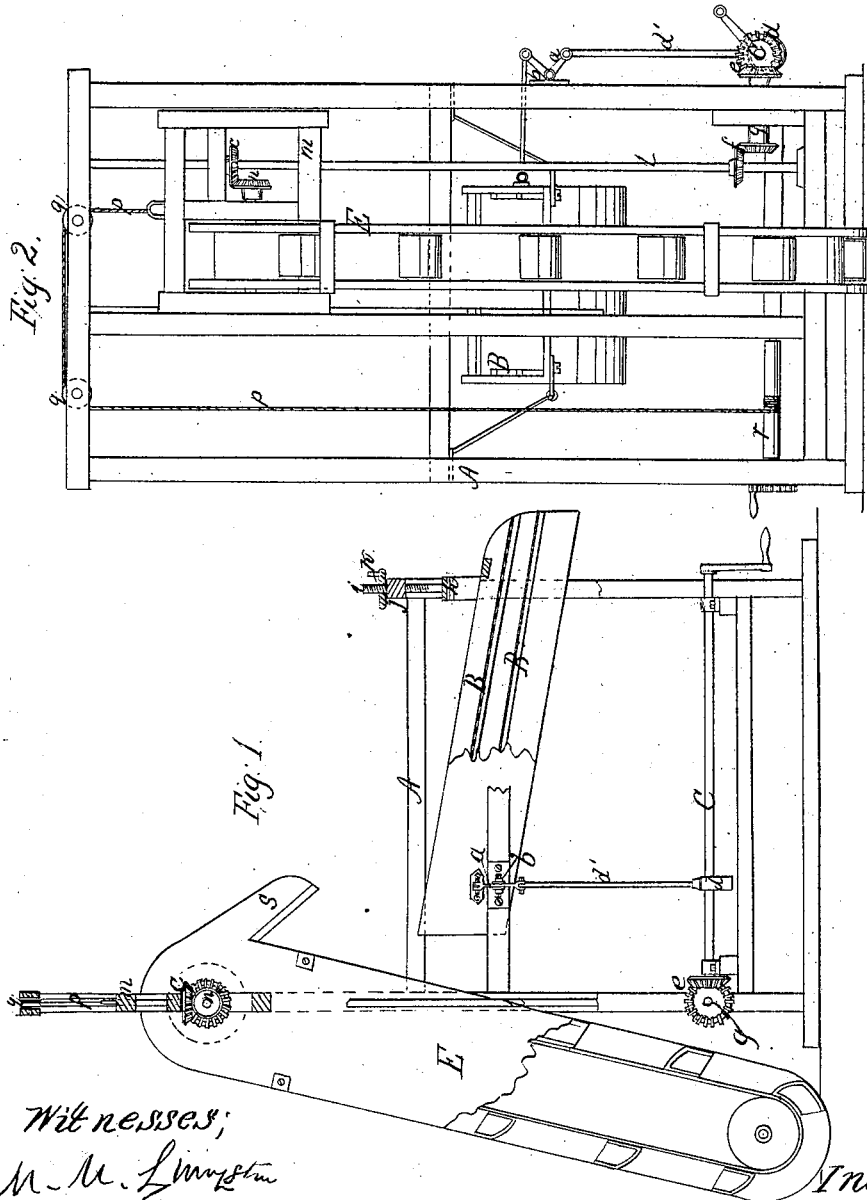


D.A. Goodsell,

Sand Screen.

No 53,295.

Patented Mar. 20, 1866.



Witnesses;
M. M. Livingston
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UNITED STATES PATENT OFFICE.

DANIEL A. GOODSSELL, OF GLEN COVE, NEW YORK.

MACHINE FOR SIFTING SAND.

Specification forming part of Letters Patent No. 53,295, dated March 20, 1866.

To all whom it may concern:

Be it known that I, DANIEL A. GOODSSELL, of Glen Cove, in the county of Queens and State of New York, have invented a new and Improved Machine for Sifting Sand; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a sectional side elevation of this invention. Fig. 2 is an end view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to effect the tedious operation of sifting sand by machinery instead of by hand, as now practiced.

The invention consists in the employment or use, for sifting sand, of a series of sieves hung in a frame in an inclined position, in combination with a mechanism for imparting to said sieves a shaking motion, and with an elevator in such a manner that by the action of the elevator the crude sand is automatically raised to the upper sieve, and while passing down over the series of sieves it is separated from stones and other impurities that may be mixed with it, and discharged in a state of more or less fineness at the bottom of the sieves or of the frame. The elevator is hung in a vertically-adjustable frame, and it is made to swing on its driving-shaft in such a manner that its position can be accommodated to the heap of sand to be elevated. A screw with hand-wheel serves to adjust the inclination of the sieves according to the state of greater or less dampness in which the sand may be when being sifted.

A represents a frame made of wood or other suitable material strong enough for the occasion. This frame supports the sieves B, which are hung in the same in an inclined position, as clearly shown in Fig. 1 of the drawings, their highest end being supported by a strap, which is rigidly secured to the frame, whereas their lowest end is suspended from a hanger, *h*, which branches off from the lower end of a screw, *i*, that passes up through the end cross-bar, *j*, of the frame A, and screws into a hand-wheel, *k*, so that by turning said hand-wheel the ends of the sieves are raised or lowered,

and their inclination can be adjusted to suit sand of different quality or of different degrees of moisture.

Said sieves are connected together, and a shaking motion is imparted to them by the action of an elbow-lever, *a*, which has its fulcrum on a pivot inserted in a bracket, *b*, secured to the frame A, and to which an oscillating motion is imparted by an eccentric, *d*, mounted on the driving-shaft C, and made to connect with one arm of the elbow-lever by a ring and rod, *d'*, or in any other suitable manner.

The driving-shaft C has its bearings in the lower part of the frame, and it connects, by suitable bevel-gears *e f* and an intermediate shaft, *g*, with the vertical arbor *l*. This arbor has its bearings in that end of the frame A which supports the highest ends of the sieves, and it extends up through a secondary frame or gate, *m*, which supports the elevator E. This elevator is constructed in the ordinary manner, with a series of buckets secured to an endless belt, which extends over suitable pulleys in the top and bottom of the elevator.

The requisite motion is imparted to the elevator-belt by a bevel-wheel *n*, which is mounted on the shaft of the upper pulley of the elevator, and which gears into a bevel-wheel, *o*, mounted on the vertical shaft *l* of a feather-key, so that it is free to move up and down on said shaft together with the gate *m*. This gate is suspended from a rope, *p*, which extends over pulleys *q* to a windlass, *r*, so that by turning said windlass the gate, together with the upper end of the elevator, can be raised or lowered at pleasure. A ratchet-wheel secured to the axle of the windlass, together with a stop-pawl, retain the gate in the desired position. By this arrangement the elevator can be adjusted to any desired inclination, and its position can be accommodated to the location and quantity of sand to be elevated. A spout, *s*, conducts the sand, after the same has been elevated, to the upper sieve, and by the action of the several sieves the fine sand is separated from the stones, lumps, and other impurities, and it is discharged in the requisite state of fineness ready for immediate use.

The lowest ends of the sieves must be so adjusted that they terminate in different vertical planes in order to separate the parts discharged from each sieve.

By this apparatus the whole operation of

elevating and sifting sand can be effected entirely by machinery, and almost wholly without hand labor.

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

The employment or use, for the purpose of sifting sand, of a series of sieves, B, in combination with suitable mechanism for imparting

to the same a shaking motion, and with an elevator, E, constructed and operating in the manner substantially as set forth.

DANL. A. GOODSSELL.

Witnesses:

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