

J. MORRIS.

Machines for Finishing Printed-Paper.

No. 146,605.

Patented Jan. 20, 1874.

Fig. 3.

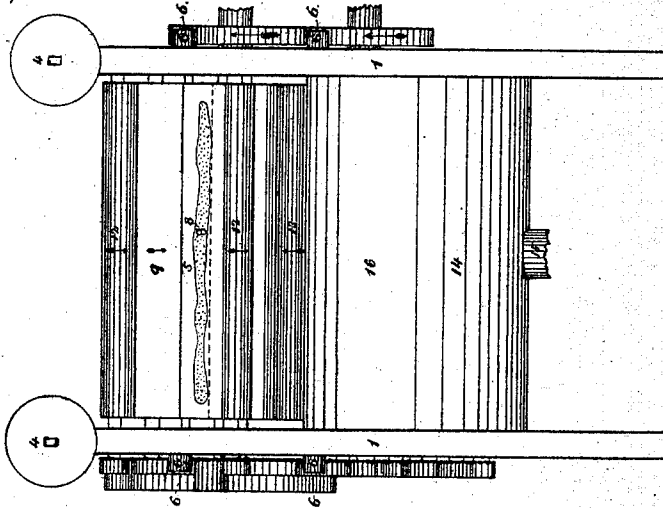


Fig. 2.

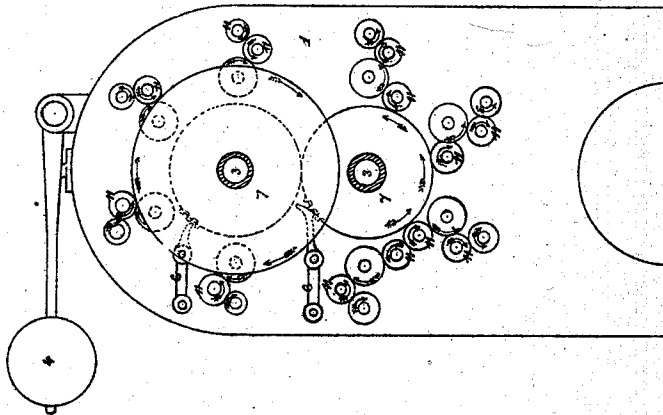
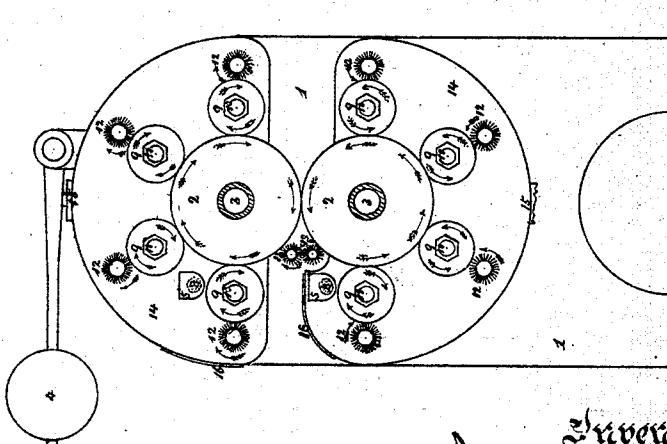


Fig. 1.



Witnesses

Alf. Westbrook

Wm. C. Day

Inventor.

James Morris
By his atty.
J. S. Eaton

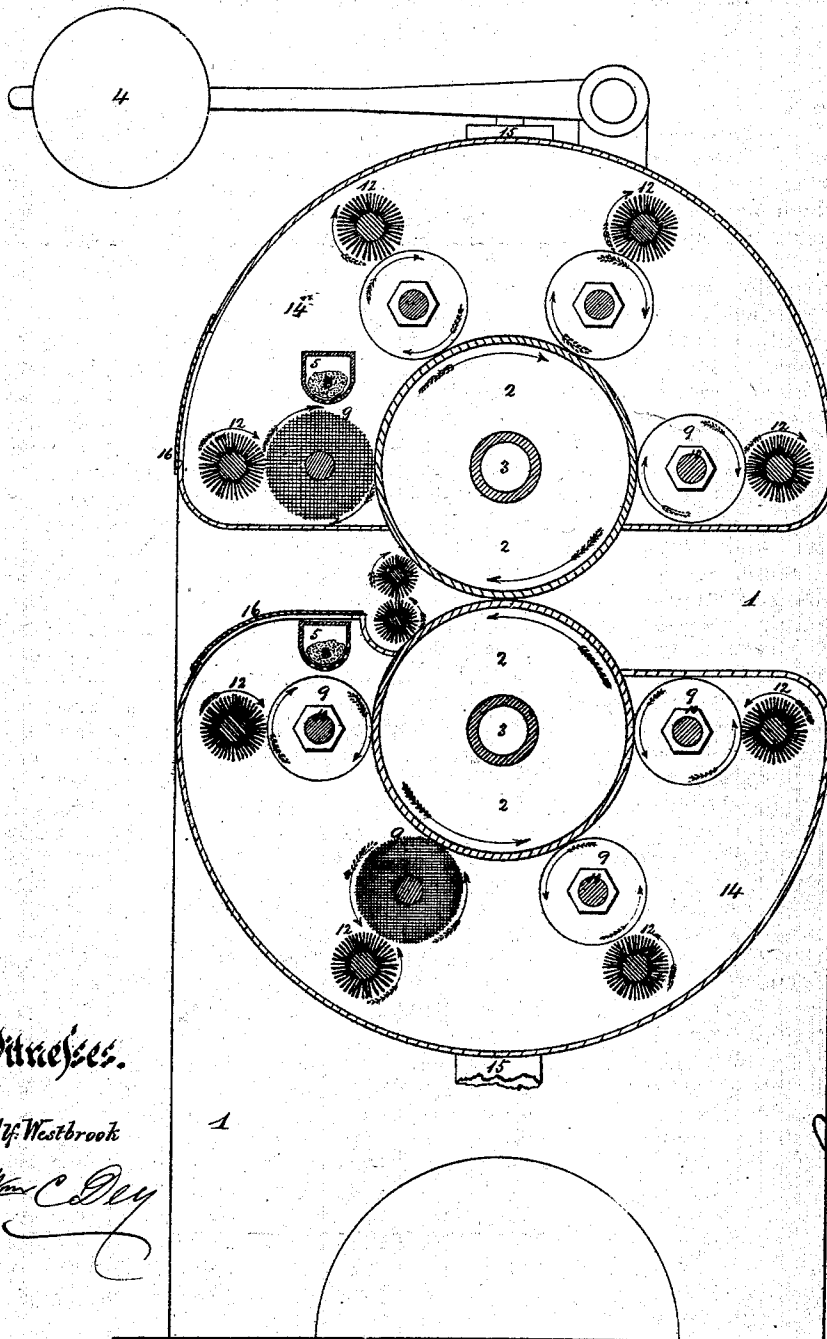
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Fig. 4.



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Alf. Westbrook

Wm. C. Day

Inventor.

J. Morris
by his atty
J. L. Stearn

UNITED STATES PATENT OFFICE.

REISSUED

JAMES MORRIS, OF LIVERPOOL, ENGLAND.

IMPROVEMENT IN MACHINES FOR FINISHING PRINTED PAPER.

Specification forming part of Letters Patent No. **146,605**, dated January 20, 1874; application filed February 6, 1873.

To all whom it may concern:

Be it known that I, JAMES MORRIS, of Liverpool, in the county of Lancaster, England, have invented certain Improvements in and connected with Machines for Finishing Printed Sheets, of which the following is a specification:

The object of this invention is to properly finish or surface printed sheets of paper or other material. My invention relates to improvements in, and connected with, the machines or apparatus for which British Letters Patent No. 1,746, of the year 1863, were granted to me—that is to say, machines so constructed that to facilitate finishing the printed sheets of paper are passed through, between, and in direct contact with, rotating smooth rolls called “set-off rolls;” and consists, first, as means for coating the ink set-off on the rolls uniformly with whiting or other powdery matter, in giving a vibrating or joggle motion to the container in such manner that the whiting or other matter is caused to escape therefrom and reach the rolls in a shower. Tappets, fitted on a rotating shaft arranged to act on jointed levers carrying a perforated container, are well adapted for this purpose. Second, as means for insuring that only whiting or other powdery matter of sufficient fineness reaches the rolls in the required quantity, I inclose the said whiting or other powdery matter in a bag made of textile fabric, and place the said bag in a perforated or open-work container, made to vibrate in accordance with the above first part of my invention. Third, as means for effectually removing the ink set-off coated with powdery matter from the rolls, I employ “take-off” buffing-rolls, made to rotate in the opposite direction to the set-off rolls, or at a greater or less surface speed. These take-off buffing-rolls are constructed of a large number of disks of calico, or other woven fabric, of about the same diameter, bound together on a spindle by end clamps. Fourth, to keep the take-off buffing-rolls, constructed as above described, or take-off rolls of any kind, clean, I employ for each such roll a cleaning-brush, made of bristles or strong fibers, such brush being caused to rotate in contact with, but in the opposite direction to, the take-off rolls, or at a greater or less surface speed.

Figure 1 is an end view, one frame-plate being removed; Fig. 2, an end elevation; Fig. 3, an elevation of the delivery side with the upper half of the casing removed; and Fig. 4 is a larger scale corresponding to Fig. 1, with two of the buffing-rolls shown in section.

Like letters denote the same parts in all the views.

1, frame-work; 2, smooth set-off rolls, preferably made hollow, and heated by steam—say, through the pipe 3; 4, weighted lever for regulating the pressure of the top set-off roll 2; 5, whiting or other powdery matter containers, formed with perforations. Vibrating motion is given to the said containers by the gravity-levers 6, the inner ends of which are acted upon by the teeth of the wheels 7. Tappets can be employed for giving motion to the containers. 8, bags, made of woven fabric, carried in the containers 5; 9, buffing-rolls, made of disks of calico or other fabric, bound closely together by the nut-clamps 10, the said buffing-rolls rotating in the direction shown by the arrows. They may be made to move differently, although I prefer the arrangement shown, the object in all cases being to cause these rolls to move in the opposite direction to the set-off rolls 2 at the surfaces of contact, or to cause them to move at a higher surface speed. In all cases, I prefer that the surface speeds of 9 should be greater than the surface speeds of 2. 11 show intermediate wheels for giving motion to the buffing-rolls 9 and cleaning-brushes 12. The cleaning-brushes are made to move with a greater surface speed at their circumference than the speed of the surfaces of 9. They may rotate in either direction relatively to the buffing-rolls 9, although I prefer that they should move in the opposite direction. 13 are take-off rolls. They are specially useful when highly-sized damp paper is being passed between or finished by the rolls 2. 14 are casings, with pipes 15 leading to an exhaust-fan for drawing away the dusty matter, which otherwise would adhere to the surfaces of the rolls 2 or pervade the atmosphere of the printing-office; 16, feeding and examining doors.

I claim as my invention—

1. Coating the ink set-off on the rolls by whiting or other powdery matter supplied in

a shower, substantially as described, for the purpose set forth.

2. Inclosing the whiting or other powdery matter in a bag of textile fabric, and placing the same in a perforated or open-work container, made to vibrate substantially as set forth and delineated.

3. The buffing-rolls 9 for effectually removing the ink set-off from the rolls 2, substantially as described.

4. The cleaning-brushes 12, operating sub-

stantially in the manner and for the purposes set forth.

In testimony whereof I, the said JAMES MORRIS, have hereunto set my hand this 30th day of December, in the year of our Lord one thousand eight hundred and seventy-two, in the presence of two subscribing witnesses.

JAMES MORRIS.

Witnesses:

JAMES JOHNSON,

J. GLEMY.