J. SINGER.

ASH SIFTER.

APPLICATION FILED NOV. 27, 1913.

1,095,037.

Patented Apr. 28, 1914.

2 SHEETS—SHEET 1.

FIG. 1

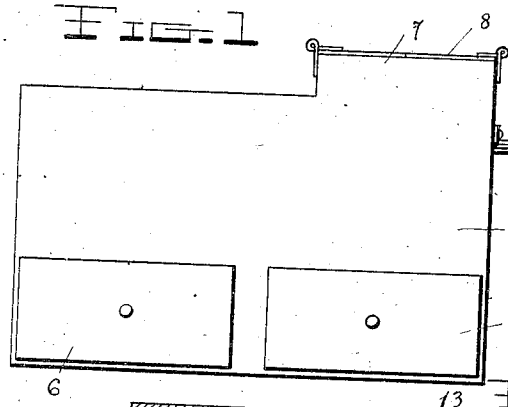


FIG. 2

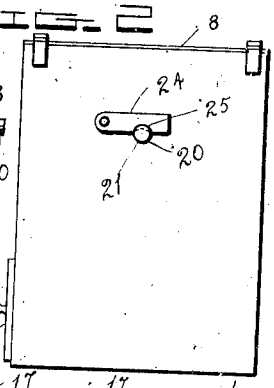


FIG. 3

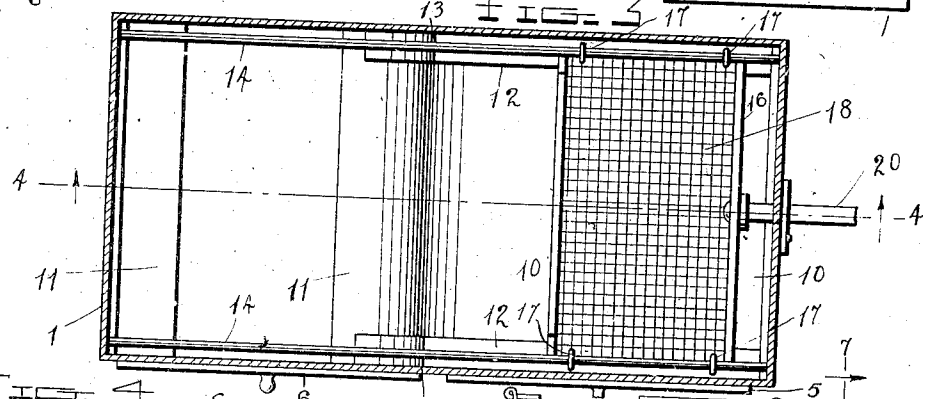
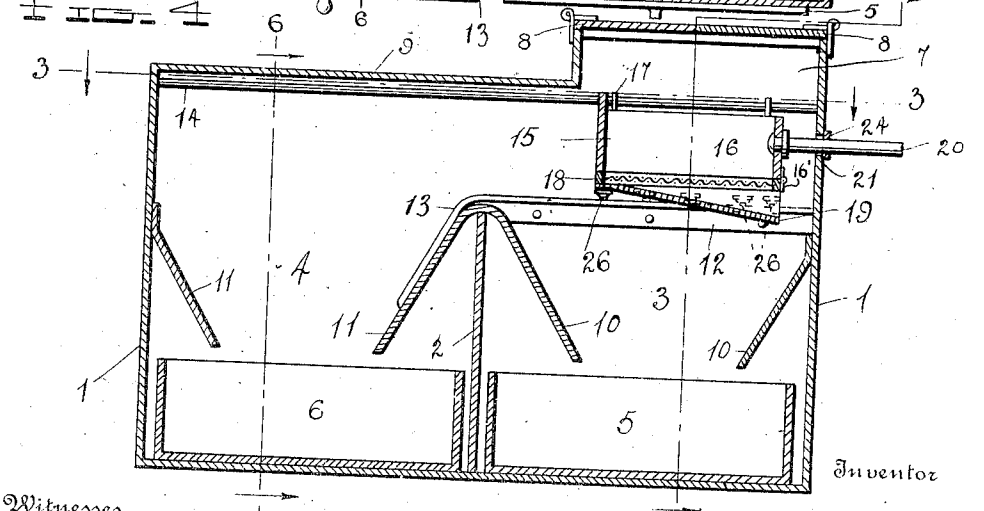


FIG. 4



Witnesses

E. D. Haines.

C. E. Hunt.

Inventor

Julius Singer

By A. Bruesonco

Attorney.

J. SINGER.

ASH SIFTER.

APPLICATION FILED NOV. 27, 1912.

1,095,037.

Patented Apr. 28, 1914.

2 SHEETS—SHEET 2.

FIG. 5

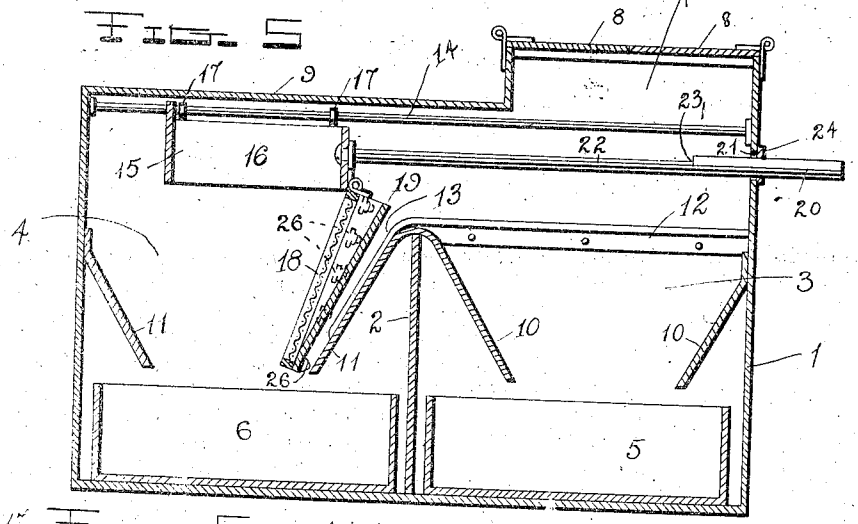


FIG. 6

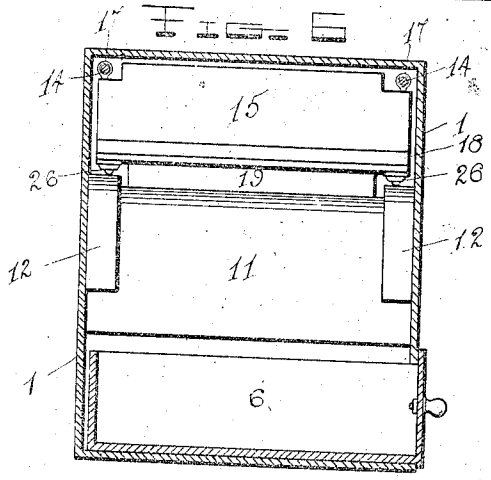


FIG. 7

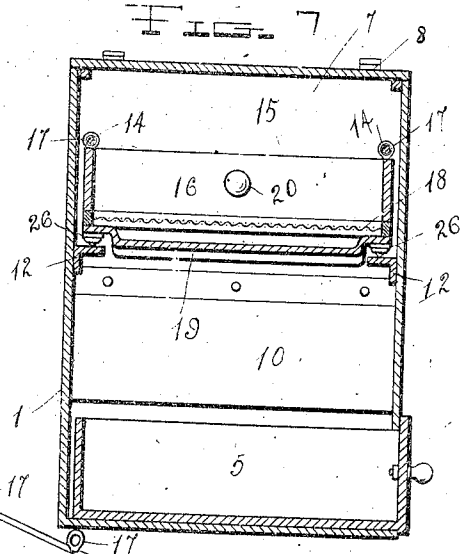
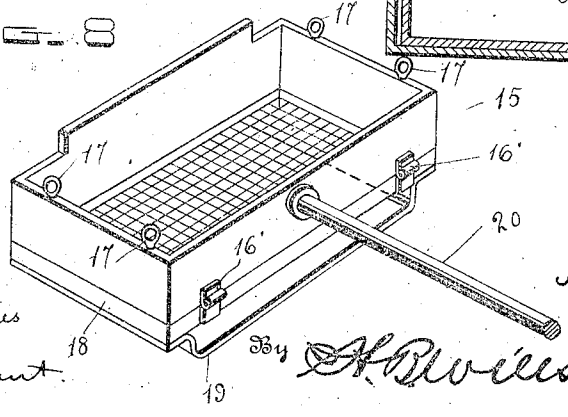


FIG. 8



Witnesses

E. D. Haines

C. C. Hunt.

Inventor

Julius Singer

By H. B. Williamson & Co

Attorneys

UNITED STATES PATENT OFFICE.

JULIUS SINGER, OF RACINE, WISCONSIN.

ASH-SIFTER.

1,095,037. Specification of Letters Patent. Patented Apr. 28, 1914.

Application filed November 27, 1912. Serial No. 733,900.

To all whom it may concern:

Be it known that I, JULIUS SINGER, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Ash-Sifters; and I do 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.

This invention relates to improvements in ash sifters.

One object of the invention is to provide an ash sifter comprising a dust tight casing having separate ash and cinder compartments and a sifting screen provided with a hinged bottom held closed during the sifting operation but permitted to open to dump the cinders, and means for permitting the reciprocation of the sifter in the ash compartment but preventing its being pushed over the cinder compartment and into dumping position except by the express intent of the operator.

Another object is to provide a sifter of this character which will be comparatively simple, strong, durable and inexpensive in construction, efficient and reliable in operation and in which the dust arising from the sifting of the ashes will be entirely confined in the casing.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a side view of my improved ash sifter; Fig. 2 is an end view thereof; Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 4; Fig. 4 is a vertical longitudinal section taken on the line 4—4 of Fig. 3 and showing the sifting screen in position for sifting the ashes therein; Fig. 5 is a similar view showing the position of the screen when discharging the cinders therefrom; Fig. 6 is a vertical sectional view taken on the line 6—6 of Fig. 4; Fig. 7 is a similar view taken on the line 7—7 of Fig. 4; Fig. 8 is a detail perspective view of the sifting screen.

My improved ash sifter comprises a casing 1 which may be of any suitable size or shape and which is constructed of metal or other fire-proof material. In the lower portion of the casing 1, which is here shown as being of rectangular oblong shape, is arranged a central transversely disposed vertical partition 2 which divides said lower portion of the casing into an ash compartment 3 and a cinder compartment 4. Slidably mounted in the bottom of the ash compartment 3 is ash receiving drawer 5 while in the bottom of the compartment 4 is a cinder receiving drawer 6. The drawers 5 and 6 are adapted to be drawn from and inserted into their respective compartments through suitable openings in one side of the casing 1 as shown.

On the top of the casing 1 above the ash compartment 3 is an upwardly projecting extension 7 the upper end of which is closed by suitably hinged doors 8 as clearly shown in Figs. 4 and 5 of the drawing which doors are adapted to be opened to permit the ashes to be placed in the sifting screen of the device. The remaining portion of the casing is tightly closed on its upper end by a top 9. Secured to one end of the ash compartment 3 and to the partition 2 are downwardly and inwardly projecting deflecting plates 10, while in the cinder compartment 4 are similarly arranged cinder deflecting plates 11. The plates 10 and 11 are provided to deflect the ashes or cinders into the drawers 5 and 6 in the lower portion of compartments 3 and 4. Secured to the inner surfaces of the sides of the casing above the ash compartment 3 are angle iron tracks 12 which extend from one end of the compartment 3 to the upper end of the partition 2 and from said partition extend downwardly at an angle into the cinder compartment 4 as shown at 13. The downwardly inclined ends of the tracks 12 preferably correspond with and are secured to the adjacent deflecting plate 11 in this compartment. Arranged in the upper portion of the casing above the compartments 3 and 4 and extending therethrough the entire length of the casing are screen supporting rods 14 one of which is disposed adjacent to each side of the casing and have their ends firmly secured in any suitable manner to the ends of the casing as shown.

Slidably supported on the rods 14 is a sifting screen 15 comprising a rectangular frame 16 having on the upper edge of its sides eyes 17 which slidably engage the rods 14 and thus support the screen frame. Hinged at 16′ to the inner end of the frame

16 is a screen bottom 18 of wire netting or other foraminous material which when in an operative position is engaged with the lower edge of the frame as clearly shown in Fig. 4 of the drawings. Arranged below and secured to the screen bottom 18 is an ash receiving and guiding chute or tray 19 the bottom of which inclines from the outer toward the inner end of the screen frame as shown. When thus arranged the chute or tray 19 receives the ashes as they pass through the screen bottom 18 and discharge said ashes out through the inner or rear open end of the chute from whence the ashes fall into the compartment 3 and are directed by the deflecting plates 10 in the ash receiving drawer 5. The screen 15 is provided with a suitable agitating rod or handle 20 which has its inner end secured in any suitable manner to the inner end of the screen frame 16 and which projects and works through an opening 21 in one end of the casing 1 above the ash compartment 3 therein.

In the upper side of the inner portion of the handle 20 is a recess 22 or said inner end of the handle may be reduced to form a stop shoulder 23 which when the handle is reciprocated for agitating the screen is adapted to be brought into engagement with a detent 24 in the form of a short flat plate pivoted at one end to the end of the casing adjacent to one side of the opening 21 through which the handle operates. In the lower edge of the plate 24 is a notch 25 which when the detent is swung downwardly to an operative position engages the recessed or reduced portion 22 of the handle and thereby reduces the size of the openings 20 so that when the handle is pushed inwardly the shoulder 23 will come into engagement with the detent which will thus limit the inward movement of the screen or prevent the inner end of the latter from being projected beyond the partition 2 forming one end of the ash compartment 3. By thus limiting the inward movement of the screen it will be seen that the ashes are prevented from being discharged into the cinder compartment as the ashes in falling through the screen bottom 18 are caught by the chute or tray 19 and discharged from the open end thereof into the compartment 3 in the manner described. By providing the tray or chute 19 and arranging the same as herein shown it will be seen that the reciprocating movement of the screen is increased to substantially the length of the screen frame or in other words the screen may be projected over the cinder compartment for a distance equal to nearly the length of the screen frame without danger of the ashes falling into the cinder compartment. By rigidly securing the ash chute 19 to the screen, the latter when located over the cinder chute will be in position to prevent any ashes that may be located within the chute carried by the screen from being dumped with the cinders.

When the sifting operation is completed and it is desired to discharge the sifted cinders into the drawers 6 of the cinder compartment 4, the detent 24 is swung upwardly thus permitting the larger part of the handle 20 to pass through the opening 21 whereby the screen may be further projected to a position over the center of the cinder compartment in which position the screen bottom will leave the straight portion of the track 12 and will follow the downwardly inclined portion 13 thereof, thus causing said bottom to swing downwardly on its hinge connection with the inner end of the screen frame as clearly indicated in Fig. 5 of the drawings, thus discharging the cinders from the screen into the drawer 6. As soon as the handle is again pulled outwardly and the screen frame thus retracted the engagement of the bottom 18 with the inclined portion 13 of the track will gradually swing the bottom 18 upwardly into a closed position against the lower edge of the frame 16 in which position the screen will be held by the straight portion of the tracks 12 on which the side edges of the bottom slide. In order to cause the bottom to slide freely on the tracks 12, I preferably provide the side edges of the bottom with ball bearing casters 26 which slidably engage the tracks 12 as shown. These casters (of which several are shown along the bottom in Fig. 5 although they might be reduced in number to a pair at the outer ends of said bottom) travel on the tracks or rails 12 as the sifter is reciprocated and hold the screen bottom and its chute closed against the lower edge of the frame until the latter is pushed over the partition 2, so that no ashes or dust can escape until the screen 15 falls open as seen in Fig. 5. By this construction the depth of the ash compartment can be reduced because in reciprocating the screen along the tracks it can be moved as far as possible so long as the casters hold its bottom closed.

By constructing my improved sifter as herein shown and described it will be seen that the sifting operation may be performed and the sifted cinders discharged from the sifting screen without opening the casing, thus providing a positively dust proof sifter. It will also be noted that the opening and closing of the bottom of the screen for the discharge of the cinders is entirely automatic.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

In an ash sifter, the combination with a casing having a transverse partition producing cinder and ash compartments, of tracks secured to the opposite sides of said casing along the full length of the ash compartment and bent downwardly at an angle over the partition and projecting into the cinder compartment, supporting guide rods extending the full length of the casing and disposed above said tracks and in horizontal alinement therewith, a screen frame slidably arranged with said rods and tracks, a hinged bottom for said screen frame, an inclined chute carried by the bottom and extending the full length of the same whereby the ashes that may be confined within the chute carried by the screen are held therein while the cinders are being dumped, and means for reciprocating the screen frame.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JULIUS SINGER.

Witnesses:
WILLIAM F. HILKER,
ERNST NIEBUHR.