

H. HOLLINGSWORTH.
PULP-SCREEN CLEANER.

No. 175,286.

Patented March 28, 1876.

Fig 1.

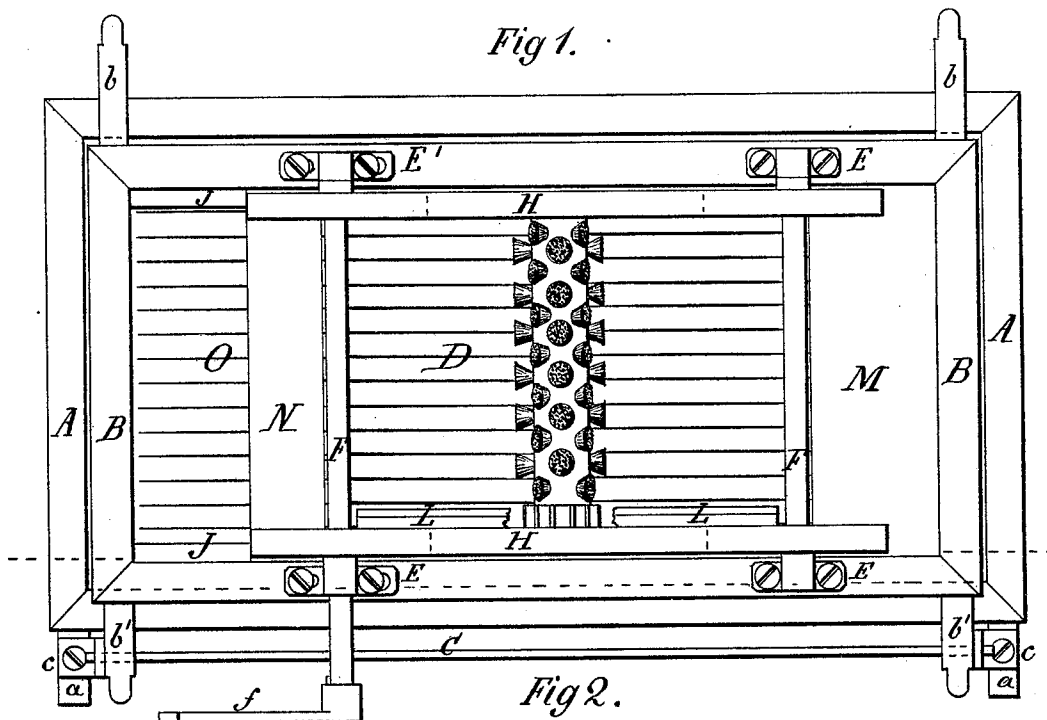


Fig 2.

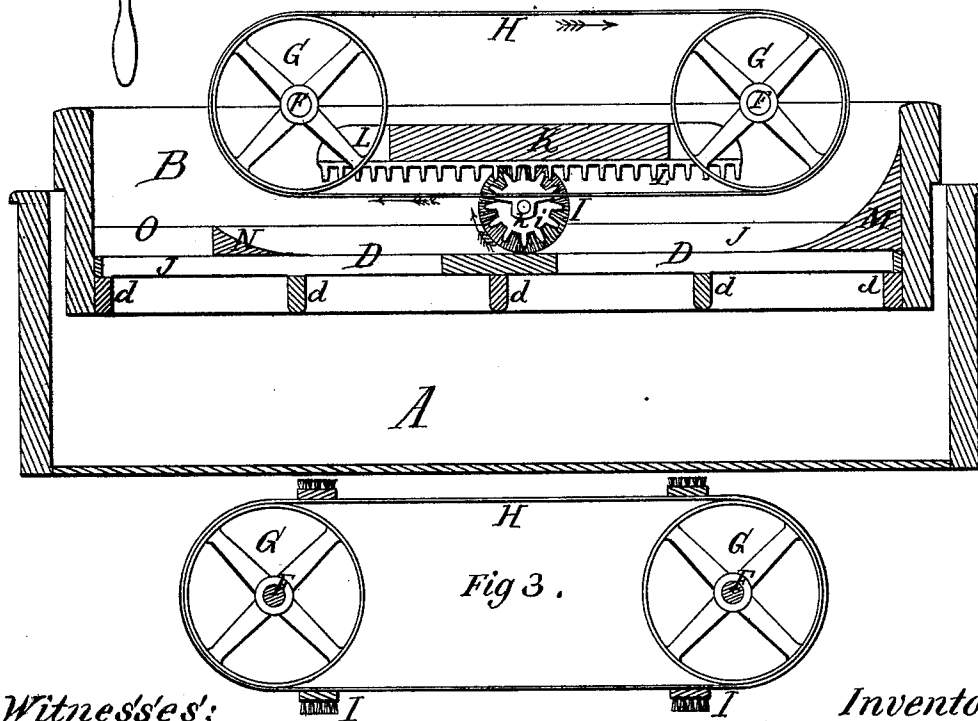
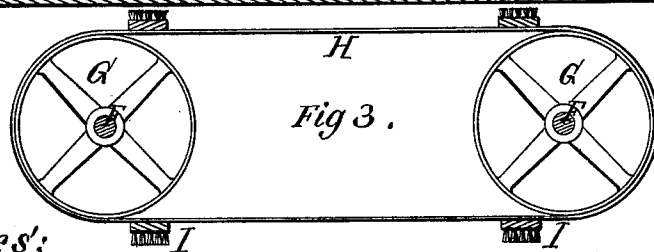


Fig 3.



Witnesses:
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Inventor:
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by
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UNITED STATES PATENT OFFICE.

HENRY HOLLINGSWORTH, OF HERKIMER, NEW YORK.

IMPROVEMENT IN PULP-SCREEN CLEANERS.

Specification forming part of Letters Patent No. **175,286**, dated March 28, 1876; application filed February 17, 1876.

To all whom it may concern:

Be it known that I, HENRY HOLLINGSWORTH, of Herkimer, in the county of Herkimer and State of New York, have invented a new and useful Improvement in Machines for Cleaning Paper or Wood Pulp Machine Screens, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of my improved paper-screen cleaner. Fig. 2 is a vertical longitudinal section in the line *xx* of Fig. 1. Fig. 3 is a modification of the invention.

The nature of my invention consists, first, in a screen-frame which supports pulleys, belts, and a brush or brushes, and is hinged to one side of the pulp-vat, so as to be readily turned out of or into said vat, whereby convenient access to the interior of said vat is secured for the removal of the contents thereof.

My invention consists, second, in endless belts or chains passing over pulleys and carrying one or more revolving brushes, which are made to pass over the screen and very effectually clean the surface thereof at certain intervals of time.

My invention consists, third, in the special construction of the trough containing the screens and removable parts of my improved machine, whereby the matter swept off the screen by the brushes is received in an adjoining compartment containing screens of finer openings.

In the drawings, A represents a large vat, which supports a trough, B, at some distance from the bottom. The trough B is provided with transverse arms *b b'* by means of which it rests upon the top part of the vat A, and two of which arms *b'* are, by means of a longitudinal rod, C, and elbow stands *c*, fastened to two arms, *a*, of the vat A, thereby forming a hinge-joint and enabling the operator to turn over the trough B entirely out of the vat A without detaching it therefrom. At the bottom of the said trough screens D are inserted and supported from below by transverse bars *d*. On the rim of the trough B pedestal bearing E E' are fastened, those marked E' being longitudinally adjustable. The said pedestal-bearings form the support of the shafts F, one of which is provided with a crank, *f*, or a pul-

ley. The said shafts are provided with pulleys G and belts or bands H, upon which the bearing-blocks *h* of a brush, I, are so fixed that the brush may be moved with the said belts and parallel to the shafts F. The body of the brush I is, by preference, of cylindrical form, and provided in the usual manner with bristles or other suitable material. The guide-strips J, near the bottom of the sides of the trough, serve as supports for the traveling bearing-blocks *h* and for keeping the brush I at the proper distance from the surface of the screen.

A bracket, K, fastened to the side of the trough B, and between the pulleys G, serves as a support for a rack, L, between the shafts F.

The brush I is provided with a pinion, *i*, which when the brush passes under the rack L gears into the said rack and revolves the brush in the direction indicated by an arrow.

The inner front corner of the trough is rounded off concentrically with the shaft F by inserting therein a block, M. A shallower block, N, of similar construction is placed in a similar manner across the screen and concentric to the other shaft F, thereby dividing the space inside the trough in two unequal chambers, the smaller one O of which is generally provided with a finer screen, which allows the pulp to go through free of all dirt. If a finer screen was not provided in this chamber O, the fine dirt would go through with the pulp.

My invention herein described will be found very useful in wood-pulp as well as in paper mills for cleaning screens, and I therefore do not limit my invention to paper-mill screens.

Operation: The operator sets the machine in motion by turning the crank *f*. The belts are moved in the direction indicated by an arrow, and carry the brush I along. As soon as the said brush touches the screen, the pinion *i* comes in contact with the rack L, and is revolved in the direction indicated by an arrow. By the described motion of the pinion and the brush, the screen D is very rapidly and thoroughly cleaned. The brush, in rising from the screen in front of its own course, keeps the matter of which the screen has been freed by it up and off the screen, and finally pushes it over the block N

into the compartment O. The revolutions of the brush cease as soon as it leaves the screen, and the brush is then merely carried over the pulleys G until it descends into the trough again, when the above-described operation is repeated.

For cleaning screens of the coarser class, the revolving belts H may be provided with one or more transverse fixed brushes, I, as seen in Fig. 3, and thus the machine made to perform the operation of cleaning without having the brushes rotate about their own axes. I however prefer the rotating brush, as a far greater amount of surface-work will be performed in a given time and space.

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

1. The screen-frame, carrying the pulleys,

belts, and brush, hinged to one side of the pulp-vat, so as to be turned out and into the same, substantially as described.

2. The combination of the pulleys G, the belt H, the pinion i, brush I, and rack L, for the purpose of cleaning straight surfaces, substantially as described.

3. The combination of the trough B, the screens D, the block N, and the compartment O, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto set my hand in presence of two witnesses.

HENRY HOLLINGSWORTH.

Witnesses:

JAMES POWELL,

JAMES A. SUITER, JR.