

(No Model.)

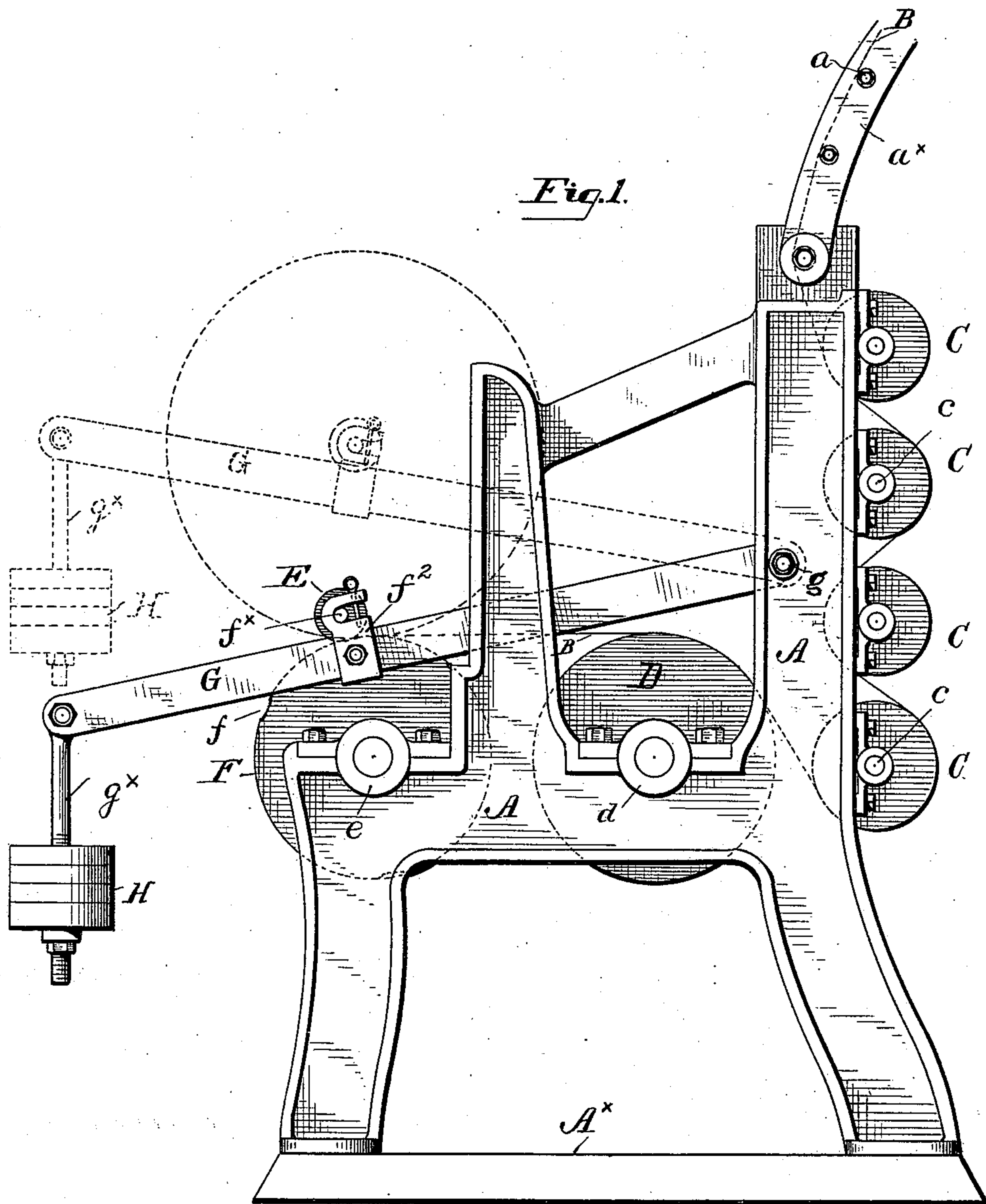
2 Sheets—Sheet 1.

J. WALDRON.

MACHINE FOR WINDING PAPER AND OTHER FABRICS.

No. 352,722.

Patented Nov. 16, 1886.



WITNESSES:

*John Polley Jr.*  
*J. N. Dixon.*

*John Waldron,*  
INVENTOR

*By his Attorneys,*  
*Wm C. Strawbridge*  
*Bonsall Taylor*

(No Model.)

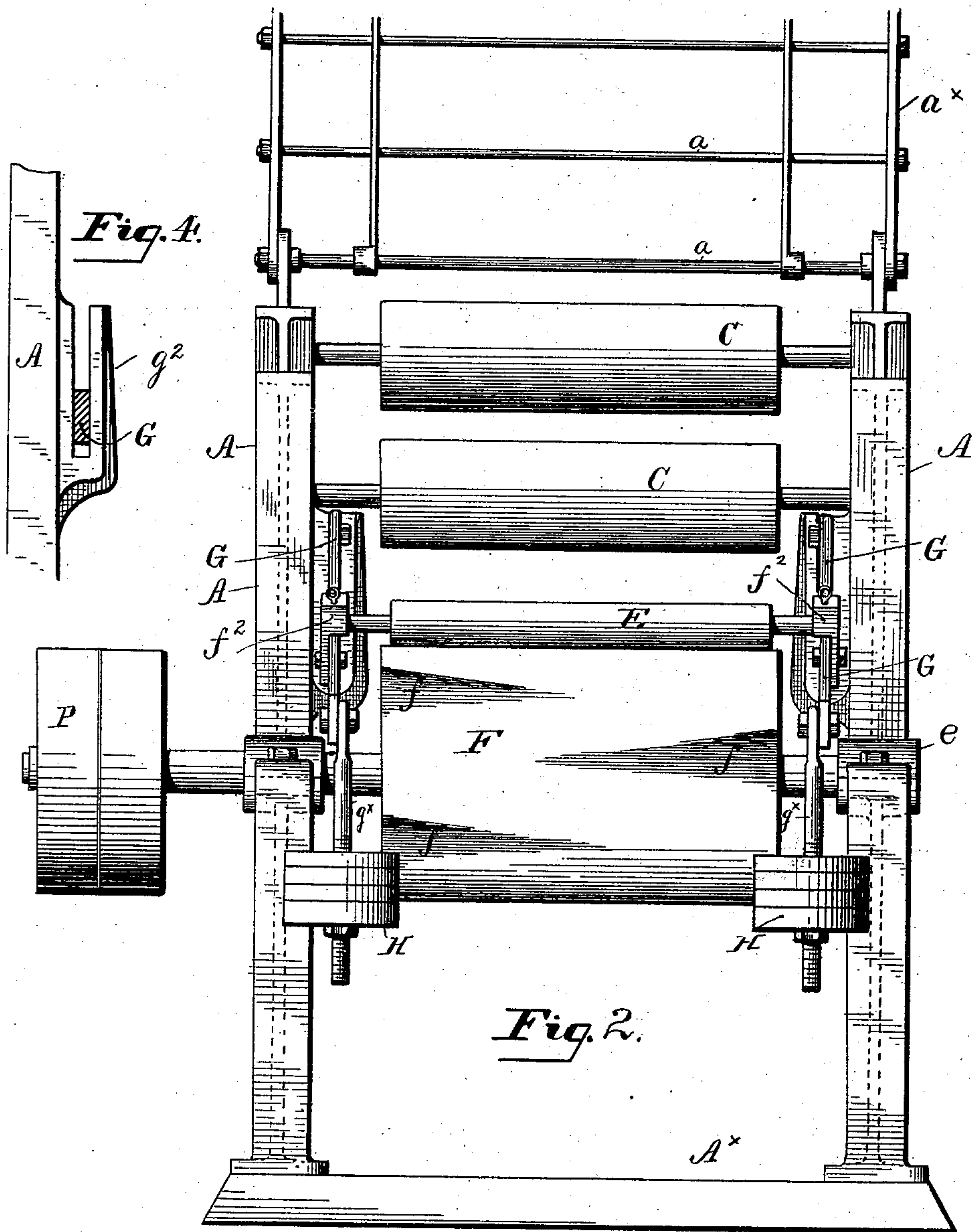
2 Sheets—Sheet 2.

J. WALDRON.

MACHINE FOR WINDING PAPER AND OTHER FABRICS.

No. 352,722.

Patented Nov. 16, 1886.

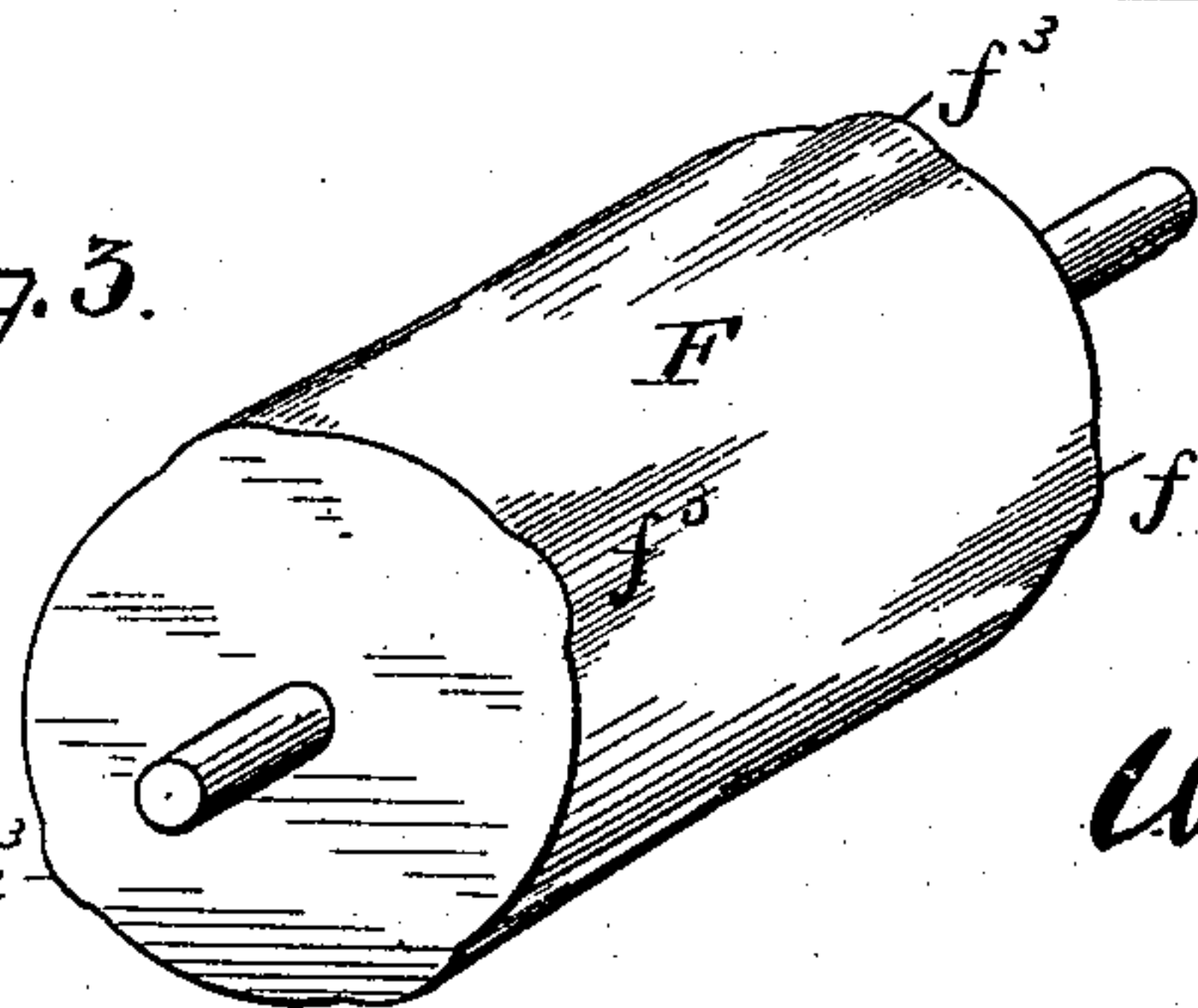


*Fig. 3.*

WITNESSES:

*John Kelly*

*F. N. Dixon.*



*John Waldron*  
INVENTOR

By his Attorneys  
*Wm C. Strawbridge*  
*Bonsall Taylor*



# UNITED STATES PATENT OFFICE.

JOHN WALDRON, OF NEW BRUNSWICK, NEW JERSEY.

## MACHINE FOR WINDING PAPER AND OTHER FABRICS.

SPECIFICATION forming part of Letters Patent No. 352,722, dated November 16, 1886.

Application filed July 24, 1886. Serial No. 208,914. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WALDRON, a citizen of the United States, residing in New Brunswick, in the State of New Jersey, have invented a new and useful Improvement in Machines for Winding Paper and other Fabrics, of which the following is a specification.

This invention relates to machines for winding into rolls or reels paper, cloth, or other textile fabric or material.

Heretofore in the operation of winding material such as the above difficulty has been experienced in keeping the material smooth and true as it is wound, and in preventing the formation of wrinkles, folds, and other irregularities which affect the market value of the finished and wound product, and in many instances, especially in those of decorated wall-papers, tend to destroy the fabric itself, because, in the case of grounded or coated papers, in which the color or paint is applied to only one side but is apt to leak around beneath the edges, the paint or color beneath the edges thickens the paper at its edges, and consequently makes the roll of paper thicker or of greater bulk at its edges than at its central and other portions, with the result that the central portions have, as stated, become wrinkled, creased, folded, and indented, while the edges under the tension have in many instances burst.

My invention belongs to a class of winding-machines having for their object the automatic reeling or winding of fabrics into compact, smooth, and even rolls, which are free from folds and wrinkles. Heretofore this result which I obtain has been obtained by mounting the winding-roll upon which the fabric is wound in a frame to which an oscillatory motion has been given in order to alternately lift and lower the ends of said winding-roll or impart to it a wabbling motion upon the driving-roll upon which it rests and by which it is driven, all as fully set forth in United States Letters Patent No. 335,870, granted February 9, 1886, to Heinrich Winterwerber.

A machine embodying my invention is represented in the accompanying drawings and described in this specification, the particular subject-matter claimed as novel being herein after definitely specified.

In the drawings, Figure 1 is a side elevational view of the machine embodying my invention.

Fig. 2 is a front elevation of said machine. Fig. 3 is a view in perspective of a modified form of driving-roll, and Fig. 4 a fragmentary front elevational detail of one of the guideways for one of the carrying-arms of the winding-roll.

Similar letters of reference indicate corresponding parts.

In the drawings, A A are the side frames of the machine, which are conveniently mounted upon a bed-plate, A<sup>x</sup>, if desired, are tied together by suitable tie-bars, and which together constitute the frame-work of the machine. The fabric B, assumed to be wall-paper, is led into the machine, preferably over fixed stretcher-bars *a*, housed in a supplemental frame-work, *a*<sup>x</sup>, surmounted upon the side frames, and is then conducted around and between a series of tension-regulating rolls C of any usual character, housed in boxings *c*, applied to the side frames. From beneath the last of the tension-regulating rolls the paper is led over a guide-roll, D, housed in parallelism with the tension-rolls in boxings *d* in the frame-work, and from the guide-roll the paper is led over the driving-roll F, housed in parallelism with the guide-roll in boxings *e*, and attached to the winding-roll E, the gudgeons *f*<sup>x</sup> of which are entered in adjustable bearings *f*<sup>2</sup>, respectively, mounted upon two carrying-arms, G, independently pivoted at their inner ends at *g* to the frame-work, traveling in ways *g*<sup>2</sup>, supported from the frame, and at their outer ends provided with counter-weights H, conveniently applied in any desired series upon weight-hangers *g*<sup>x</sup>, pivotally connected with said carrying-arms.

One of the gudgeons of the driving-roll is prolonged beyond its boxing and provided with driving-pulleys P or equivalent devices, through which rotation is imparted to said driving-roll.

The frame-work as an entirety, its stretcher-bars, tension-regulating rolls, guide-roll, and winding-roll proper, that is apart from its mounting, are all of a general character common in these machines. The driving-roll, however, is of a special construction, and in its construction and its application in the machine, in combination with the other rolls mentioned, and incidentally with the other rolls mentioned, my invention resides. This driving-roll F is, as shown in Figs. 1 and 2, provided with



a series of alternately - disposed vanishing grooves *f*, being tapering gutters, notches, corrugations, indentations, or channels formed longitudinally upon the surface of the roll in alternated or staggered disposition, and which have their greatest depth upon the edge of the roll, and taper or gradually lessen to a point near or beyond the center, where they vanish. Their office is, in the rotation of the driving-roll, to present such inclined surfaces as to occasion a tilting, rocking, or rise and fall of the alternate ends, or a wobbling, so to speak, of the winding-roll *E* and its wound fabric *B* upon the surface of the driving-roll.

Instead of employing grooves or gutters, the same result can be obtained by providing tapering ridges *f*<sup>3</sup>, Fig. 3, upon the surface of the roll.

Such being a description of the construction of a machine conveniently embodying my invention, its operation will, from such description, be sufficiently understood. Suffice it to repeat, that the paper or other fabric to be wound being introduced under proper tension about the tension-regulating rolls and guide-roll, and being connected with the winding-roll, is, when the driving-roll is rotated, smoothly and evenly wound upon the winding-roll, the vanishing grooves serving to impart to said winding-roll an oscillatory movement, which the independently-acting carrying-arms permit, and which imparts to the wound fabric a smoothness otherwise difficult to obtain. The joggling motion has also the tendency to throw the edges of the fabric a little out of line, and thereby prevent the thickening of the wound roll at its ends to an extent greater than its thickness at the middle.

Having thus described my invention, I claim—

1. The combination of a driving-roll pro-

vided with vanishing grooves, a winding-roll upon which fabric is wound, surmounted upon said driving-roll and adapted to be rotated by it, and means for rotating said driving-roll, substantially as set forth. 45

2. The combination of a driving-roll provided with vanishing grooves, a winding-roll upon which the fabric is wound, surmounted upon said driving-roll and adapted to be rotated by it, means for rotating said driving-roll, and tension-regulating rolls, substantially as set forth. 50

3. The combination, in a paper-winding machine, of tension-regulating rolls, a driving-roll having vanishing grooves, a winding-roll upon which material is wound, and which is supported upon and rotated by said driving-roll, and independently-moving bearings for said winding-roll, substantially as set forth. 60

4. In a paper-winding machine, the combination of the driving-roll provided with vanishing grooves, a winding-roll upon which the fabric is wound, surmounted upon and driven by said driving-roll, boxings for said winding-roll, and carrying-arms upon which said boxings are mounted, substantially as set forth. 65

5. In a paper-winding machine, the combination of the driving-roll provided with vanishing grooves, a winding-roll upon which fabric is wound, surmounted upon and driven by said driving-roll, boxings for said winding-roll, carrying-arms upon which said boxings are mounted, and tension-regulating rolls, substantially as set forth. 70

In testimony whereof I have hereunto signed my name this 19th day of July, A. D. 1886. 75

JNO. WALDRON.

In presence of—

J. BONSALE TAYLOR,  
F. N. DIXON.