

A. Cummings,

Ash Siere.

No 23,158.

Patented Mar. 8, 1859.

Fig. 1.

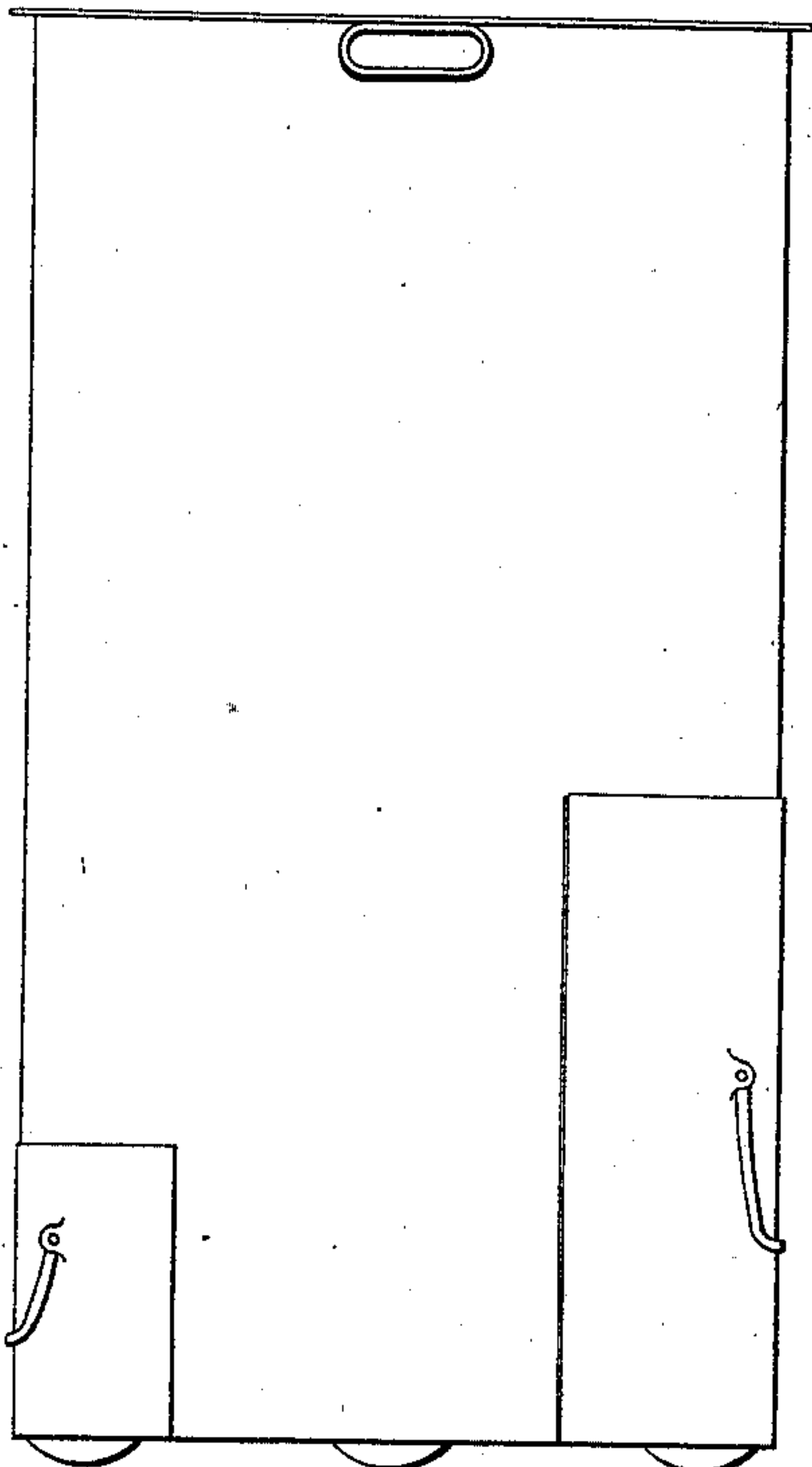


Fig. 2.

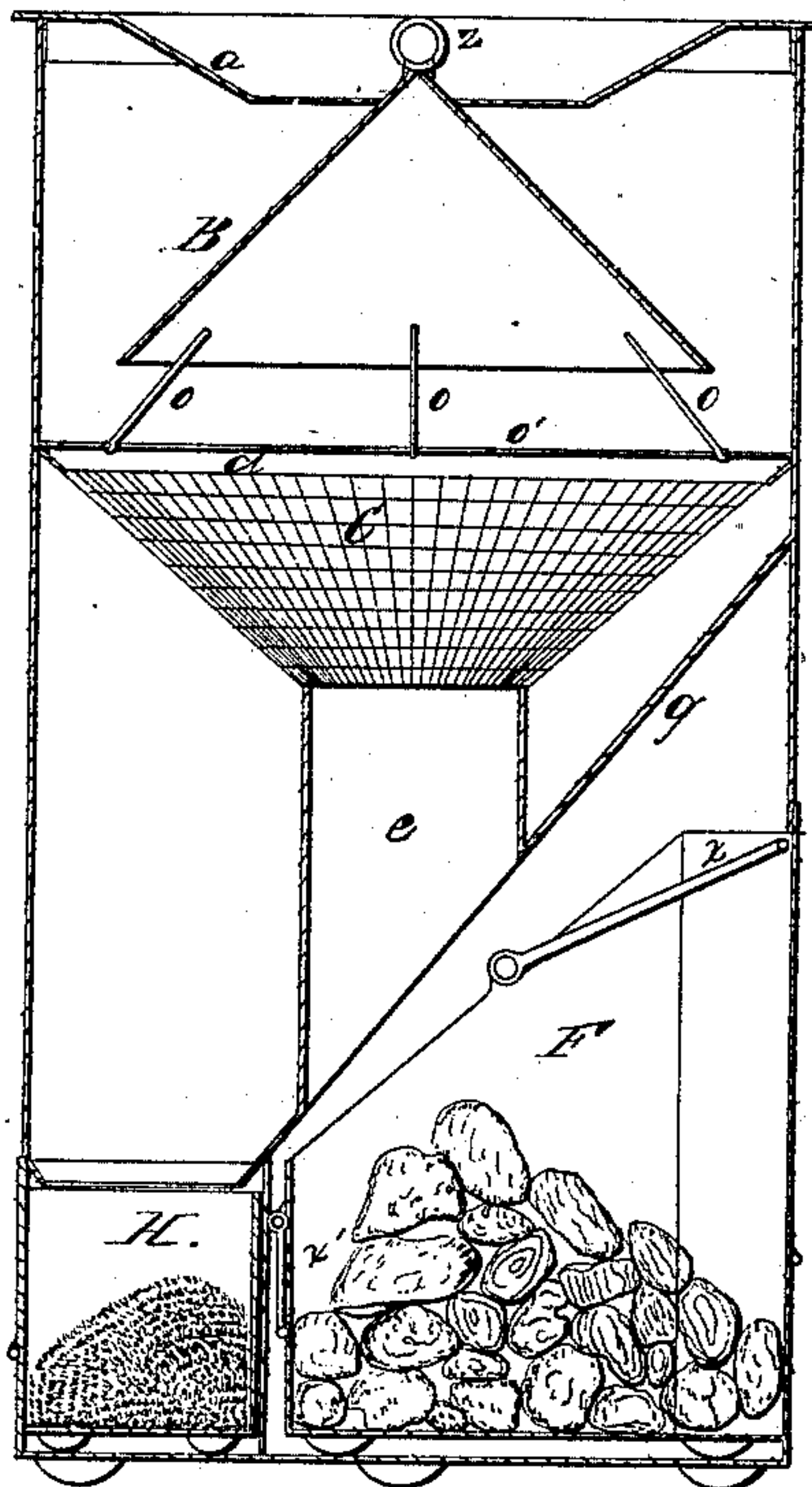
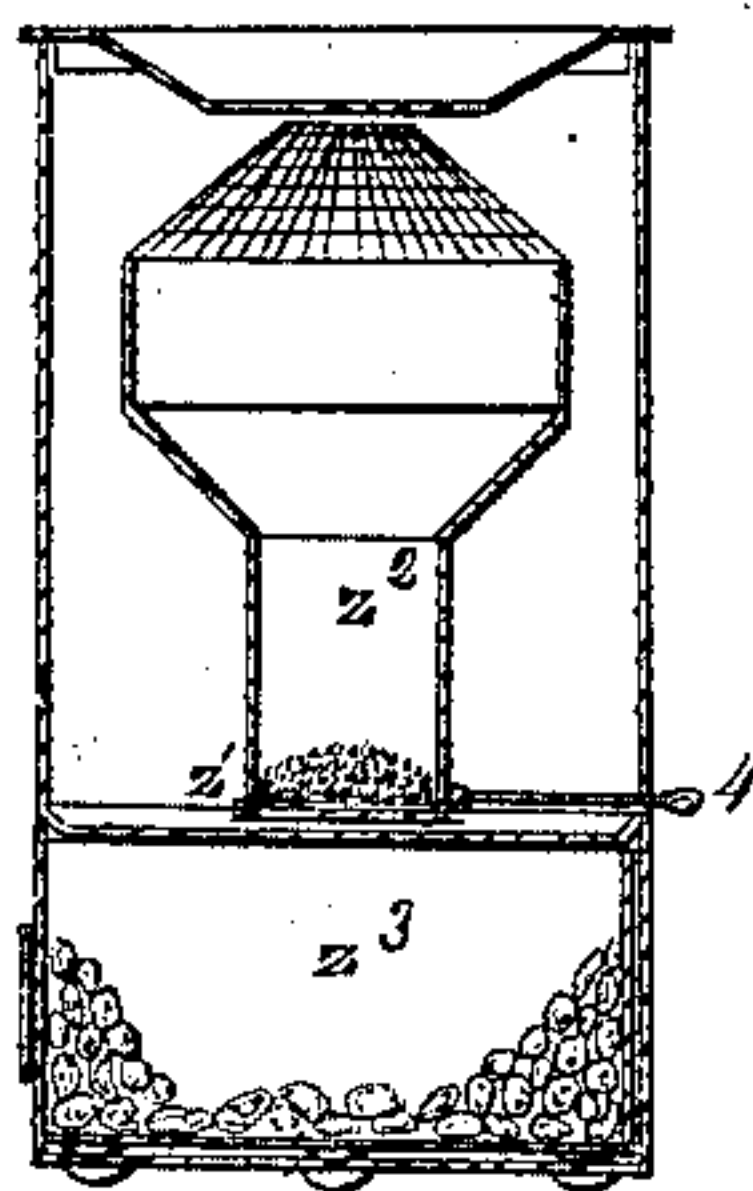


Fig. 3.



Witnesses

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Inventor:

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UNITED STATES PATENT OFFICE.

ALLAN CUMMINGS, OF NEW YORK, N. Y.

ASH-SIFTER.

Specification forming part of Letters Patent No. 23,158, dated March 8, 1859; Reissued August 16, 1859, No. 729.

To all whom it may concern:

Be it known that I, ALLAN CUMMINGS, of the city and State of New York, have invented an Improved Ash-Sifter, of which the following specification and drawings connected therewith embrace a full and fair description.

There are two species of ash sifters in use: One in which the sifting is performed mechanically by turning a crank or otherwise operating the sifter and another species in which the mixed ashes and cinders are poured in and descending by gravity sift themselves, so to speak. My improvements appertain to the latter class. As now extant those of this species do not work well, requiring assistance by shaking rapping, &c., because the cinders and ashes descend from the "chute-board" upon the sieve too much in mass and all of these sifters are so arranged (so far as I am aware) that there is no more sieve surface when all the ashes are present than when the greater portion of the ashes have passed the sieve, and *per contra*, the cinders when sifted or nearly so, are quite scattered, there being no arrangement to concentrate them and they thus demand a wide spread receptacle, this and the general arrangement as described rendering the whole instrument much less efficient and compact than may be.

The most brief manner of pointing out my improvements and their merits, *in contra* of the objections just noted, is to describe my instrument as a whole and the purpose and arrangement of its parts.

Figure 1, is an outside view of my sifter. Its shell may be either cylindrical or square and about two diameters long. Fig. 2 is a vertical section.

The removal top or cover "A" is the "chute-board" but instead of permitting the ashes to descend upon the sieve directly and to its early damage from the repeated percussion of the falling cinders I let them fall upon an interposed conical or pyramidal piece B, which I term the "distributor." It will be seen that in the descent of the mass of ashes and cinders received all around its apex, it not only permits a large portion of the coarse cinders to get in advance of the ashes (the former tending to roll downward more rapidly than the latter slide) but the remaining finer cinders and ashes

are distributed in their descent over a more extended surface and thus pass over the edge of the distributor in a comparatively thin sheet the ashes falling nearly in a vertical direction upon the sieve C, below (considerable passing through immediately) while the accompanying cinders having more momentum are projected outward farther but their impact is received upon the guard-rim *d* and thence they roll over the inverted-cone shaped sieve "C" and through the tube *e* connected with its open bottom, by which they are delivered into the drawer or receptacle F. I make this latter in the form of a scuttle with a bail *x* and handle *x'* in addition to the exterior handle for withdrawing it from the sifter so that it may be carried about and used as such—a point of considerable convenience and economy. The ashes having passed through the sieve mean time are prevented from getting into the scuttle F, by the interposed steeply inclined diaphragm *g* which guides them down to and into the drawer and ash box H.

The distributor is supported in position by legs O and hoop O', attached to them and by removing the "chute cover" the distributor may be laid hold of by the knob Z at its apex and lifted out, thus leaving free access to the sieve in case of its clogging &c. It will be observed that any ashes that float up from or through the sieve tend to rise up under the concavity of the distributor and are thus stopped and any that escape past the edge of the distributor tend to rise up into the angle formed by the side of the shell or outer case and the "chute cover" thus being again checked. Scarcely any ash dust therefore escapes from my sifter although permanently open and avoiding the necessity of any entrance gate. The ashes to be sifted must not be poured upon the chute all in one place nor suddenly, but somewhat gradually and entirely around the chute. The chute may have radial corrugations to assist in securing the effect thus aimed at. In lieu of ordinary sieving I have anticipated forming the sieve of thin radial bars, in which case it might be called a "grate."

Fig. 3, shows in section a form of sifter designed by me of which the previously described is the perfected modification. Fig. 3, though similar in general appearance at

first glance, lacks certain valuable characteristics of the other form; the sieve in this case is itself the distributor but then there is offered the least sieve surface at the point
5 where there is most ashes present with the cinders; also a sliding trap or gate Z' is required to prevent the ashes from descending farther than into the tube Z^2 till the cinders have been emptied from their receptacle Z^3
10 and the latter replaced; when the gate being pulled open by the handle 4 the ashes are in turn received into the same receptacle.

Having now described my device of "ash

sifter" what I claim therein and desire to secure by patent is—

The combination of the pyramidal or conical formed distributor interposed between the entrance and the sieve, the latter being of similar form inverted, these being arranged in relation to each other and to the diaphragm and receptacles, substantially as
20 and for the purpose explained.

ALLAN CUMMINGS.

Witnesses:

WM. T. SILVER,
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