

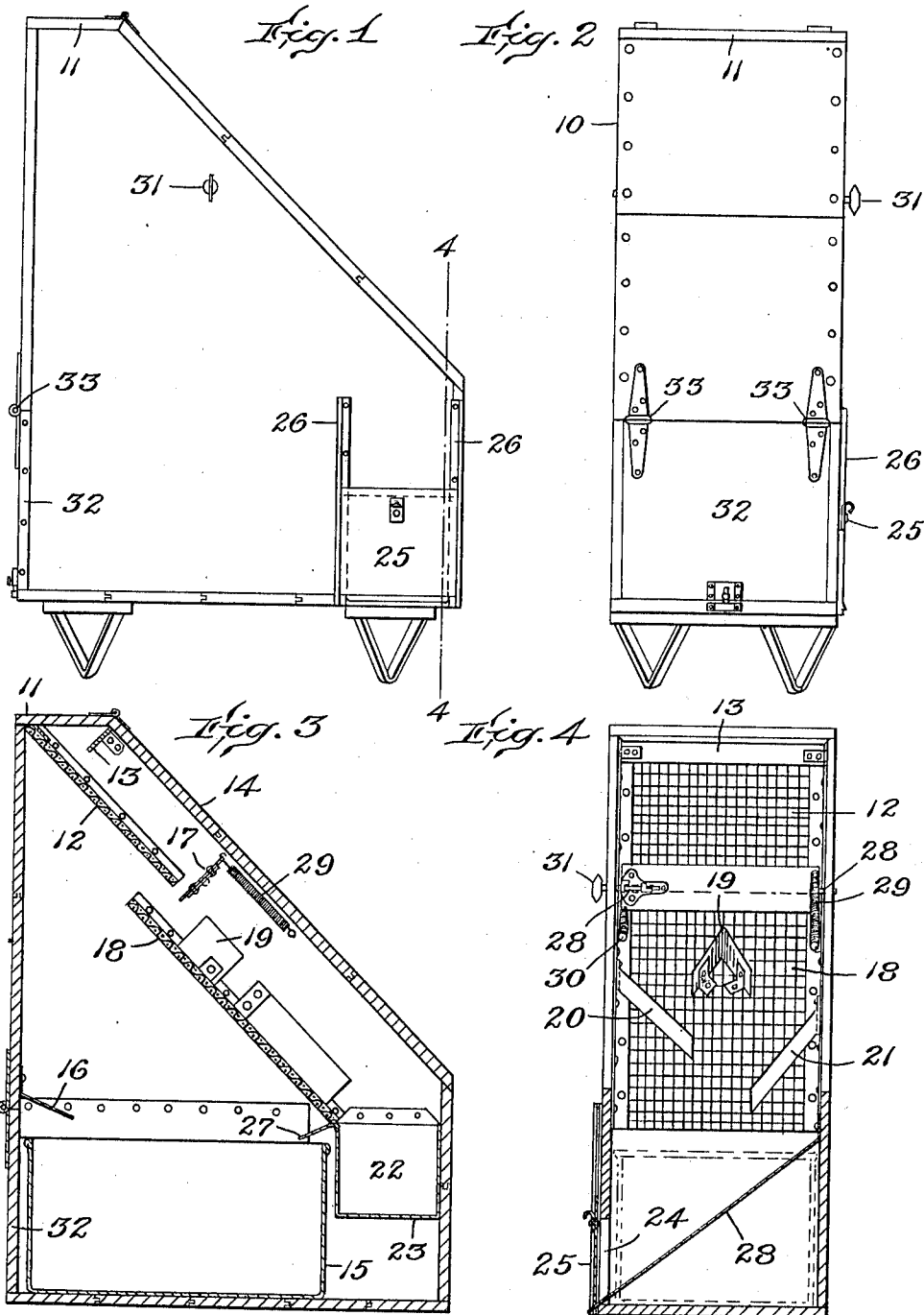
J. DOWD & P. T. GOGGIN.

ASH SIFTER.

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1,040,291.

Patented Oct. 8, 1912.



Witnesses:
Walter P. Abell
J. R. Runkstone

Inventors:
James Dowd
Patrick T. Goggin
by Hugh B. Brown, Quincy, Mass. Attys.

UNITED STATES PATENT OFFICE.

JAMES DOWD AND PATRICK T. GOGGIN, OF WHITMAN, MASSACHUSETTS.

ASH-SIFTER.

1,040,291.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed April 27, 1912. Serial No. 693,570.

To all whom it may concern:

Be it known that we, JAMES DOWD and PATRICK T. GOGGIN, citizens of the United States, and residents of Whitman, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Ash-Sifters, of which the following is a specification.

This invention relates to ash sifters, and its object is to provide certain features of construction whereby the passage of the ashes over inclined screens is regulated so as to render the screening operation effective and to avoid clogging by the cinders and clinkers.

Of the accompanying drawings which illustrate the invention: Figure 1 represents a side elevation of the sifter complete. Fig. 2 represents an elevation of the left-hand end with reference to Fig. 1. Fig. 3 represents a vertical section of the sifter in the position shown by Fig. 1. Fig. 4 represents a vertical section indicated by line 4—4 of Fig. 1, the inclined cover being removed to expose the interior.

The same reference characters indicate the same parts wherever they occur.

The ashes are sifted from the coals by inclined screens over which the coals gravitate, the ashes, of course, dropping through the screens into a suitable receptacle, while the coals are discharged from the lower end of the lower screen. The screens are contained in a closed casing 10 which has a hinged cover 11 at the top to cover an opening through which the combined ashes and coals are introduced. An inclined screen 12 is affixed in the casing near the top to receive the ashes and coals which are introduced at the inlet. A barrier 13 in the form of a plate extends transversely over the screen 12 and its ends are affixed to the side walls of the casing. The upper edge of the barrier touches or lies very close to an inclined wall or cover 14, but the lower edge of the barrier is sufficiently distant from the screen to enable the coals to pass under it. The function of the barrier is to retard the passage of the coals and to cause them to be spread out over the entire width of the screen. The fact that the upper edge of the barrier is close to the wall 14 causes a down draft when the ashes and coals pass under the barrier, which draft carries the dust from the ashes downwardly instead of permitting it to rise from the casing. The

ashes which pass through the screen settle in an ashpan 15 which rests upon the bottom of the casing. A deflector 16 overhanging one edge of the rim of the ashpan causes the ashes to be deposited in the pan rather than upon the bottom of the casing outside the pan.

As the coals, and possibly some clinkers, pass from the lower edge of the screen 12 they strike an oscillatory abutment or plate 17 and drop upon a second screen, indicated at 18. Upon the upper surface of the screen 18 and midway between the side edges thereof is a V-shaped deflector 19 which deflects the coals toward the sides of the screen. The coals are afterward deflected back toward the center of the screen by deflectors 20 and 21. As shown by Fig. 4, the deflector 20 is somewhat farther up the screen than the deflector 21 and is adapted to deflect the coals from one side beyond the middle of the screen and toward the side at which the deflector 21 is located. The coals are ultimately deflected back again by the deflector 21 and pass from the lower edge of the screen into a hopper 22 whose bottom 23 is inclined, as shown by Fig. 4. The bottom 23 conducts the coals against one vertical wall of the casing, which wall is provided with an outlet 24 and with a gate 25 to close the outlet. The gate is in the form of a plate and is mounted to slide vertically in guides 26. The ashes which are sifted through the screen 18 also drop into the pan 15. A deflector 27 overhangs the edge of the pan opposite the deflector 16 for the purpose of preventing the ashes from being deposited upon the bottom of the casing. One wall of the casing has a hinged portion 32 which is adapted to be swung outwardly to permit the removal and insertion of the pan 15. The hinge for the section 32 is indicated at 33.

The abutment 17 is mounted in such manner as to be capable of oscillatory movement. It is provided with trunnions 28 which have bearings in the side walls of the casing. The axis of the trunnions intersects the path of the coals, and the working surface of the abutment extends nearly equally above and below the axis so that the dropping mass is thoroughly disunited. The abutment is normally held in the position shown by two helical springs which are indicated at 29 and 30. These springs are connected to the deflector in such manner

as to act in opposition to each other, one of them being connected to the upper edge of the abutment at one side of the casing, while the other is connected to the lower edge at the opposite side of the casing. The abutment is therefore kept in a state of agitation while coals are passing from the screen 12 to the screen 18. The function of the abutment is to scatter the coals sufficiently to enable the fine ashes which may be on top to drop through the screen, and the purpose in mounting the abutment so that it will be agitated by the coals is to keep in motion the coals on the screen 18 and prevent clogging. If it should happen that an unusually large clinker should be among the coals, the abutment 17 will in most cases tilt sufficiently to enable the clinker to pass by; but in case the clinker is so large as to become stuck, the abutment may be tilted manually to free it. For this purpose the outer end of one of the trunnions 28 is provided with a knob or handle 31. The abutment 17 thus affords means whereby the coals and clinkers may be freed at any time without opening the casing.

We claim:

1. A sifter comprising a casing, two inclined screens arranged therein one above the other in such relation that the substances passing from the lower edge of one screen will drop upon the other screen, an abutment extending transversely over the lower screen in position to be engaged by the substances dropping from the upper screen to the lower, the lower edge of said abutment being sufficiently above the lower screen to enable the substances to pass, said abutment being mounted so as to be capable of oscillatory movement about a transverse horizontal axis, and springs acting upon said abutment in opposite directions to position it rotatively with reference to its axis of movement.

2. A sifter comprising a casing, two inclined screens arranged therein one above the other in such relation that the substances passing from the lower edge of one screen will drop upon the other screen, an abutment extending transversely over the lower screen in position to be engaged by the substances dropping from the upper screen to the lower, the lower edge of said abutment being sufficiently above the lower screen to

enable the substances to pass, means for supporting said abutment so as to render it capable of oscillating movement about a transverse horizontal axis, said means including a stem extending through and beyond a wall of the casing whereby the abutment may be manually turned, and springs acting upon the abutment in opposite directions to position it rotatively with reference to said axis.

3. A sifter comprising two inclined screens arranged one above the other in such relation that the substances may drop from the lower end of the upper screen upon the lower screen, an oscillatory abutment disposed above the lower screen in position to be engaged by the substances dropping from the upper screen, and pivotal supporting means for said abutment, the axis of said pivotal means being horizontal and transverse to the path of said substances, the working surface of said abutment being nearly equally disposed with reference to opposite sides of said axis, and spring tension means for positioning said abutment about its axis so as to present said surface to the dropping substances.

4. A sifter comprising two inclined screens arranged one above the other in such relation that the substances may drop from the lower end of the upper screen upon the lower screen, an oscillatory abutment disposed above the lower screen in position to be engaged by the substances dropping from the upper screen, and pivotal supporting means for said abutment, the axis of said pivotal means being horizontal and transverse to the path of said substances and in the inclined plane of the substances traversing the upper screen, the working surface of said abutment extending above and below said axis, and springs acting upon said abutment in opposite directions to position it about its axis so that said working surface normally stands substantially at right angles to said inclined plane.

In testimony whereof we have affixed our signatures, in presence of two witnesses.

JAMES DOWD.
PATRICK T. GOGGIN.

Witnesses:

CHARLES A. DOWD,
HARRISON D. SOULE.