D. J. HUNTER.

SEPARATING STONES, &c., FROM CLAY, &c.

No. 107,053. **Patented Sept. 6, 1870.**

Fig. 1.

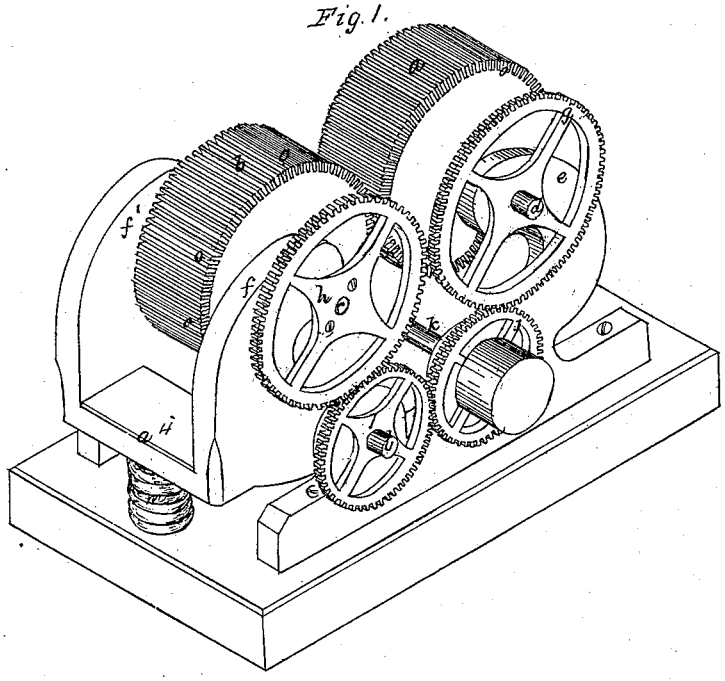
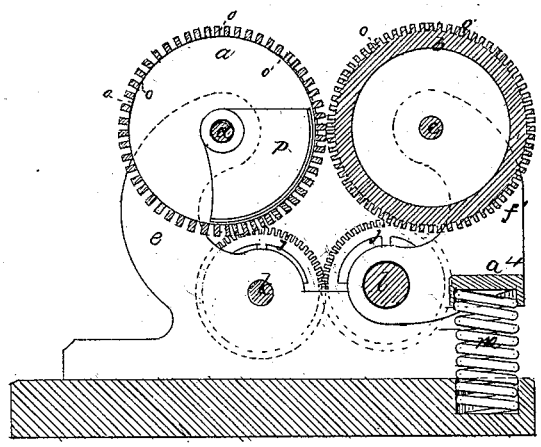


Fig. 2.



Witnesses

Geo. A. Goring.

Edward Griffith.

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United States Patent Office.

DAVID JAMES HUNTER, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 107,053, *dated September* 6, 1870.

IMPROVEMENT IN SEPARATING STONES, &c., FROM CLAY, &c.

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

To all to whom these presents shall come:

Be it known that I, DAVID JAMES HUNTER, of Boston, in the county of Suffolk and State of Massachusetts, have made certain Improvements in Machines for Separating Hard Substances or Particles from a Mass of Soft Earthy Matter, as well as to divide or granulate the mass; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawing making part of this specification, and in which—

Figure 1 is a perspective view, and

Figure 2, a vertical and longitudinal section of said invention.

In such drawing—

a and *b* represent two drums or cylinders, mounted upon parallel shafts, *c d*, which revolve in boxes formed in suitable standards, *e f e' f'*, the disposition of the two cylinders being such that their peripheries revolve in juxtaposition, but in opposite directions, such revolutions being effected by a train of gears, *g h i j*, the two former of which are affixed one to each drum, but not in contact, while the other two, *i j*, mesh into each other and into said gears *g h*, the latter-mentioned gears being mounted upon shafts, *k l*, supported in suitable bearings, situated below the shafts *c d* before mentioned.

The gear *i* is the driving-gear of the machine.

The standards *f f'* which support the drum *b* are rocker standards, and make part of a rocker frame a^4, the fulcrum or center of motion of such frame being the shaft *l*, before mentioned as carrying the gear *j*; hence, any vibration of the drum *b* toward or away from the drum *a* will not disengage its gear *h* from the gear *j*, which meshes into and drives it.

The drum *b* is forced toward or in contact with its fellow drum *a* by a coiled spring, *m*, or its equivalent, placed below the rocker frame a^4, the power of this spring or agent being of such extent as to force clay or earth into the interstices *o o o*, &c., of the peripheries of the drums, or to crush and force into the same any hard or lumpy particles of clay which may occur, but which shall yet posses sufficient elasticity to yield before a stone or other approximatingly hard or foreign body which the clay may contain.

The clay will be forced into the interior of the drums, while the stones, &c., will fall between them to the ground, the result being not only a perfect separation of the two, but a minute division or granulation.

p in the drawing denotes a scraper, which is suitably disposed within each drum, and in contact or immediately adjacent to the inner periphery of each, the effect of such scraper being to scrape or detach from such periphery the mass of clay which oozes through its interstices.

The power end of each scraper *p* is of such shape and disposition as to conduct the falling clay from the interior of the drum to any desired locality.

Should any undue amount of clay adhere to the outer periphery of the drum, it is to be removed by a scraper properly situated to effect its removal.

A suitable hopper is to be placed over the point of union of the two drums *a* and *b*, to facilitate and guide the introduction of clay or other substance thereto.

It is manifest that, instead of mounting the cylinder *b* in rocking bearings, the cylinder *a* may be mounted in such bearings, or, indeed, both cylinders, if desired, may be so mounted.

Having now described my invention,

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

The combination, in a machine such as described, of the two separating-cylinders *a* and *b*, when either or both of said cylinders are mounted in rocking bearings, and upheld by spring pressure, which will enable them to separate, so as to allow the passage of stones and like substances between them, substantially as shown and set forth.

DAVID JAMES HUNTER.

Witnesses:

FRED. CURTIS,

EDW. GRIFFITH.