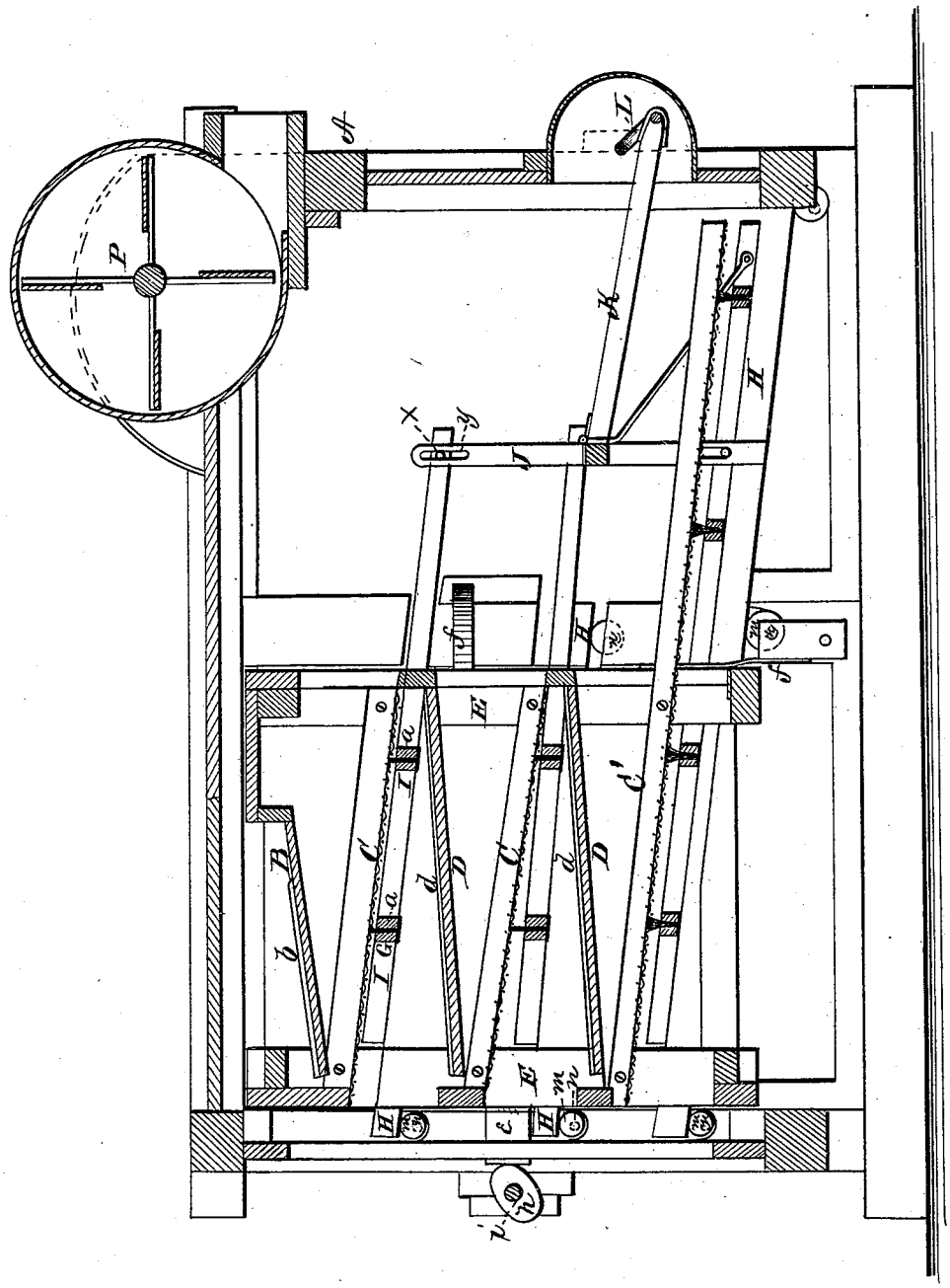
A. FULTON.

MIDDLINGS SEPARATOR.

No. 190,572. Patented May 8, 1877.



WITNESSES

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ABRAHAM FULTON, OF OLNEY, ILLINOIS.

IMPROVEMENT IN MIDDLINGS-SEPARATORS.

Specification forming part of Letters Patent No. **190,572**, dated May 8, 1877; application filed March 26, 1877.

To all whom it may concern:

Be it known that I, ABRAHAM FULTON, of Olney, in the county of Richland, and in the State of Illinois, have invented certain new and useful Improvements in Middlings-Purifiers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a middlings-purifier, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which fully illustrates my invention.

A represents the frame-work of the machine having a suitable feed-opening in the top thereof, and below said opening is an inclined distributing-board, B, upon which are ribs *b b* running at varying angles, so as to distribute the middlings into a thin sheet at the point where it passes down onto the first sieve.

In the machine is a series of sieves, C, and under each sieve is a carrying-board, D, inclined in the opposite direction to the sieve, and provided on its upper surface with longitudinal ribs *d*, forming channels through which the middlings pass. Each carrying-board D slides the middlings from the tail of one sieve to the head or top of the sieve immediately below.

The distributing-board B, sieves C, and carrying-boards D are all attached to an interior frame, E, supported by means of suitable spring-arms *f f*. This frame is provided with two projecting bumpers, E E, against which two eccentrics, *h h*, operate to give the frame a vibrating motion, said eccentrics being secured on a continuously-rotating shaft, *i*. It will be noticed that for each revolution of said shaft *i* the eccentrics *h* give the frame E two movements back and forth.

Under each sieve C is arranged a series of brushes or wipers, *a a*, of any suitable material, which are fastened in cross-bars G, connecting sliding bars I I. These sliding bars rest upon adjustable ways H H, and have at their front ends pins *x* entering vertical slots *y* in an upright frame, J, and this frame is, by a pitman, K, connected with a crank-shaft, L, as shown, whereby the brushes or wipers obtain a continuous reciprocating motion.

The adjustable ways H rest upon cams *m m* attached to shafts *n n*, which may be turned from the outside of the frame, so as to raise or lower said ways, as required, to properly adjust the brushes or wipers to their respective sieves; and one set of wipers may be adjusted to its sieve independent of the other sets.

P is the suction-fan arranged in the top of the frame A for creating the necessary draft through the machine.

In the operation of the machine all the middlings pass through the cloth of the first sieve C onto the carrying-board D to the next sieve, and so on, until they pass through all of the sieves. The light fibrous stuff is caught up by the current of air and passes out of the dust-spout, while the heavy brown stuff is floated over the end of the sieves, and fall on the long bottom-sieve C′ that extends beyond the other sieves, where it is subjected to another cleaning, and can be returned back to the machine, or put away by itself, as desired.

The eccentrics *h* that give motion to the sieves and carrying-boards are of elliptic form, which gives two throws for each revolution of the shaft; consequently but half the amount of friction and heating which the ordinary cams have.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a middlings-purifier, of a series of sieves and a series of reciprocating set of brushes or wipers, operated from a single shaft when such sets are adjustable up and down independently of each other, substantially as herein set forth.

2. The combination of the sets of brushes or wipers *a*, cross-bars G, slide-bars I, with pins *x*, frame J, having vertical slots *y*, and operated by the crank-shaft L and pitman K, the adjustable ways H, cams *m*, and shafts *n*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of February, 1877.

ABRAHAM FULTON.

Witnesses:

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