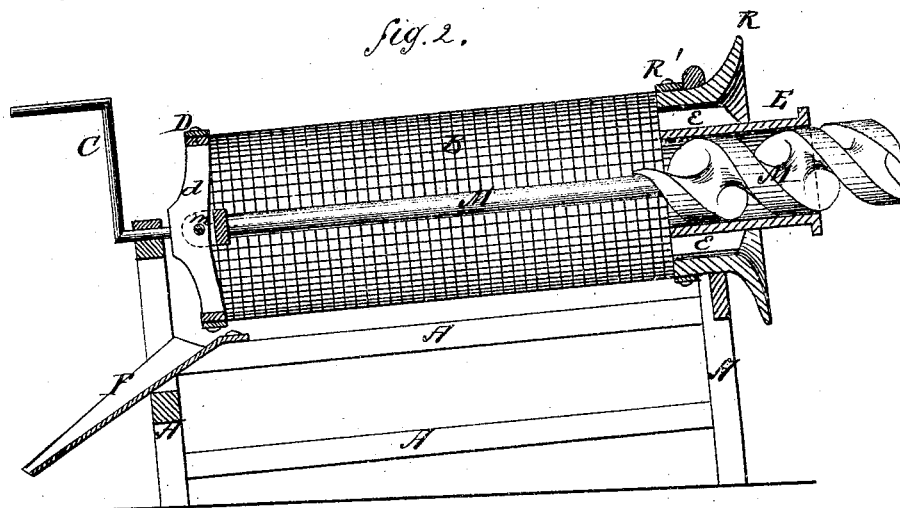
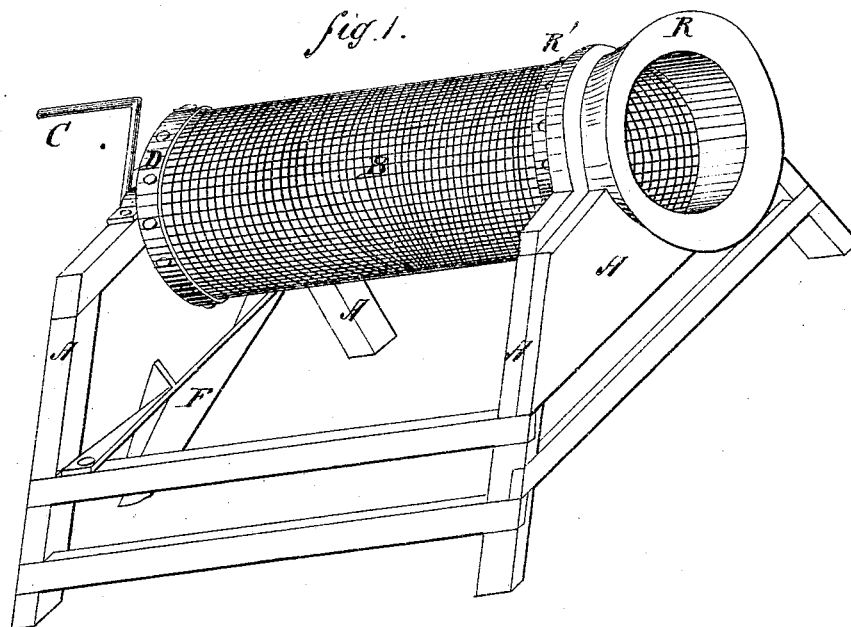


W. Bailey,
Sand Sifter.
No. 111,604. Patented Feb. 7. 1871.



Witnesses:
Victor Hagmann
A. C. Rawlings.

Inventor:
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United States Patent Office.

WILLIAM BAILEY, OF FRIENDSHIP, NEW YORK.

Letters Patent No. 111,604, dated February 7, 1871.

IMPROVEMENT IN SAND-SIFTERS.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, WILLIAM BAILEY, of Friendship, in the county of Allegany and State of New York, have invented certain Improvements in Sand-Sifters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 represents a perspective view of the screen, and

Figure 2, a longitudinal section of the same, with the conveyer in position.

Similar letters of reference indicate like parts.

This invention relates to that class of screens or sifters employed for sifting sand for building or other purposes; and consists, first, in the adaptation of the revolving screen to such purpose as hereinafter described; and, secondly, in the employment of a boring and conveying instrument in connection with the screen, for the purpose of supplying sand to the latter.

I am aware that revolving wire screens have long been employed for sifting flour, cleaning grain, coffee, and other substances, and perhaps for screening sand; hence my invention, so far as it relates to the sifting instrument, does not consist in the use of a revolving wire screen, but in the construction herein described, which adapts such screens to the purpose referred to, whether used with or without the conveyer.

In the drawing—

A is the frame, and

B is the body of the wire screen, supported upon the frame in a slightly-inclined position, and adapted to be rotated on its longer axis by a crank, C.

The wire cylinder terminates at its rear or lower end in a hoop, D, across which extends a cross-bar, *d*, to the center of which the crank-shaft is attached.

The hoop is thin, so as not to obstruct the escape of the coarse gravel, stones, &c., which are discharged from that end of the cylinder upon an inclined chute, F.

Now, the revolving wire screens heretofore used have been hung at both ends upon a central journal projecting from a cross-bar or bars that extend across the ends of the cylinder. As thus constructed such screens were not adapted for convenient use as sand-screens, for the reason that in shoveling the sand into them the cross-bars are in the way, preventing the shovel from entering the end of the cylinder, and causing about half of each shovelful to be spilled upon the ground. To remedy this I support the front or upper end of the cylinder by means of an open ring, R, having a funnel-shaped mouth, which readily admits the shovel; and to save expense of construction I groove the outside of the ring, or fasten upon its inner end a

strap, R', which renders the construction equivalent to grooving the outer surface of the ring, and thereby adapt the ring to answer as a bearing or hollow journal, the frame at this end being fashioned as a journal-box to receive and support it.

The shape of the frame, otherwise than at the bearings, is of little consequence. It may be adapted to stand upon the ground, or in any position where needed, or it may, if preferred, be arranged transversely of a cart or wagon, and thus be moved from place to place, and used without removing it from the cart, the workmen shoveling the sand into the cylinder at one side of the vehicle, and the machine discharging the coarse sand, stones, &c., at the other side, and sifting the fine sand into the cart-body.

The second feature of my invention consists in employing, in combination with a revolving sand-screen, an instrument adapted to be rotated by the crank C at the same time with the screen, for the purpose of excavating the sand and conveying it to the cylinder. Such instrument consists of an auger, M, so constructed that the stem can be attached to the cross-bar *d* by means of a pin, *m*, or otherwise, as shown in fig. 2, the cutting end of the auger projecting from the open mouth of the cylinder, and the greater part of the screw being inclosed in a tube, E, as shown.

For the purpose of centering the auger the tube may be provided with longitudinal flanges *e e*, closely fitting into the ring R.

The cylinder, tube, and auger rotate together, the tube either being attached to the auger so as to receive motion from it, or being loose upon the auger and adapted to be moved by the rotation of the ring R.

The object of the auger is to bore into the sand bank and excavate the material, which will be conveyed into the screen by means of the tube E.

As thus constructed the instrument can be placed up against the bank, and by the single motion of turning the crank C the sand will be rapidly and continuously excavated, conveyed to the screen, sifted, and separated from the coarse gravel.

The boring and conveying device may at any time be detached and removed, and the screen used without it. When thus detached it will frequently be useful for excavating or loosening up the sand, which is afterward to be shoveled into the screen.

Having thus described my invention,

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

1. In a sand-sifter having a suitable supporting-frame and a revolving wire-screen rotated by a crank, C, the described construction of the front end of the screen, consisting essentially of the ring or hollow journal R, made large enough to admit the blade of

a common spade, and having its mouth entirely unobstructed, so that the sand can be shoveled directly into it without the aid of a feed-spout or conductor, substantially as described for the purpose specified.

2. The combined sand-auger and conveyer, M E, constructed as described, and adapted to be operated either with or without the revolving screen, as herein set forth.

3. The combination of the open-mouthed revolving screen with the auger and conveyer M E, substantially as described and for the purposes set forth.

WILLIAM BAILEY.

Witnesses:

WALTER CRANDALL,
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