

G. W. BROWN.
Screen.

No. 162,895.

Patented May 4, 1875.

Fig. 3.

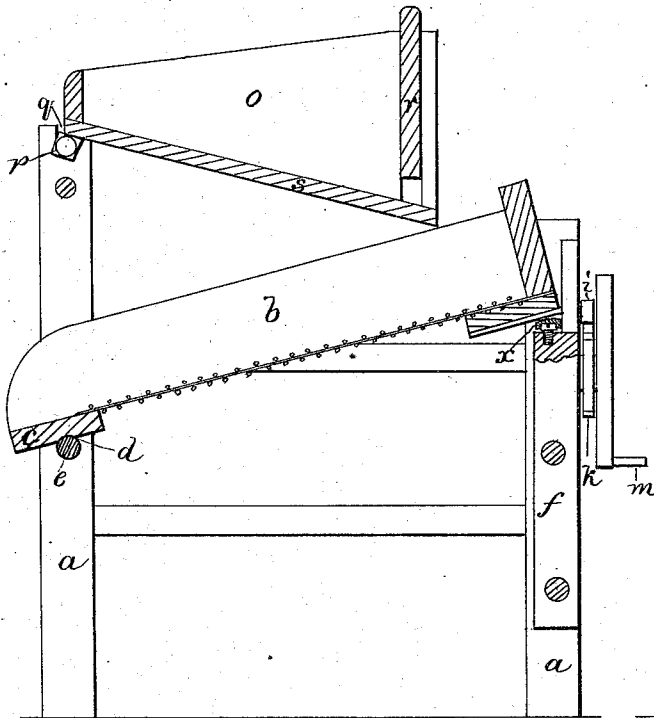


Fig. 2.

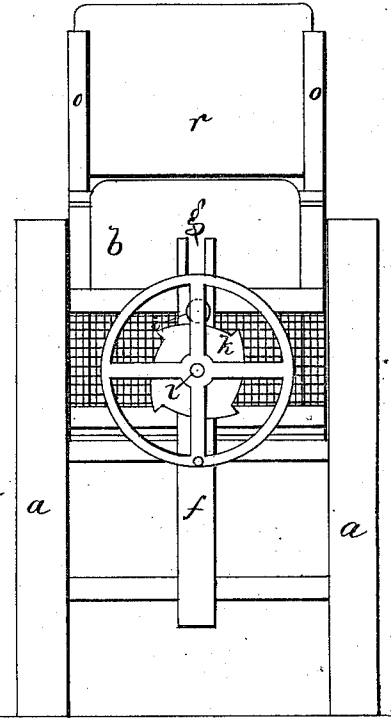
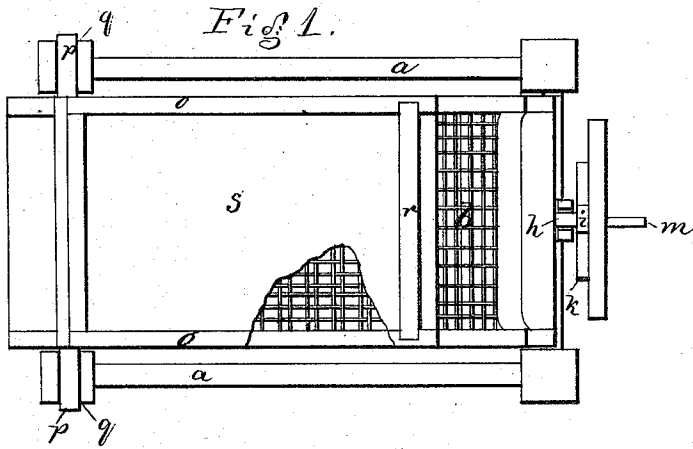


Fig. 1.



Witnesses.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SCREENS.

Specification forming part of Letters Patent No. **162,895**, dated May 4, 1875; application filed April 7, 1874.

To all whom it may concern:

Be it known that I, GEORGE W. BROWN, of Ashburnham, in the county of Worcester and State of Massachusetts, have invented an Improved Screen; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to the construction of a screening mechanism for sifting building-sand. In my invention I use a plain rectangular screen with close sides, and closed at one end and open at the other; and this screen I place in or upon a frame, in which the front end of the screen is supported upon a stationary bar, or in stationary bearings, with provision for keeping the screen from moving endwise, but permitting the screen to rock slightly upon the support, the opposite end of the screen having a journal or pin that extends through a vertical slot at the opposite end of the frame, and rests upon a cam or wiper wheel, connected to or furnishing part of a hand-driven wheel, the screen being inclined, and the upper end being intermittently raised by the cam-wheel and falling by gravity. The invention consists, primarily, in the construction or arrangement thus generally described.

The drawing represents a machine embodying the invention.

Figure 1 shows the machine in plan. Fig. 2 is a rear-end elevation of it. Fig. 3 is a sectional elevation.

a denotes the frame, and *b* the screen. The bottom board *c* at the mouth of the screen is shown as grooved beneath, as seen at *d*, and as resting upon a cross-bar, *e*, that sets into the groove, the bar and groove keeping the front end of the screen in place. At the rear end of the frame is a vertical bar, *f*, having a slot, *g*, through which extends a journal or pin, *h*, projecting from the head of the screen. The end of this journal carries a roll, *i*, resting upon a cam or wiper wheel, *k*, turning upon a pin, *l*, extending from the frame, this wheel being fixed to or forming part of a wheel that may be operated by a handle, *m*.

As the wheel is turned the head of the

screen is alternately raised by the wheel and dropped by gravity, and by the concussive movement the sand thrown upon the inclined screen is rapidly sifted, the gravel running down the screen, and being discharged at its mouth. When the screen falls, it drops preferably upon a spring or cushion, *x*, under which cushion is a set-screw, regulating the rise and fall of the screen.

In sifting, and especially when the sand is damp, the square mesh of the screen is liable at first to be clogged, and I have found that by having long openings in the mesh toward the head of the screen this disposition to clog is overcome. To obtain these long openings the wire-cloth must be woven with them; or they may be formed by removing every third transverse wire. The removal of every other wire would destroy the web.

I construct a hopper, *o*, having journals *p* at one end, resting in stationary bearings *q*, this hopper having an adjustable gate, *r*, at its opposite end, and an inclined bottom, *s*, leading thereto. The hopper at the foot of the incline rests on the frame of the screen *b*, near the intermittently rising and falling end thereof, and partakes of the jarring movement of the screen, so as to jar the sand in the hopper, causing it to move down the incline and escape under the gate, and from the hopper into the screen. The gate is adjusted in height to deliver the sand as fast as is desirable, and the sand falls in one place upon the screen, and is uniformly sifted before it reaches the mouth of the screen.

The frame and screen thus made may be advantageously used either at the sand-pit or where the sand is to be used, the hopper being especially intended for use at the building to screen sand for fine finish.

The frame for the screen may be a cart-body, recesses being made in the upper edges of the side board, near the foot-board, for supporting the open end of the screen, and a slotted post or bar being fastened to the head-board to receive the journal and the shaft of the cam-wheel *k*.

This screen is not only intended for screening sand, but may be used for coal and any other screenable substance to which it can be applied.

I claim—

In a screen in which a hopper rests at one end upon, and is shaken by the movements of, the screen, the arrangement of the screen inclined in a direction the reverse of that of the hopper, the lower end of the latter resting on the intermittingly rising and falling end of the screen, which has a journal extending through

and guided by vertically-slotted bars, and carrying a roll that rests upon a cam or wiper wheel, substantially as shown and described.

Executed this 4th day of March, A. D. 1874.

GEORGE W. BROWN.

Witnesses:

NEWTON HAYDEN,

C. K. WOOD.