

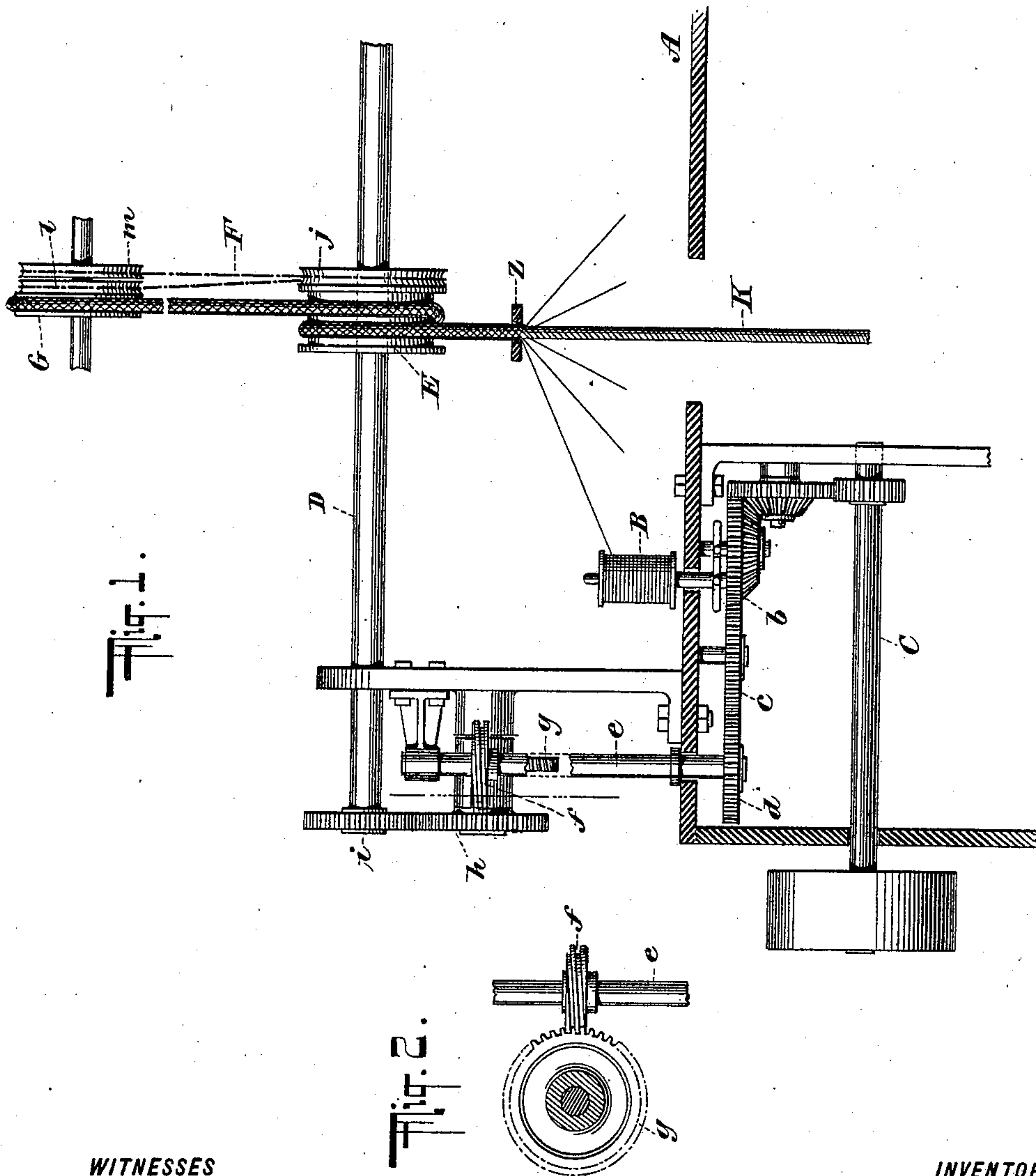
(No Model.)

2 Sheets—Sheet 1.

M. M. NICHOLLS.
TAKE-OFF FOR BRAIDING MACHINES.

No. 582,304.

Patented May 11, 1897.



WITNESSES

Gustave Dillerich.
Charles E. Smith

INVENTOR.

Mark M. Nicholls,
BY *Bresen Knauth.*

ATTORNEYS.

(No Model.)

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Fig. 4.

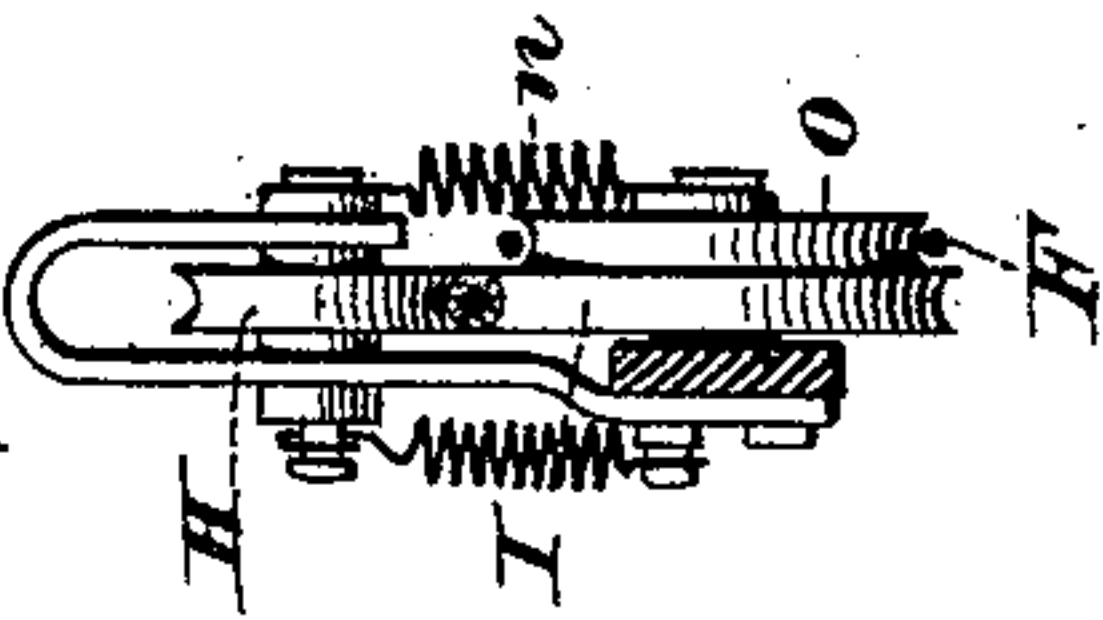
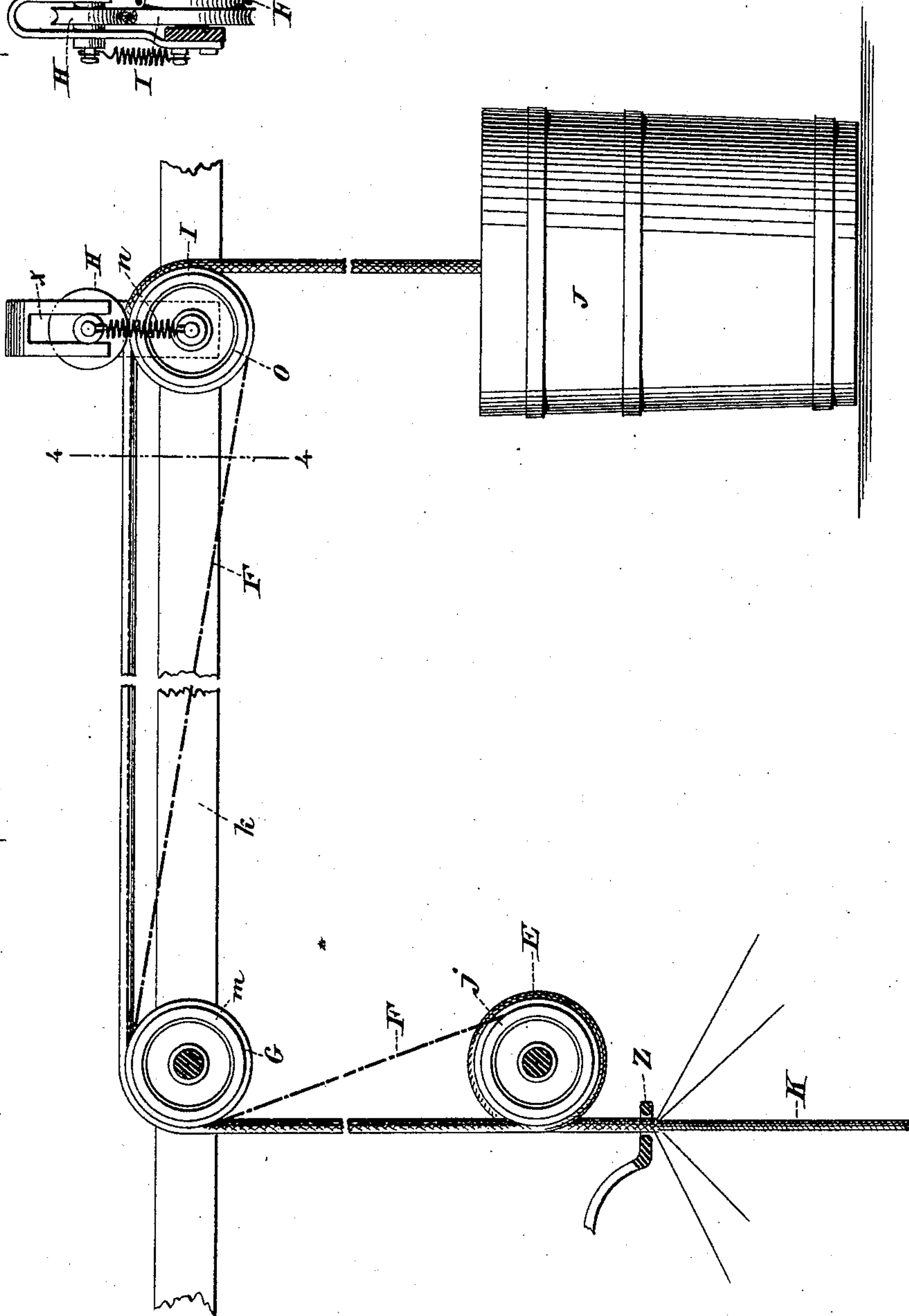


Fig. 3.



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UNITED STATES PATENT OFFICE.

MARK M. NICHOLLS, OF NEW YORK, N. Y.

TAKE-OFF FOR BRAIDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 582,304, dated May 11, 1897.

Application filed September 26, 1896. Serial No. 607,039. (No model.)

To all whom it may concern:

Be it known that I, MARK M. NICHOLLS, a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Take-Offs for Braiding-Machines, of which the following is a specification.

My invention relates to take-offs for braiding-machines, and is particularly adapted for use in machines for covering coiled wire for tubing.

Heretofore in such machines it has been customary to carry the covered tubing over pulleys and to hang a weight on the free end of the tubing, which weight had to be raised from time to time by an operator as the work progressed. The use of such weights caused imperfections in the tubing at the various places where the weights were hung by straining the tubing at these points and by bending convolutes of the coiled spring out of shape.

The object of my invention is to provide a simple and efficient automatic take-off for tube-covering braiding-machines which will overcome the difficulties heretofore found and will allow of the production of a better article at less cost. To these ends my invention consists in the novel arrangement and combination of parts hereinafter described and claimed.

In the accompanying drawings, wherein like characters indicate corresponding parts in the various views, Figure 1 is a front view with parts in section of sufficient number of parts of a braiding-machine to show the application of one form of my invention. Fig. 2 is a detail view of a portion of the gearing to be hereinafter described. Fig. 3 is a detail side view of a portion of the take-off mechanism. Fig. 4 is a transverse sectional view on the line 4 4 of Fig. 3.

My invention is applicable to any form of braiding-machine, and it should be understood that while I specifically describe one form of braiding-machine it is merely for the purpose of illustrating the application of my invention. The bed-plate A of the machine is provided with raceways, in which thread-spindles B (only one of which is shown) traverse in the usual manner, and from which the braiding-threads pass to the braiding-

point at the guard *z*. These spindles are driven in the ordinary manner from the main shaft C through intermediate gear *a b*. The gear-wheel *b*, which drives the spindles B, meshes with an idler *c*, which in turn meshes with a gear-wheel *d*, carried upon a shaft *e*, upon which is carried a worm *f*, that turns a worm-wheel *g* to transmit motion to a shaft D through gear-wheels *h i*. Upon the shaft D is mounted a drum E and a fixed pulley *j*, around which passes a belt F. Carried upon a suitable cross-brace *k*, which is preferably mounted considerably higher than the machine, so as to allow freedom of movement on the part of the operator around the machine, is a grooved tubing-pulley G, which has a fast pulley *l* connected therewith, and over which the belt F passes in order to drive the tubing-pulley G. On the same pintle which carries the tubing and fast pulleys a loose pulley *m* is carried, and over which the belt F also travels. At a distance somewhat remote from the machine and preferably mounted upon the brace *k* is an off-carrying device or secondary feed, which comprises a pair of grooved pulleys H I, one of which is adapted to slide in suitable bearings *x*, and between both of which the tubing is adapted to be pressed, as by a spring *n*, and be fed to a suitable receptacle J. To one of these grooved pulleys is connected a pulley *o*, which is driven by the belt F.

In operation the wire-coil K is brought from a suitable source through the bed-plate A of the machine through the guard *z*. As the braiding proceeds the covered tubing is carried around the drum over the grooved pulley G and between the grooved pulleys H and I to the receptacle J.

It will be observed that by my invention motion is communicated from the main shaft of the machine to the drum E and to the pulleys or take-off rollers G I, so that the speed at which the take-off operates is determined by the speed of the machine.

It may be found desirable under certain conditions to corrugate the take-off drum and pulleys transversely in order that a better purchase may be had upon the tubing.

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

In a braiding-machine, the combination of a take-off drum around which the braided article is adapted to pass, means for operating said drum from the braiding-machine, take-
5 off pulleys for receiving braided tubing from said drum, driving-pulleys connected with said drum and take-off pulleys, a belt connecting said driving-pulleys, whereby a rotation of the drum causes a corresponding ro-
10 tation of the take-off pulleys, and a spring-

pressed pulley bearing upon the braided tubing and maintaining the same in contact with the last of the driven take-off pulleys to constitute a secondary feed, substantially as described.

MARK M. NICHOLLS.

Witnesses:

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HARRY M. TURK.