

No. 627,211.

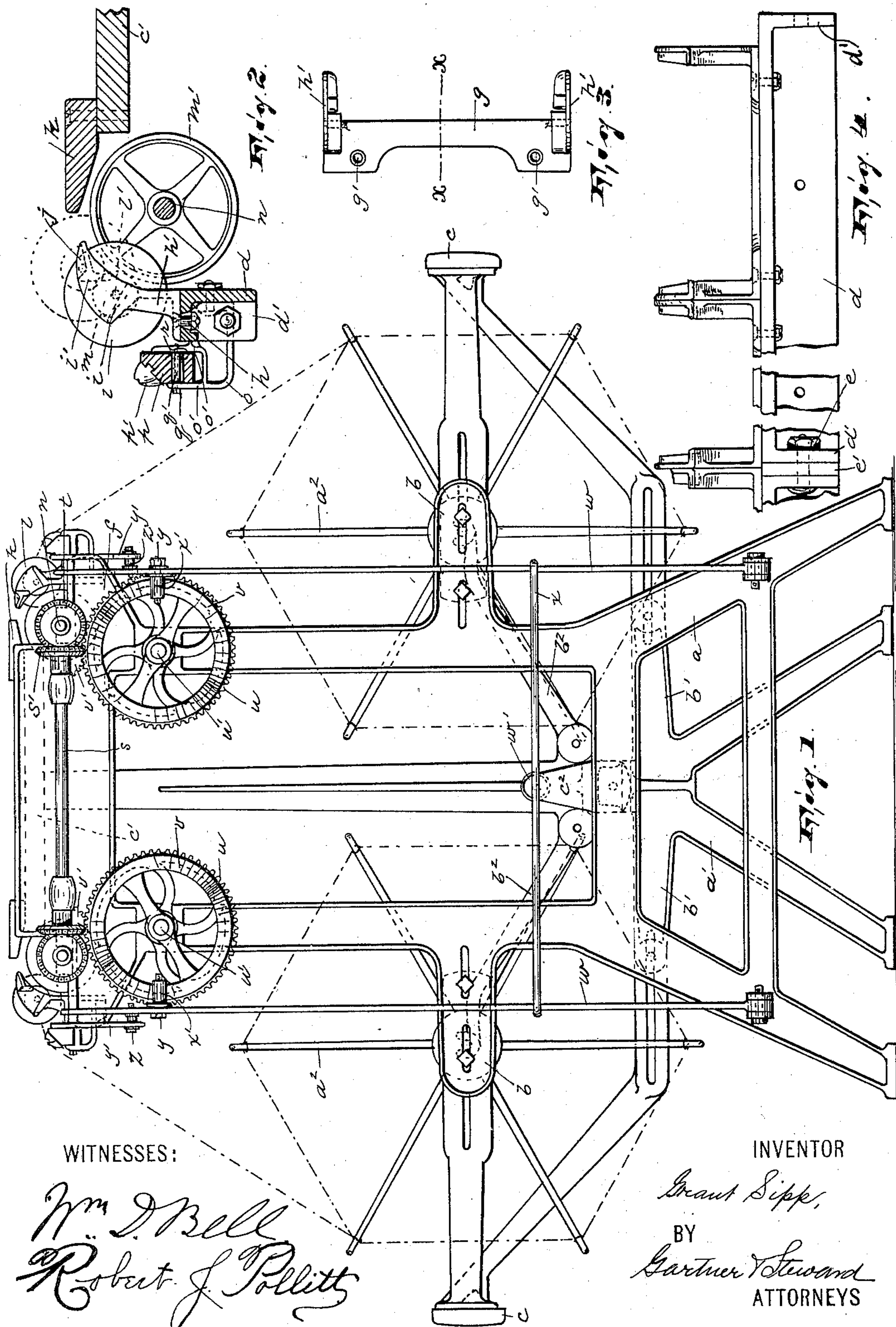
Patented June 20, 1899.

G. SIPP.
WINDING MACHINE.

(Application filed Dec. 17, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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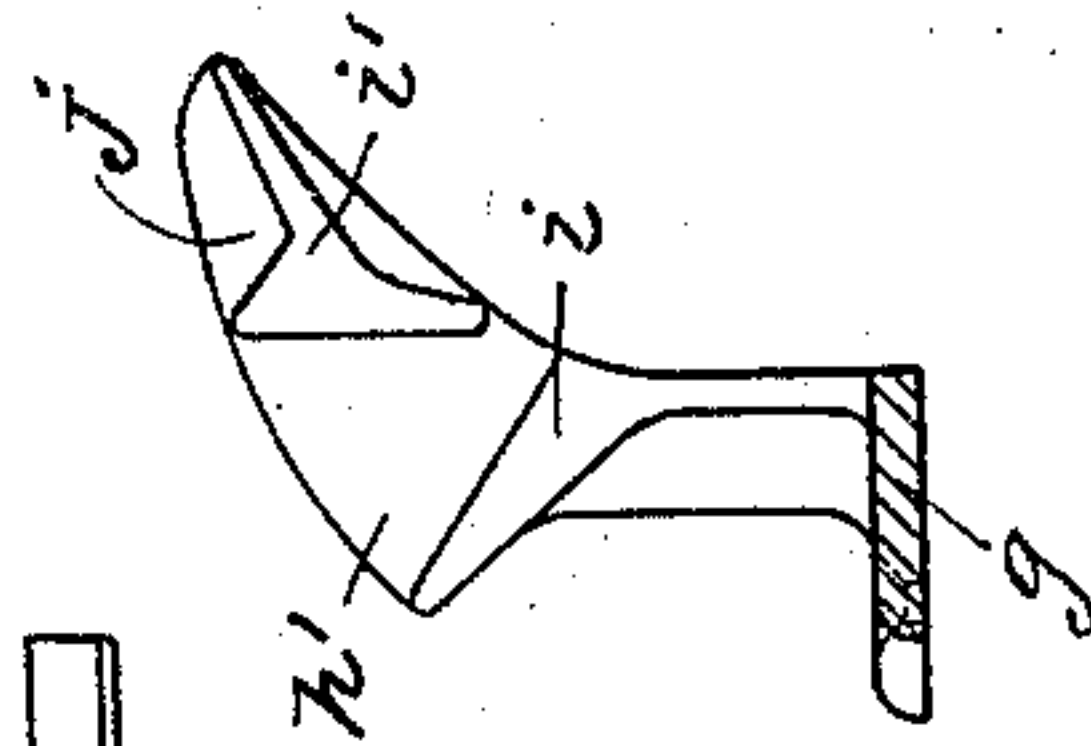
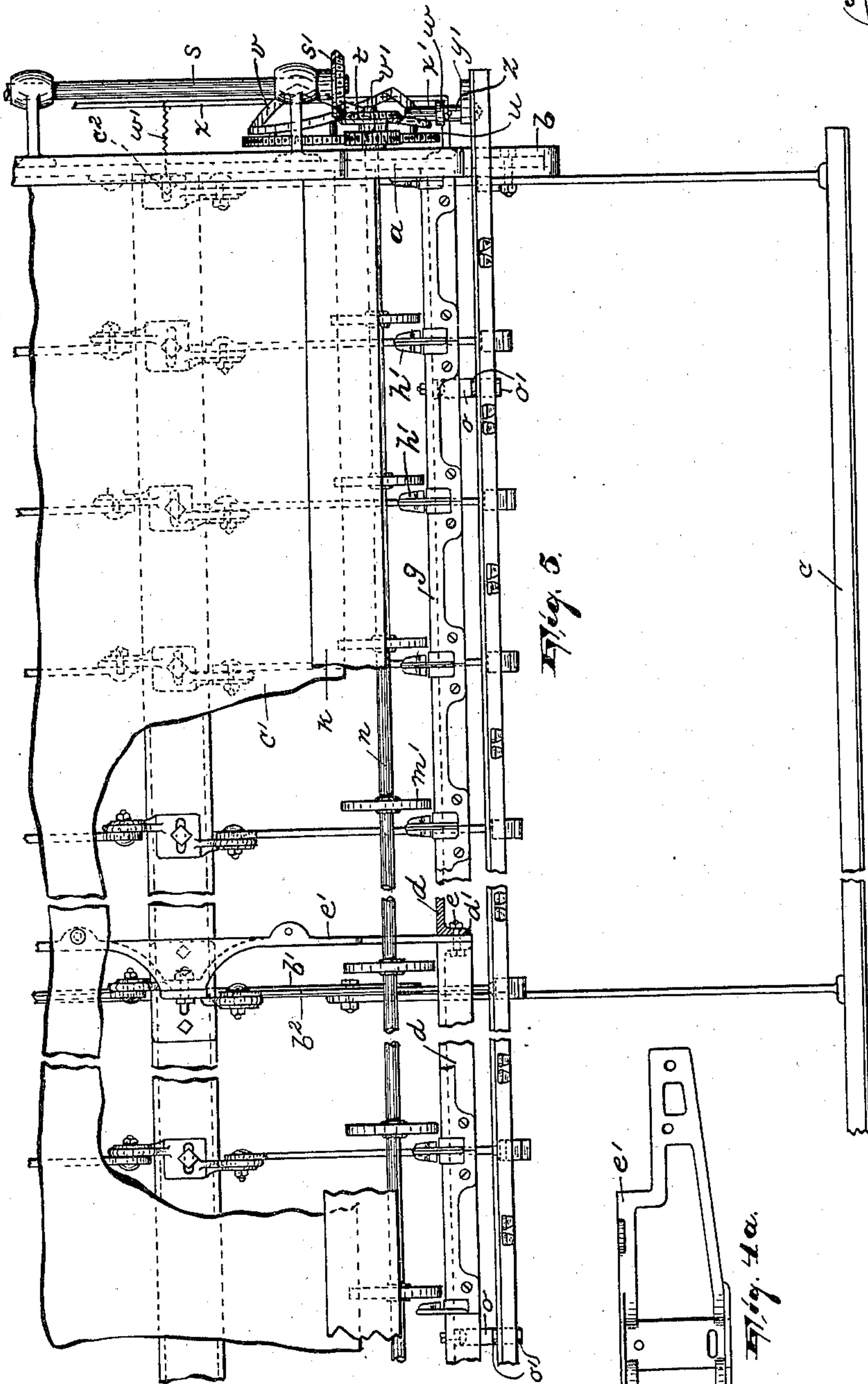


Fig. 3a.

Fig. 5.

Fig. 4a.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GRANT SIPP, OF PATERSON, NEW JERSEY.

WINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 627,211, dated June 20, 1899.

Application filed December 17, 1898. Serial No. 699,539. (No model.)

To all whom it may concern:

Be it known that I, GRANT SIPP, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Winding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to machines whereby silk or other fibrous materials are wound from swifts or reels onto rotating bobbins or spools.

Besides the general object of improving upon winding-machines of this nature at present in use, the principal object of my invention is to improve upon the means whereby the bobbins and their thread-guide carriers are supported upon the machine, as to the former as well in an inoperative as in an operative position.

With a view to these objects my invention consists in the improved winding-machine and in the combination and arrangement of its various parts, substantially as will be hereinafter pointed out, and finally embodied in the clauses of the claim.

My invention is fully illustrated in the accompanying drawings, wherein—

Figure 1 is an end elevation of my improved winder. Fig. 2 is an enlarged sectional view of that portion of said winder which includes the thread-guide carrier and bobbin-supporting means. Fig. 3 is an enlarged top plan view of one of the bobbin-supports. Fig. 3^a is a transverse sectional view of one of the bobbin-supports, taken on the line *xx* in Fig. 3. Fig. 4 is an enlarged front view of the beams carrying the bobbin-supports, the supporting means for the thread-guide carrier being detached. Fig. 4^a is a side view of one of the cross-bars forming a portion of the frame of the machine; and Fig. 5 is a top plan view of a portion of the machine, the swifts being removed and a part of a certain top plate of the frame being broken away.

In said drawings, *a* indicates one of the end frames of the machine, and *a'* indicates one

of a series of frames, which is disposed intermediate the two end frames. Each of said end frames consists of a substantially rectangular body portion supported upon suitable legs and provided with two substantially horizontal arms *b*, and each of said frames *a'* consists of a vertical elongated body portion having horizontal arms *b'* and likewise suitably supported upon legs. The arms *b* and *b'* are adapted to sustain the guard-rail *c* adjustably in the ordinary and well-known manner. Upon the said frames is supported a top plate *c'*. The two end frames are connected by two series of beams *d*, one on either side of the machine, which beams are substantially inverted-L shape in cross-section except at each of their ends, where is formed a rectangular web *d'*, through which bolts *e* extend, whereby said beams are secured in alinement to transverse cross-bars *e'*, connecting the series and having their ends disposed between the webs of the beams in the respective series, said cross-bars being also penetrated by the bolts *e*. The end beams in each series are bolted to projections *f*, formed upon the upper ends of the frames *a*. The cross-bars *e'* are supported in any desired manner upon the intermediate frames *a'*. Upon each of said series of beams is arranged a series of brackets or supports, whereby the bobbins are carried either in an inoperative or an operative position. Each bracket consists of a base-plate *g*, provided with two or more apertures *g'*, through which bolts *h*, which also penetrate the top of the respective beam upon which the bracket is mounted, extend, whereby said bracket is secured in position. Upwardly from each end of said base-plates extends a curved arm *h'*, having an inwardly-inclined projection *i* substantially midway its height and near its free end another projection *i'* having a recess *j*. Upon the top plate *c'* and extending along each of the longer edges thereof is secured an overhanging strip *k*, which projects toward the free ends of the arms of the several brackets.

l indicates the bobbin, and *l'* is its spindle, which is provided near one of its ends with the usual friction-roller *m*. The bobbin is rotated by a wheel *m'*, mounted upon a shaft *n*, from which it receives its motion, said

wheel being in contact with the friction-roller m of the spindle when the latter is in its operative position—that is to say, resting upon the inclined projections i of the arms of its bracket. When it is necessary for any reason to throw the bobbin and its spindle out of operative contact with the wheel m' ; it is only necessary to lift the same and place its spindle ends in the recesses of the projections i . The bobbin is prevented from displacement in this position by the strip k , which projects far enough toward it to act as an abutment therefor.

Upon each of the beams d are bolted one or more brackets o , each having two upwardly-extending parallel fingers o' , forming a recess, within which the reciprocating rail p , which carries the thread-guides p' , rests. As shown in Fig. 2, these fingers are connected by a bolt or pin q , carrying between said fingers a roller q' , working in a longitudinal slot r , formed in the thread-guide-carrying rail.

The means for rotating the wheels m' , whereby the bobbins are revolved, and for reciprocating the thread-guide-carrying rail may be thus described: There are two of the shafts n , one on each side of the machine and each suitably journaled. These shafts carry the several wheels m' , whereby the bobbin-carrying spindles are rotated, and they receive their motion from a belt which may be connected with one of them at one of its ends, (at the end opposite to that shown in the drawings,) said motion being transferred from the one to the other of the shafts through a transverse shaft s , journaled in suitable brackets upon the end frame shown in the drawings and carrying beveled pinions s' , which intermesh with similar pinions t upon the ends of said shafts.

u designates a pair of gears journaled upon stub-shafts u' , projecting from the frame a nearer to the observer, and v indicates a pair of cams, each rigidly secured to and revolving with a gear u . Each of said gears is rotated by means of an intermediate system of gearing, consisting of a suitably-journaled pinion v' , intermeshing with said gear and with another pinion (not shown) secured upon the shaft n .

w indicates a pair of oscillating levers fulcrumed in the side frame a at their lower ends and normally held inwardly toward the frame by a spiral spring w' , which connects said side frame with a bar x , joining said levers. Said levers are oscillated by means of the cams v , rollers x' , carried on pins or bolts y on said levers, bearing against said cams for this purpose.

The ends of the thread-guide-carrying rails p which are adjacent to the levers w are provided with downwardly-projecting arms y' , which are connected to the said levers by pins z , each of which is adjustably mounted in an elongated slot in said arm and works in a similar slot in the lever, or vice versa.

a^2 indicates the swifts, which are arranged in two sets, one set upon each side of the machine, being journaled in the usual manner in arms b^2 , projecting from a central rail c^2 , which connects the several frames of the machine.

The operation of the device will be obvious without description.

It will be seen that besides the advantage secured in mounting both the brackets for the bobbins and the brackets for supporting the thread-guide-carrying rail upon a single support any section of which, if desired, may be removed, together with the brackets which it carries, from the machine, the disposition of these sections which the beams constitute and which said support consists of is such that the drive-wheels for the bobbins are protected, so that the necessity for a fender for protecting said wheels is obviated. With respect to the brackets it will be noticed that their shape and the arrangement of their projections are such that if the bobbin is drawn toward the operator without too much exertion out of the recesses formed in the upper projection it will fall directly onto the lower or inclined projections, and consequently into immediate operative disposition with respect to its drive-wheel. Furthermore, should the bobbin be thrown hastily into its rest or inoperative position—that is to say, into the upper or recessed projections—it will come into contact with the strip k , which, as hereinbefore described, forms an abutment, and thus be prevented from dislodgment. Besides forming an abutment for the purpose just referred to, the strip coacts with the beams d to form a shield for the drive-wheels.

It should be remarked that although I have hereinbefore described and shown the support as comprising the beams d of substantially inverted-L shape in cross-section a rail or beam of any suitable form and construction may be used without departing from the spirit of my invention.

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

1. In a winding-machine, the combination, with the frame and with a series of drive-wheels, for the bobbin-carrying spindles, having suitable operating means and journaled in said frame, of brackets for the bobbin-carrying spindles and other brackets for the thread-guide-carrying rail, and a suitable support for said brackets mounted on and extending across said frame in contiguity to, and in front of, said series of wheels, said first-named brackets projecting upwardly from, and said last-named brackets projecting forwardly from, said support, substantially as described.

2. In a winding-machine, the combination, with the frame and with a series of drive-wheels, for the bobbin-carrying spindles, having suitable operating means and journaled

in said frame, of brackets for the bobbin-carrying spindles and other brackets for the thread-guide-carrying rail, and a suitable support for said brackets mounted on and extending across said frame in contiguity to, and in front of, said series of wheels, and consisting of a plurality of alined inverted-L-shaped rails secured to portions of the frame, said first-named brackets projecting upwardly from, and said last-named brackets projecting forwardly from, said support, and being respectively secured to the upper or horizontal and vertical walls of said rails, substantially as described.

3. In a winding-machine, the combination with the frame, including transverse cross-bars, and with a series of drive-wheels, of brackets for the bobbin-carrying spindles and other brackets for the thread-guide-carrying rail, and a suitable support for said brackets mounted on and extending across said frame in contiguity to, and in front of, said series of wheels, and consisting of a plurality of alined inverted-L-shaped rails secured to said cross-bars, said first-named brackets projecting upwardly from, and said last-named brackets projecting forwardly from, said support, and being respectively secured to the upper or horizontal and vertical walls of said rails, substantially as described.

4. In a winding-machine, the combination, with the frame and with a series of drive-wheels, for the bobbin-carrying spindles, having suitable operating means and journaled in said frame, of a suitable support mounted on and extending across said frame in contiguity to, and in front of, said series of wheels, and consisting of a plurality of alined inverted-L-shaped rails secured at their ends to portions of the frame, and brackets for the bobbin-carrying spindles, other brackets for the thread-guide-carrying rail respectively secured to the upper or horizontal and vertical walls of said rails, and a strip secured to said frame and projecting into proximity to said

first-named brackets, substantially as described.

5. In a winding-machine, the combination, with the frame and with a series of drive-wheels, for the bobbin-carrying spindles, having suitable operating means and journaled in said frame, of a suitable support mounted on and extending across said frame in contiguity to and in front of said series of wheels, and overhanging brackets for the bobbin-carrying spindles mounted upon said support, said brackets being provided with recessed and inclined projections arranged the former above the latter, and a strip mounted on said frame and projecting into proximity to the recessed projections of said brackets to form an abutment, substantially as described.

6. In a winding-machine, the combination, with the frame, of a suitable support mounted on and extending across said frame, overhanging brackets for the bobbin-carrying spindles mounted on said support and adapted to carry said spindles near their free ends, and a suitable projection mounted on said frame and extending into proximity to the free ends of said brackets, substantially as described.

7. In a winding-machine, the combination with the frame, of a suitable support mounted on and extending across said frame, overhanging brackets for the bobbin-carrying spindles mounted on said support and adapted to carry said spindles near their free ends, and a strip mounted on said frame and projecting into proximity to the free ends of said brackets, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of December, 1898.

GRANT SIPP.

Witnesses:

ALFRED GARTNER,
JOHN W. STEWARD.