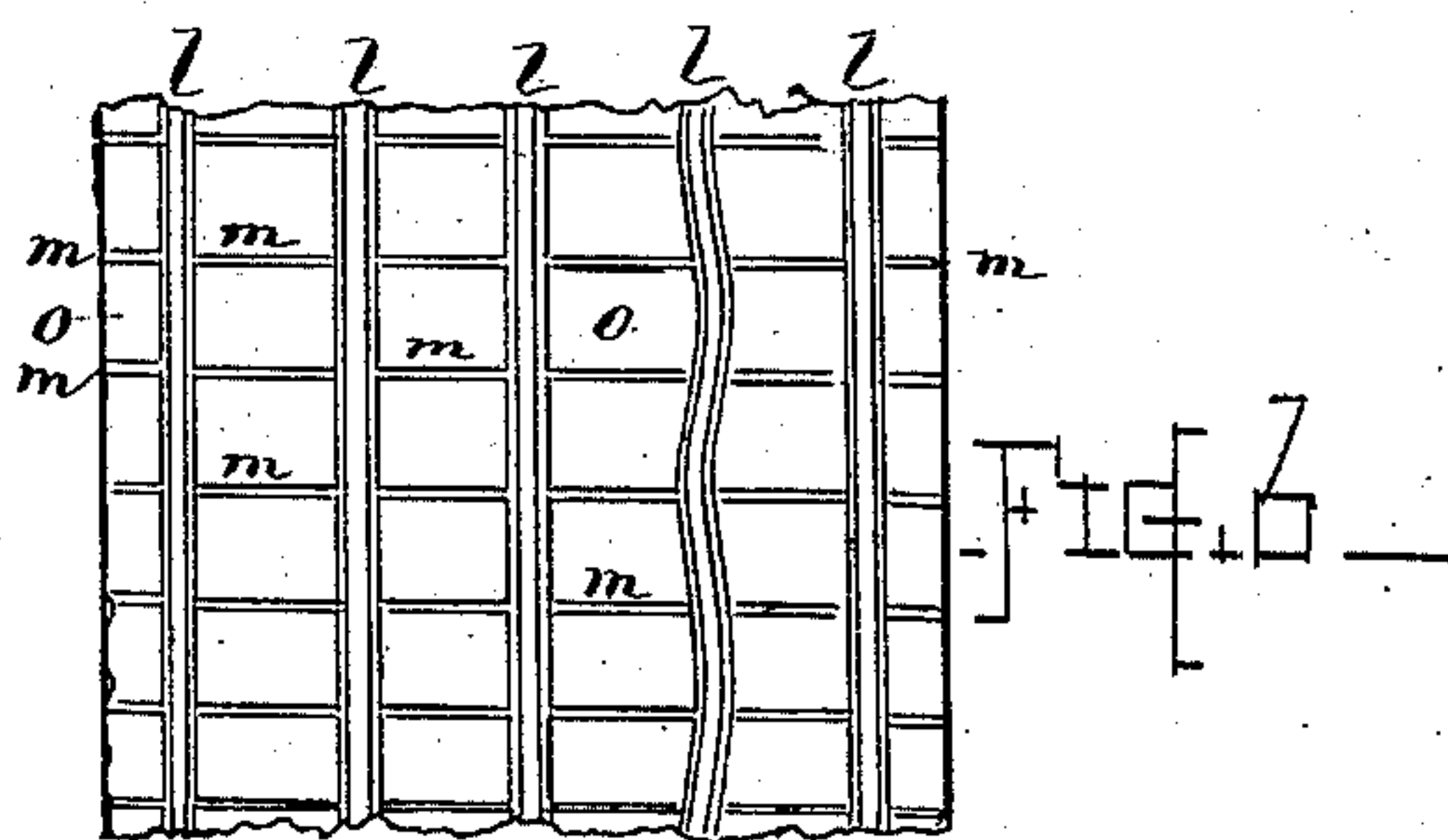
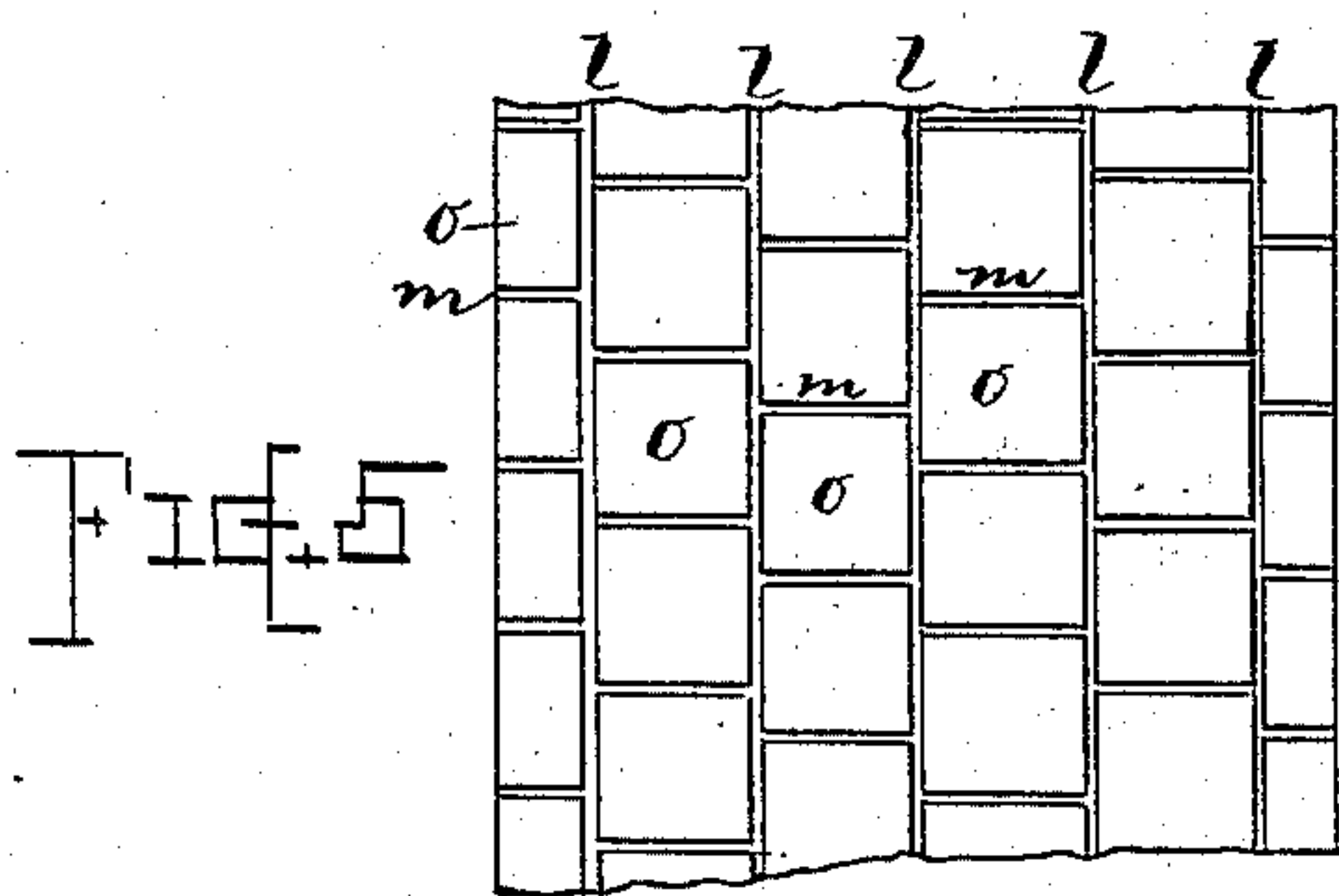
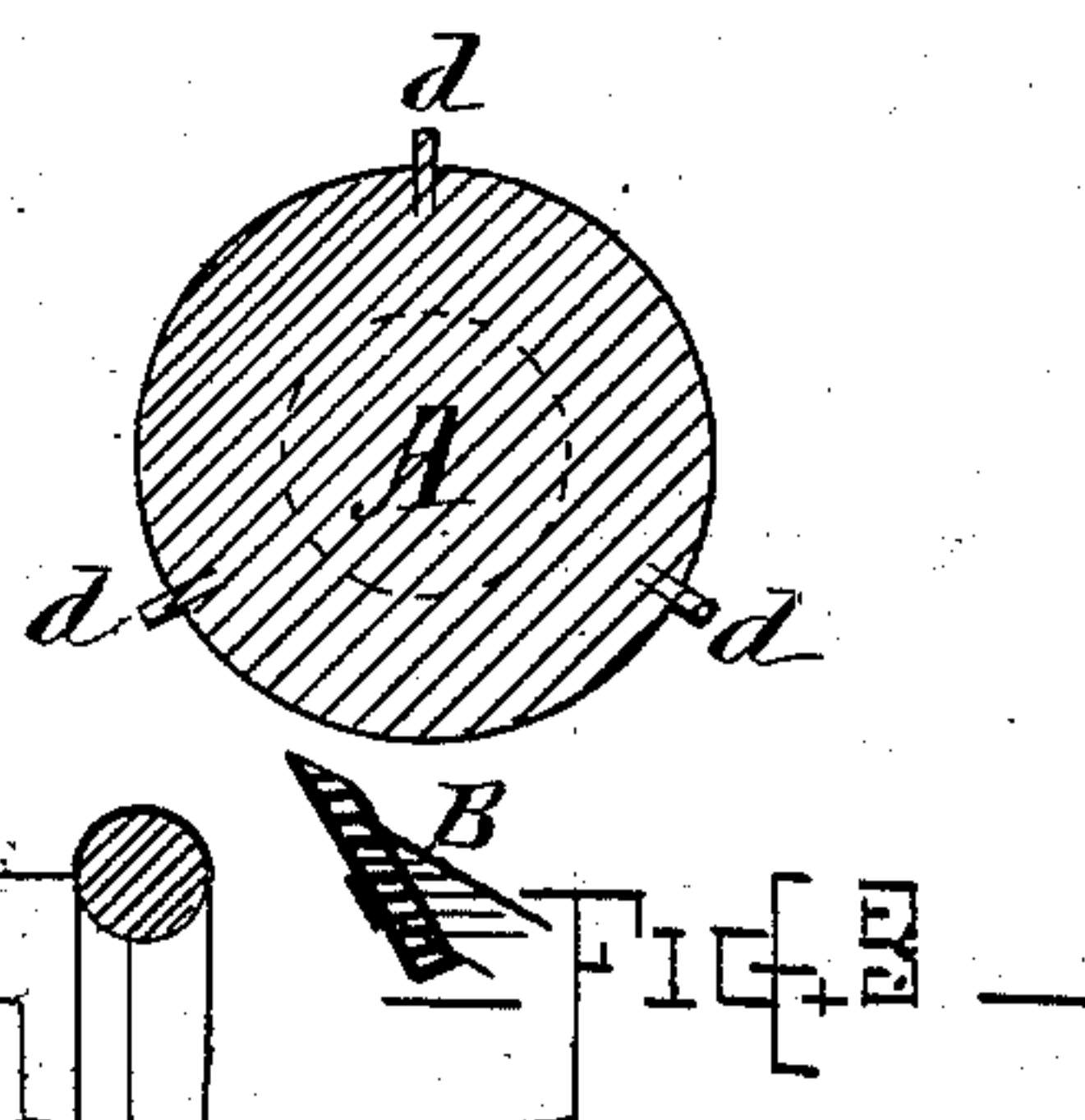
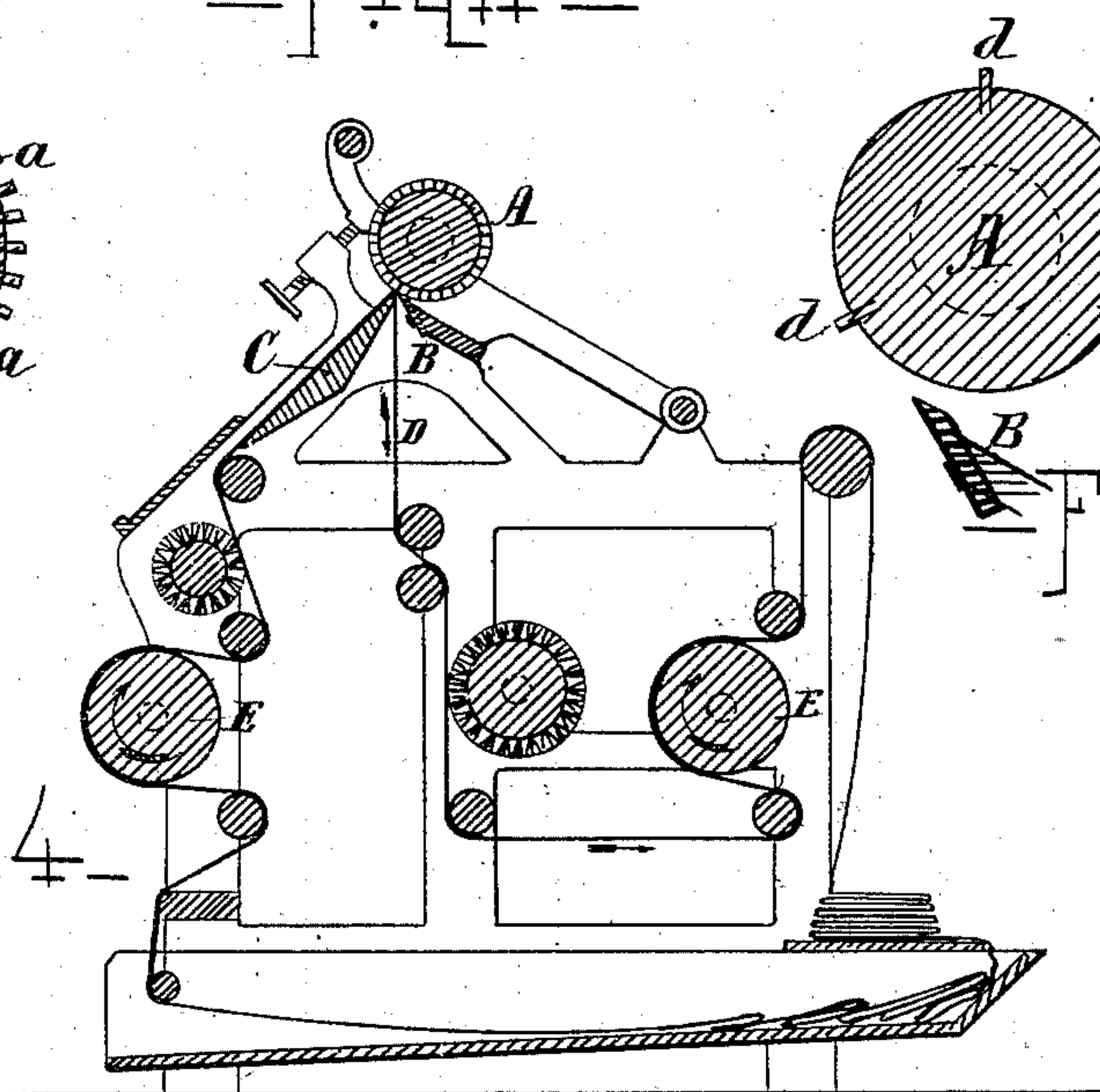
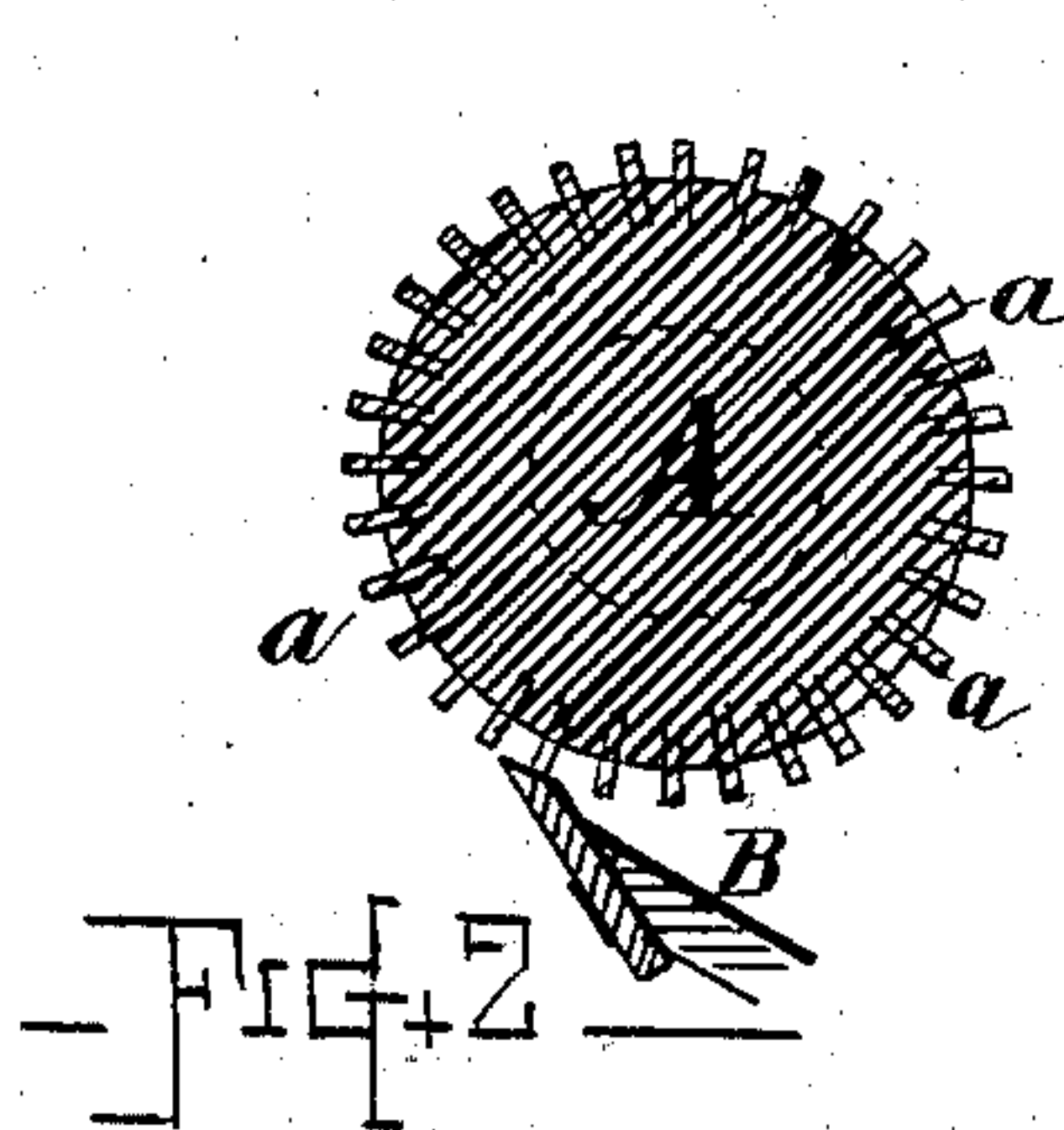
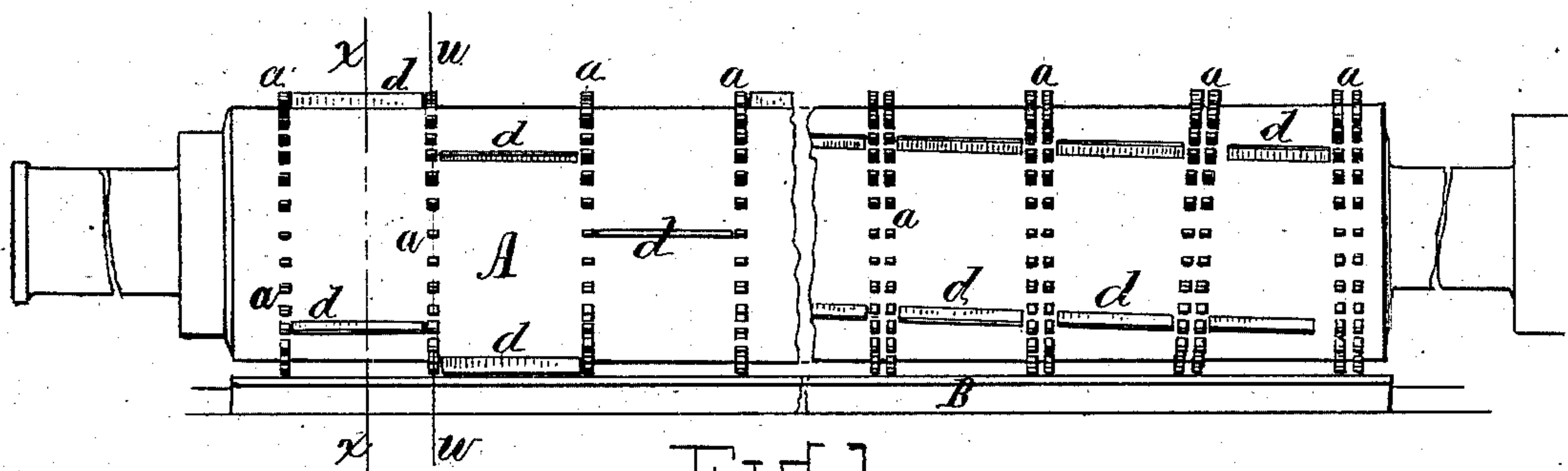


(No Model.)

D. C. SUMNER.
CLOTH SHEARING MACHINE.

No. 282,401.

Patented July 31, 1883.



WITNESSES -

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UNITED STATES PATENT OFFICE.

DWIGHT C. SUMNER, OF WORCESTER, MASSACHUSETTS.

CLOTH-SHEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,401, dated July 31, 1883.

Application filed December 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT CLINTON SUMNER, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Cloth-Shearing Machines; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My present invention relates to shearing-cylinders or revolvers in that class of cloth-shearing machines in which a cylinder or revolver having notched sectional or serrated blades or cutting-points is operated in conjunction with a ledger-blade for effecting ornamentation of the fabric by cutting away portions of the pile or nap surface thereof as the fabric is passed forward over a suitable support, guide, or rest in the machine; and my invention consists in an improved construction of the revolver, or in a certain peculiar form, order, or system of arrangement of the cutting-points or blade-sections of the shearing-cylinder, whereby the mechanism is adapted for producing upon fabrics a particular class of ornamental patterns composed of longitudinal lines or stripes with intervening transverse lines or checks, as more fully hereinafter explained.

In the drawings, Figure 1 is a side view of so much of a shearing cylinder or revolver as is necessary to illustrate the nature of my invention, one portion showing the sections as arranged for a single-line pattern and the other portion showing a double-line pattern. Fig. 2 is a cross-section of the revolver at line *x x*. Fig. 3 is a cross-section of the revolver at line *w w*. Fig. 4 is a vertical sectional view indicating the arrangement of the shearing, guiding, and feeding devices in the machine. Figs. 5 and 6 represent portions of cut fabric, indicating the nature or class of pattern effects produced by mechanism constructed in accordance with my within-described improvements.

In the references on the drawings, A denotes the revolver or shearing-cylinder; B, the ledger-blade; C, the cloth support, guide, or rest; D, the cloth or fabric; E, the friction or cloth-

feeding rolls, and *f* the carrier or directing rolls, which parts may be severally located and operated in any well-known or suitable manner in the shearing-machine.

The shearing-cylinder or revolver A, I construct with series of narrow isolated sections, cutting points or teeth, *a*, located at intervals of its length, and arranged to stand in circumferential rows or circles around the cylinder, said cutters or points standing in sufficiently close proximity to each other in such rows that they will act, with the ledger-blade, to shear clear or continuous lines in the nap surface or pile of the fabric, said lines extending in longitudinal direction of the piece, as indicated at *l*, Figs. 5 and 6. Within the intervening spaces between said circumferential rows of cutting-teeth *a*, I arrange occasional broader blade-sections *d*, standing longitudinally, or nearly so, with the cylinder, and placed only at long intervals, or, for instance, with but two or three such blade-sections in the circumference thereof. These blades *d* act in such manner as to make occasional cuts or transverse lines in the nap or pile surface of the fabric, as at *m*, Figs. 5 and 6, and leave uncut portions or spaces *o* between the said lines, substantially as illustrated.

The revolver may be made with blades notched or recessed to leave cutting points or sections, or with independent teeth or sections inserted in the cylinder where required.

The rows of cutting-teeth *a* may be arranged in planes perpendicular to the axis of the cylinder, or in rows directly around the circumference, or their planes may be slightly inclined to the axis, so that the rows slightly deviate toward the right or left in their development, and one, two, or more rows can be employed at each of the separate intervals, accordingly as a single, double, or triple line, *l*, is desired on the pattern. The blade-sections *d* at the several intervals can be placed in such lateral relation with each other as may be preferred, to give the transverse lines *m* or checks *o* a regular or an alternating range between the several intervals or longitudinal stripes *l*; or the said blade-sections *d* may be arranged to continue through or into the rows *a* or to stop off between each row, thereby forming contin-

uous transverse lines m , or short portions of such lines m , from one line l to the next.

It will thus be observed that the effect of this construction, when the revolver A is in operation with the ledger-blade B and the forward-moving fabric D, is to produce a class of pattern composed of a series of lines or stripes longitudinally of the fabric and a series of intermediate transverse markings or checks, similar in nature to what is shown in Figs. 5 and 6, and this, too, by the simple action of the revolver and a plain ledger-blade.

It will be understood that I do not herein make claim, broadly, to a notched or sectional bladed revolver for shearing-machines irrespective of the system of arrangement or order of development of its cutting-sections.

What I claim as of my invention, and desire to secure by Letters Patent, is—

20 1. A revolver or shearing-cylinder for cloth-shearing machines having series of isolated cutting points or teeth a arranged at inter-

vals in circumferential rows or circles around the cylinder, and occasional intermediate blade-sections, d , arranged in the interval between said rows of cutting-teeth, in the manner substantially as and for the purpose hereinbefore described.

2. The revolver or shearing-cylinder A, having series of cutting points or teeth a arranged at intervals in circumferential rows or circles around said cylinder, with occasional longitudinal blade-sections d intermediate between said rows of cutting-teeth, as set forth, in combination with the ledger-blade B and cloth-support C in a cloth-shearing machine, substantially as and for the purpose hereinbefore described.

Witness my hand this 26th day of December, A. D. 1882.

DWIGHT CLINTON SUMNER.

Witnesses:

CHAS. H. BURLEIGH,
S. R. BARTON.