

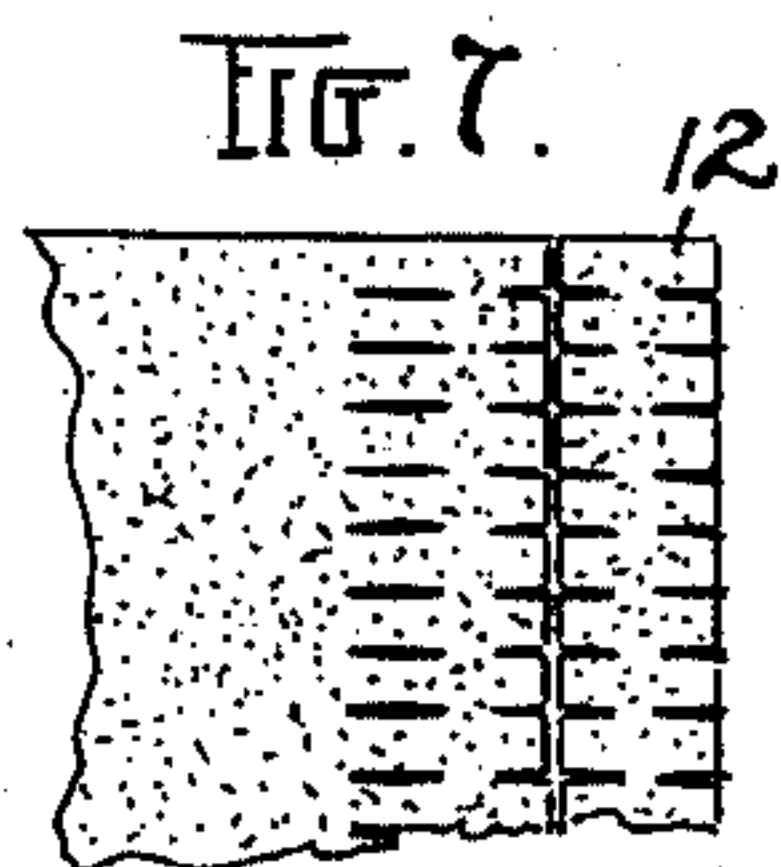
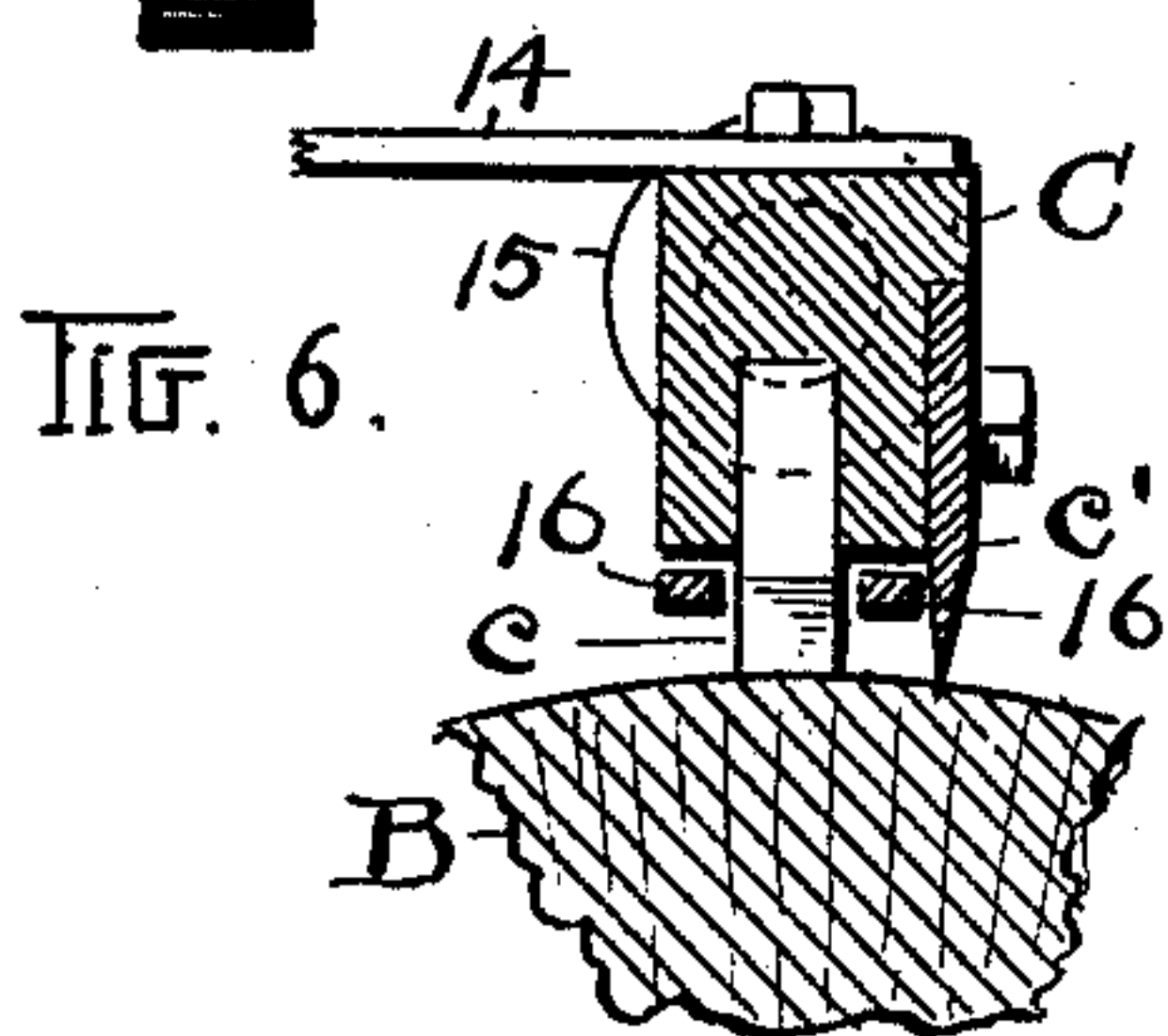
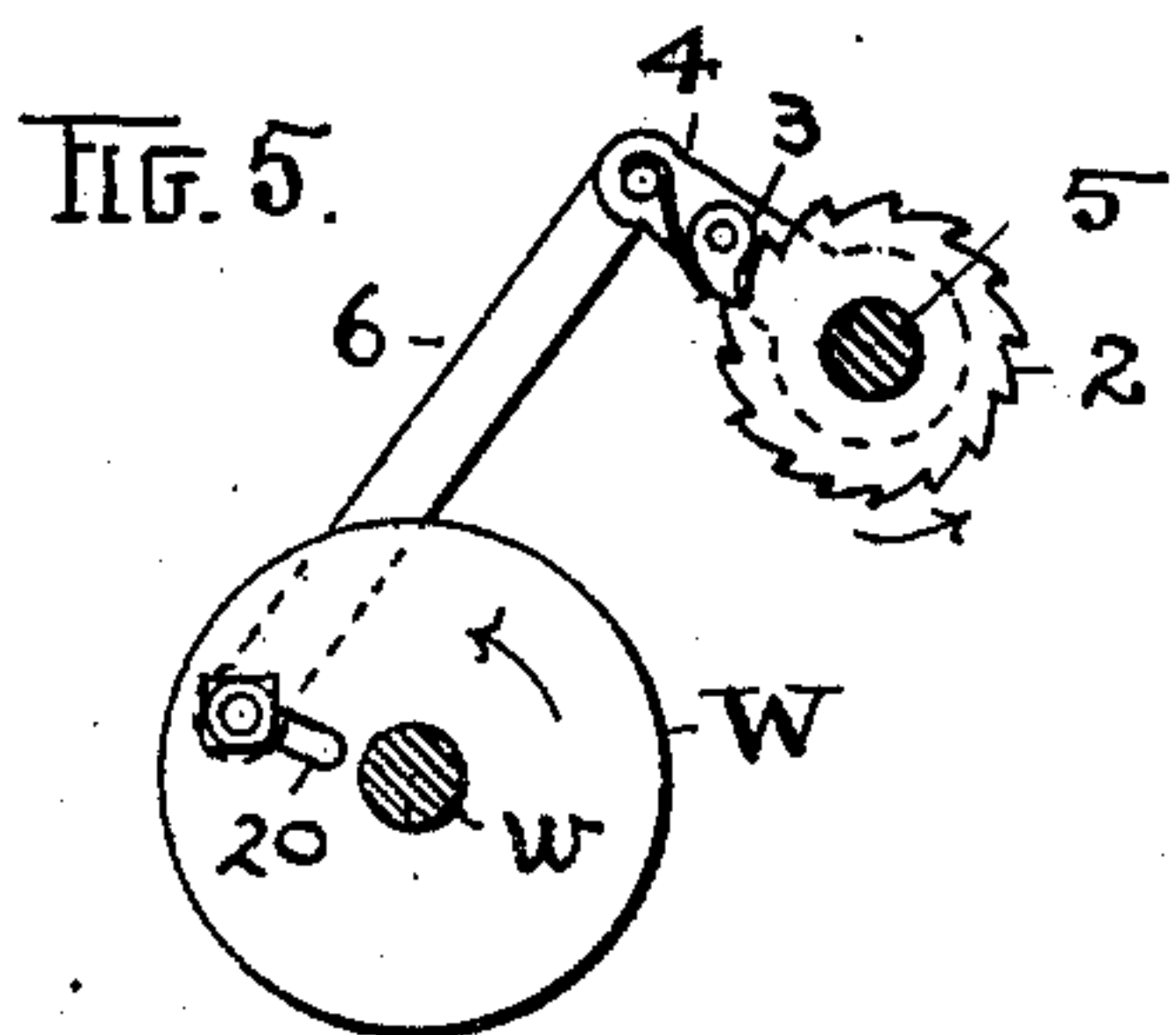
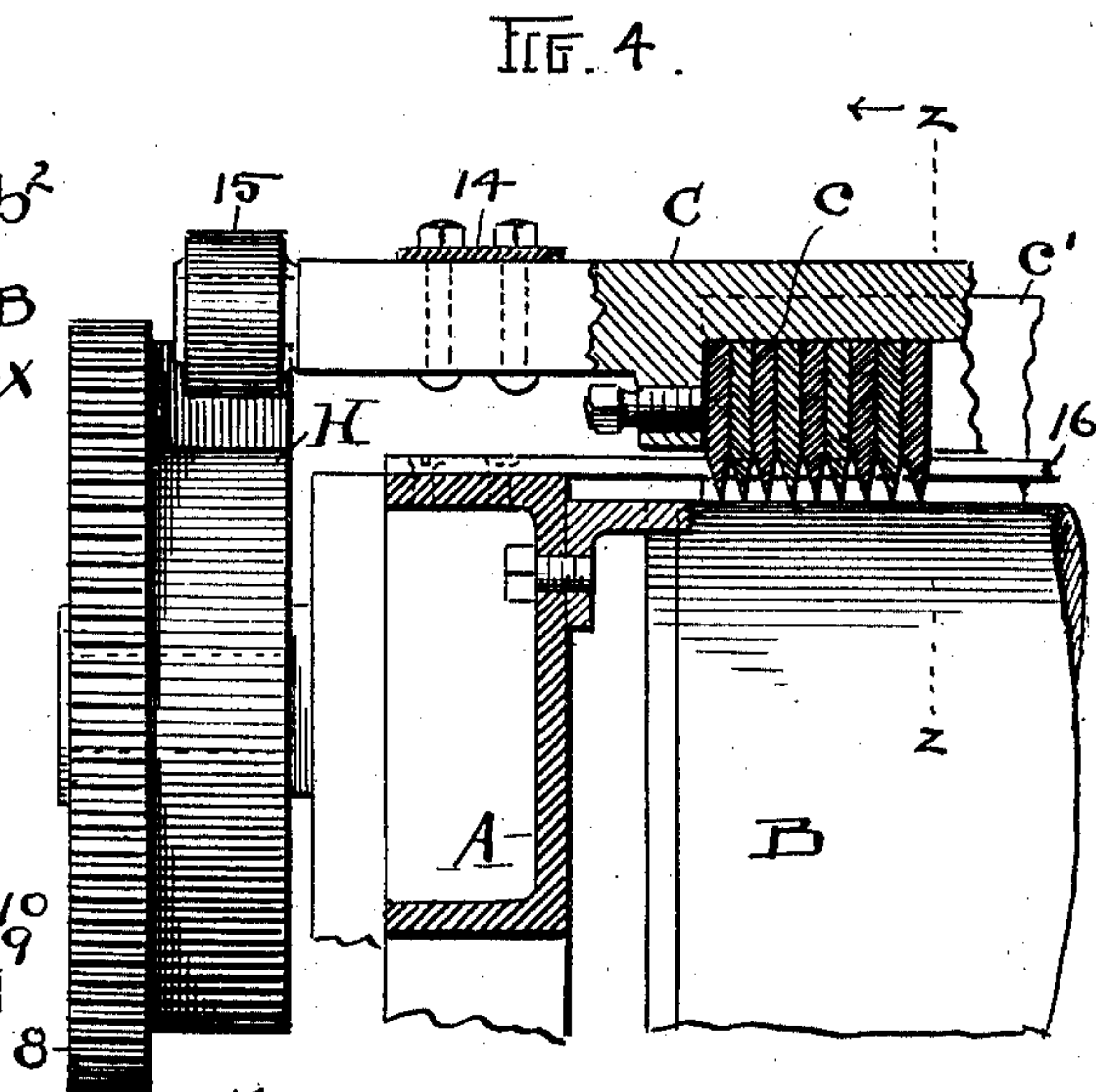
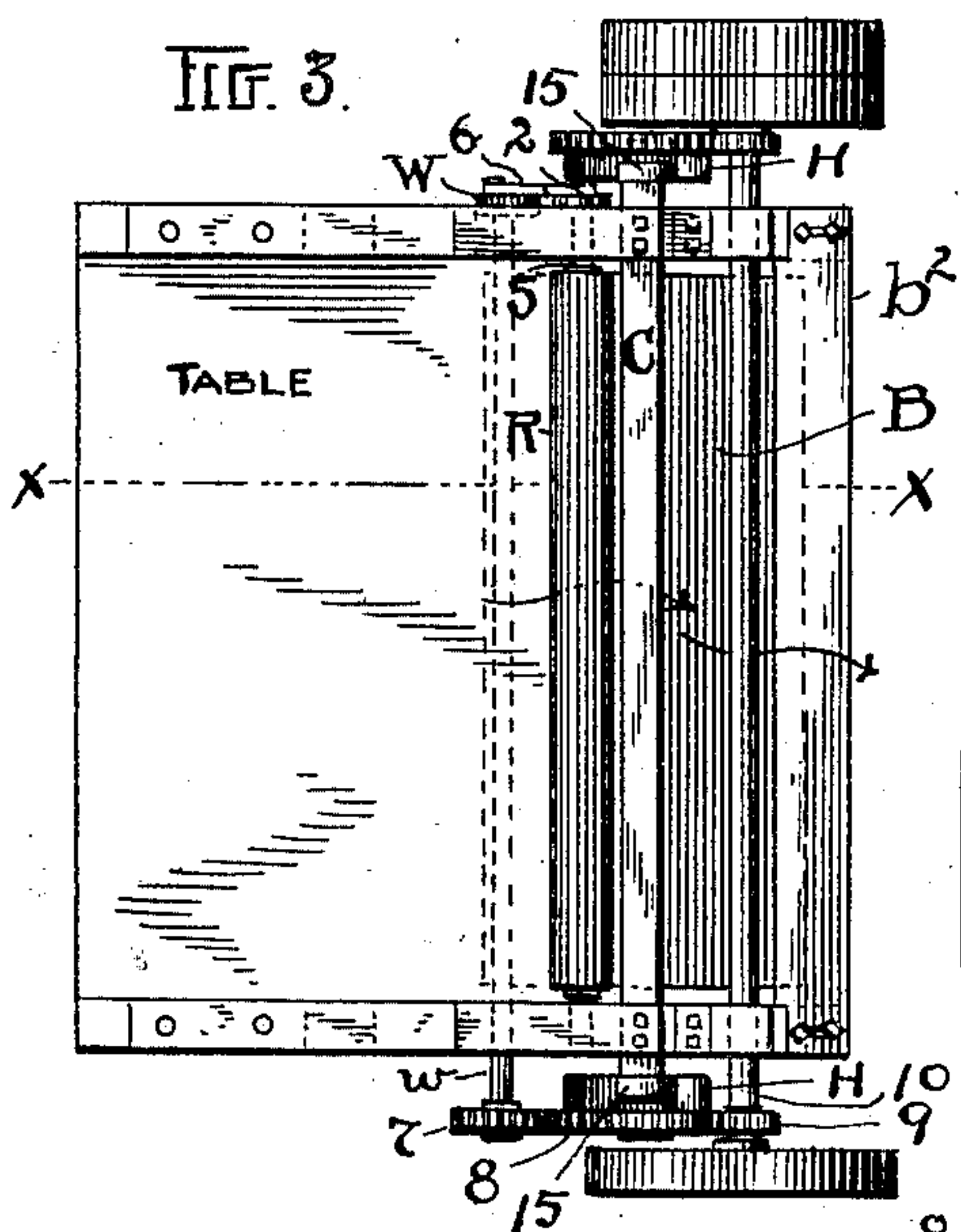
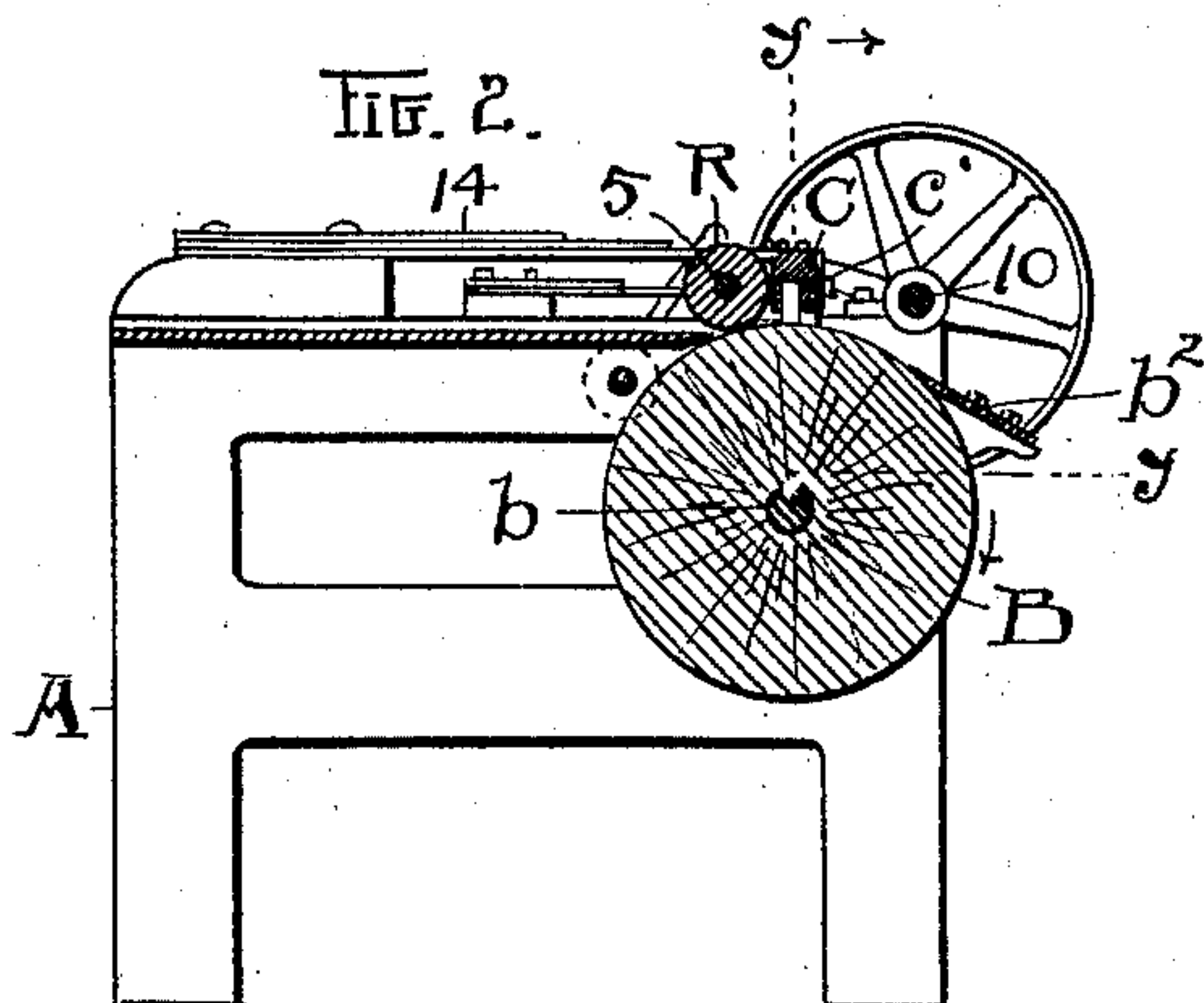
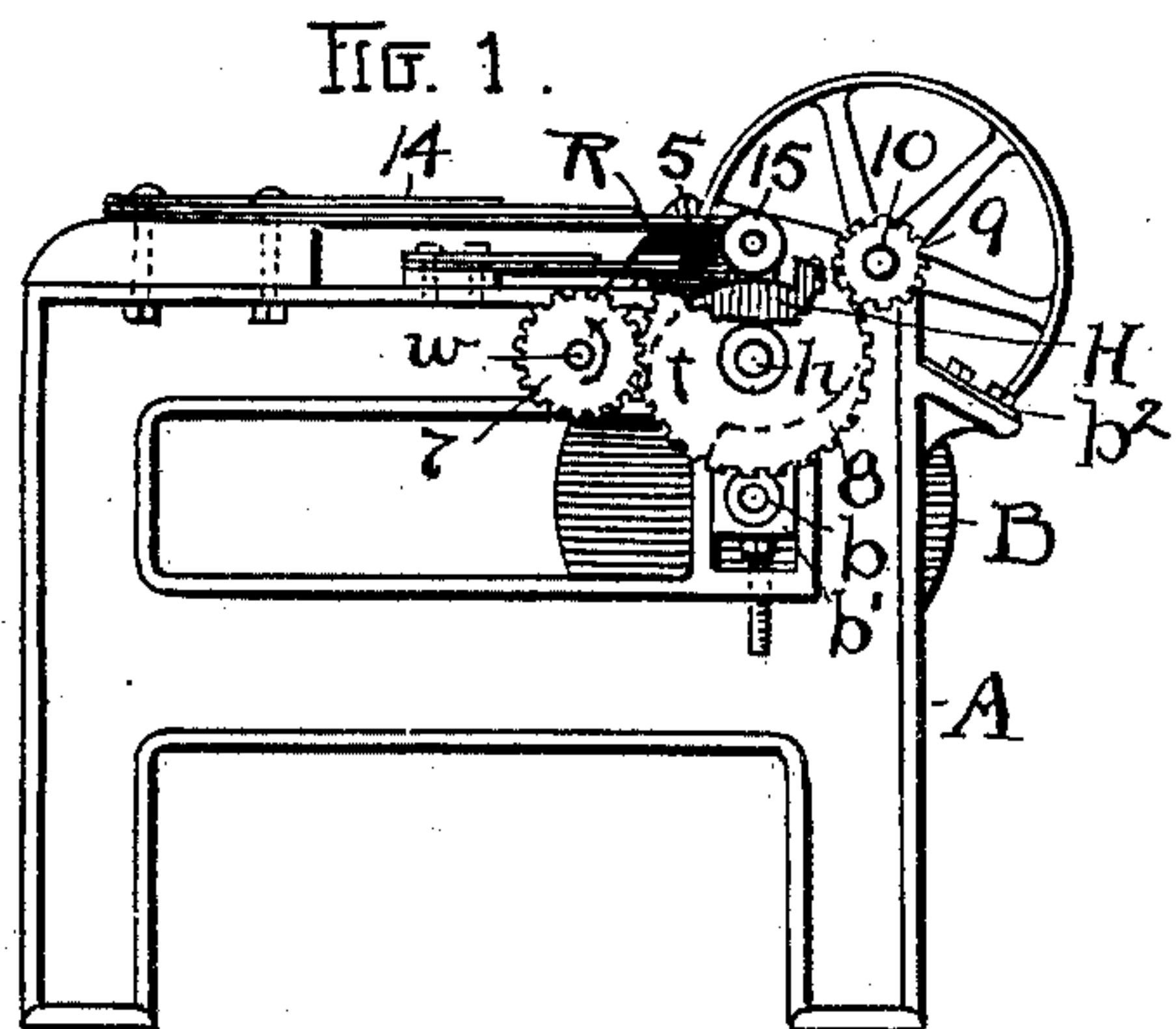
No. 718,982.

PATENTED JAN. 27, 1903.

W. B. COBB.
CARPET STRIP CUTTING MACHINE.

APPLICATION FILED FEB. 25, 1902.

NO MODEL.



ATTEST

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WILLIAM B. COBB, OF CLEVELAND, OHIO.

CARPET-STRIP-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 718,982, dated January 27, 1903.

Application filed February 25, 1902. Serial No. 95,516. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. COBB, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Carpet-Strip-Cutting Machines; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a carpet-strip-cutting machine which is adapted to cut old carpets into strips of certain predetermined widths and to slit and fray the same along both edges for the purpose of weaving the strips into rugs, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my new and improved machine. Fig. 2 is a longitudinal sectional elevation thereof on a line corresponding to xx , Fig. 3; and Fig. 3 is a plan view of the machine. Fig. 4 is a cross-section, enlarged, on line yy , Fig. 2. Fig. 5 is a detail view of pawl and ratchet-wheel and a crank for controlling the same, as hereinafter fully described and seen in plan view, Fig. 3. Fig. 6 is a detail cross-section of the cutter-head on line zz , Fig. 4, showing the cutters in position thereon and a section of the cutter roll or block; and Fig. 7 is a plan view of a piece of carpet upon which the machine has operated and showing a severed strip with its edges slit and presumably frayed at the edges of the slits.

Heretofore machines used for this purpose have been essentially crude and slow in operation as well as unsatisfactory in product. Probably the most popular and successful method or way of doing this work was first by the use of a wooden table, which was provided with slots a requisite distance apart and on which the carpet in one or more thicknesses was laid to be cut and the cutting was done by means of a knife not unlike a hand-saw, but without teeth, and which penetrated these slots through the carpet and did the cutting or slitting, thus severing the carpet

into transverse strips, say, three-fourths of an inch wide. Generally several thicknesses of carpet were laid on the table together, and the cutting was done through all of them and the slots thus described. This was exceedingly hard work and very slow, as already indicated, for it was both slow and difficult to force the cutter through so many carpets and so small a slot as was required. From this preliminary step in the work the severed strips were run through a device which slit the edges of the strips and frayed them out as this work requires. This latter machine has always given much trouble, because it gets dull so quickly and does not give satisfactory results. In this machine also there were two sets of rolls—two on top, spaced apart somewhat and grooved with substantially V-shaped grooves, and below was a single hard roll on which the others run. Altogether, however, this method of preparing material for weaving lacked in many particulars of being satisfactory, and hence I have produced a machine in which the whole work of slitting and cutting and fraying is done at the same time, as will be seen, and successfully and rapidly.

Referring now to the drawings, A represents a suitable frame, and B a hard-wood revolving base roll or cylinder supported on a shaft b in adjustable bearings b' to raise the roll as the surface thereof may be worn in operation. This roller, however, is designed to be of very firm and hard wood, preferably with the grain in line with the series of knives or cutters that operate thereon, so that the best service may be obtained from such roll, and it is further provided with a cleaning blade or knife b^2 , which is adapted to keep its surface clean and even. Said blade is adjustable so as to be adapted to the roll in its larger and smaller sizes as it becomes worn away.

The machine is of sufficient width to take in the largest width of carpet—say forty inches—on its feed-surface, and the carpet is fed in a single piece endwise into the machine, where it is received by feed-roller R. Said roller has an intermittent movement to accommodate the feed to the action of the knives or

cutters, as will be seen, and at one end of its shaft 5 has a ratchet-wheel 2, controlled by pawl 3, and an oscillating lever on arm 4 to rotate said shaft 5, and said arm is operated by a link 6, adjustably mounted on a crank-wheel W on shaft *w*. This shaft is rotated by gear 7, meshing with the gear 8, which is driven from the pinion 9 on the drive-shaft 10. This or equivalent power-communicating mechanism may be employed in the actuation of the parts thus described.

Assuming that the feed-roll R is at work, as it is when the wheel W is making the outer circumference of its rotation, as indicated in Fig. 5, and that the ratchet-wheel 2 and the shaft on which it is supported are thereby turned, the roll R is rotated and the carpet is then fed or carried forward the width of one strip 12 to be cut, as seen in Fig. 7. Here the said strip is not only shown as severed from the carpet, but is also transversely slitted along both edges toward its center, but leaving a central portion or middle strip uncut. When the feed has gone thus far, the further rotation of feed-roller R ceases for a time sufficient to permit the cutters to do their work. To this end I provide a cutter-head C, which has set into it a series of transverse slit-cutting blades *c*, which have a width of cut equal to double the depth of the transverse slits that are made along the edges of strip 12. Then on the same head or bar C, and on the outside thereof in this instance, I have a single cutter blade or knife *c'*, which severs the slotted portion of the carpet midway across the line of the slits produced by the cutters *c* and detaches a strip 12, and this cutting action by both sets of cutters occurs at the same time and uniformly upon roll B as a base or block upon which the cutting is done, the action being of a chopping kind, and hence having the cutters suitably sharpened is always thoroughly effective.

The cutter head or bar C has an up-and-down movement within limits, the rise being sufficient to give such drop and effectiveness in cutting when the drop occurs that the slitting of the carpet upon roll B will be thoroughly done. To this end I employ a set of double cams H at each side of the machine on short shaft *h*, which is rotated by gear from pinion 9 and which is timed to raise the head C and to hold it in raised position above the carpet while the roll R is doing its work. Then as the said roll stops the head C is suddenly dropped from off the extremity of cams H, and the fall is emphasized by springs 14, affixed at one end to said head and at the other end to the machine and designed to make an effective blow or stroke by the cutters upon the carpet, with roller B as the cutting-base. I may also and preferably use rollers 15 at the ends of head C, which are engaged by cams H to give ease to the movements. I also show in this instance a set of

cleaner-bars 16, Fig. 6, which are at the edges of the cutters and blade on the cutter-head and prevent the carpet from being lifted thereby when the head is raised to let the carpet pass.

The severed strips 12, Fig. 7, are transferred from plate *b*² to such other place as may be provided.

It will be seen in Fig. 4 that the cutters *c* have beveled cutting edges, the bevel in this instance being on both sides and are placed in the cutter-head and temporarily fastened by a screw in this instance. They may be removed for sharpening when this becomes necessary and replaced.

The large gears 8 on each side of the machine and cams H are supported together in this instance on suitable short projections or spindles fixed to frame A.

What I claim is—

1. In a carpet-strip cutting and fraying machine, a cutter-head and a series of cutters therein arranged to produce slits lengthwise in the carpet, and a blade lengthwise on said head to sever the carpet into strips transversely, intermittent mechanism at the ends of said cutter-head to raise the same, and springs to augment the drop of said head, substantially as described.

2. In a carpet-strip cutting and fraying machine, a roll serving as a cutting-base, in combination with a cutter-head having a series of cutters at equal intervals apart transversely of the machine and over said roll, and an eccentric roll at each end to raise said head, substantially as described.

3. In a carpet-strip-cutting machine, a cutter-head transversely of the machine and a series of slit-cutters in said head, means to raise said head at given intervals, a revolving base supporting the carpet and receiving the stroke of said cutters, and intermittent feed mechanism for the carpet, substantially as described.

4. In a carpet-strip cutting and fraying machine, a revolving roll, in combination with a series of slit-cutters in a row transversely of the machine and means to raise said cutters, a feed-roll in advance of said cutters and intermittent ratchet mechanism to rotate said roll, substantially as described.

5. In a machine of the kind described, a suitable roll and means to rotate the same, in combination with a series of slit-cutters and a transverse cutting-knife, means to raise and lower said cutters and mechanism to give an intermittent feed of the carpet to said cutters and knife, substantially as described.

6. In a carpet cutting and slitting machine, a feed-roll and means to rotate said roll intermittently, in combination with a set of slit-cutters and a transverse severing-blade, and means to suspend said cutters and blade when the feed-roll is operating, substantially as described.

7. A machine as described, comprising a series of slitting-cutters and a severing-blade, and means to suspend said cutters and blade intermittently, in combination with a feed-
5 roll and means to actuate said roll when the said cutters and blade are suspended, substantially as described.

Witness my hand to the foregoing specification this 15th day of February, 1902.

WILLIAM B. COBB.

Witnesses:

R. B. MOSER,
T. M. MADDEN.