2 Sheets—Sheet 1.

G. E. JONES.

MACHINES FOR WINDING UP FABRICS.

No. 186,256. Patented Jan. 16, 1877.

Fig. 1.

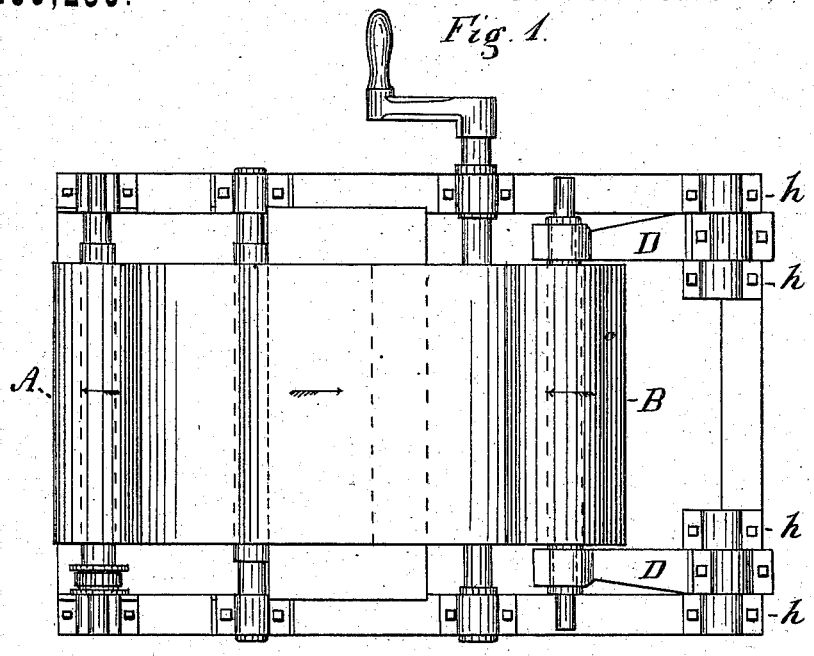


Fig. 2.

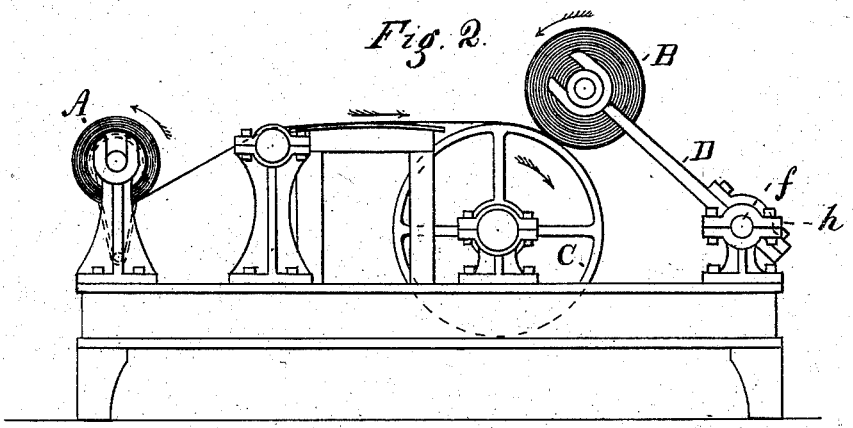
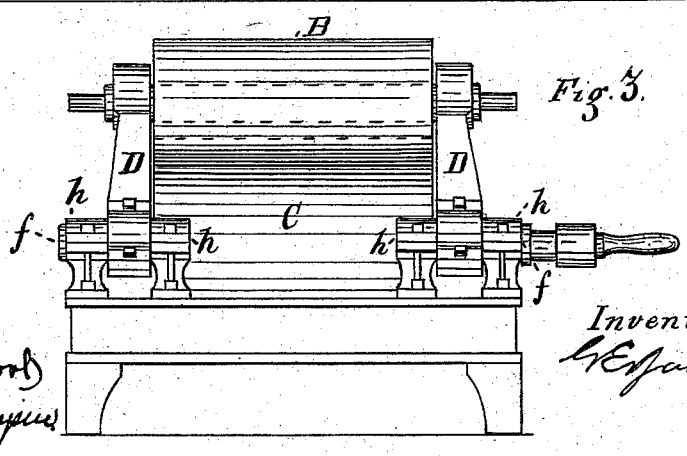


Fig. 3.



Witnesses.

Henry L. Brevoort

J. Herbert Simpson

Inventor.

G. E. Jones.

2 Sheets—Sheet 2.

G. E. JONES.

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Fig. 4.

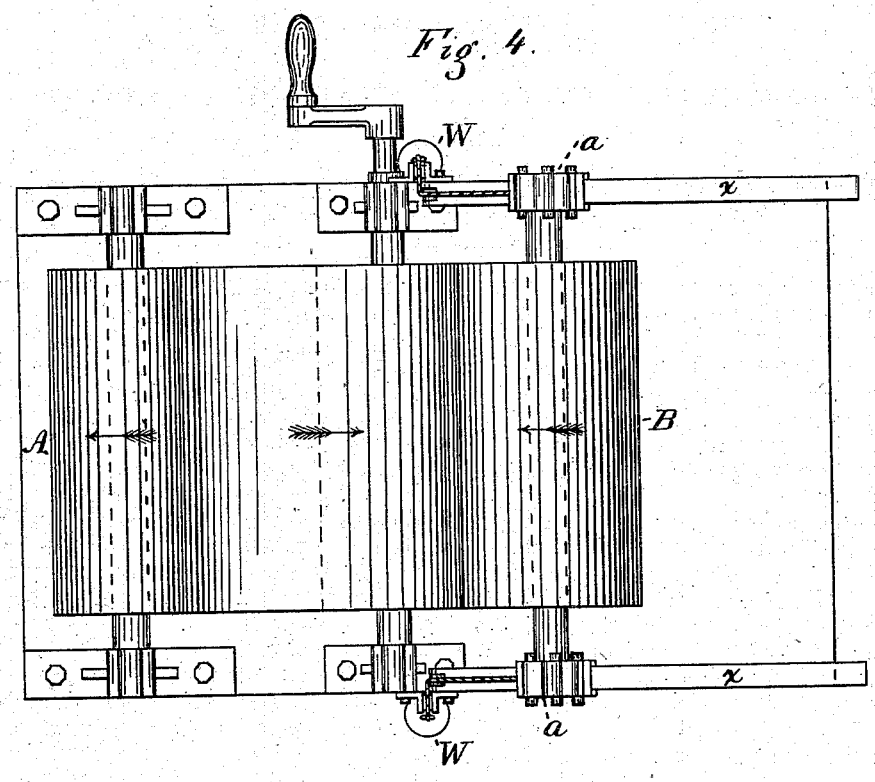
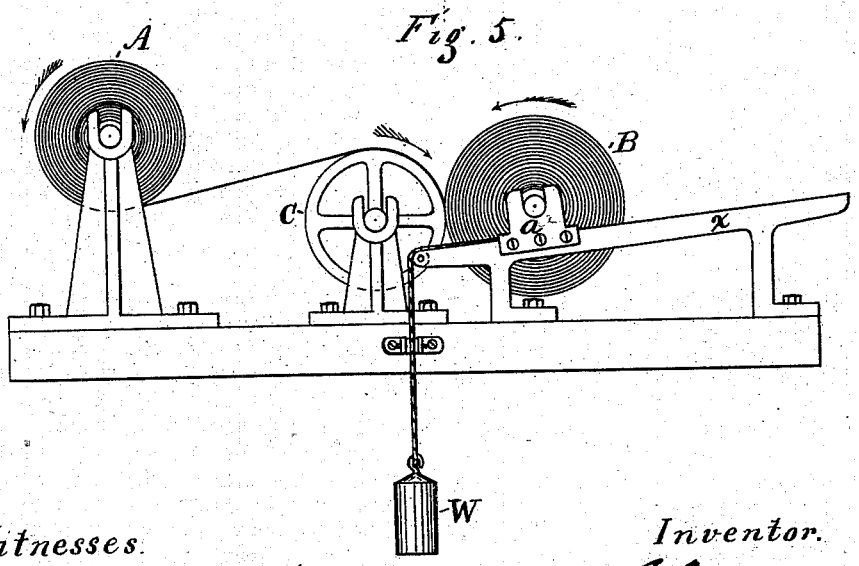


Fig. 5.



Witnesses.

Henry L. Brevoort

G. H. Fielding Simpson

Inventor.

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UNITED STATES PATENT OFFICE.

GILBERT E. JONES, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR WINDING UP FABRICS.

Specification forming part of Letters Patent No. **186,256**, dated January 16, 1877; application filed August 14, 1876.

To all whom it may concern:

Be it known that I, GILBERT E. JONES, of the State, county, and city of New York, have invented a new and useful Improvement in Machines for Winding up Fabrics; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters indicate like parts.

Figure I is a top view of a machine arranged to wind dampened or dry paper. Fig. II is a side view of the same. Fig. III is an end view of the same. Fig. IV is a top view of a machine arranged to wind paper or some thin fabric. Fig. V is a side view of the same.

Winding-machines are constructed either for dry or dampened paper, or for other fabrics, which machines usually consist of a roll from which the fabric is being unwound, and of a roll upon which it is being wound, the latter resting and pressing upon a power-roll or driving-roll made of iron or some other material, and from the frictional contact with which the roll being formed is driven or revolved. By this arrangement the speed of the fabric between the delivering-roll and the winding-up roll is always the same.

It has heretofore been the practice to create the necessary amount of pressure between the roll being formed and the power-roll by weights appropriately attached to the machine. My invention consists in dispensing with these weights and substituting for them close-fitting or frictional boxes or guides, which, when the roll being formed is enlarging by the continual addition of paper or other fabric, will impede the free movement of the roll away from the power-roll, and will thus increase the pressure between the rolls. In the machines in which the weights are used the roll being formed will not revolve steadily and smoothly with the power-roll, but will continually jump backward and forward to and from the power-roll, and the roll of fabric, when formed, will never be perfectly true and even; but when friction is employed to resist the backward or upward movement of the roll being formed from the power-roll, the former, even when revolving at a circumferential speed of thirty miles per hour, will be perfectly true and even, and no jumping will take place.

Figs. I, II, and III show a machine for winding up dampened paper. A is the roll from which the dry paper is being taken or unwound. The paper then passes over a table or support, and water is thrown upon it in the form of a fine spray. The paper thus dampened is wound into a roll, (shown at B,) which roll rests upon and is turned by a power-roll, C, the latter being revolved by a belt, or in some other suitable manner. The roll B is held by arms D D, which, at their lower ends, are provided with pins *f f*, turning in suitable boxes, thus allowing the spindle of the roll B to move away from the roll C as B is enlarged by the addition of the paper. The bearings or journal-boxes *h h h h*, in which the pins of of the arms D rest, I make with a cap and bolts in each box, as shown, so that the friction necessary to elevate the arms can be adjusted by tightening or loosening the bolts. Thus, when in operation the pressure between the rolls B and C is increased beyond that due to the weight of B, the roll B will not jump away from the roll C, and the completed roll of paper will be perfectly true and even. This will not be the case if weights are attached to levers projecting inward from the lower parts of the arms D, which levers carry weights to increase the pressure between the rolls B and C.

In Figs. IV and V, A is the roll from which the fabric is taken. C is the power-roll, and B is the roll being formed. X X are inclined guides, which carry the boxes or journals *a* of the spindle of the roll B, and these boxes are constructed so as to clamp closely the guides X X by set-screws, as shown, on the sides of the boxes *a*. Thus a constant resistance is offered to the backward movement of the boxes which carry the roll B, and the pressure between B and C while the machine is in operation will be augmented by the power required to overcome this friction. The plan hitherto adopted has consisted of weights attached to ropes, chains, &c., as shown at W. With my invention, using friction to resist the backward movement of the roll B, the roll

will not jump, and will be perfectly even, while with the weights, and no friction other than that necessarily existing in the moving parts, the roll B will jump, and will not, when finished, be perfectly true and even

Various other forms and designs of machine may be adopted. The roll being formed may be directly over the power roll, and rise vertically from it. With this design the resistance offered by the friction to the paper-roll's upward movement will cause the roll to be made evenly and truly, and will prevent all jumping.

I find out the proper amount of friction necessary in any winder by starting the machine without any friction upon the journals or slides, and I gradually increase the friction till all jumping and unevenness are obviated and the machine operates steadily and smoothly, producing perfectly-even rolls of paper.

What I claim as my invention is—

A winding-machine having a delivering-roll and a winding-up roll, held in arms, guides, or ways, which are provided with frictional boxes or slides, combined with a power-roll.

G. E. JONES.

Witnesses:

HENRY L. BREVOORT,

G. G. FRELINGHUYSEN.