(No Model.)

C. G. BAILEY.

COAL SIFTER.

No. 542,514. Patented July 9, 1895.

Fig. 1.

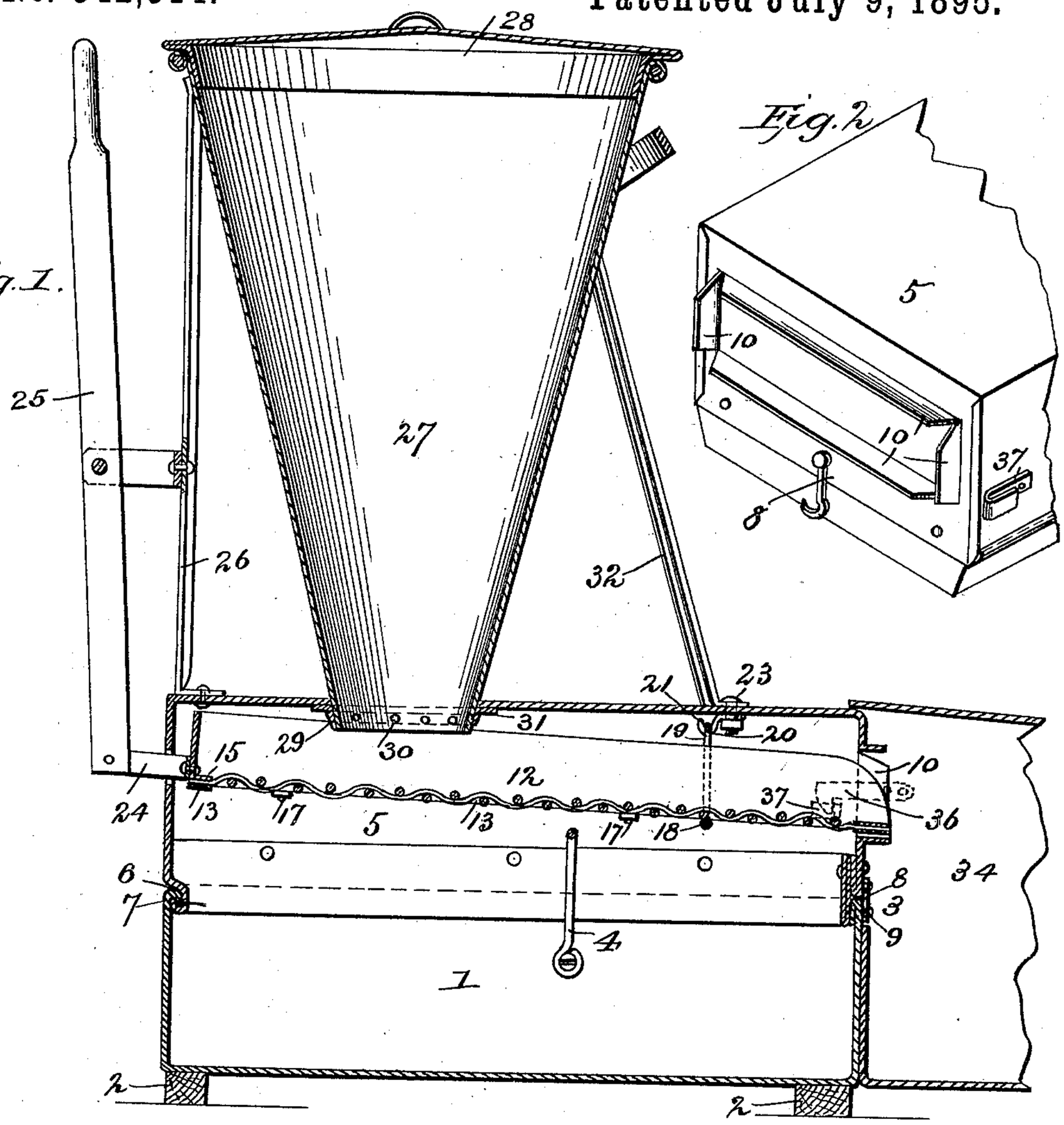


Fig. 2.

Fig. 3.

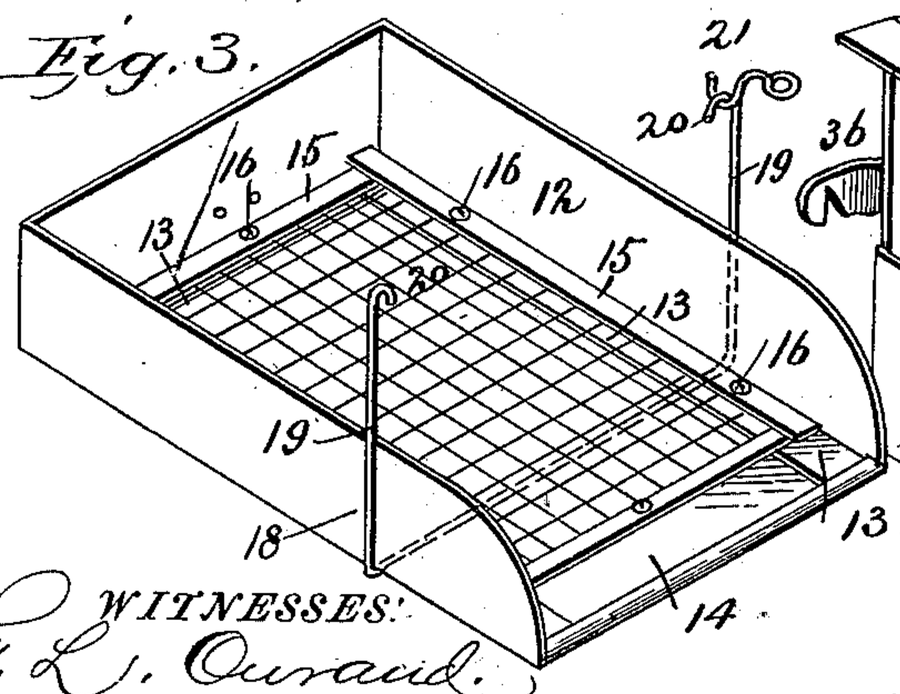
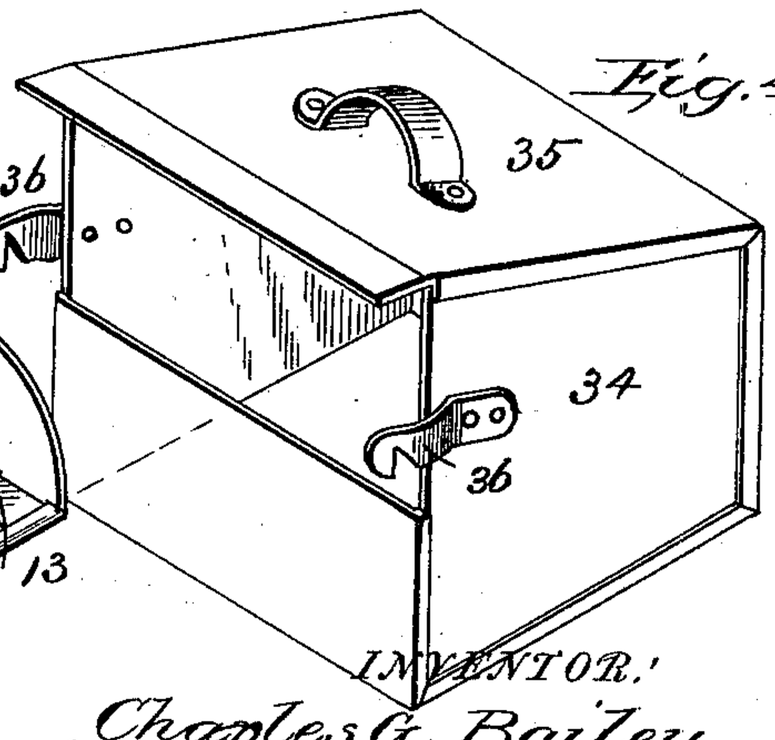


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES G. BAILEY, OF YORK, PENNSYLVANIA.

COAL-SIFTER.

SPECIFICATION forming part of Letters Patent No. 542,514, dated July 9, 1895.

Application filed March 18, 1895. Serial No. 542,194. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. BAILEY, a citizen of the United States, and a resident of York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Coal-Sifters; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in coal-sifters for separating unburned coal or cinders from ashes, and its object is to provide an improved device whereby I secure important advantages with respect to simplicity and economy in construction and efficiency in use.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a central longitudinal section of a coal-sifter constructed in accordance with my invention. Figs. 2 and 3 are detail views, and Fig. 4 is a perspective view, of the hod.

In the said drawings, the reference-numeral 1 designates a rectangular ash-pan, which forms the base of the sifter, provided on its under side with wooden cleats 2, secured thereto by nails or other fastening devices. The rear edge of the pan is turned or bent over inwardly, forming a curved flange 3, with which engages a similarly-formed flange on the lower end of the screen-box, hereinafter described. The pan is also provided with a bail 4, by which it may be transported from place to place, and the side and rear upper edges of the pan are wired to strengthen the same.

The numeral 5 designates the screen-box, rectangular in form, and having its lower sides and ends bent or turned inwardly so as to readily fit in the upper part of the ash-pan, and the sides and rear end a short distance above the bottom are provided with ribs 6 to prevent the box from being inserted too far within the pan. The rear lower edge of the box is bent or turned outward, forming a curved flange 7, which is adapted to engage with flange 3 and hold this end of the box in place, a hook 8 and catch 9 being provided at the other end of the box and pan. The front end of the box is formed with a rectangular opening, the sides of which are bent outward at right angles, forming flanges 10 for preventing the escape of dust, as hereinafter described.

The numeral 12 designates a vibrating screen consisting of a frame open at its outer end and having inwardly-extending flanges 13 at the sides and rear end, while at the front or outer end it is provided with a transverse plate 14 secured to the side flanges 13. The screen proper, consisting of a rectangular piece of wire-cloth, rests upon said flanges and plate and is secured in place by means of metal strips 15 and screw-bolts and nuts 16 and 17. By this means, when the wire-cloth is worn out or damaged it can be replaced by a new piece by simply removing said strips. This can be done by any one, it not requiring the service of a skilled mechanic for such purpose.

The delivery end of the screen is supported upon a vibrating bail 18, consisting of a piece of wire having its ends bent upwardly at right angles, forming arms 19, the extremities of which are bent into hooks 20, which engage with eyes 21 connected with screw-bolts 23. The screen is not secured to the bail, but simply rests thereon. To the feed end of the screen is secured an arm 24, which passes through a slot in the end of the screen-box and is connected with the lower end of a vertical lever 25, which is pivotally connected with an upwardly-extending bar 26, which also serves as a brace for the hopper.

The numeral 27 designates a funnel or inverted cone-shaped hopper provided with a cover 28. This hopper is located near the feed end of the screen-box so as to give a long travel to the cinders on the screen. The lower end of the hopper passes through an opening in the top of the screen-box, extending a short distance below the same, and is provided with a collar 29, secured thereto by rivets 30. This collar at its upper end is formed with an annular flange 31, which abuts against the under side of the top of the screen-box and not only prevents the hopper from being accidentally pulled out but makes a dust-proof

joint. The hopper is supported in place by the brace-bar 26 and also by brace-bars 32, the lower ends of which are secured to the screen-box by the screw-bolts 23.

The numeral 34 designates a hod for receiving the cinders and unburned coal as they come from the screen. It consists of a rectangular-shaped box with an inclined top, having an opening in its inner upper end, and is provided with a handle 35. At each side this hod is provided with hooks 36, which engage with lugs 37 on the screen-box, by which the hod is secured thereto.

The operation will be readily understood. The ashes are placed in the hopper, which is then closed by the cover 28. The screen is now vibrated back and forth by the lever causing the ashes to fall through the meshes of the screen, while the cinders and unburned coal will pass to the delivery or discharge end of the screen and fall into the hod. When desired the hod can be readily disengaged from the screen-box and the contents dumped into a stove or other receptacle. By the conical or funnel shape of the hopper the ashes are automatically fed to the screen and clogging of the same prevented, so that a fresh supply is constantly being fed to the screen; and by reason of the hopper being located near the feed end of the box and discharging on the feed end of the screen the cinders will have a long travel on the screen, insuring a thorough removal of the ashes. The flanges at the front end of the screen-box project into the hod when the latter is in place, thus causing any dust to be carried into the hod and the escape thereof at the joints between the hod and the ash-pan and screen-box is prevented.

The entire machine, with the exception of the wooden cleats and operating-lever, is made of metal without the use of solder, and all the joints are dust-proof, thus avoiding many of the defects incident to coal-sifters of the ordinary construction. The hod and ash-pan can be readily disconnected from the screen-box, and the parts generally are so constructed that they may readily be removed and replaced by others in case of injury or damage to the same.

It will be noticed that the hod is formed with vertical sides and ends and an inclined top and an opening in its inner upper side, thus rendering it very convenient for dumping the contents into a stove.

Having thus fully described my invention, what I claim is—

In a coal sifter, the combination with the ash pan, the removable screen-box, and the vibrating screen, of the funnel-shaped hopper, projecting through an opening in the screen-box and provided, at its lower end, with a collar having its upper edge turned outwardly, forming a flange; substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

CHARLES G. BAILEY.

Witnesses:

AUGUST PETERSON,

BENNETT S. JONES.