

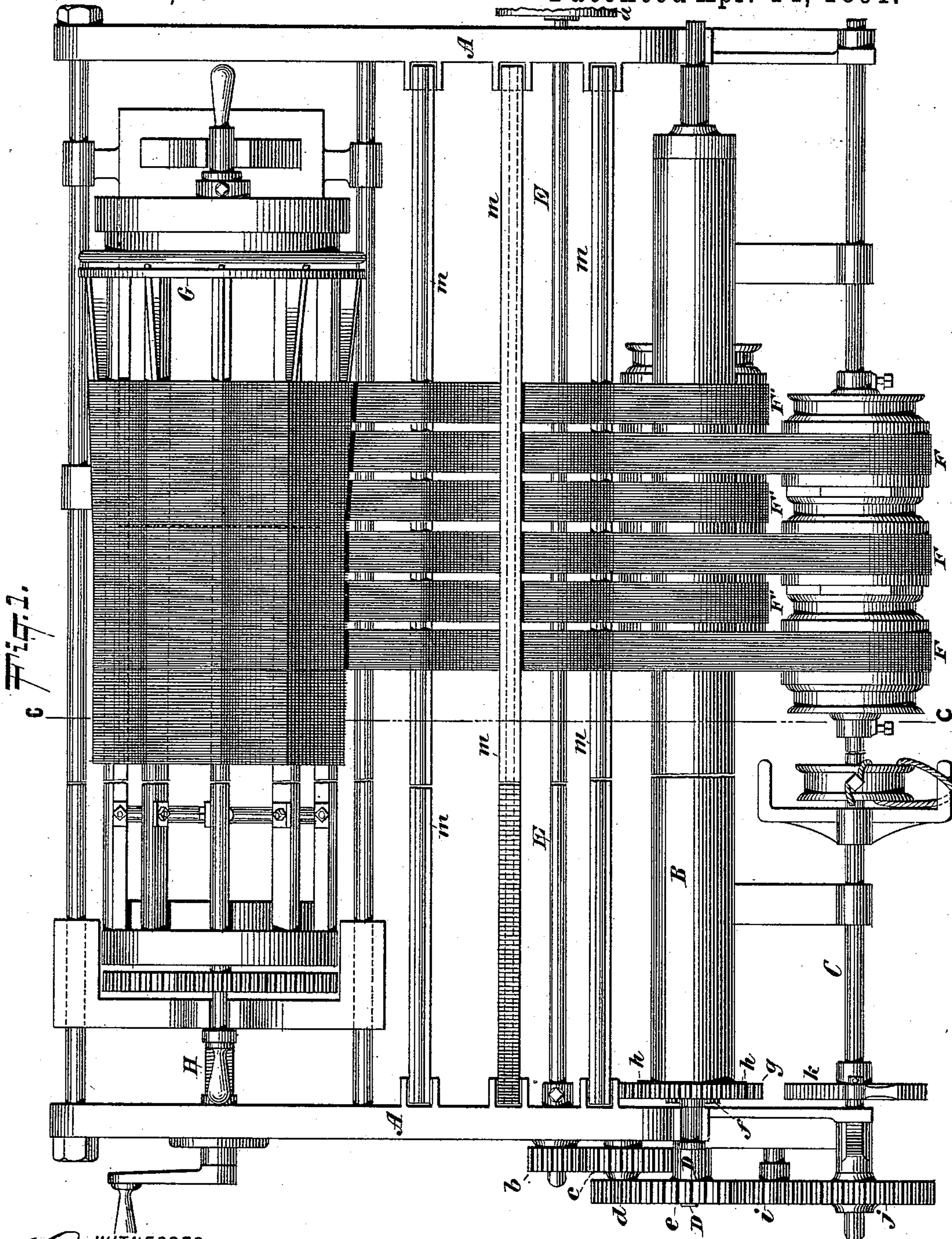
(No Model.)

3 Sheets—Sheet 1.

R. SIMON.
WARP BEAMER.

No. 450,259.

Patented Apr. 14, 1891.



WITNESSES:
Gustave Dietrich
William Goebel

INVENTOR
Robert Simon
BY *Briesen & Knaut*
His ATTORNEYS.

(No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

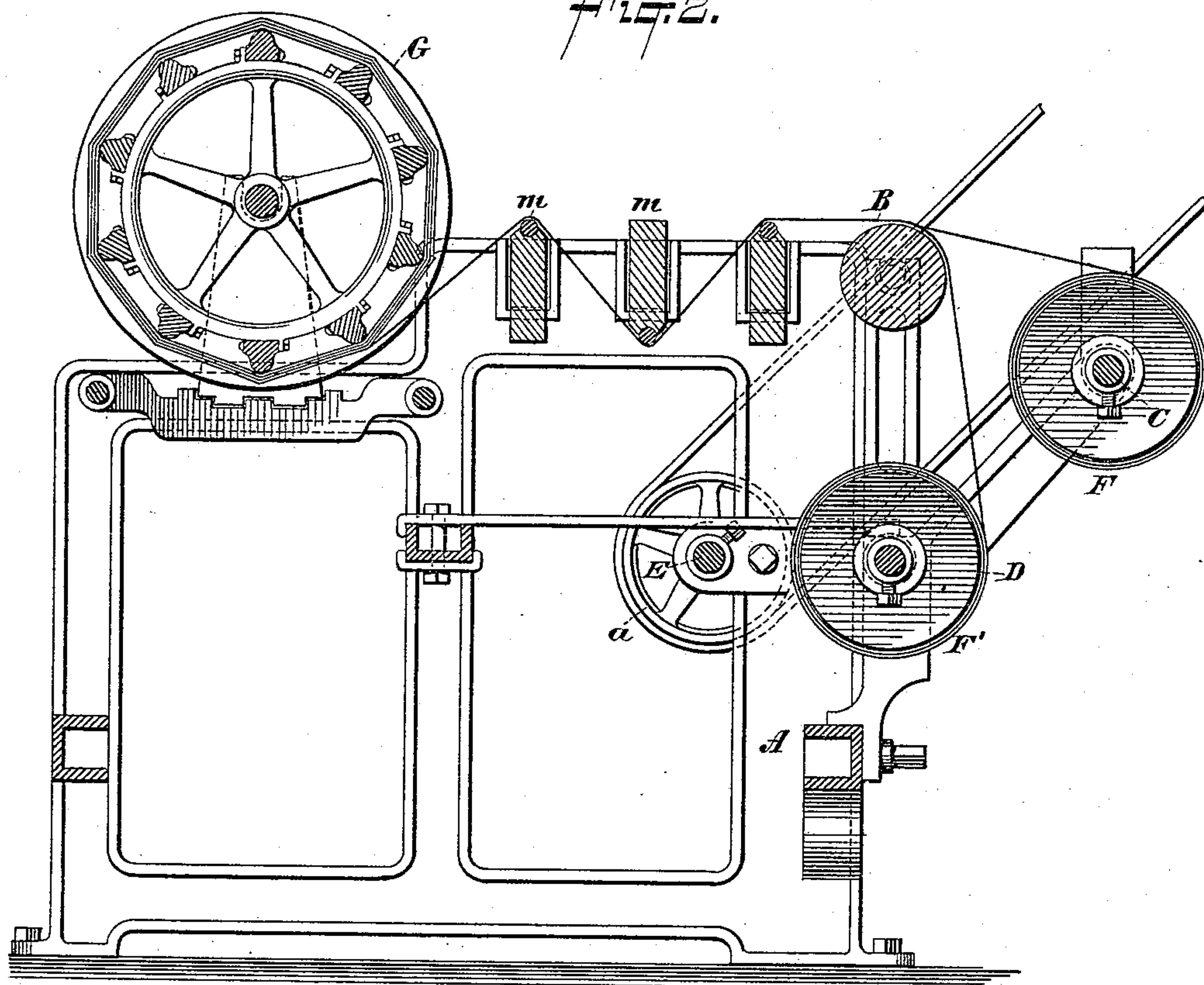
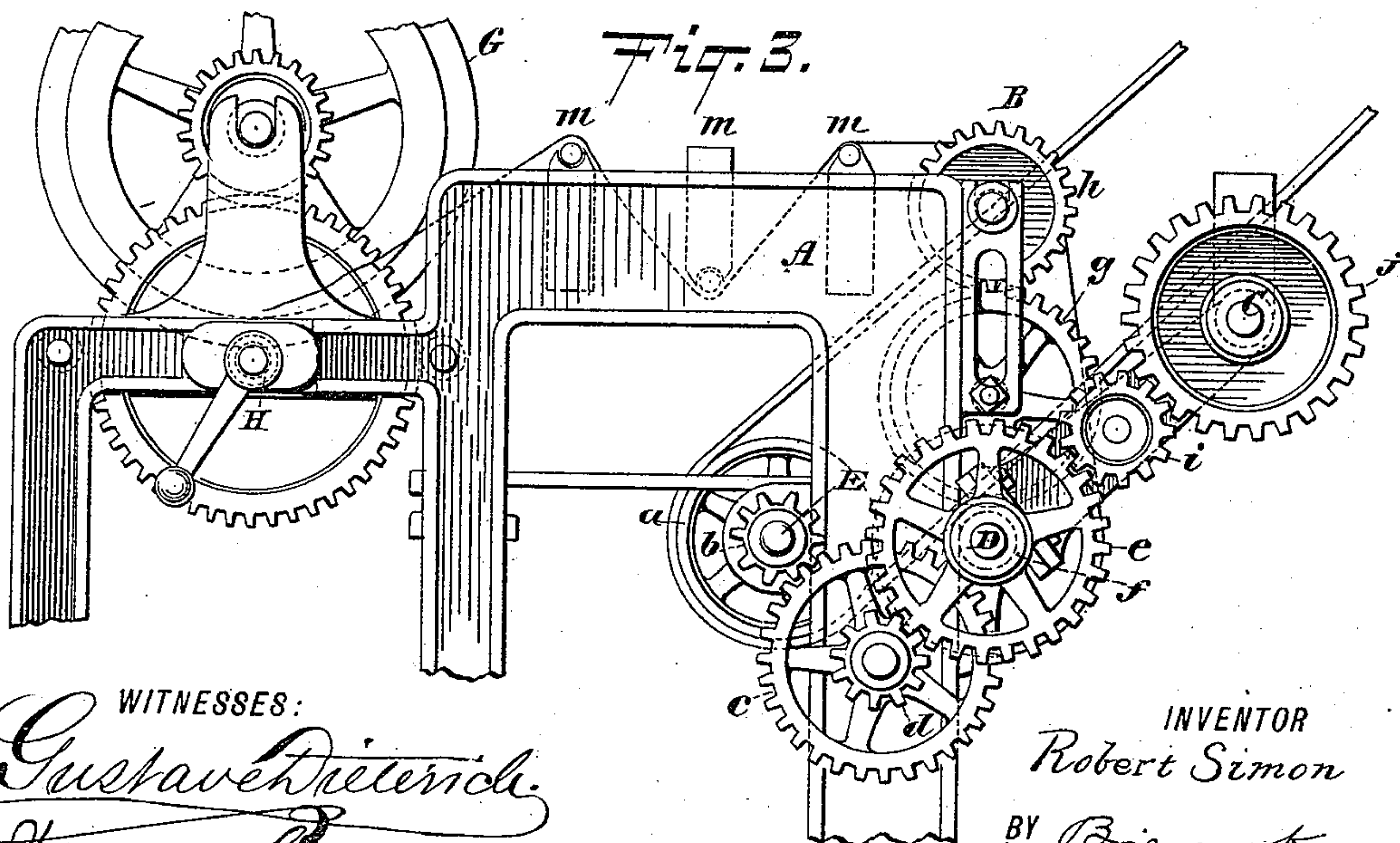


Fig. 3.



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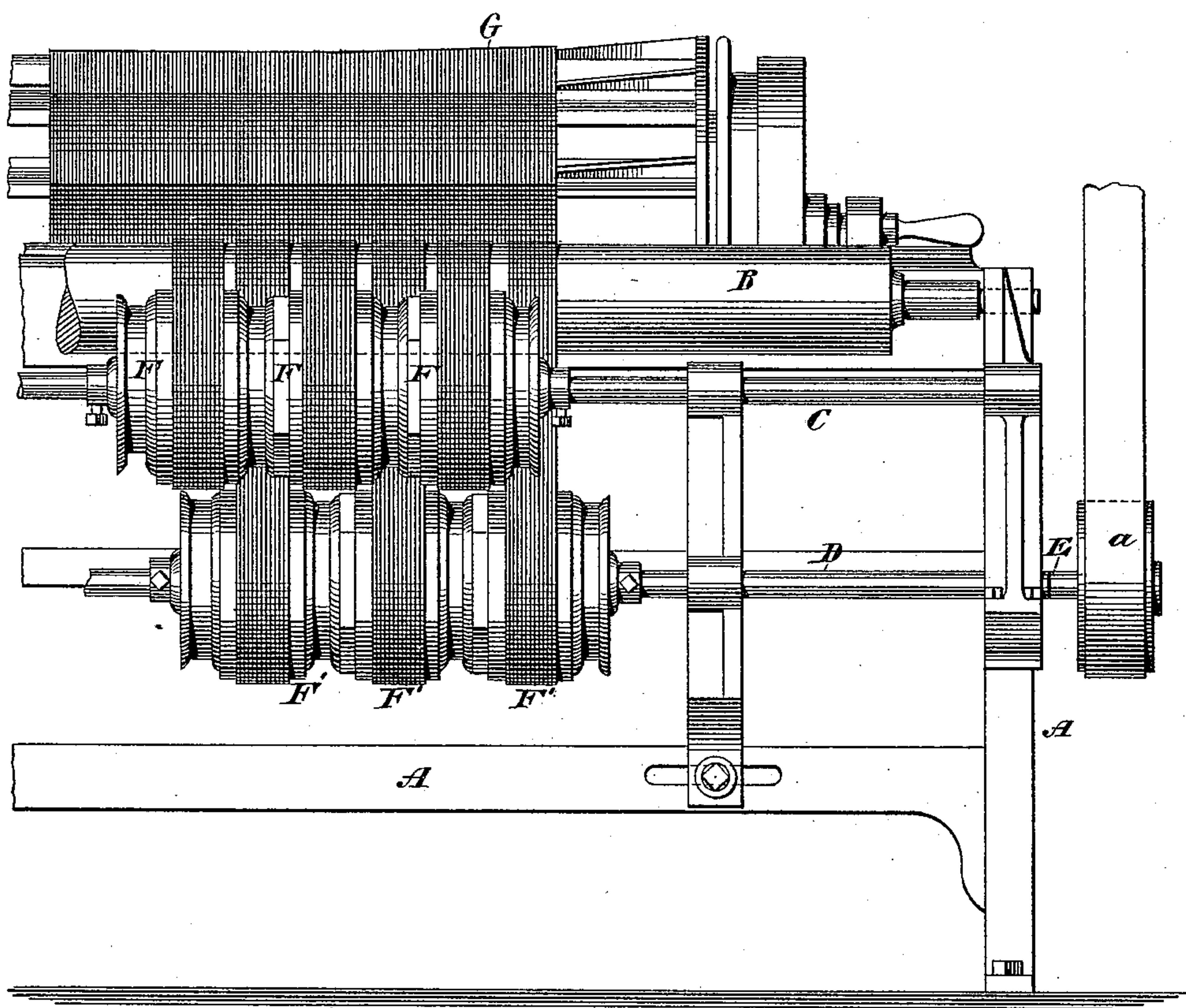
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Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT SIMON, OF UNION HILL, NEW JERSEY.

WARP-BEAMER.

SPECIFICATION forming part of Letters Patent No. 450,259, dated April 14, 1891.

Application filed September 16, 1890. Serial No. 365,139. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SIMON, a resident of Union Hill, Hudson county, New Jersey, have invented an Improvement in Warp-Beamers, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a plan or top view of my improved warp-beamer. Fig. 2 is a vertical cross-section of the same, taken on the plane of the line *c c*, Fig. 1. Fig. 3 is a partial end view of the same. Fig. 4 is a partial front view of the same.

The object of this invention is to permit a full reel to be beamed in portions at one operation upon several warp-rolls.

My invention consists in combining with an ordinary warp-beamer, in addition to the usual warp-rollers on the shaft, a second shaft having another set of warp-rolls breaking joint with the first, so that a full reel may be unwound in portions at one time; or, instead of one additional shaft, more than one may be employed.

In the accompanying drawings, the letter A represents the frame of the warp-beamer. In this frame are the bearings of the reel G to be unwound, of the anti-friction drum B, the supports of the take-ups *m m*, and the bearings of the ordinary warp-roller shaft C. On this warp-roller shaft are mounted the warp-rolls F F, which, as Fig. 1 clearly shows, are, by virtue of their necessary end configurations, of a character to leave the yarn wound upon them a certain definite distance apart. In other words, the warp-rolls F F on the shaft C are only capable of receiving from the reel certain parts of the yarn thereon contained.

It is the main feature of my invention to add to the mechanism of the ordinary warp-beamers so far described an additional warp-roller shaft D, which is mounted with warp-rolls F', the said warp-rolls F' being located so that they break joint with the warp-rolls F F, as clearly appears from Figs. 1 and 4, so that thus the two sets of warp-rolls will take from the reel substantially a full covering thereof; but, if desired, an additional shaft having warp-rolls so located that the entire covering of the reel may at one time be unwound therefrom can be supplied.

The letter E in the drawings represents the main or driving shaft, to which rotary motion is imparted by suitable means, the drawings showing a driving-pulley *a* on the shaft E for the purpose of receiving the motion.

The means of transmitting motion from the shaft E to the shafts C and D and to the drum B is illustrated in Figs. 1 and 3. It consists in this instance of a pinion *b* on the shaft E meshing into a toothed wheel *c*, which carries a pinion *d*, that meshes into a toothed wheel *e* on the shaft D. A pinion *f* on the shaft D (see Fig. 1) meshes into a toothed wheel *g*, which is in gear with a toothed wheel *h* on the drum B. The toothed wheel *e* on the shaft D meshes into an idler-pinion *i*, which in turn gears into a toothed wheel *j* on the shaft C. Thus the shafts E, D, B, and C are revolved in the same direction. Ratchet-wheels K are mounted upon the shafts C and D in the usual manner and engaged by pawls to prevent back motion or slipping of the warp-rolls.

The operation of the machine will be readily understood. The yarn from the reel G passes alternately over and under the take-ups *m*, thence over the drum B, and thence in part to the warp-rolls F on the shaft C and in part to the warp-rolls F' on the shaft D. Rotary motion is then applied to the shaft E and the warp rolls thereby revolved to take the yarn from the reel.

What I claim is—

The combination, in a warp-beamer, of the reel G and the series of warp-rolls F on the shaft C, and mechanism, substantially as described, for revolving the shaft C and for guiding the yarn to the warp-rolls thereon, with one or more additional shafts D, having warp-rolls F', located in line with the blank spaces between the warp-rolls F F, and with mechanism, substantially as described, for revolving the additional shaft or shafts D, all arranged to permit the unwinding of a fully-covered reel at one time, substantially as specified.

ROBERT SIMON.

Witnesses:

OSCAR DINGELMAN,
A. MÜLLER.