

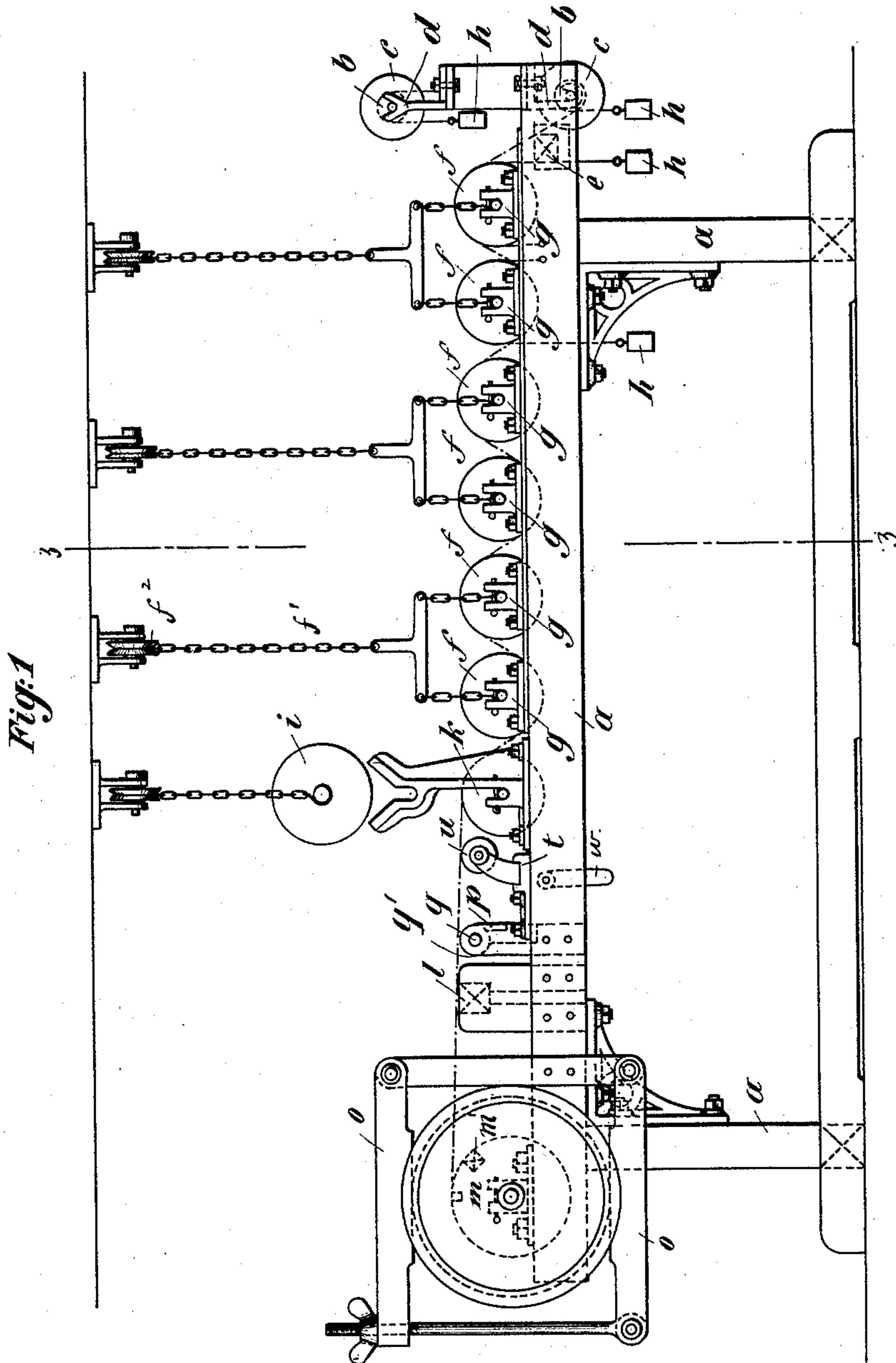
(No Model.)

4 Sheets—Sheet 1.

J. J. ZÄHNER-MÖSLI.
CLOTH WINDING MACHINE.

No. 473,602.

Patented Apr. 26, 1892.



Witnesses:
Charles Schroeder.
Charles F. B.

Inventor:
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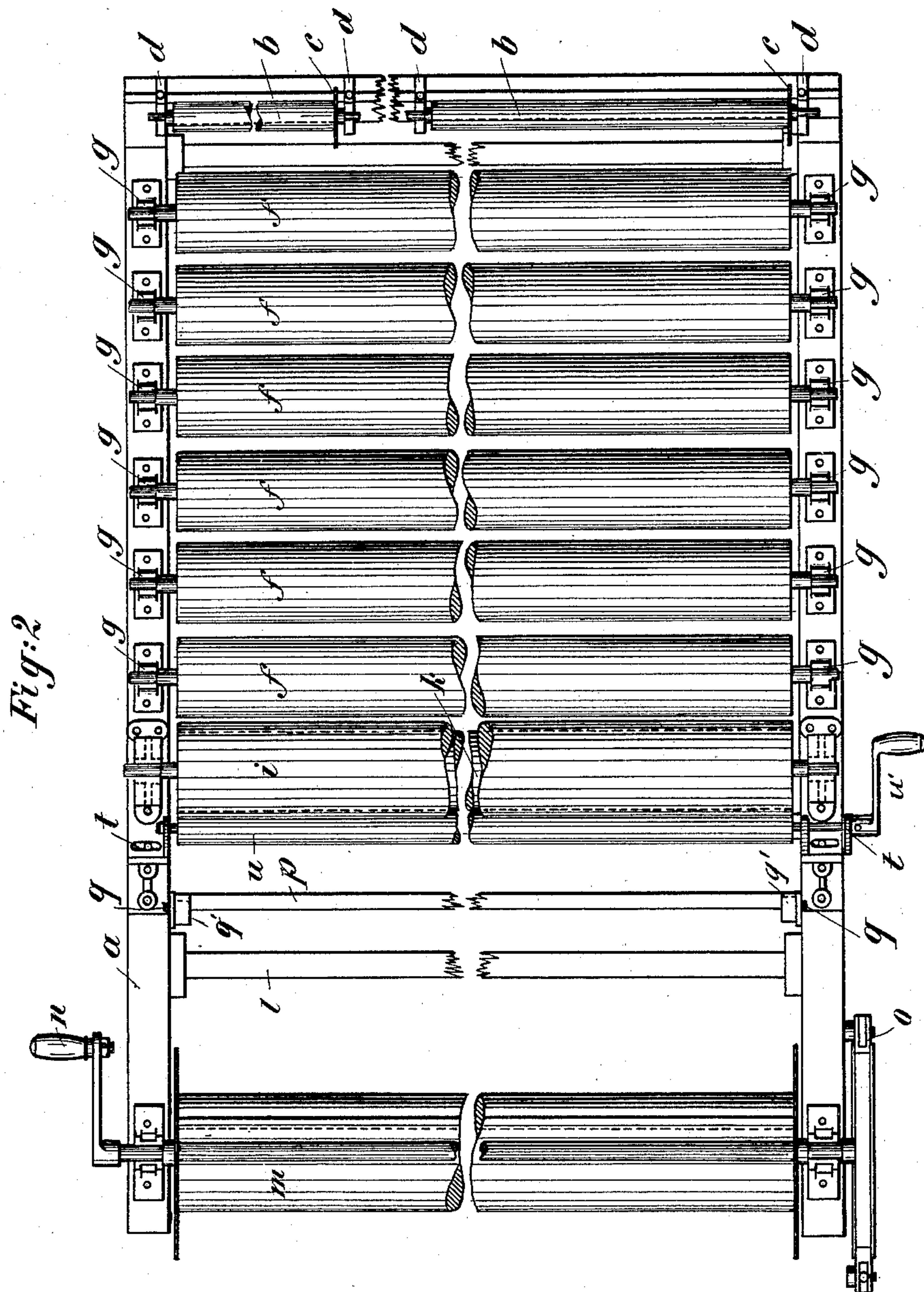
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J. J. ZÄHNER-MÖSLI.
CLOTH WINDING MACHINE.

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Patented Apr. 26, 1892.



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(No Model.)

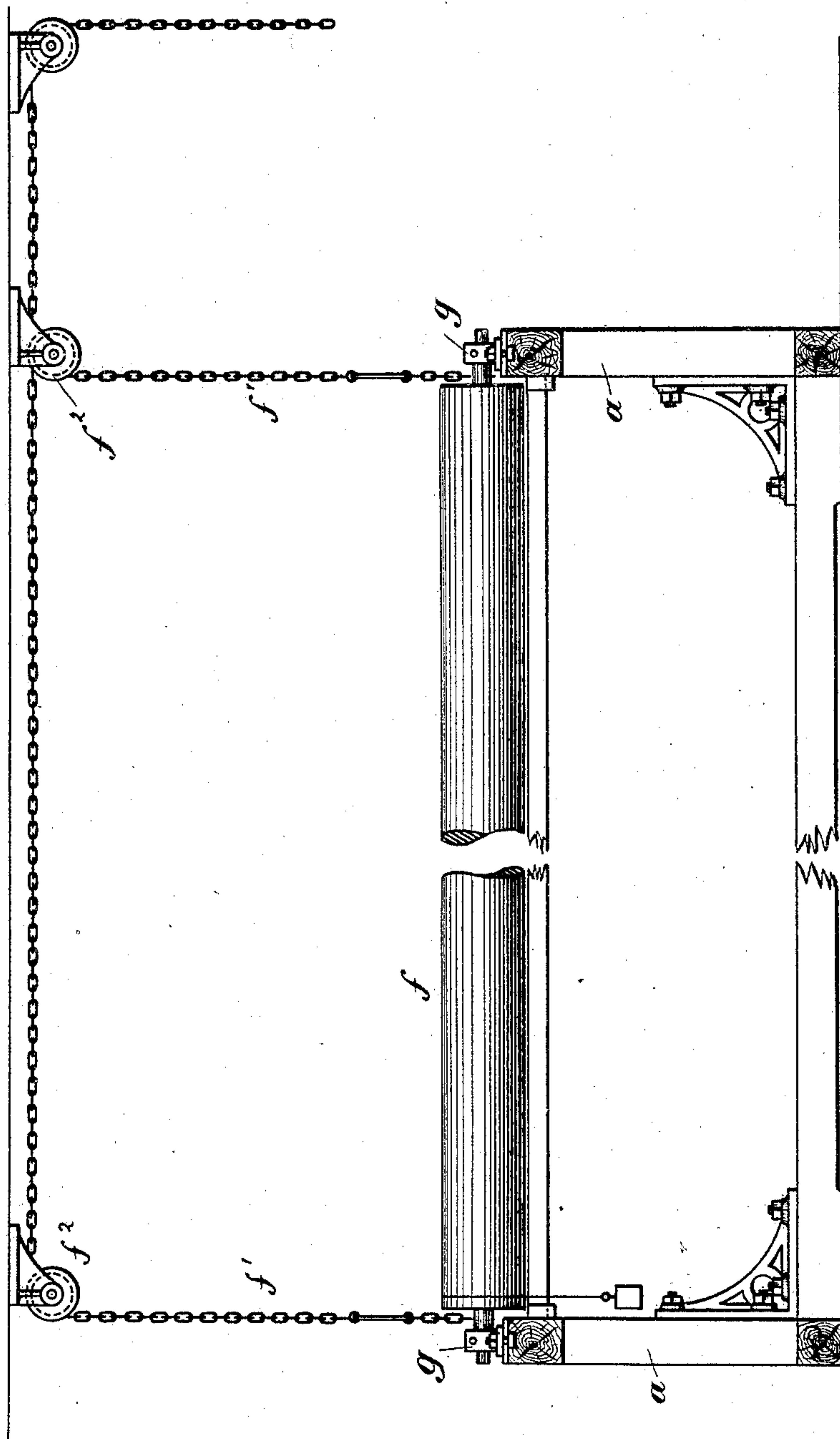
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Fig. 3



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Fig: 4

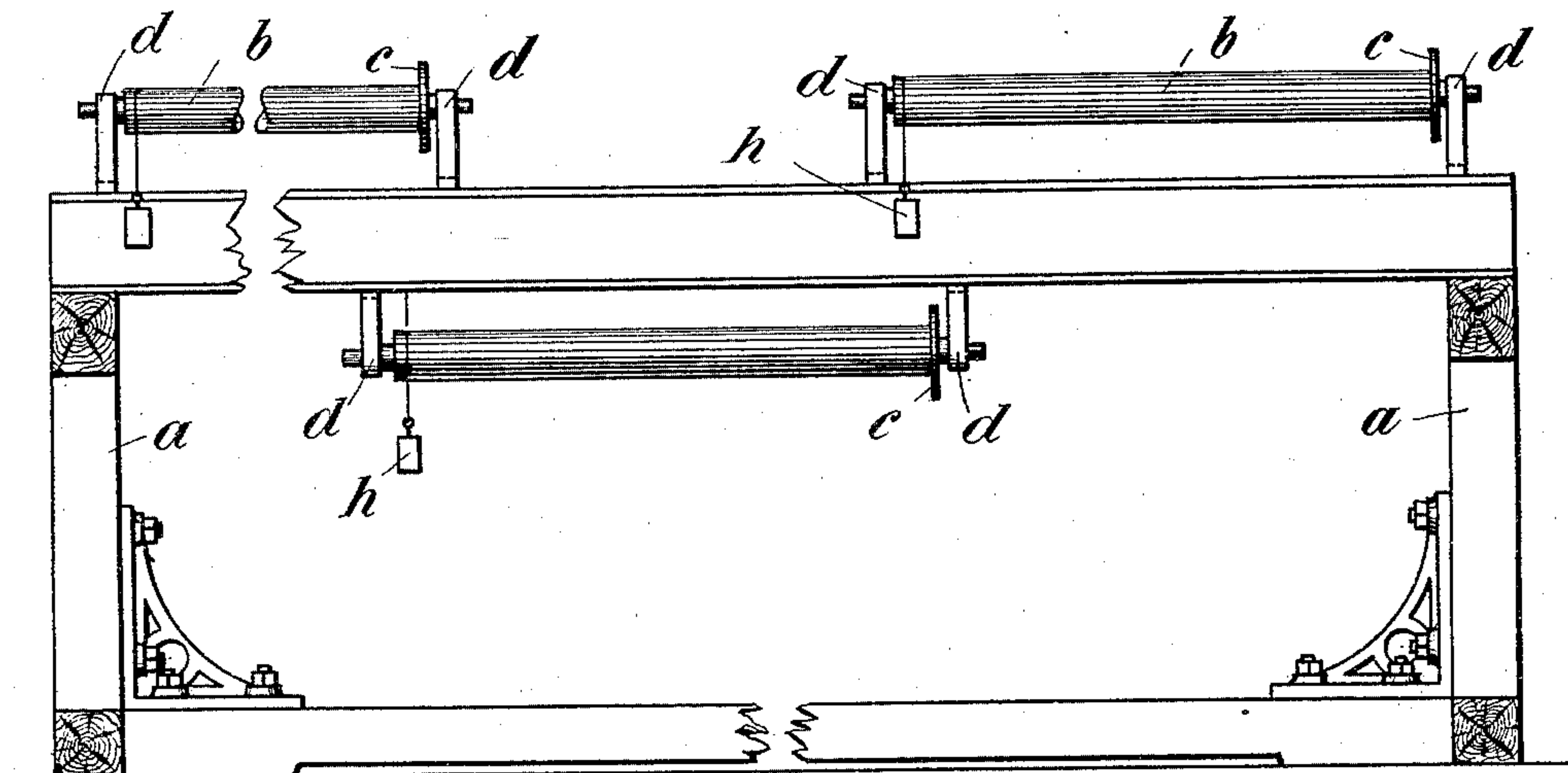


Fig: 6

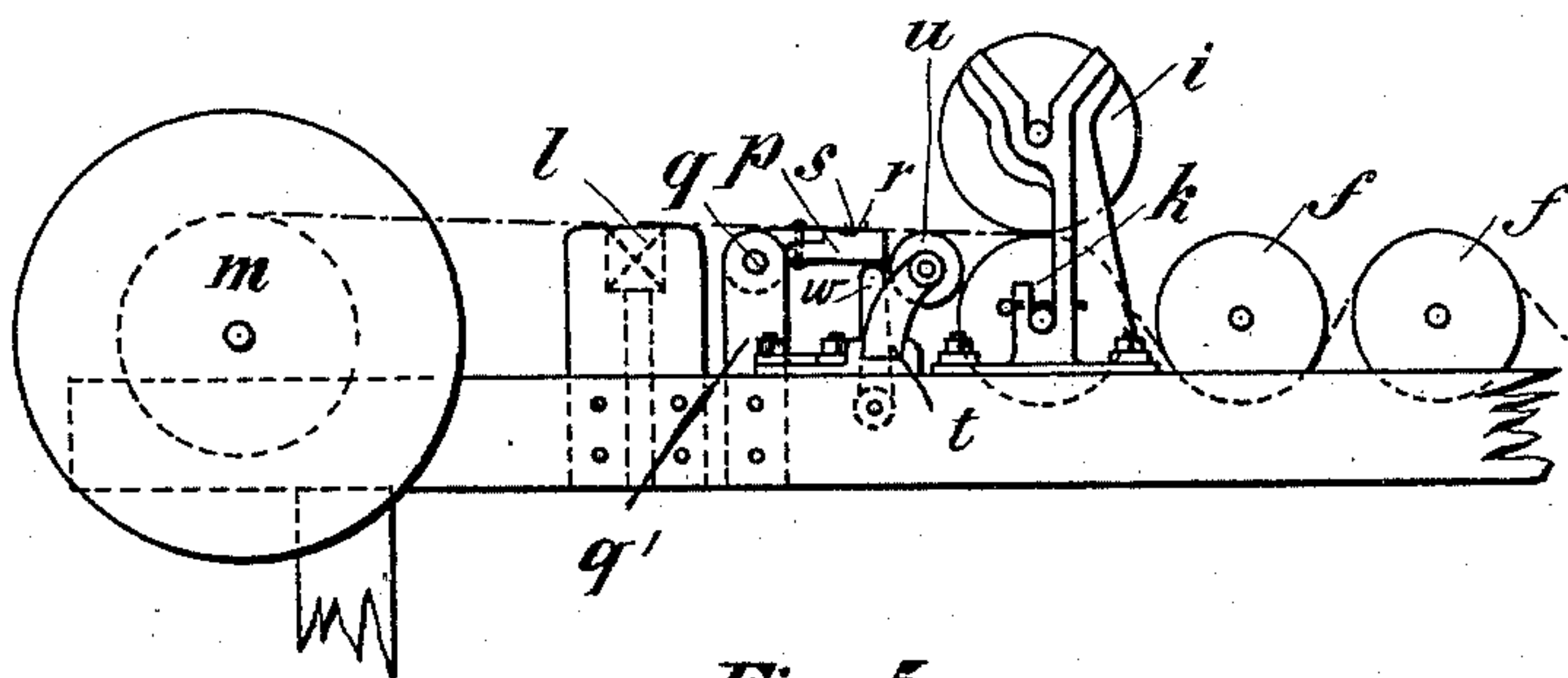
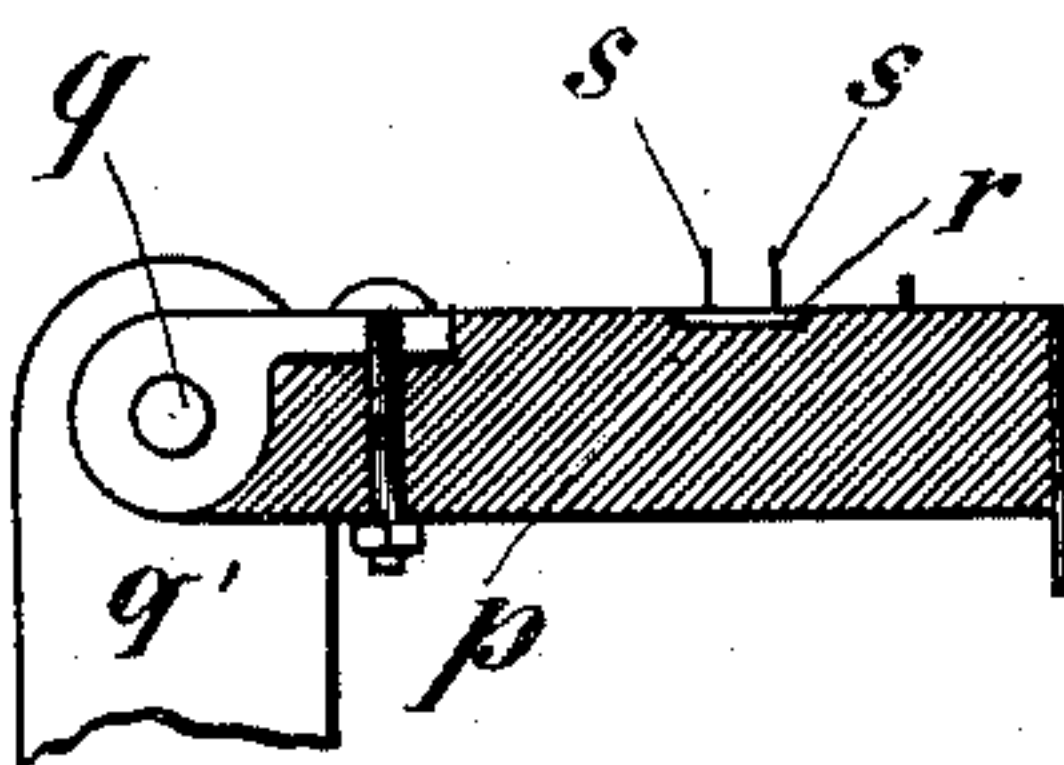


Fig: 5

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHANN JACOB ZÄHNER-MÖSLI, OF REHETOBEL, SWITZERLAND.

CLOTH-WINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 473,602, dated April 26, 1892.

Application filed January 2, 1892. Serial No. 416,805. (No model.)

To all whom it may concern:

Be it known that I, JOHANN JACOB ZÄHNER-MÖSLI, a citizen of the Republic of Switzerland, residing at Rehetobel, in the Republic of Switzerland, have invented certain new and useful Cloth-Winding Machines, of which the following is a specification.

This invention relates to an improved machine for winding fabrics upon the fabric-beam of an embroidery-machine, and especially to a machine for winding the fabric on the beam in such a manner that the spots or dots producing the so-called "dotted swisses" can be embroidered upon the fabric by the machine.

Heretofore the goods known as "dotted swisses," and which consisted of muslin or a similar fabric on which smaller or larger spots in white or colors were produced in imitation of embroidery, were produced by a weaving process on a loom. In order to weave these dots, it was necessary to reduce the speed of the loom materially. By means of an embroidery-machine said spots or dots can be produced much more rapidly and more handsomely than by means of a loom, and, furthermore, when flowers or other ornaments are to be produced on the fabric with the dots or spots the economy is still greater. In case other ornaments were to be produced on the dotted swisses made on looms as heretofore it was necessary to embroider the dotted swisses produced on the loom by the separate operation on an embroidery-machine, and this consumed time and made articles much more expensive. Embroidery-machines usually have an operating width of about four and one hundred and sixty-eight thousandths meters; but the fabrics produced on the looms for making the dotted swisses are much narrower and cannot be produced in greater widths. Therefore, in order to utilize the embroidery-machine to the greatest advantage it is necessary to wind a number of pieces of fabric adjacent to each other on the fabric-beam. In doing which, however, the greatest possible care must be taken to keep the fabrics stretched uniformly and to roll them up evenly, and this is the object of my improved machine.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine for

winding fabrics on the fabric-beam of an embroidery-machine. Fig. 2 is a plan view of the same, parts being broken out. Fig. 3 is a vertical transverse sectional view of the machine on line 3 3, Fig. 1, parts being broken out. Fig. 4 is a rear end view of the machine, some parts being in section and others broken out. Fig. 5 is a detail view of the fabric-beam, end parts of the machine being broken out; and Fig. 6 is an enlarged detail sectional view of the swinging arm provided with pins for holding the fabric.

Similar letters of reference indicate corresponding parts.

The frame of the machine consists of two side pieces *a*, suitably connected with each other. Upon said side pieces the adjustable bearings *g g* for a series of parallel rollers *f f*, *i k*, and *m* are arranged. At the rear end of the machine a series of short rollers *b* are arranged at different elevations, and on each of the same one of the pieces of fabric to be wound on the cloth-beam is wound in such a manner that one edge of said piece of fabric rests closely and snugly against the annular end flange *c* of the roller *b*. The bearings *d* for said rollers *b* can be adjusted in the direction of the length of said rollers, so that the rollers and their bearings can be shifted in such a manner that the fabric passes in the desired place over the rollers *f*, *k*, and *m*.

For the purpose of facilitating the adjustment of the rollers *b* the transverse gage-bar *e* is arranged in the frame, said gage-bar being shown in end view by dotted lines in Fig. 1. This serves as a gage to show that the fabrics are in the correct position and will be properly wound upon the beam. The fabric from the several rollers *b* is drawn alternately over and under the several tension-rollers *f*, as shown in full and dotted lines in Fig. 1, and said rollers *f* serve for the purpose of smoothing, drawing, and stretching said fabrics uniformly. According to the nature of the fabric, some or all of the rollers *f* are used, said rollers being permitted to turn freely in their bearings, or they may be provided with brakes composed of a cord fastened at one end to and passed over the roller and having a weight *h* suspended from the other end. The rollers *i* and *j* are suspended from chains *f'*, passing over pulleys *f''*, by means of which

chains the rollers can be raised when they are not required.

i and *k* are two rollers, the former being arranged above the latter, and both are covered with cloth. The roller *i* rests upon the fabric passing over the roller *k*, or it can be raised clear of the same, as shown in Fig. 1. After passing the roller *k* the fabrics pass over a graduated transverse gage-bar *l*, (shown in end view in dotted lines in Fig. 1,) and then pass to the roller *m*, which is also provided with a gage-bar *m'*. (Shown in end view in dotted lines in Fig. 1.) The roller *m* can be rotated by means of a crank-handle *n* and is provided at the end opposite the one provided with a crank-handle with a brake device *o*. The fabric is fastened to the roller *m* in the usual manner and is wound upon the same by turning the crank *n*. After all the pieces of fabric have been unwound from the rollers *b* the roller *i* is lowered and the roller *m* is rotated until the rear ends of the several pieces of fabric have arrived at the point of contact of the rollers *i* and *k* and are held by the same. Adjacent to said rollers *i* and *k* a swinging board *p* (shown in detail in Fig. 6) is arranged, which is provided with pivots *q*, that swing in vertical standards *q'* of the machine-frame. Said swinging board is provided with a flat strip *r*, from which pins *s* project, which when the board *p* is in horizontal position project upward vertically and pass through the ends of the pieces of fabric and hold the same. *w* is a latch for holding the board *p* in raised position, as shown in Fig. 5. The pressing-roller *i* is raised, as shown in Fig. 1, and the fabric-beam *u* is placed into the bearings *t*, and the rear ends of the several pieces of fabric are fastened to said fabric-beam, the brake *o* is tightened, and the board *p* is swung downward into the position shown in Fig. 1, so as to withdraw the pins *s* from the fabrics, which are now held by the fabric-beam *u*. The fabric-beam is now turned by means of a crank *u'*, Fig. 2, and the several pieces of fabrics are unwound from the roller *m* upon said fabric-beam. The fabric-beam, carrying the pieces of fabric, is now placed into the ordinary embroidery-machine, where the several pieces are unwound uniformly and presented to needles of the machine and embroidered in the usual manner.

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

1. In a machine for winding fabrics on a fabric-beam, the combination, with a frame, of a series of rollers arranged end to end and adjustable at one end of the machine, which rollers carry the fabric that is to be wound upon the fabric-beam, a series of parallel ten-

sion-rollers over which the fabric is passed, a roller upon which the fabric is temporarily wound after passing the tension-rollers, and a swinging board provided with pins for holding the ends of the pieces of fabrics, substantially as set forth.

2. In a machine for winding fabrics on a fabric-beam, the combination, with a frame, of a series of rollers at one end of the same, a roller at the opposite end on which the pieces of fabric are temporarily wound, a series of tension-rollers between the ends of the machine, a swinging board having pins for holding the ends of the fabrics, and bearings for the fabric-beam adjacent to said swinging board, substantially as set forth.

3. In a machine for winding fabrics on a fabric-beam, the combination, with a frame, of a series of rollers at one end of the same for receiving the pieces of fabric to be wound upon the fabric-beam, a roller at the opposite end of the machine, a series of tension-rollers between said end rollers, a vertically-adjustable pressing-roller above one of said tension-rollers, a swinging board provided with pins adjacent to said pressing-roller, and a support for the fabric-beam between said swinging board and the pressing-roller, substantially as set forth.

4. In a machine for winding fabrics on a fabric-beam, the combination, with a frame, of a series of rollers at one end of the same for receiving the fabric to be wound upon the fabric-beam, a roller at the opposite end of the frame, a series of tension-rollers between the end rollers, a pressing-roller above one of the stretching-rollers, a support for the cloth-beam adjacent to the pressing-roller, a holding device for the fabric adjacent to said support for the fabric-beam, and a series of transverse gage-bars for controlling the movements of the pieces of fabric, substantially as set forth.

5. In a machine for winding fabrics on a fabric-beam, the combination, with a frame, of a series of rollers at one end of the same for receiving the fabrics to be wound upon the fabric-beam, a roller at the opposite end of the frame, a brake for said latter roller, a series of tension-rollers between the end rollers, a pressing-roller above one of the stretching-rollers, a support for the fabric-beam, and a fabric-holding device adjacent to said support for the fabric-beam, substantially as set forth.

In testimony whereof I hereunto sign my name, in the presence of two subscribing witnesses, this 2d day of December, 1891.

JOHANN JACOB ZÄHNER-MÜSLI.

Witnesses:

ADOLPH BRUNNER,
WILHELM AMACKEY.