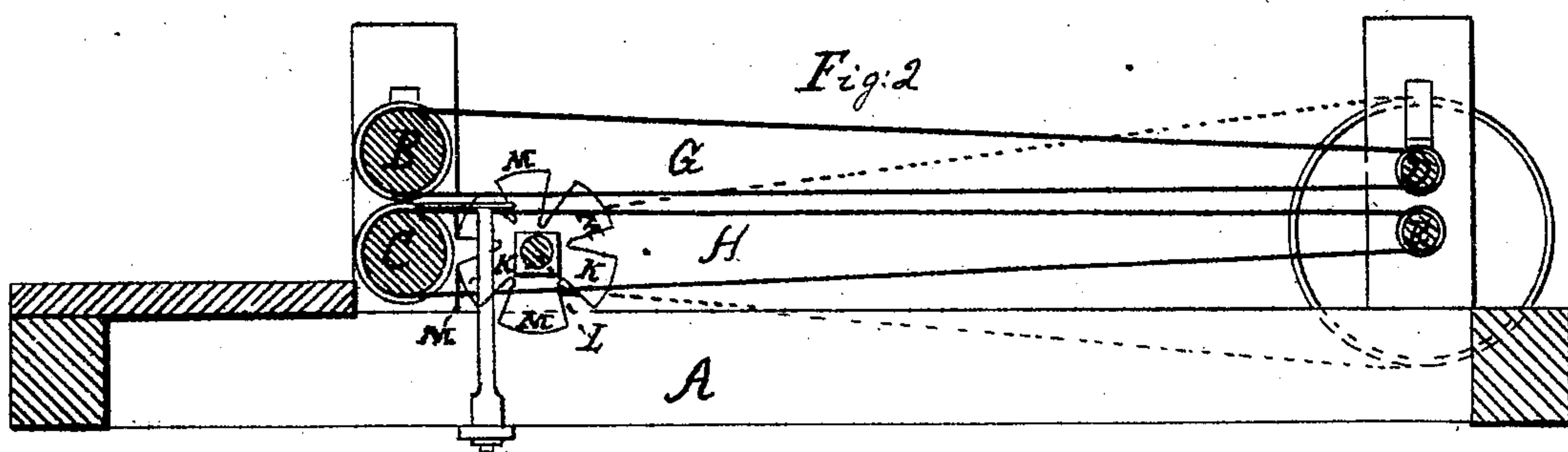
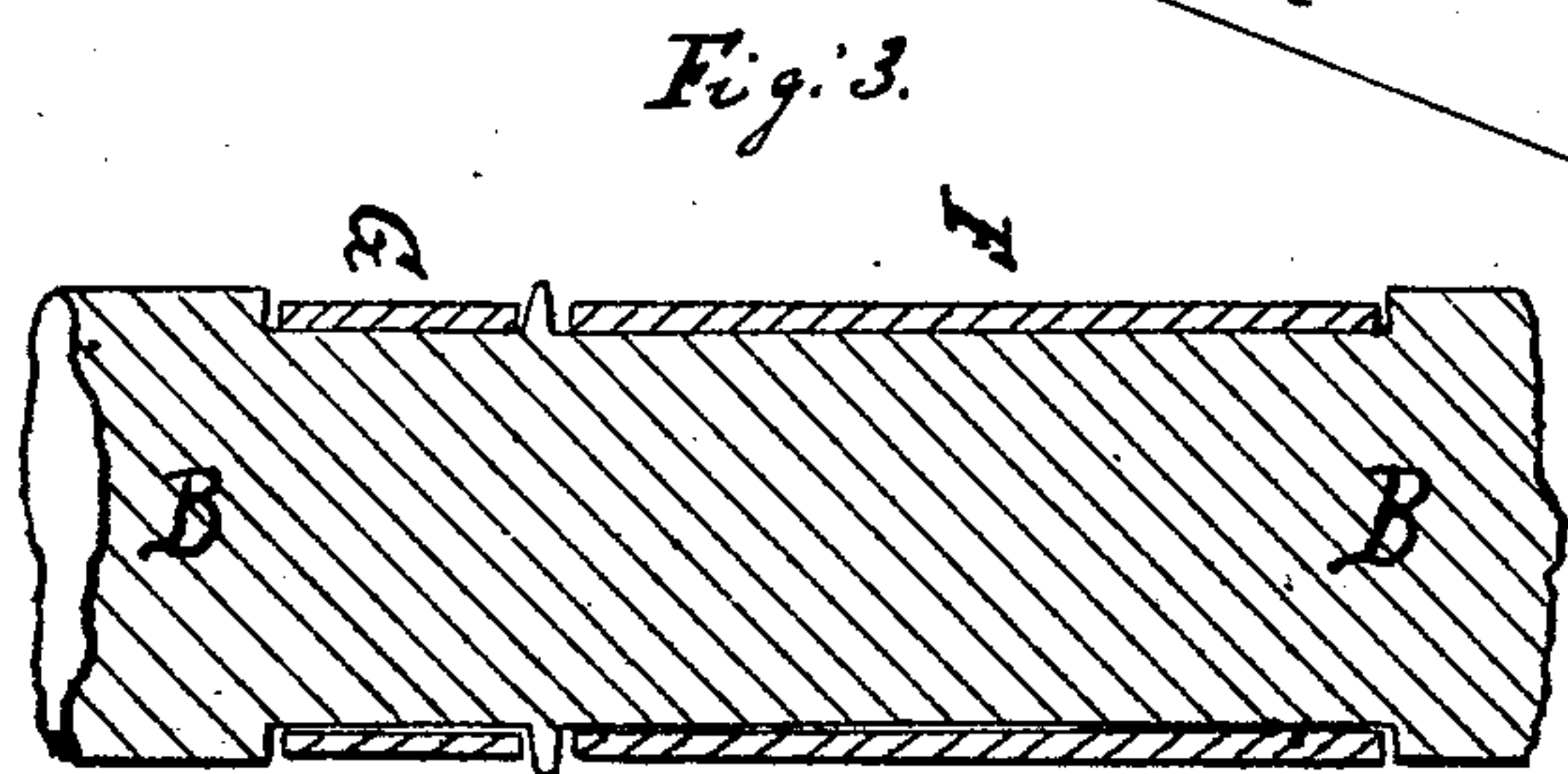
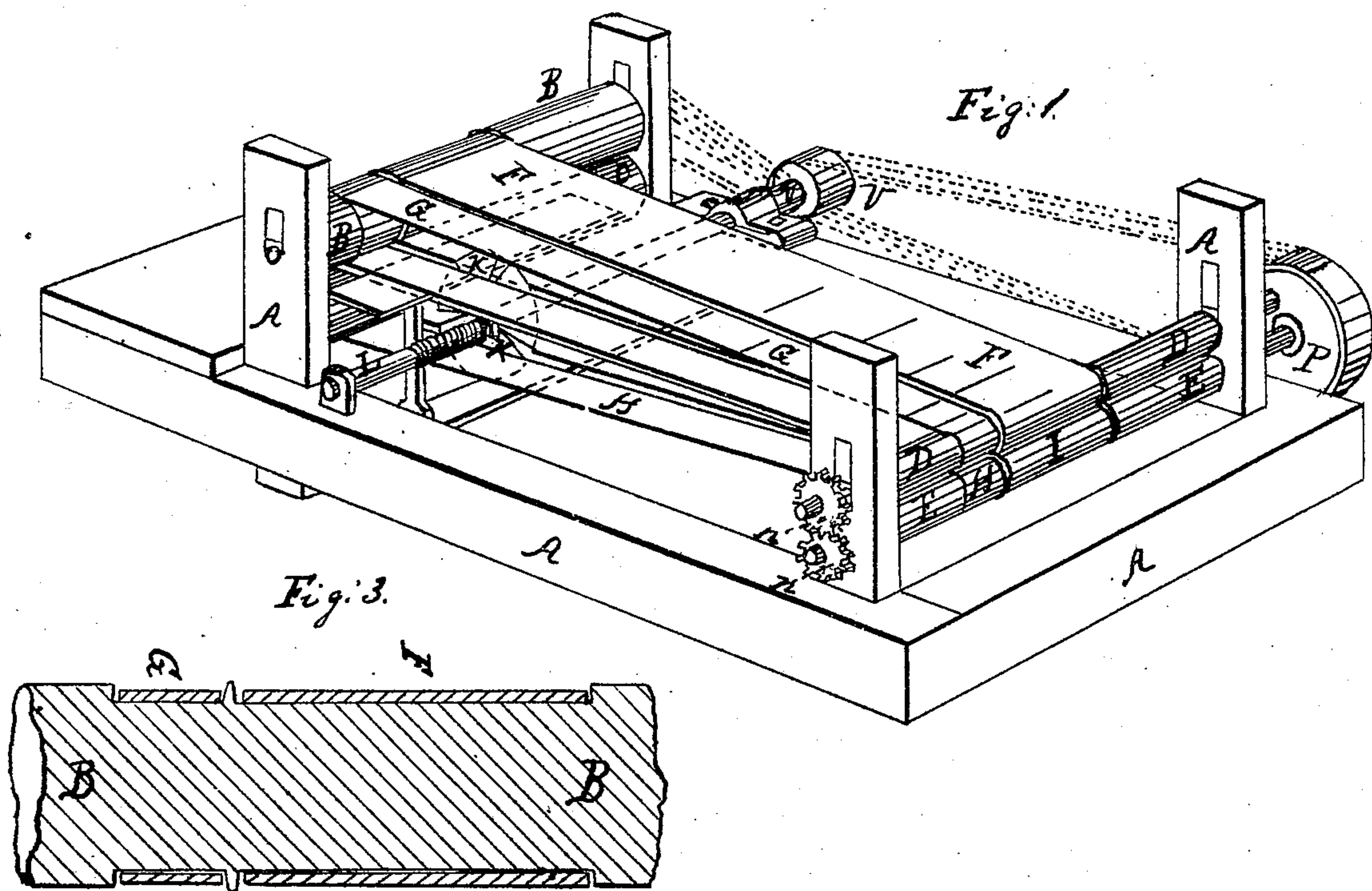


J. Collins Jr & N.R. Nixon.
Imp^d Seaming & Bag-Cutting Mach.
N^o 73299 *Patented Jan. 14, 1868.*



Witnesses.

J. H. Davis
James Moore

Inventors.

John Collins Jr
N. R. Nixon

United States Patent Office.

JOHN COLLINS, JR., AND NICHOLAS R. NIXON, OF RICHMOND, INDIANA,
ASSIGNORS TO N. R. NIXON, THOMAS NIXON, AND ALLAN T. BENNETT.

Letters Patent No. 73,299, dated January 14, 1868.

IMPROVEMENT IN SEAMING AND RAG-CUTTING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOHN COLLINS, Jr., and NICHOLAS R. NIXON, both of Richmond, in the county of Wayne, and State of Indiana, have invented a certain new and useful Machine for Cutting Rags; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a longitudinal elevation.

Figure 3 is the roller B, showing the positions of the two belts H and I, and of the belts G G and F F.

Heretofore, the operation of cutting rags intended to be made into shoddy, paper, or carpets, that is, of cutting off the seams or other refuse from rags intended for shoddy or fine white paper, and of cutting the rags into strips for the purpose of being woven into carpets, was a slow and tedious one, requiring to be done by hand with a pair of ordinary scissors.

The object of our invention is to seam rags to be manufactured into shoddy and fine white paper, and to cut rags into uniform strips for the purpose of being woven into carpets, in much less time, and to cut them more uniformly than they were heretofore cut.

To enable those skilled in the art to make and use our invention, we will proceed to describe its operation and construction with reference to the drawings.

Similar letters of reference refer to similar parts of our machine in the different drawings.

A A A is the framework, on which our machine is constructed. B B is a roller, parallel to another roller, C C. D D is a roller, parallel to another roller, E E. The roller B B is also parallel with the roller D D, and the roller C C is also parallel with the roller E E. F F is a continuous or endless belt, running around the rollers B B and D D, and G G is another continuous or endless belt, running around the same rollers. H is another continuous or endless belt, running underneath the belt G G, and around the under rollers C C and E E. I is still another continuous or endless belt, running underneath the belt F F, and also around the under rollers C C and E E. The rollers are each made like the roller B B, fig. 3. L L is an arbor or shaft, running in journal-boxes attached to the frame, on which is attached the cutter or knife K K, so that it is perpendicular to the surface of the belts, as shown in fig. 1. This cutter or knife is fastened on such part of the said arbor that it passes between the lower edges of the belts G G and F F, and also between the upper edges of the belts H and I. The space between the belts G G and F F is the same as that between the belts H and I, that space being just sufficient for the knife or cutter K K to work in freely, without impinging on any of said belts. The knife, shown in the drawings, and most distinctly seen at fig. 2, is a plane and circular plate, of such size that when properly fixed in the machine it shall not extend above the belts F F and G G, nor below the belts H and I, but yet may be as large as possible within those limits. Said knife has notches cut into it, and extending down nearly to the arbor, of about the shape of triangles, having six teeth, as shown at M M M, fig. 2, which have sharp edges on the sides that strike the cloth. The power is applied to the machine at the small pulley *v*, on the shaft L L, and from thence, by means of a belt, which is twisted, to give a reverse motion, applied on the drum *q*, is conveyed to the large drum P. When power is applied to the drum P, it turns the roller E E, and, by means of cog-wheels *n n*, turns the roller D D in a reverse direction, and by this means the upper portion of the belt I runs in the same direction as the lower portion of its parallel belt, F F, and the upper portion of the belt H in the same direction as the lower portion of the belt G G, and each pair of said parallel belts will carry along between them the rags to be fed to the cutter or knife. The journal-boxes, in which the rollers B B, C C, D D, and E E run, are adjustable, and the cogs *n n* may be of larger or smaller size, so that the distance between the rollers B B and C C, and also between the rollers D D and E E, may be increased or diminished, so as to permit thicker or thinner rags, or a greater or less number of thicknesses of rags, to be fed into the machine.

When power is thus applied to the pulley *v*, and from thence, as before described, to the drum P, and from there to all of said belts, the machine is then in motion, and ready to perform its intended functions. The rags

are then fed into the machine by putting them between the upper sides of the lower belts H and I and the under sides of the upper belts G G and F F, in such manner that the parts of the rags which it is desired to cut off as refuse shall pass between the belts G G and H, and the part of the rags which it is intended to use in the manufacture of paper, shoddy, or carpet, shall pass between the other two belts, to wit, F F and I. The rags will be fed into that end of the machine from which the motion respectively of the upper and under parts of the belts will carry them into the machine, and as they pass through the machine, resting on and supported by the upper surfaces of the lower belts H and I, and held with sufficient firmness in their places by the under surfaces of the upper belts G G and F F, the cutter or knives, running in the line between the belts F F and G G, and between the belts H and I, divides or cuts the rags fed into the machine through that line, and the belts carry the rags thus cut completely through and clear of the machine, the refuse being carried by the belts G G and H, and the other portion of the rags being carried by the belts F F and I.

The drawings hereto annexed, and also the above description, refer exclusively to a machine for cutting but one strip at a time, and being adapted to cutting off the refuse portions of the rags, but it is evident that the principle of our invention applies as well to cutting a number of uniform strips at the same time, useful for weaving into carpets. In order that the machine above represented and described may be adapted for the cutting of rags into uniform strips, a series of knives, similar to the cutter K K, and parallel to each other—they may be upon the same shaft—must be used, and between each two knives of this series there must be two belts, an upper and lower one, like those represented in the drawing, fig. 1, except in size, which must be the same as that of the strips intended to be cut. The spaces between the belts to be the same, and for the reasons before described. The usual size of such strips for carpet-weaving is about three-eighths ($\frac{3}{8}$) of an inch in width, but that size is varied by the thickness of the cloth, and other causes known to those skilled in the art. There may be eight knives in the said series, or the number may be varied to suit the necessity or convenience of the operator. It is not important, as far as the principle of our invention is concerned, how many knives are used.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the belts F F, G G, H H, and I, and their supporting rollers, as and for the purposes shown and described.
2. The cutters K K, arranged and operating between the belts, substantially in the manner and for the purpose specified.
3. We claim a series of knives or cutters in combination with alternate double belts, substantially in the manner described, for the purpose of cutting rags into strips of any desirable width, to be woven into carpets.

JOHN COLLINS, JR.,
N. R. NIXON.

Witnesses:

J. W. DAVIS,
JAMES MOORE.