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W. W. WHITAKER.

Coal-Sifter.

No. 216,813. **Patented June 24, 1879.**

Fig. 1.

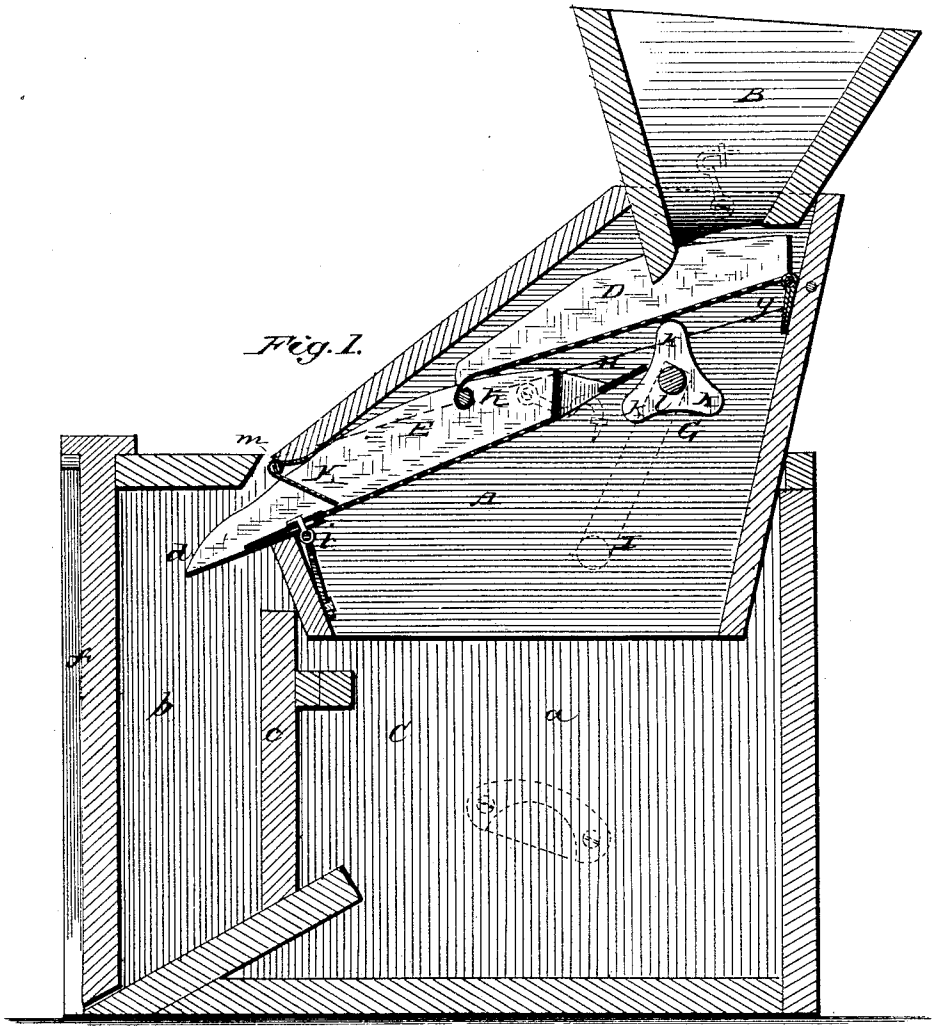
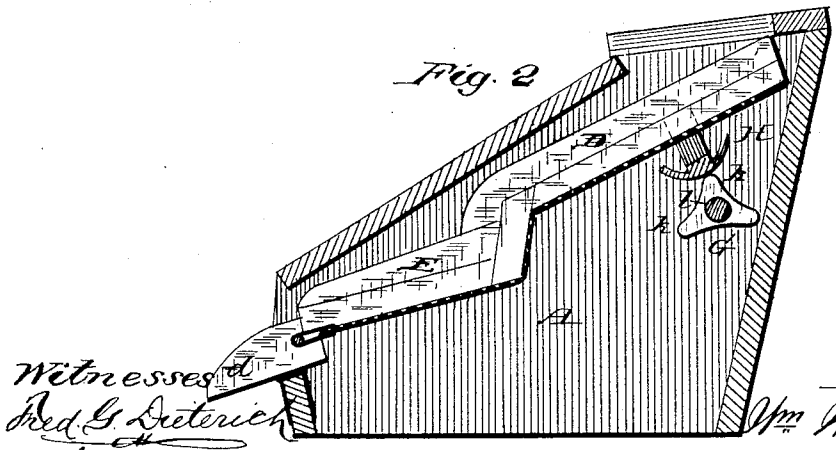


Fig. 2



Witnesses:
Fred G. Dieterich
J. S. Brown.

Inventor
Wm W. Whitaker
by Daniel Breed
attorney

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

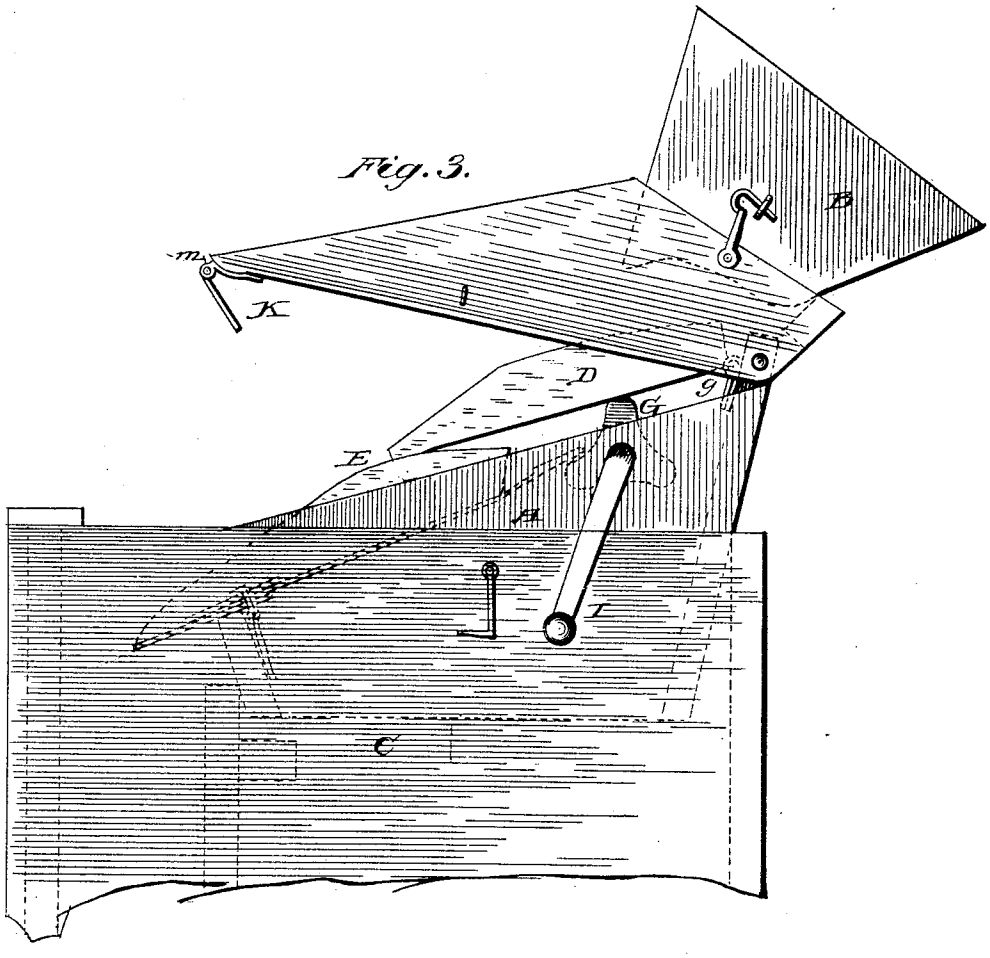
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Fig. 3.



Witnesses
Fred. G. Dieterich
George Binkenburg

Inventor
Wm. W. Whitaker
By
Daniel Breed
Atty.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM W. WHITAKER, OF GLOVERSVILLE, NEW YORK.

IMPROVEMENT IN COAL-SIFTERS.

Specification forming part of Letters Patent No. **216,813**, dated June 24, 1879; application filed February 8, 1879.

To all whom it may concern:

Be it known that I, WM. W. WHITAKER, of Gloversville, in the county of Fulton and State of New York, have invented certain Improvements in Coal-Sifters; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section of the improved coal-sifter complete as provided with a close box or receptacle to receive the ashes; and Fig. 2 is a similar section of the coal-sifter as adapted to the purpose of sifting into a separate vessel or upon the ground, showing also a modification of the construction of the sifter. Fig. 3 is a partial side view of the sifter, showing the top part of the case lifted up.

Like letters designate corresponding parts in all of the figures.

In the drawings, A represents the case of the coal-sifter; B, the hopper in which the coal and ashes are placed for sifting, and C a close receptacle into which to sift the ashes and discharge the coal, for using the sifter in a room without spreading the dust therein. The said receptacle has two compartments, *a* and *b*, separated by a partition, *c*. The compartment *a* is directly under the sifter, and receives the ashes, and the compartment *b* receives the coal falling from the spout *d* thereof. This compartment is closed by a sliding door, *f*, or its equivalent, to retain the coal therein and then allow it to be discharged after the sifting.

As shown in Fig. 1, I employ two sieves or sieve-sections, D E, the upper sieve, D, first receiving the coal, cinders, and ashes, and the lower sieve, E, receiving the partially-sifted coal as it falls from the upper sieve, and completing the sifting. Both sieves are suitably inclined forward. The upper sieve, D, is hinged at its upper edge, *g*, to the case, so that its lower edge, which is hinged at *h* to the lower sieve, E, can move freely up and down with the upper part of the said lower sieve, whose lower edge is hinged at *i* to the inclosing-case, all substantially as represented. This construction allows the middle of the combined sieves to be vibrated up and down, thereby agitating the coal, and essentially assisting in quickly sifting the coal and working it forward and downward through the apparatus. To give the sieves this vibratory motion a cam, G, with several lifting-projections, *k k k*, is mounted on a revolving shaft, *l*, and arranged to strike up against a projecting plate, H, at the upper end or edge of the lower sieve, E, or otherwise. This cam is caused to revolve by turning a crank, I, on one end of its shaft, outside of the case.

A modified construction of the sieve and agitating device is shown in Fig. 2. Here the two parts D E of the sieve are in one frame, so as to move up and down as one, being hinged only at the lower end or edge to the frame, as at *i*, so that the upper end of the whole vibrates up and down. The cam G strikes against a suitable projection or plate, H, under the upper part of the sieve. A separate discharging-spout, *d*, is here shown.

I also employ a lid or valve, K, as shown in Fig. 1, to retain the coal on the lower sieve, E, when desired, while sifting, the said lid being hinged at *m*, or otherwise arranged, so as to lift up or away from the spout or discharge-opening to let out the coal after sifting. This may be effected in the construction shown by lifting the top part of the sieve-case, (which is hinged to the lower part, as represented in Fig. 3,) which act sets the lid free.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a coal-sifter, the combination of the sieve-sections D E, arranged in relation to the case A, hopper B, and receptacle C as described, and provided with the knocking plate or projection H and the revolving cam G, provided with knocking-projections *k k k*, substantially as and for the purpose herein specified.

2. The lid K, in combination with the sieve-section E and case A, divided into parts hinged together, substantially as and for the purpose herein specified.

The above specification of my said invention signed and witnessed at Gloversville this 3d day of February, A. D. 1879.

WILLIAM W. WHITAKER.

Witnesses:
W. H. DEMAREST,
E. N. SPENCER.