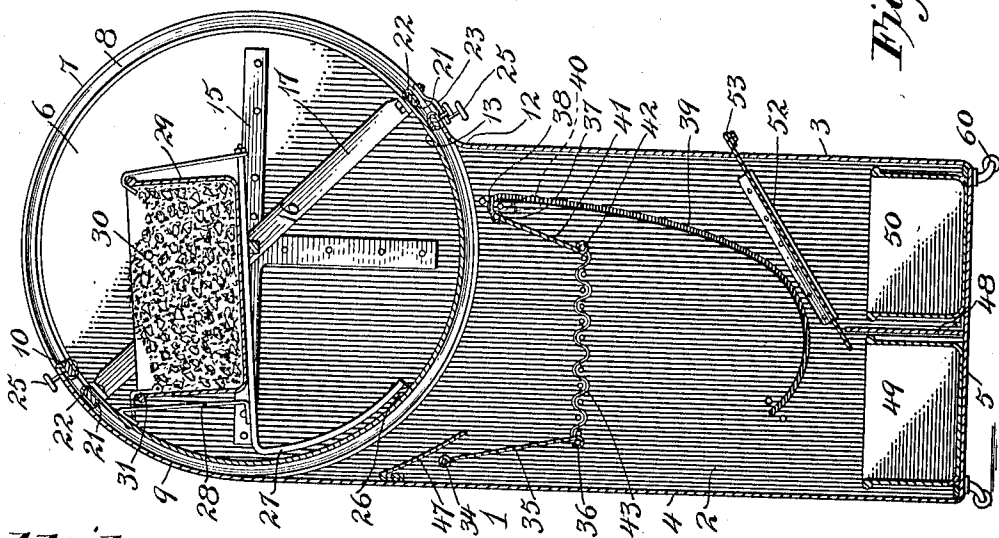
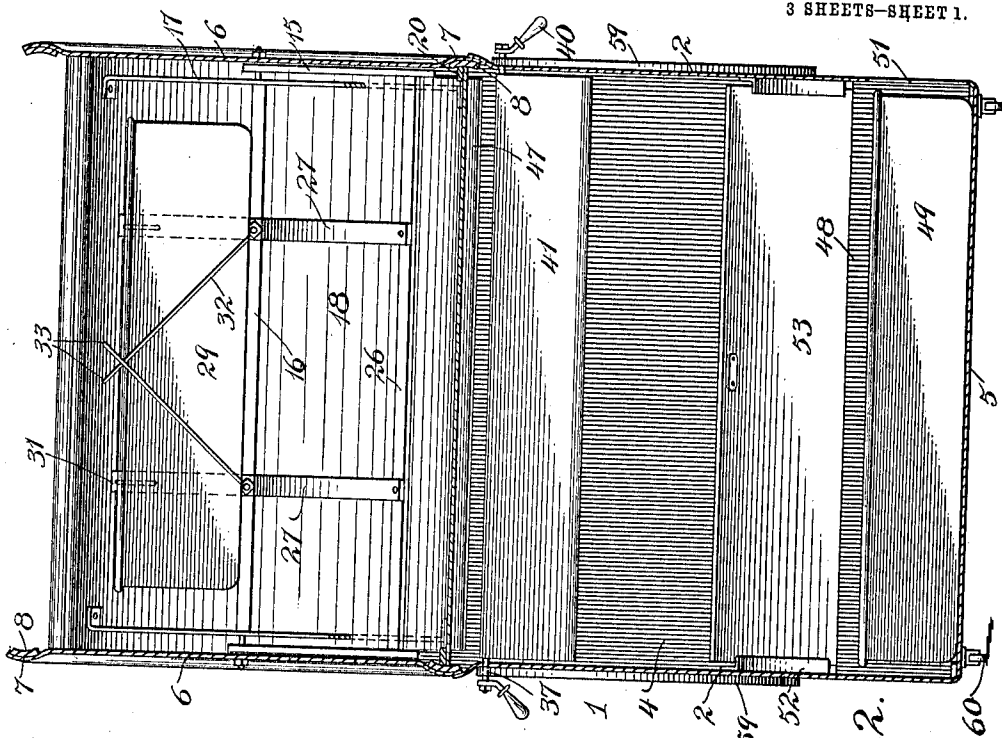


M. NOWAK.
ASH SIFTING DEVICE.
APPLICATION FILED MAR. 30, 1912.

1,034,926.

Patented Aug. 6, 1912.

3 SHEETS-SHEET 1.



Witnesses:
Harry E. Pfeiffer
Anna H. Atter.

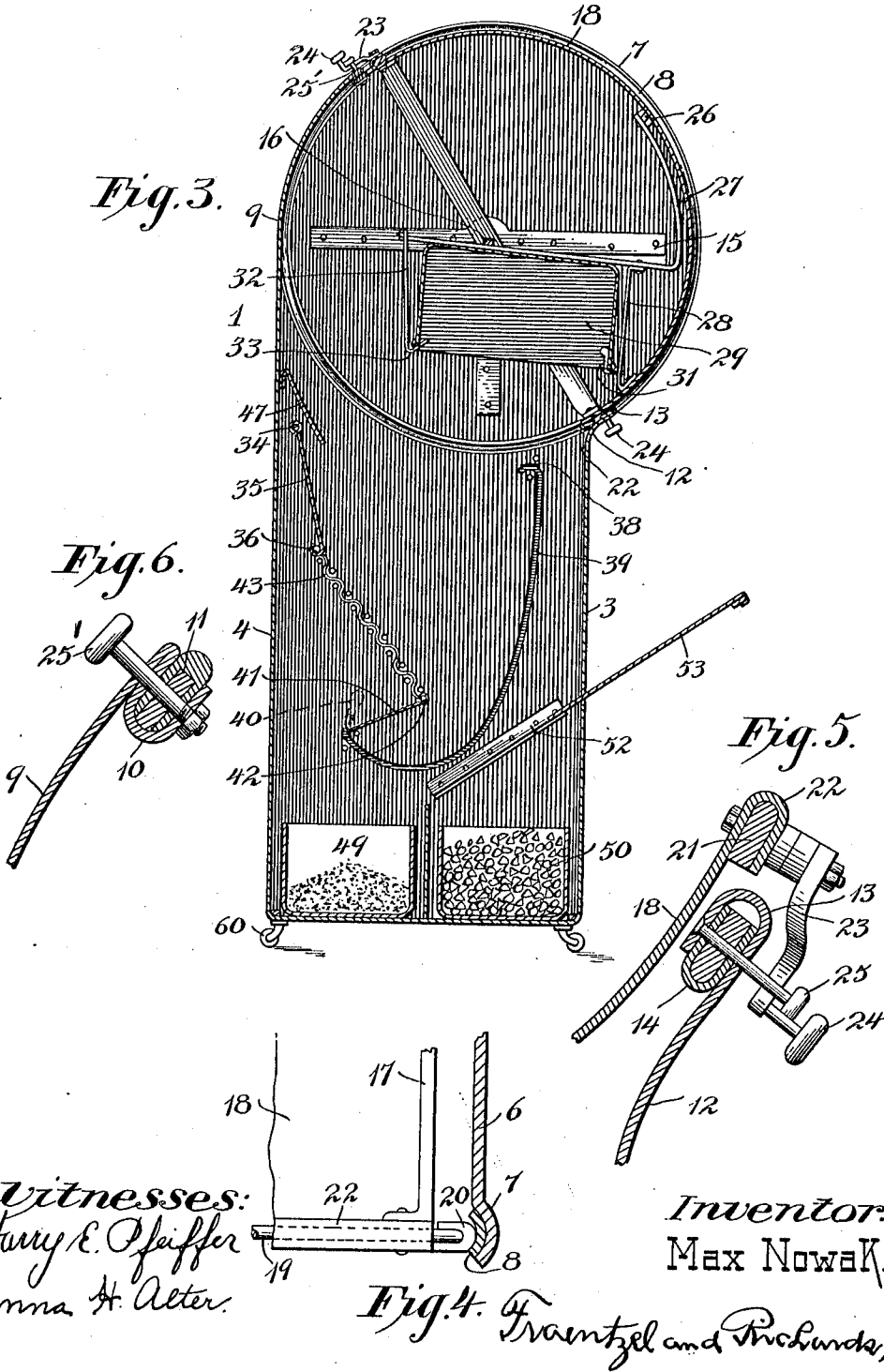
Fig. 1.

Inventor:
Max Nowak,
Fraentzel and Richards

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3 SHEETS—SHEET 2.



Witnesses:
Harry E. Pfeiffer
Anna H. Aelter.

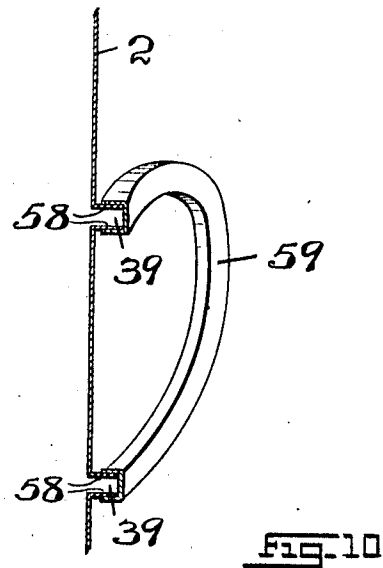
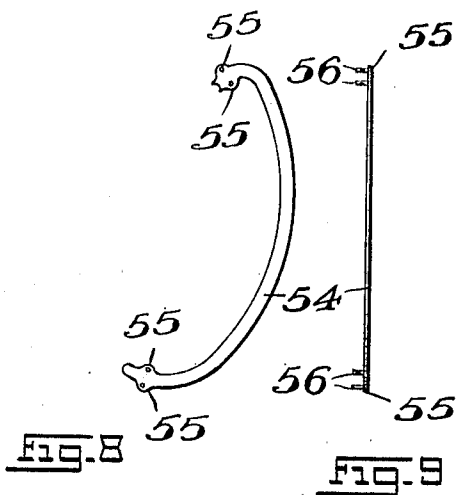
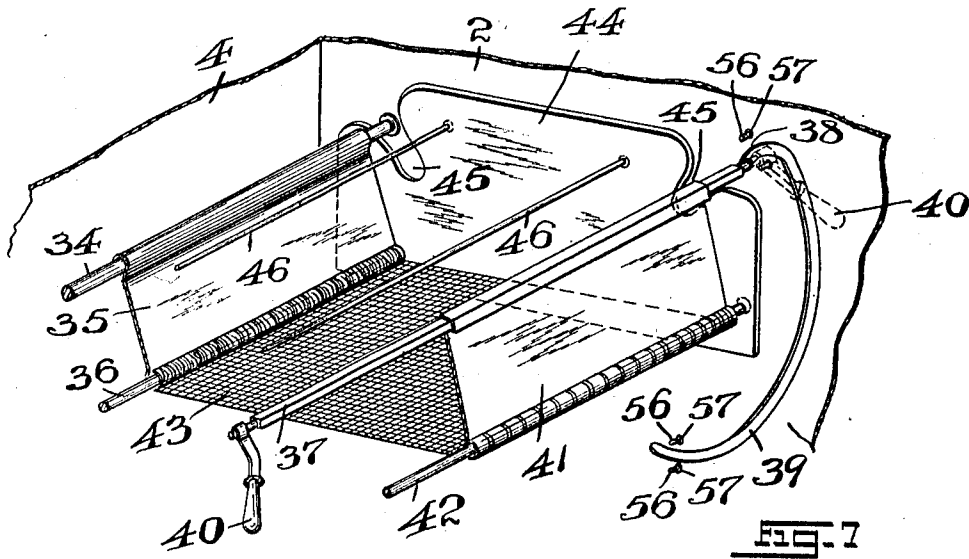
Inventor:
Max Nowak,

Fig. 4. *Frantzel and Richards,*

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3 SHEETS—SHEET 3.



WITNESSES:
Harry E. Pfeiffer
Frank W. W. Brownell

INVENTOR:
Max Nowak,
BY *Fraentzel and Richards,*
ATTORNEYS

UNITED STATES PATENT OFFICE.

MAX NOWAK, OF ELIZABETH, NEW JERSEY.

ASH-SIFTING DEVICE.

1,034,926.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed March 30, 1912. Serial No. 687,317.

To all whom it may concern:

Be it known that I, MAX NOWAK, a subject of the Emperor of Austria-Hungary, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Ash-Sifting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The present invention relates, generally, to improvements in ash-sifting devices; and, the invention has reference, more particularly, to a novel ash-sifting apparatus or device by means of which the partially burnt coals and cinders contained in the ashes may be easily and quickly separated from the lifeless ashes and reclaimed for use again.

The present invention has for its principal object to provide an ash-sifting device or apparatus wherein may be placed a pan of ashes, which, when the device is closed, will be delivered to the sifting or screening devices, and the ashes separated from the cinders and coals, so that the former is received in one receptacle and the latter may be delivered to another receptacle, all such operations being accomplished within the ash-sifting device, without the escape of the dust and dirt which usually renders the sifting of ashes so disagreeable and unsanitary.

A further object of this invention is to provide a dust-proof ash-sifting device, the operations of which may all be controlled easily and quickly from without, so that the escape of dust preparatory to and during the sifting operation is prevented.

Other objects of the present invention not at this time more particularly enumerated will be clearly understood from the following detailed description of my present invention.

With the various objects of my present invention in view, the same consists, primarily, in the novel dust-proof ash-sifting apparatus or mechanism hereinafter set forth; and, furthermore, this invention consists in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction

thereof, all of which will be hereinafter more fully described, and then finally embodied in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:

Figure 1 is a transverse sectional representation of the ash-sifting apparatus, showing the movable parts thereof in their normal initial positions, before sifting; Fig. 2 is a longitudinal vertical section of the same, and Fig. 3 is a transverse sectional representation of the apparatus, showing the relative positions of the movable parts, after the sifting operation has been performed. Figs. 4, 5 and 6 are detail sectional representations of certain parts of the apparatus, said sections being made on a slightly enlarged scale. Fig. 7 is a view of a part of the casing of the apparatus, and the articulating members of the sifting screen, said view showing the said parts partly in section and partly in perspective. Fig. 8 is a face view, and Fig. 9 an edge view of a slot-cover employed with the apparatus; and Fig. 10 is a part section and a part perspective view of a modified form of slot-cover, and a sectional representation of the slotted portion of the casing, with which this form of slot-cover is to be used.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now to the general figures of the drawings, the reference-character 1 indicates one form of complete ash-sifting apparatus or device made according to and embodying the principles of the present invention, the same comprising a casing formed by the side-walls 2, the front and back walls 3 and 4, respectively, and a bottom-wall 5. The said side-walls 2 terminate at their upper portions in circular members 6 which form the sides of the hood-portion. The said circular members 6 are provided at their outer limits or edges with marginal channels or grooved portions 7, which provide suitable seats for a resilient packing 8, which is made of felt, or some such suitable material. The said back-wall 4 is bent at its upper portion 9 to conform to the marginal configuration or outline of said circular members 6, and the lateral marginal edge of said upper portion 9 is bent in such a manner, so as to provide an outwardly

presented U-shaped portion 10, in which is secured, in any suitable manner, a packing-strip 11, preferably made of felt, or some such resilient material. The said front wall 3 is also bent or flared outwardly at its upper portion 12 to conform to the marginal configuration or outline of the said circular members 6, said wall extending for a short distance around the said members 6. The lateral marginal edge of said upper portion 12 is bent in such a manner so as to provide an inwardly presented U-shaped portion 13 in which is secured, in any suitable manner, a packing-strip 14, preferably made of felt, or some such resilient material. Secured to the inner sides of said circular members 6, by means of rivets, or other suitable fastening means, are T-shaped reinforcing bars 15, although the same may be made in other than the T-shaped form, if it is so desired. The said reinforcing bars 15 are provided with perforations which are suitably disposed so as to be located coincident with the centers of said circular members 6, said perforations providing suitable bearings for the ends of a laterally extending shaft or rod 16. Secured upon said shaft or rod 16, so as to oscillate therewith, are strut-pieces 17, the opposite ends of which are suitably secured to a semi-cylindrical cover-member 18, the end edges of which are turned over and reinforced by a strip 19 to form a bead or end-rim 20, which rides against the packing-members 8, as shown in detail in Fig. 4 of the drawings. The respective lateral marginal edges of the said cover-member 18 are also bent over and reinforced by strips 21 to form beads or lateral rims 22, and suitably connected with one of said lateral marginal edges of the cover-member 18 is a pivotally mounted catch or latch-member 23, said member being provided with a handle or finger-piece, as 24, which is adapted to engage a nosing or knob 25 secured to the lateral marginal edge of the upper portion 12 of the front wall 3, to retain said cover-member in its open position, said catch or latch-member 23 being also adapted to engage a nosing or knob 25' secured to the lateral marginal edge of the upper portion 9 of the back wall 4, so as to retain said cover-member in its closed position. Secured in a suitable location, upon the inner surface of said cover-member 18 is a laterally extending reinforcing strip 26, said strip 26 having suitably secured thereto a pair of bracket-members 27, said bracket-members 27 carrying upwardly extending arms 28, the upper ends of which are fastened to said cover-member 18 in any suitable manner. Said bracket-members are adapted to receive and support a pan or box, as 29, which contains the ashes 30 to be sifted, and in order to secure said pan or box 29 upon said bracket-members, the arms

28 are provided with catch-members 31 which are adapted to be hooked over the edges of one side of the pan or box, said bracket-members 27 being also provided with a pair of pivotally connected retaining fingers 32, the hooked ends 33 of which are adapted to be caught over the edges of the opposite side of the pan or box.

After the pan or box of ashes has thus been secured upon the bracket-members 27, the cover-member is moved or turned so as to swing it into its closed position, indicated in Fig. 3 of the drawings. This operation serves to close the hood-portion of the casing, and simultaneously dumps or empties the ashes into a sifting or screening device, to be subsequently described. When the cover-member 18 is in its closed position, the said casing and its hood-portion is rendered dust-tight or proof, so that the flying dust and particles of ashes can not escape therefrom, since the beads or end-rims 22 hug the packing-members 8, and thus prevent the dust from escaping at such points; and, the beads or lateral rims 22 hugging the respective packing-strips 11 and 14, the flying dust and particles of ashes cannot escape at the lateral junctions of the cover-member with the hood-portion, as will be clearly evident.

Suitably located so as to extend interiorly between the side-walls 2 of the casing is a rod 34, and pivotally connected with said rod 34 is an articulated sifting or screening device, the same comprising a rear side-portion 35, the upper marginal edge of which is pivotally mounted upon said rod 34, the lower marginal edge of said side-portion 35 being pivotally secured, in a suitable manner, to a pintle-rod 36. In like manner, extending interiorly between said side-walls 2 is a square rock-shaft 37, the ends of which are journaled in the downwardly curved portions 38 of suitable guide-slots 39 formed in the said side-walls 2. The free ends of said rock-shaft 37 project exteriorly of said side-walls 2 and are provided with handles or lever-arms 40, by means of which said rock-shaft may be oscillated. Secured to said rock-shaft, so as to be oscillated or swung by the same, is a downwardly extending front side-portion 41, the lower marginal edge of which is pivotally secured, in a suitable manner, to a pintle-rod 42. Extending between the lower marginal edges of the said rear and front side-portions 35 and 41, and preferably connected with the respective pintle-rods 36 and 42, is a screen-member 43, the same consisting, preferably, of a wire-mesh of suitable size. Connected with the respective free ends of said pintle-rods 36 and 42, so as to be supported thereby, are suitable end-plates 44 which are provided with notches or cut-away portions 45 at their upper outer corners to permit of

their straddling the respective rod 34 and rock-shaft 37, as shown in Fig. 7 of the drawings. Said end-plates 44 may also be provided with the interconnecting brace-rods 46. While I have illustrated and described the connection of said end-plates 44 in the sifting or screening device, I do not wish to be understood as limiting my invention to their use, for such use is optional, and I may dispense with said end-plates, and permit the articulated portions or members of the sifting or screening device to fit snugly between the side-walls 2 of the casing, as shown in Figs. 1, 2 and 3 of the drawings, such arrangement permitting the free movement and operation of the lifting or screening device without danger of dropping coals into the ash pan; but, where end-plates are desired, the same may be connected with the sifting or screening device in the manner hereinabove described, and as illustrated in said Fig. 7 of the drawings, or in such other manner as may seem suitable. Connected with the inner side of the back wall 4 is a deflector-plate 47 which projects over the rear edge of said sifting and screening device, and which assures the proper delivery of the ashes to be sifted when dumped or emptied from the pan or box 29, without permitting any portion of the ashes to fall directly into the ash-pan in the lower portion of the casing, and which will be subsequently described. When the ashes have been delivered into the said sifting or screening device upon closing the cover-member 18, in the manner heretofore described, the rock-shaft 37 is oscillated by means of the handles or lever-arms 40, thus causing a consequent swinging backward and forward of said screening or sifting device, and consequently agitating the ashes upon said screen-member 43, whereby the dust, dirt, and fine particles of ashes are caused to drop or pass through the mesh of the screen-member, while the unburnt and partially burnt coals are retained or held back by said screen-member. The reference-character 48 indicates a laterally extending partition-member which is arranged in the lower portion of said casing, so as to divide the same into two compartments. In the rear compartment is placed an ash-pan 49, and in the forward compartment is placed a coal-pan 50. One of the side-walls 2 of said casing is provided with suitable openings 51, which may be provided with suitable doors for closing the same, the said openings providing means for inserting and removing the said pans from their respective compartments. Secured upon the inner sides of the side-walls 2, and above said forward compartment, are inclined guide-members 52 which slidably support a movable chute-plate 53. Said movable chute-plate inclines

tion, extends over said forward compartment and the coal-pan contained therein, in such a manner that, when the sifting or screening device is operated to liberate the fine ashes and dust, none of the ashes or dust will fall into the said forward compartment or the coal-pan, but will be deflected into the ash-pan in the rear compartment.

After the operation of the sifting or screening device has been completed, so as to sift out all the ashes and dust, it is desirable to empty the coals retained therein into the coal-pan 50. To accomplish this, the said chute-member 53 is withdrawn, in the manner shown in Fig. 3, so as to permit access to said coal-pan 50. The handles or lever-arms 40 are then raised to move the rock-shaft 37 upwardly through the curved portions 38 and into said guide-slots 39, thereby passing the same down through said guide-slots 39 and bringing the articulated sifting or screening device into its unfolded position, as shown in Fig. 3 of the drawings, and thus folding back and out of the way the front side-portion 41 and inclining downwardly toward said coal-pan, the screen-member 43, whereby the cinders or coals retained thereon are chuted into the coal pan 50. While operating the sifting or screening device, to sift or screen the ashes delivered thereto, it is desirable to close the said guide-slots 39 so as to prevent the dust and dirt from escaping therethrough. To this end, I provide a pair of slot-covers 54 conforming in shape to the curvilinear lines of said guide-slots. Adjacent to their respective ends, said slot-covers 54 are provided with pairs of oppositely extending ears or lugs 55 upon which are secured retaining pins 56. The said side-walls 2 of the casing are provided, adjacent to the ends of said guide-slots 39, with perforations 57 into which the said retaining-pins 56 are inserted to retain said slot-covers 54 in their closing relation to said guide-slots 39. The said slot-covers 54, of course, are removed when it is desired to move the rock-shaft 37 through said guide-slots 39, for the purpose of dumping said sifting and screening device in the manner hereinabove described. In Fig. 10 of the drawings, I have illustrated a slightly modified means of closing the said guide-slots 39, the same comprising the provision of outwardly extending flanges 58 extending from the side-walls 2 of the casing, and coinciding with the edges of the said guide-slots. The said flanges 58 are adapted to receive a correspondingly flanged cover-plate 59, which registers over the same in the manner of a simple flanged box cover, as shown in said figure. When desired, the said casing may be provided with casters 60, as shown, whereby the same may be easily moved from place to place.

As many changes may be made in the above described construction of my invention and its detail parts, and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description, or shown in the accompanying drawings, shall be interpreted as illustrative and not in a limiting sense. I desire it also to be understood that the language used in the following claims is intended to cover all generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween. Hence, I do not limit my present invention to the exact arrangements and combinations of the devices and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts, as illustrated in the accompanying drawings.

I claim:—

1. In a device of the character described, a casing provided at its upper end with a hood-portion, a cover-member revolvably connected with said hood-portion, means connected with said cover-member for supporting a pan of ashes, an articulated screening device supported within said casing beneath said hood-portion, means for oscillating said screening device, means for receiving the sifted ashes, means for receiving the coals retained by said screening device, and means providing dust-proof joints between said hood-portion and said cover-member when the latter is closed.

2. In a device of the character described, a casing provided at its upper end with a hood-portion, a cover-member revolvably connected with said hood-portion, means connected with said cover-member for supporting a pan of ashes and dumping the same when said cover-member is closed, an articulated screening device supported within said casing beneath said hood-portion, comprising a pivotally mounted rear side-portion, a rock-shaft, a front side-portion rigidly secured to said rock-shaft, and a screen-member pivotally connected with the lower edges of said rear and front side-portions, means exterior of said casing for oscillating said rock-shaft, and separate means in the lower portion of said casing for receiving the sifted ashes and the coals separated therefrom.

3. In a device of the character described, a casing provided at its upper end with a hood-portion, a cover-member revolvably connected with said hood-portion, means connected with said cover-member for supporting a pan of ashes and dumping the same when said cover-member is closed, an articulated screening device supported within said

casing beneath said hood-portion, comprising a pivotally mounted rear side-portion, a rock-shaft, a front side-portion rigidly secured to said rock-shaft, and a screen-member pivotally connected with the lower edges of said rear and front side-portions, means exterior of said casing for oscillating said rock-shaft, separate means in the lower portion of said casing for receiving the sifted ashes and the coals separated therefrom, and means providing dust-proof joints between said hood-portion and said cover-member when the latter is closed.

4. In a device of the character described, a casing comprising front and back walls, side-walls and a bottom wall, said side-walls being provided at their upper portions with circular members, said back and front walls being bent to conform to the circumference of said circular members and extending partially around the same, a semi-cylindrical cover-member pivotally mounted between said circular members, bracket-members secured upon the inner side of said cover-member adapted to support a pan of ashes, retaining devices connected with said bracket-members for retaining said pan in its supported relation, said pan of ashes being emptied when said cover-member is moved into its closed position, an articulated screening device supported within said casing beneath said circular members, means for oscillating said screening device, and separate means in the lower part of said casing for receiving the sifted ashes and the coals separated therefrom.

5. In a device of the character described, a casing comprising front and back walls, side-walls and a bottom wall, said side-walls being provided at their upper portions with circular members, said back and front walls being bent to conform to the circumference of said circular members and extending partially around the same, a semi-cylindrical cover-member pivotally mounted between said circular members, bracket-members secured upon the inner side of said cover-member adapted to support a pan of ashes, retaining devices connected with said bracket-members for retaining said pan in its supported relation, said pan of ashes being emptied when said cover-member is moved into its closed position, an articulated screening device supported within said casing beneath said circular members, comprising a pivotally mounted rear side-portion, a rock-shaft, a front side-portion rigidly secured to said rock-shaft, and a screen-member pivotally connected with the lower edges of said rear and front side-portions, means exterior of said casing for oscillating said rock-shaft, and separate means in the lower part of said casing for receiving the sifted ashes and the coals separated therefrom.

6. In a device of the kind described, a casing provided at its upper end with a hood-portion, a cover-member revolubly connected with said hood-portion, means providing dust-proof joints between said hood-portion and said cover member when the latter is closed, means connected with the inner side of said cover-member for supporting a pan of ashes, so that the same will be emptied when said cover-member is moved into its closed position, the side walls of said casing being provided with guide slots, said guide-slots terminating at their upper ends in downwardly curved portions forming bearings, a rock-shaft journaled in said bearings, operating handles secured to the exteriorly projecting ends of said rock-shaft, an articulated screening device operated by said rock-shaft, comprising a front side-portion rigidly secured to said rock-shaft, a rear side-portion pivotally mounted within said casing, and a screen-member pivotally connected with the lower edges of said front and rear side-portions, a partition-member in the lower portion of said casing dividing the same into two compartments, an ash-receiving pan in one compartment, a coal-receiving pan in the other compartment, and a removable inclined chute-plate extending normally over said coal-receiving pan and its compartment.

7. In a device of the kind described, a casing provided at its upper end with a hood-portion, a cover-member revolubly connected with said hood-portion, means providing dust-proof joints between said

hood-portion and said cover member when the latter is closed, means connected with the inner side of said cover member for supporting a pan of ashes so that the same will be emptied when said cover member is moved into its closed position, the side-walls of said casing being provided with guide slots, said guide-slots terminating at their upper ends in downwardly curved portions forming bearings, a rock-shaft journaled in said bearings, operating handles secured to the exteriorly projecting ends of said rock-shaft, an articulated screening device operated by said rock-shaft, comprising a front side-portion rigidly secured to said rock-shaft, a rear side-portion pivotally mounted within said casing, and a screen-member pivotally connected with the lower edges of said front and rear side-portions, a partition-member in the lower portion of said casing, dividing the same into two compartments, an ash-receiving pan in one compartment, a coal-receiving pan in the other compartment, a removable inclined chute-plate extending normally over said coal-receiving pan and its compartment, and removable guide-slot covers for closing the openings of said guide-slots.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 23rd day of March, 1912.

MAX NOWAK.

Witnesses:

GÉFA VERNA,
FREDK. C. FRAENTZEL.