

(No Model.)

2 Sheets—Sheet 1.

N. BOYLE.

WARP BEAMING MACHINE.

No. 379,045.

Patented Mar. 6, 1888.

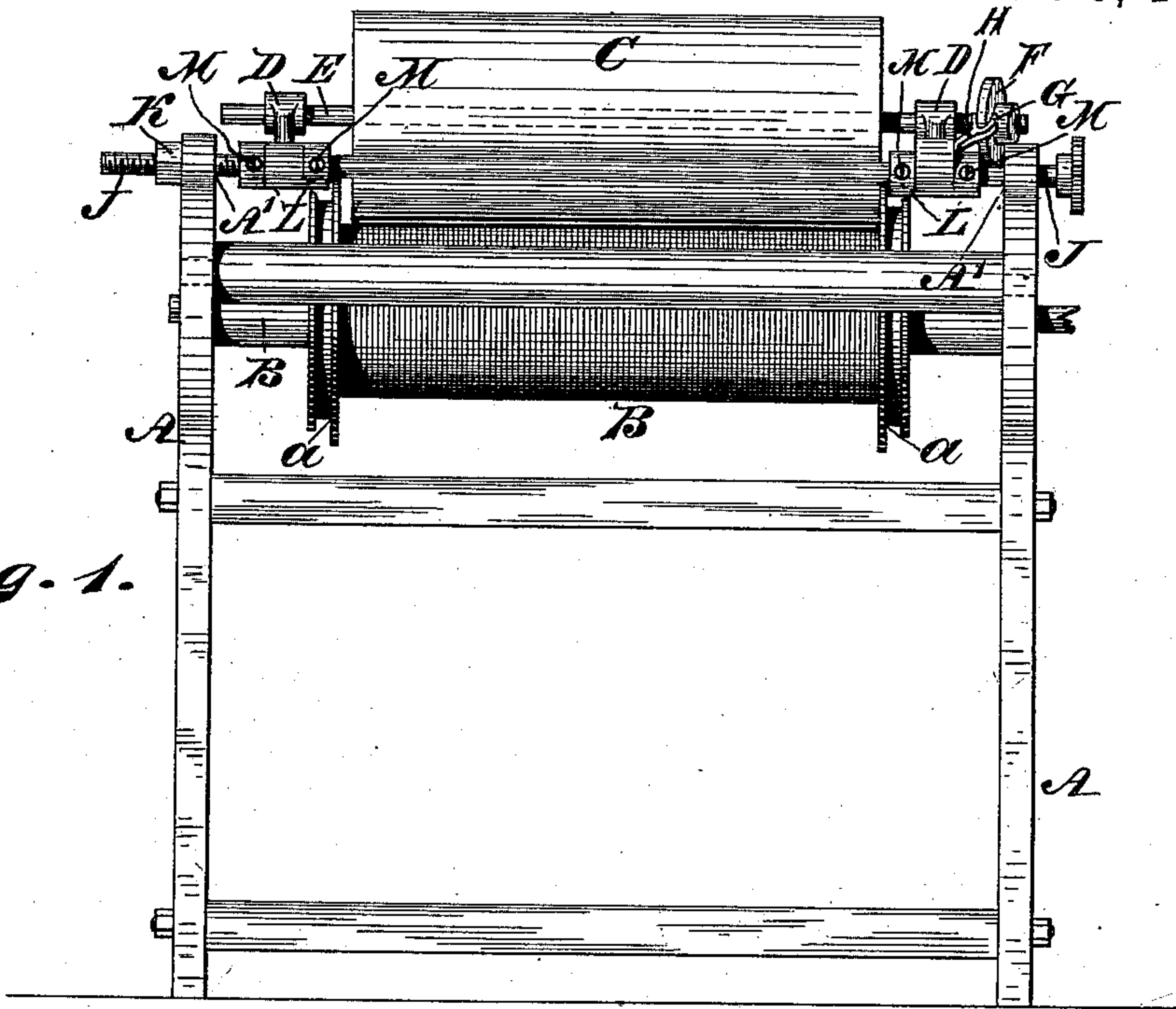


Fig. 1.

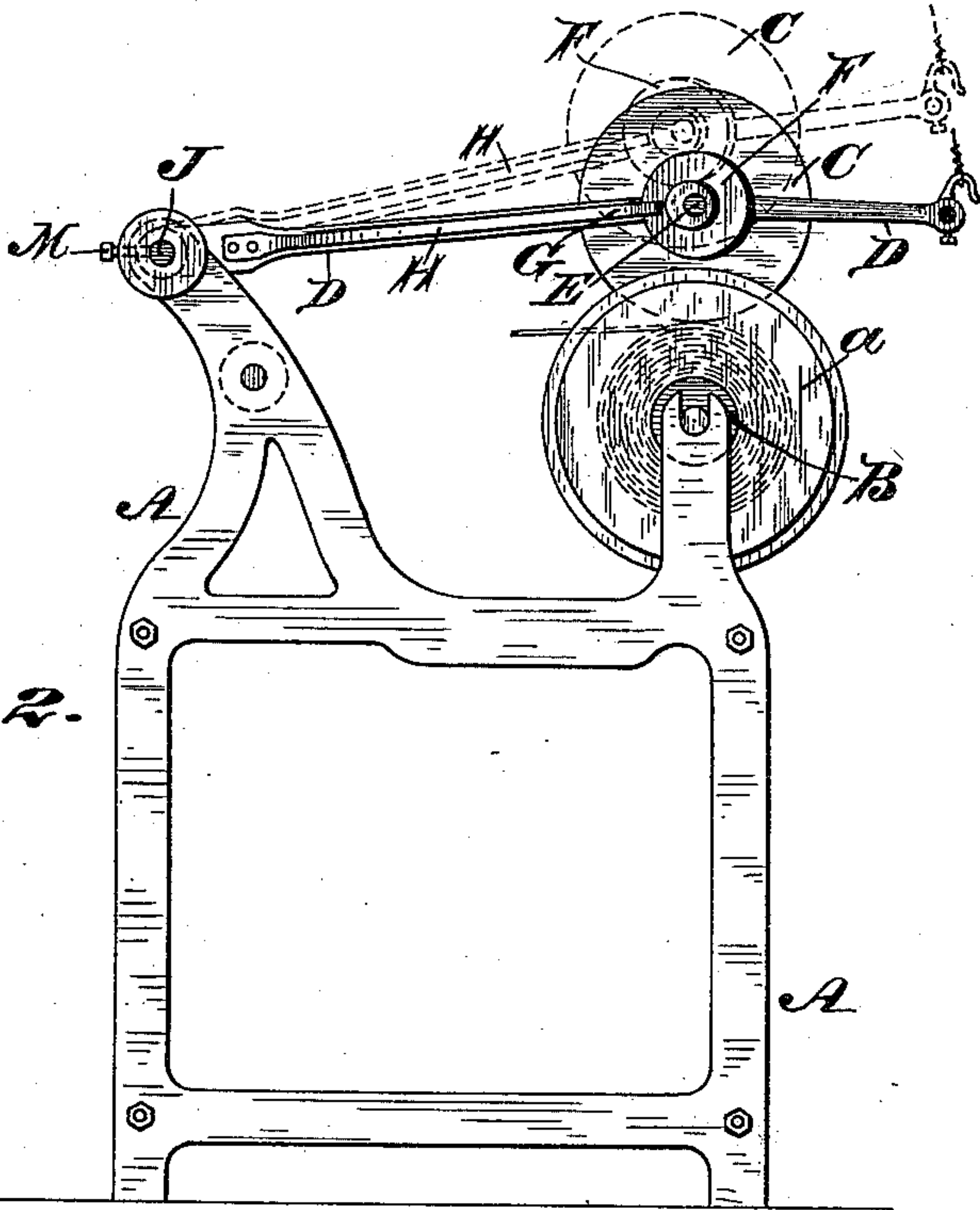


Fig. 2.

WITNESSES:

James F. Kelly.
L. Douville

INVENTOR:

Nicholas Boyle INVENTOR

BY

Giedersheim Kuntner ATTORNEY

ATTORNEYS.

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Fig. 3.

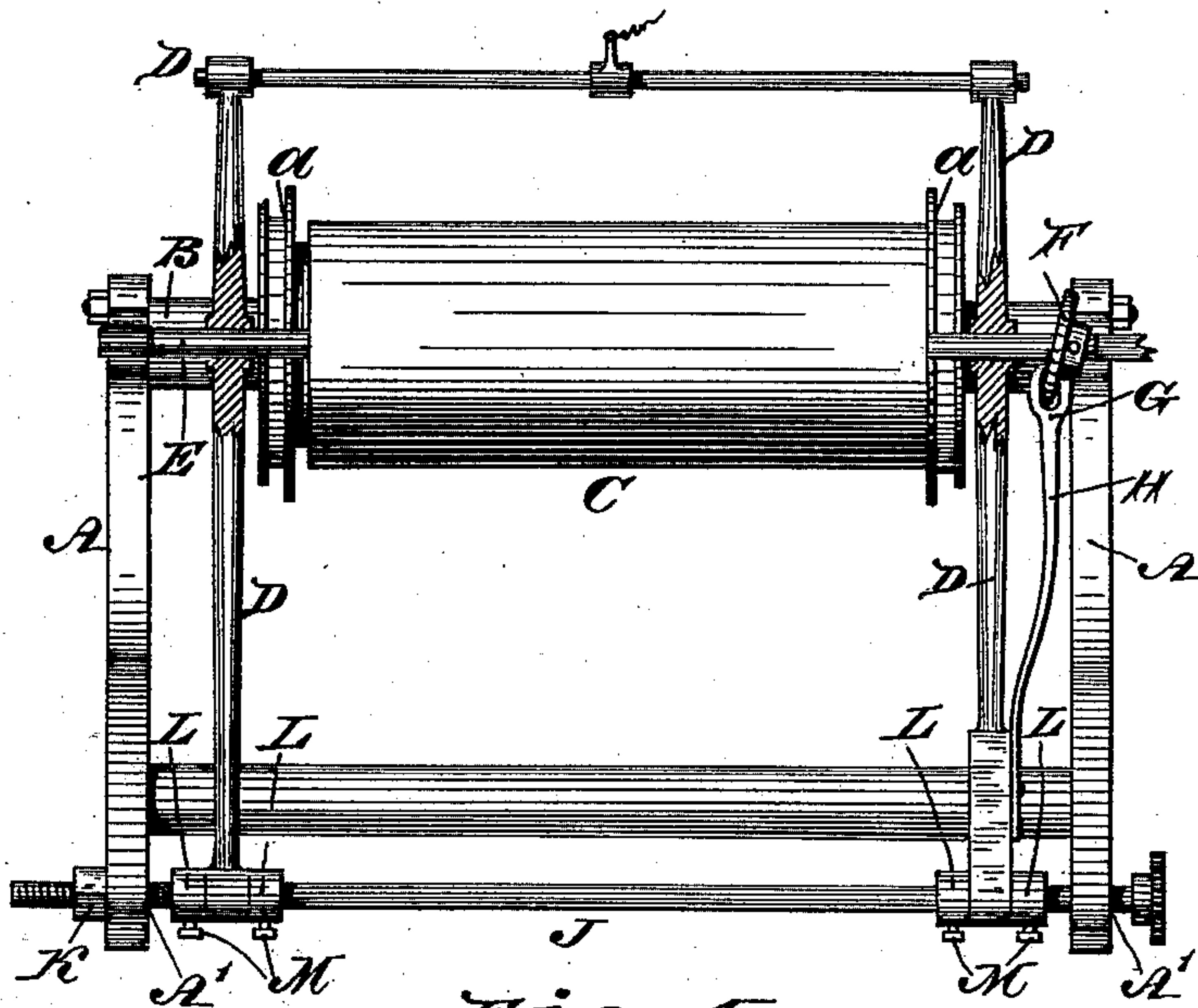
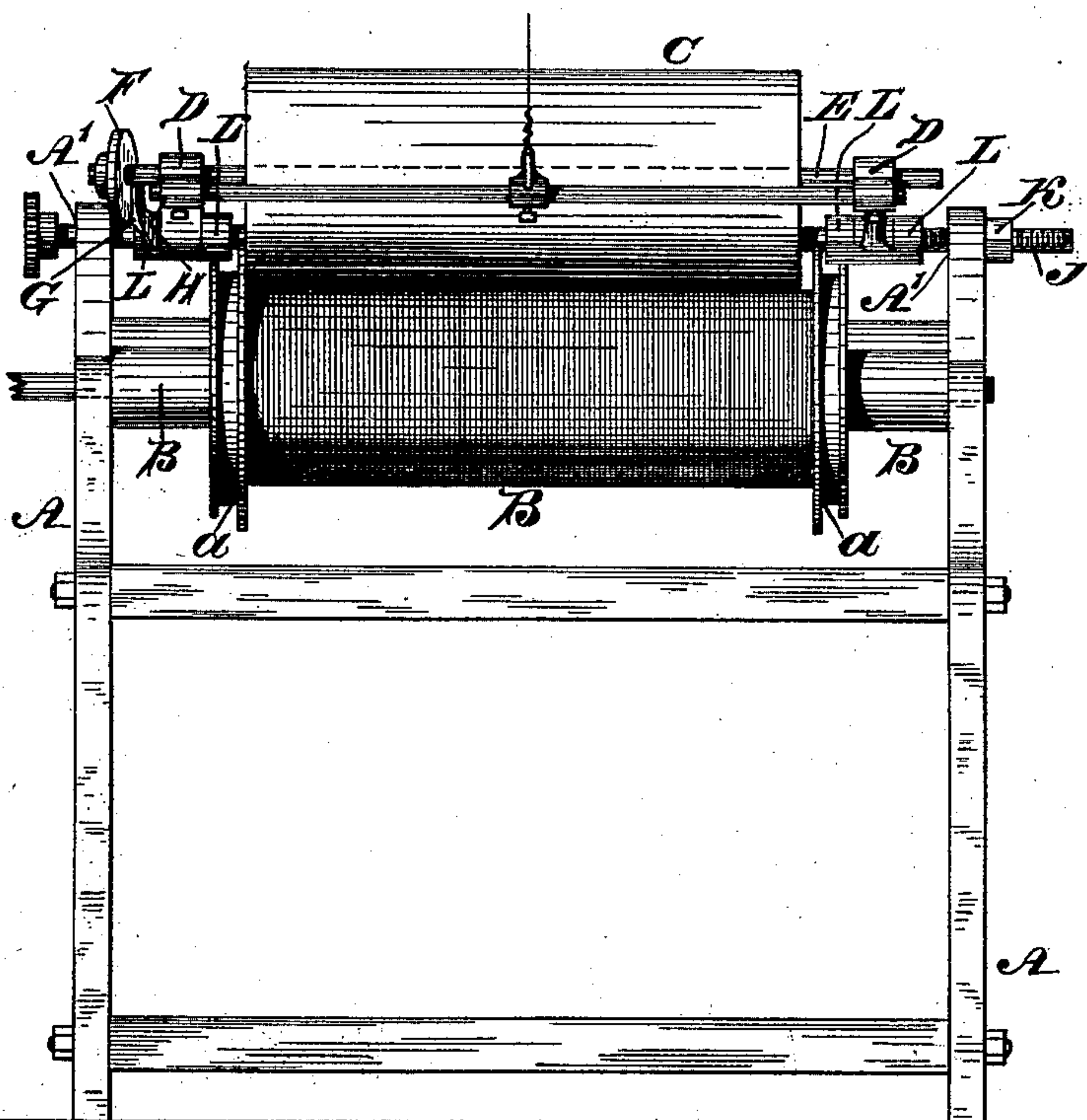


Fig. 4.



WITNESSES:

James F. Kelly.
L. Douville

INVENTOR:

Nicholas Boyle
BY *Diedersheim Kintner*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

NICHOLAS BOYLE, OF NORRISTOWN, PENNSYLVANIA.

WARP-BEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,045, dated March 6, 1888.

Application filed October 20, 1887. Serial No. 252,899. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS BOYLE, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented a new and useful Improvement in Warp-Beaming Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of improvements in beaming-machines, whereby there is reduced strain on the warps while weaving and beaming, besides uniform tension on the warps and increased product and better selvage.

Figures 1 and 4 represent views of opposite sides of a beaming-machine embodying my invention. Fig. 2 represents an end view thereof. Fig. 3 represents a top or plan view thereof, a portion of the rising and falling frame of the machine being cut away.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents the frame of a beaming-machine, and B the warp-roller mounted thereon, the said warp-roller receiving rotary motion by connection with the driving-shaft of the machine, or in other usual and well-known manner.

Resting upon the roller B, and consequently in contact with the warps thereon, is a roller, C, whose bearings are on a rising and falling frame, D, the latter being pivoted at the end opposite to said roller C to the top of the frame A. The shaft E of the roller C is freely fitted in its bearings on the frame D, so as to be capable of longitudinal motions, and one end of said roller has secured to it a spiral collar, F, whose periphery enters the groove or fork G of an arm, H, which latter is secured to the frame D and is elastic in its nature, forming a spring.

The rod J, which forms the pivot or axis of the frame D, is screw-threaded at the eyes or places A' where it enters the frame A, and carries a nut, K, which is adapted to tighten against either of said eyes, the latter being internally threaded, so as to be engaged by the rod J, by which provision the frame D may be laterally adjusted with precision. The side arms of the frame D are connected with

screws or bolts M, by which means said arms may be adjusted on said rod.

It will be seen that when the roller B is rotated the roller C receives rotation therefrom. Owing to the spiral collar F entering the fork G, longitudinal motions are imparted to the roller C while the same rotates, whereby said roller moves from side to side or from flange a to flange a of the roller B, and thus retains the warp true and uniform on the roller B, the frame D rising as the warp is thickened, as is evident.

Should there be any obstructions to the lateral motions of the roller C, the spring-arm H yields, thus preventing injury to said roller, its shaft and bearings, said spring-arm also yielding during the motions of the spiral collar F, thus reducing friction on said collar.

The frame D may be weighted in any suitable manner, and it is provided with a hook, whereby a rope, chain, &c., may be connected therewith for the purpose of raising and lowering said frame.

While the collar is described as spiral, it is properly a collar located obliquely on the shaft E; and, if desired, may be of the form of a collar with a cam-groove in the periphery thereof to receive one end of the arm H, in which case the groove or bifurcation of the latter is dispensed with.

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

1. A beaming-machine having the warp-roller B suitably journaled in one end of the sides thereof, the pivot-rod J, secured in the other end of the sides, the frame D, pivotally secured to said rod J, the roller C, journaled in the sides of said frame D and having shaft E, the spiral collar F on said shaft, and the arm H, with fork G, said parts being combined substantially as and for the purpose set forth.

2. The frame A, in combination with the roller B, journaled therein, the frame D, pivotally secured to said frame A, the roller C, having its shaft E journaled in the side bars of said frame D, the spiral collar F on said shaft E, the spring-arm H, secured to said frame D, and having fork G, substantially as and for the purpose set forth.

3. The frame A, in combination with the

warp-roller B, having flanges *a* and journaled in said frame, the frame D, pivotally secured to said frame A, the roller C, having its shaft E journaled in said frame D, the spiral collar
5 F, and the spring-arm H, with fork G, substantially as and for the purpose set forth.

4. The frame A, in combination with the warp-roller B, journaled therein, the pivot-rod J, having screw-threaded ends and the nut
10 K, the frame D, pivotally secured to said rod

J, the retaining-collars L, the roller C, having its shaft E journaled in the side bars of said frame D, the spiral collar F on said shaft E, and the spring-arm H, with fork G, substantially as and for the purpose set forth.

NICHOLAS BOYLE.

Witnesses:

JOHN A. WIEDERSHEIM,
JAMES F. KELLEY.