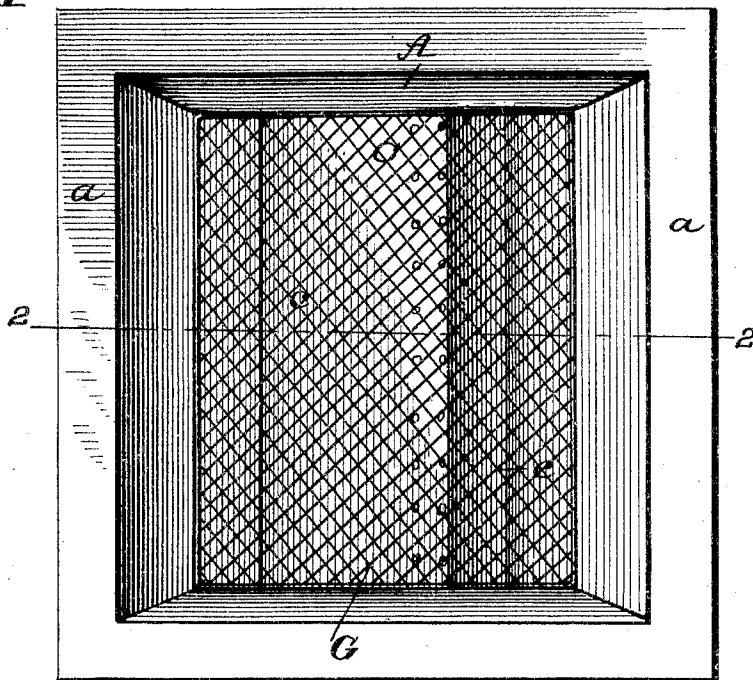
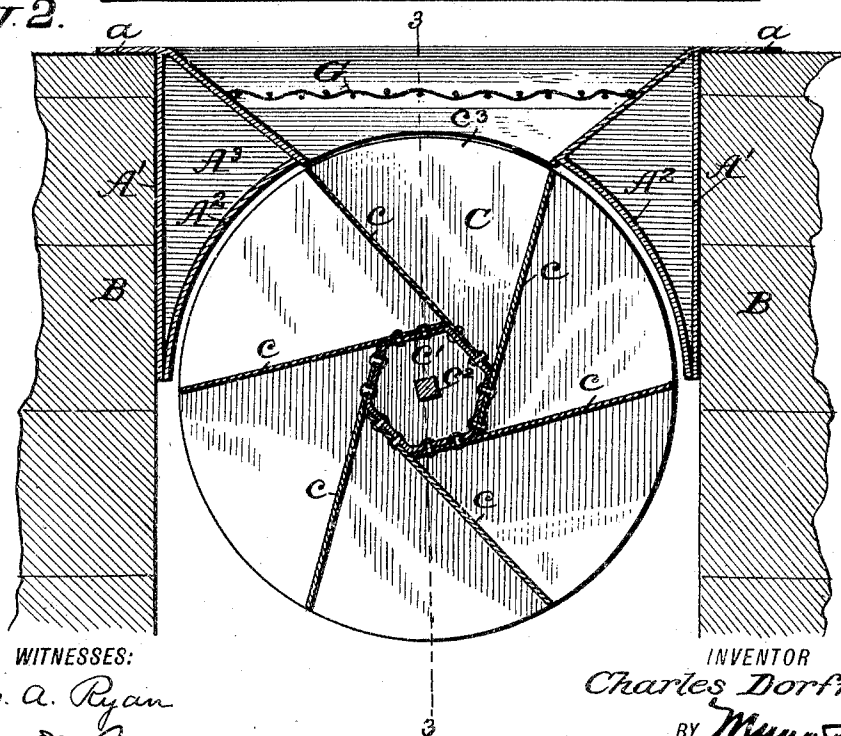


Fig. 2.



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2 SHEETS--SHEET 2.

Fig. 3.

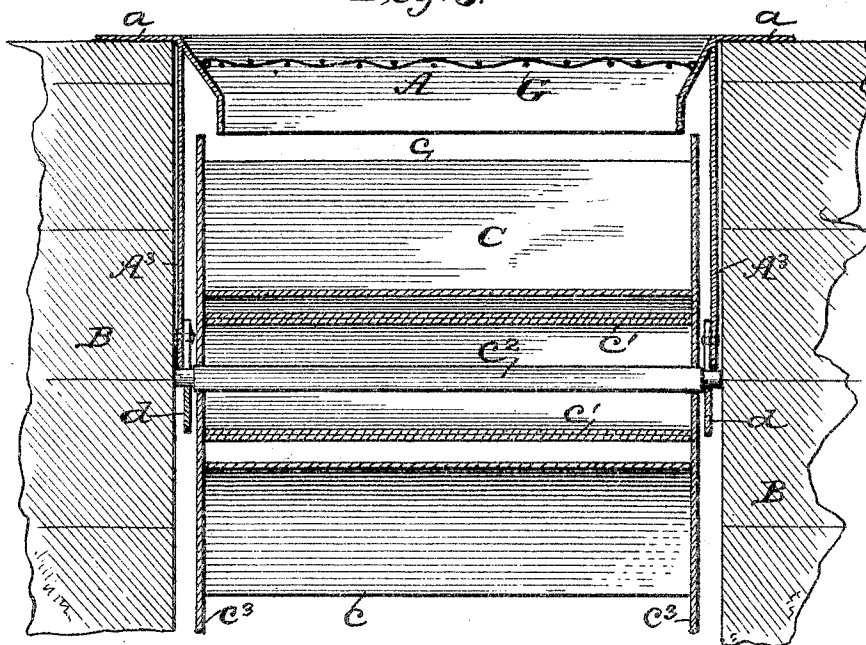


Fig. 4.

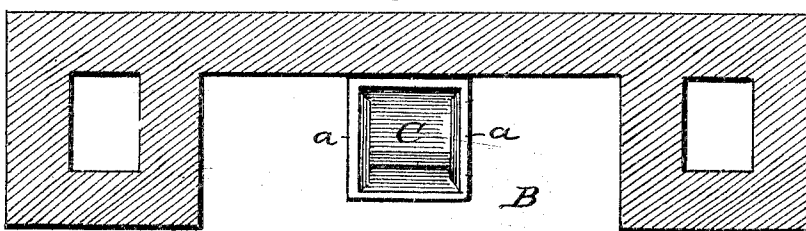
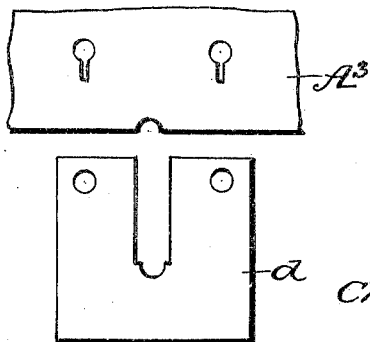


Fig. 5.



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AUTOMATIC ASH-DUMP.

SPECIFICATION forming part of Letters Patent No. 789,593, dated May 9, 1905.

Application filed December 15, 1904. Serial No. 237,030.

To all whom it may concern:

Be it known that I, CHARLES DORFFEL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Improvement in Automatic Ash-Dumps, of which the following is a specification.

My invention is in the nature of a device to be placed in an opening in the hearth of a fireplace or in the floor beneath the ash-pit of a stove, which device while closing the opening against upward draft of air will when it receives a definite charge of ashes and cinders from the grate or stove above automatically transfer the same to the cellar below the hearth or into a chute and sub-jacent receptacle outside of the house.

It consists in a rotary receiver mounted on a horizontal axis and formed with a series of compartments or pockets which open at the periphery, in combination with an inclosing hearth-frame having a hopper-shaped opening at the top which directs the ashes into the compartment beneath the same and which compartment when loaded with its charge of ashes causes the rotary receiver to become unbalanced and to automatically turn and dump the contents of that compartment into the space below the hearth or floor or into a chute and at the same time bringing another compartment into registration with the hopper above ready for the next charge.

Figure 1 is a top plan view of the ash-dump. Fig. 2 is a vertical section taken at right angles to the axis of the rotary receiver on line 2 2 of Fig. 1. Fig. 3 is a vertical section taken on line 3 3 of Fig. 2 in the plane of the axis of the receiver. Fig. 4 is a plan view showing the relation of the ash-dump to the hearth and chimney-jamb, and Fig. 5 represents details of a hanger forming the journal-bearings for the rotary receiver.

In the drawings, A represents a rectangular frame of heavy sheet metal formed with a horizontal marginal flange *a*, which rests upon and practically on the level of the hearth or floor. This frame is formed with a sunken or depressed hopper portion. It has two pendent end plates $A^3 A^3$, which ex-

tend vertically down into the rectangular hole cut through the masonry B of the hearth or floor, and on the two sides it has also the three-sided dead-air spaces formed by the vertical wall A' of the frame, a curved wall A^2 , and the inclined wall of the hopper, as seen in Fig. 2.

Below the hopper and fitting closely up to the same and to the curved side walls A^2 of the frame is arranged the rotary ash-receiver C. This is formed of an axial shaft c^2 , rigidly connected to the two end disks $c^3 c^3$, a central hexagonal core c' and longitudinal wings $c c$, so arranged that any two adjacent wings $c c$ come together at an angle at one side of the central shaft c^2 for the purpose hereinafter described.

The wings $c c$ are riveted to the sides of the hexagonal core c' and form compartments which open outwardly and which receive the ashes to be dumped. The peripheral width of these compartments is approximately the width of the opening in the bottom of the hopper with which they register.

The ash-receiver is journaled in hanger-plates attached to the end walls $A^3 A^3$ of the frame. These hangers consist each of a plate *d*, (see Fig. 5,) which has a vertical slot in its upper edge, which slot receives the extended journal of the shaft c^2 and is riveted to the pendent edge of the end plate A^3 of the frame.

Each compartment of the rotary receiver closes the opening in the bottom of the hopper, so that air and dust cannot rise up through the hearth, and the shape of the compartment is such, owing to the angular position of the inner edges of the wings, that when a compartment is filled with ashes the center of gravity of the charge will fall to one side of the axis of the rotary receiver, and the latter will automatically turn to discharge its load below into the cellar or chute and another empty compartment will be brought beneath the hopper and into registration with the same.

The three-sided dead-air spaces on each side of the rotary receiver serve to close communication between the space above and the space below the hearth, even if the compart-

ments do not register accurately with the hopper, so that at all times there is no place left for an upward draft of air.

To prevent unburned coals, slate, or clinker from passing into the rotary receiver and obstructing its free rotation, a suitable sifting screen or grating G, of wire-netting or other material, is detachably arranged in the hopper-shaped opening above the rotary receiver.

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

1. An ash-dump comprising a rotary adjustable receiver and a hearth-frame having 15 journal-bearings for the receiver and an opening in the top, said frame being adapted to be set into an opening in the hearth-floor substantially as described.

2. An ash-dump comprising a rotary adjustable receiver having a horizontal axis 20 and compartments around the same opening peripherally, and a hearth-frame having journal-bearings for the receiver and an opening in the top adapted to discharge into the compartments of the receiver, said frame being 25 provided with means for holding it in an opening in the hearth-floor as described.

3. An ash-dump comprising a rotary adjustable receiver, having a horizontal axis 30 and compartments around the same opening peripherally, and a hearth-frame having journal-bearings for the same and an opening in the top with horizontally-extending flange to

support the same on the hearth-floor as described. 35

4. An ash-dump comprising a rotary adjustable receiver having a horizontal axis and compartments around the same opening 40 peripherally, and a hearth-frame having journal-bearings for the receiver, a depressed hopper-shaped opening in the top of the same, a horizontally-extended marginal flange to rest on the hearth and dead-air spaces between the inclined sides of the hopper, the 45 periphery of the receiver and the vertical walls of the frame substantially as described.

5. The combination with the rotary receiver arranged on a horizontal axis and having compartments opening peripherally; of a 50 hopper-shaped frame fitting closely above the rotary receiver and a sifter arranged in said frame above the compartments of the receiver as described.

6. An ash-dump comprising a rotary adjustable receiver having a horizontal shaft 55 and peripheral compartments, a hearth-frame with an opening in the same and pendent end walls and a vertically-slotted journal-plate riveted to the end walls and inclosing the journals of the shaft substantially as de- 60 scribed.

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Witnesses:

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