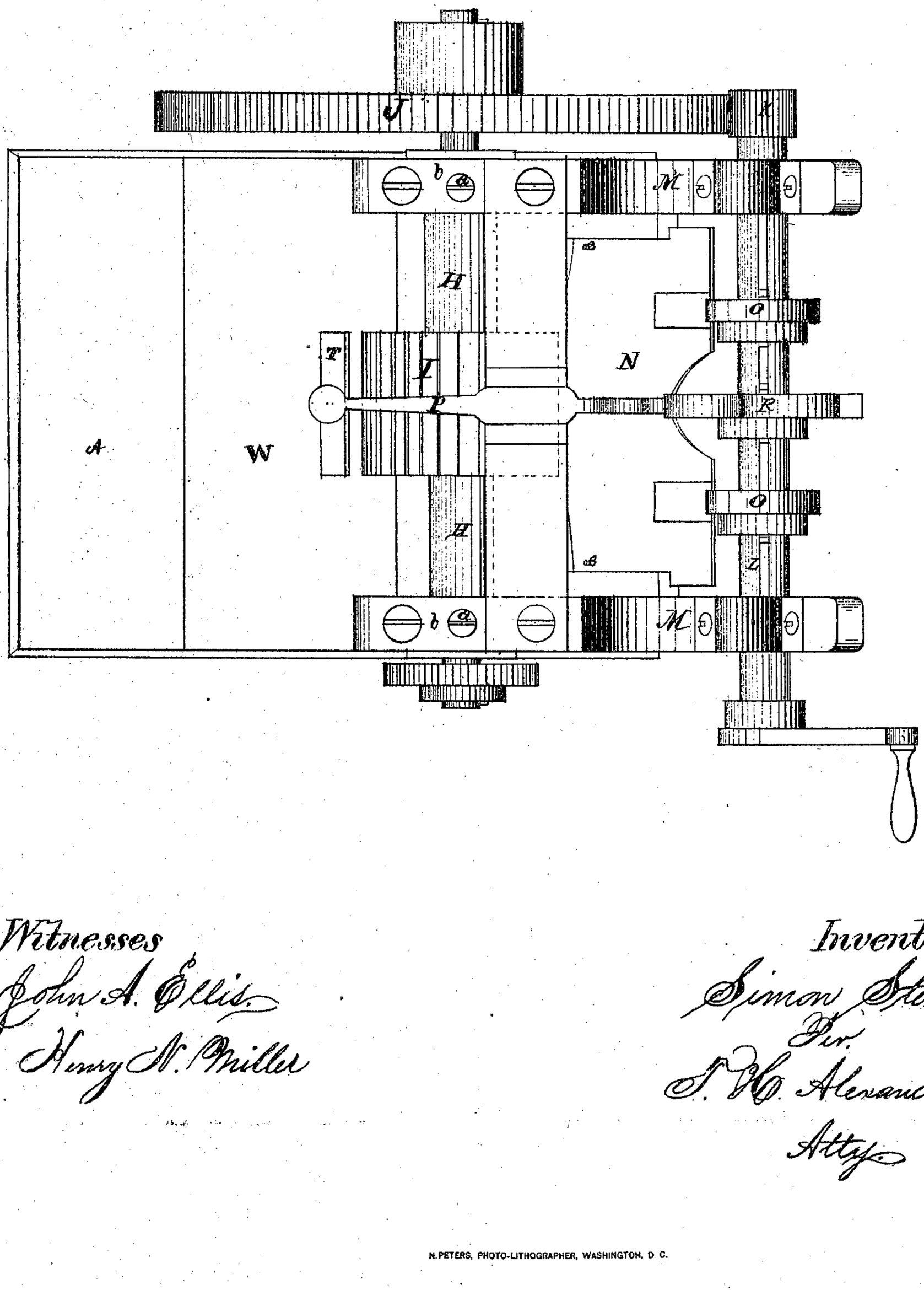
S. Stems,

2. Sheets. Sheet. 1.

Pleating Machine.

No. 97.721. Patented Dec. 7. 1869.

Fig. 2.



Witnesses

John A. Ellis.

Henry N. Miller

Inventor

Simon Stems

Per.

F. H. Alexander.

Atty.

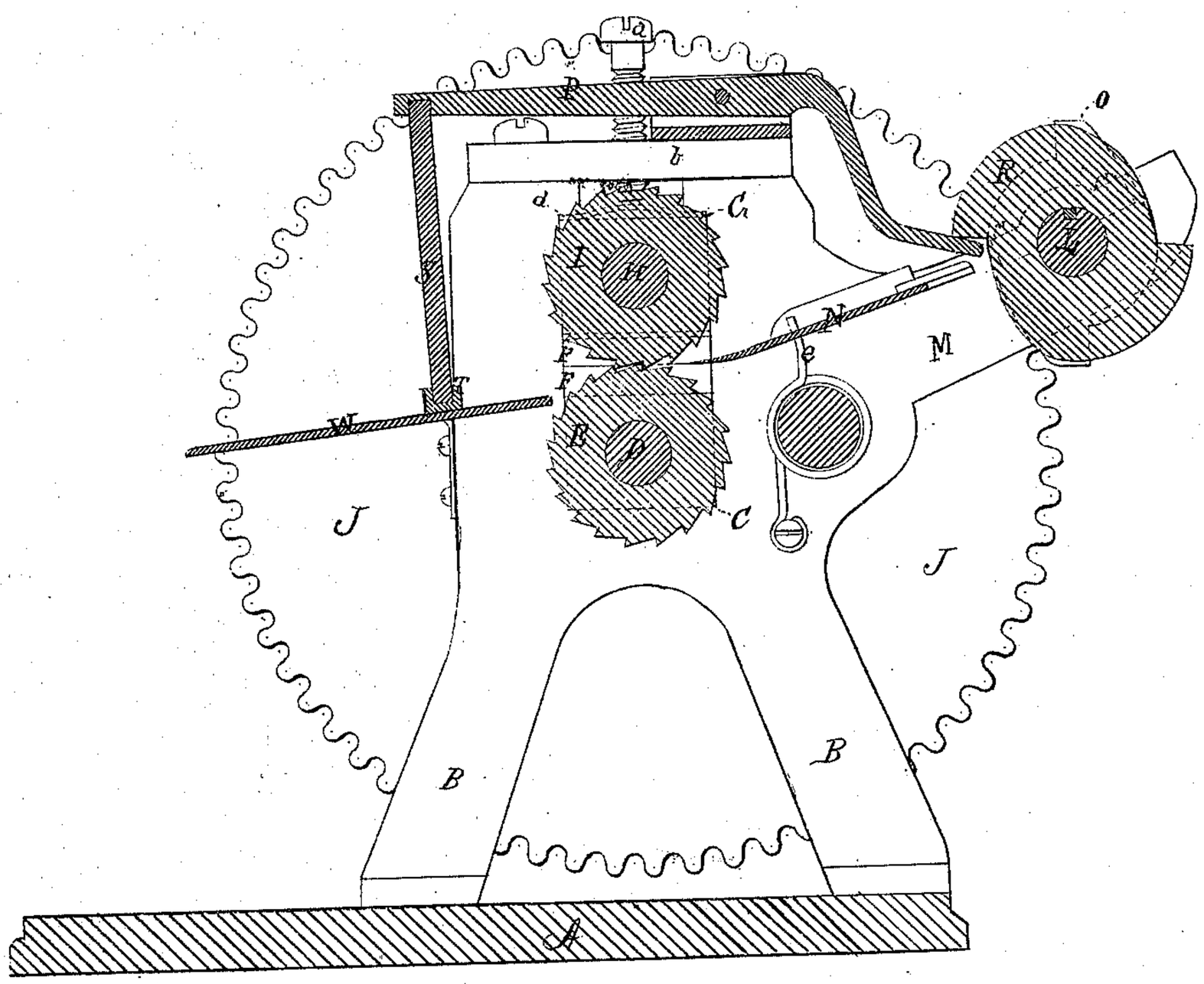
2. Sheets. Sheet. 2.

S. Sterns,

Planing Machine.

No. 97.721. Patented Dec. 7. 1869.

Fig. 1.



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T. H. Alexander.

Atty.

UNITED STATES PATENT OFFICE.

SIMON STERNS, OF NEW YORK, N. Y.

IMPROVEMENT IN PLAITING-MACHINES.

Specification forming part of Letters Patent No. **97,721**, dated December 7, 1869.

To all whom it may concern:

Be it known that I, SIMON STERNS, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Plaiting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and general arrangement of a machine for making ruffles, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a longitudinal vertical section, and Fig. 2 is a plan view, of my machine.

A represents the bed of the machine, on which, at a suitable distance apart, are placed two standards, B B. These standards are slotted vertically from the top downward for a suitable distance, and contain in the bottom of said slots journal-boxes C C, in which a shaft, D, has its bearings. On the center of this shaft is placed a roller, E, of any desired width, having a series of teeth along its outer circumference extending across its entire width. The teeth on the roller E are cut so as to form very acute angles, as seen in Fig. 1.

On top of the journal-boxes C C, in the slots on the standards B B, are placed blocks F F, on top of which are other journal-boxes, G G, providing bearings for the shaft H, which thus is placed above and parallel with the shaft D above mentioned. The shaft H is also in its center provided with a roller, I, of the same size as the lower roller, E, and having the same number of teeth; but these latter teeth do not form such acute angles as those on the lower roller. The two rollers E and I gear with each other, and the upper roller is pressed down upon the lower by means of set screws *a a*, which pass through bars *b b*, covering the upper ends of the slotted standards B B. The set-screws *a a* bear upon spring-plates *d d*, placed on the top of the boxes G G, and by this means the two ruffling-rollers may be regulated so as to allow any kind of fabric, whether thick or thin, to pass between them, at the same time as the spring-plates *d d* give the upper roller, I, the necessary elasticity.

Upon one end of the shaft D, outside of the standard B, is keyed a large cog-wheel, J, which receives its motion from a pinion, K, upon the end of the driving-shaft L. The shaft L has its bearings in suitable journal-boxes on two inclined arms, M M, extending from the standards B B, and the shaft is turned by a crank. Upon the other end of the shaft D is a cog-wheel, which gears with a similar wheel upon the end of the shaft H, and thus the necessary rotary motion is communicated to the rollers E and I.

Between guides on the inner sides of the arms M M is placed a plate, N, having such inclination as to come, when forced downward, directly on the under side of the teeth on the lower roller, E, pressing the fabric in under said teeth. This movement of the plate N is accomplished by means of two double cams, O O, mounted upon the driving-shaft L. The cams O O and the gearing above mentioned for revolving the rollers E and I are so gaged or arranged that the plate N will be forced downward under each and every tooth of the roller E in succession, two springs, *e e*, attached to said plate, throwing it up away from the roller the instant the cams have ceased to operate.

Upon a cross-bar connecting the two standards B B at the top is pivoted a lever, P, the front end of which is curved downward and forward, as shown in Fig. 1, and is acted upon by a double cam, R, mounted upon the center of the driving-shaft L.

At the rear end of the lever P is a vertical rod, S, to the lower end of which is secured the foot T, whose under side is beveled to correspond with the incline of the table W, which is secured to the standards B B, and across which the ruffle has to pass after coming out from between the rollers E and I.

The cam R, during each revolution of the main shaft L, raises the foot or hammer T twice, and allows it to fall down suddenly upon the ruffle, to press it into the proper shape for sewing in the usual manner.

The working of the machine is very simple. The rollers E and I are heated and the crank turned from right to left.

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

1. The sliding plate N, arranged to operate substantially in the manner and for the purpose described.

2. The lever P, provided with vertical rod S, to which is attached foot T, operating in the manner and for the purpose set forth.

3. The combination and arrangement of the slotted standards B B, shaft D, with roller E, adjustable shaft H, with roller I, plate N, cams O O and R, lever P, foot T, and table W, all constructed and arranged to operate substantially in the manner and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

SIMON STERNS.

Witnesses:
JACOB WEIL,
CADY ANPENGER.