

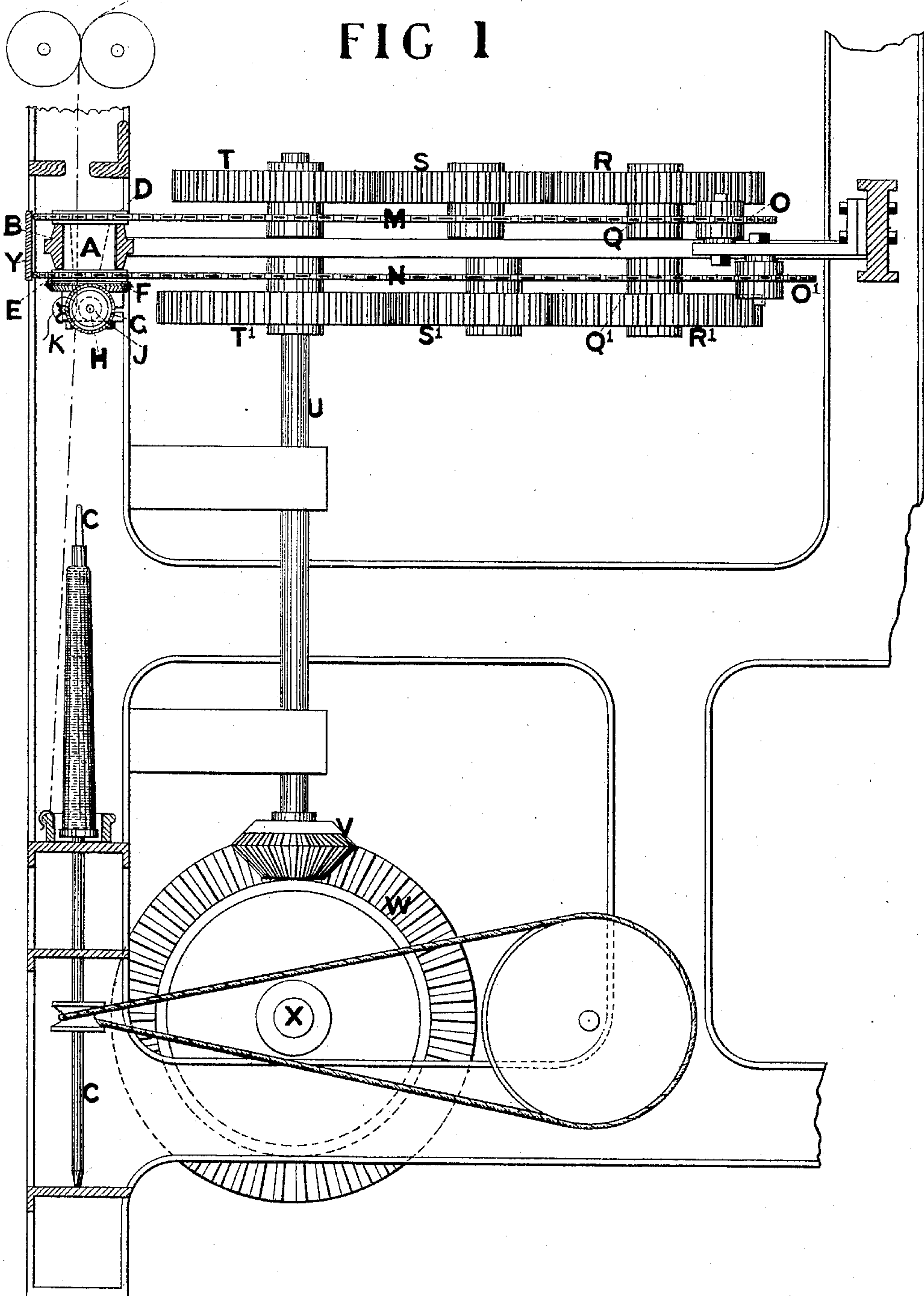
(No Model.)

3 Sheets—Sheet 1.

J., A., & M. PORRITT & W. H. FENTON.
SPINNING FRAME.

No. 436,326.

Patented Sept. 9, 1890.



Witnesses.
John T. Walsh
Henry D. Groves

Inventors.
Josiah Porritt
Albert Porritt
Marshall Porritt
William Henry Fenton

(No Model.)

3 Sheets—Sheet 2.

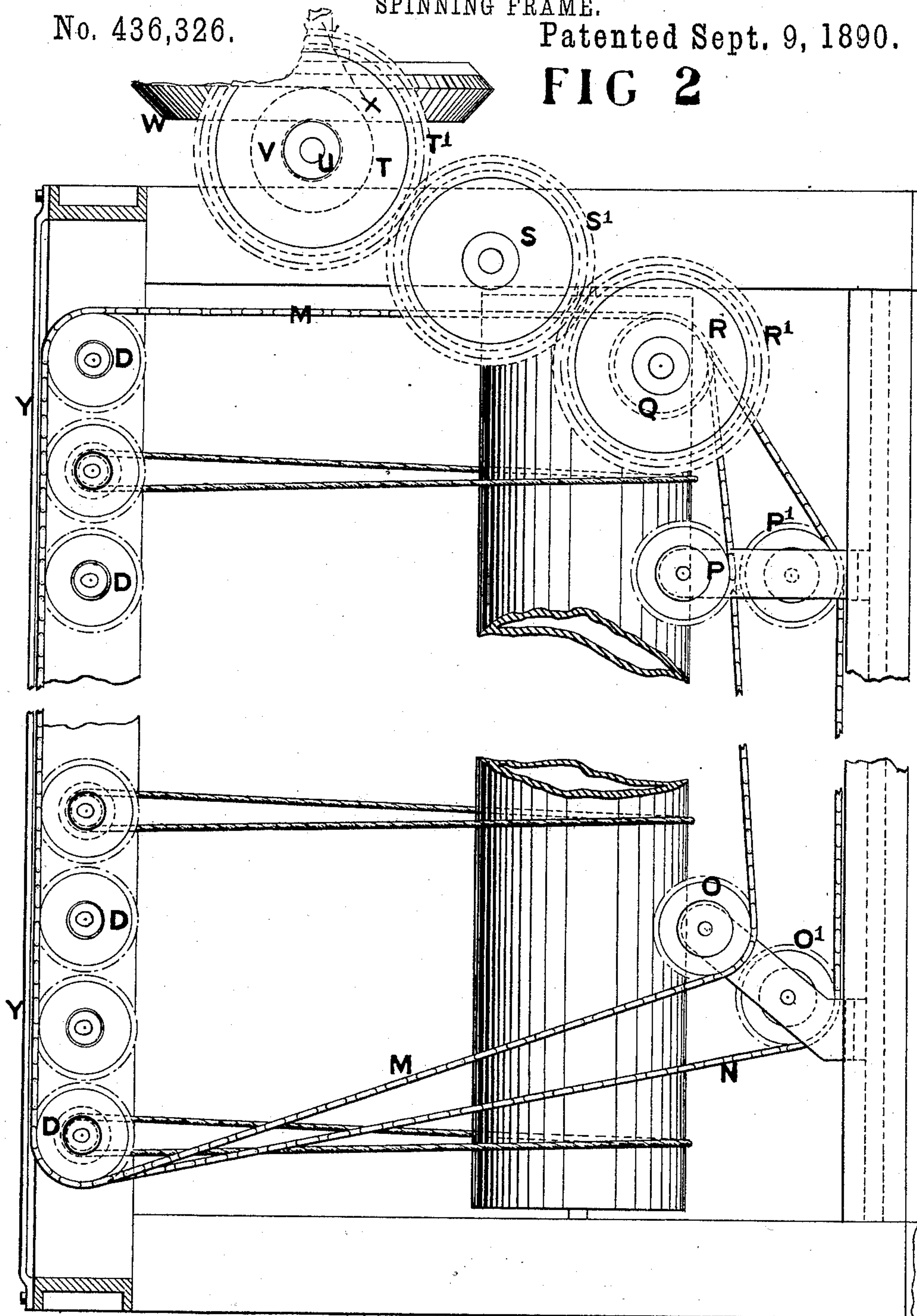
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FIG 2



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FIG 3

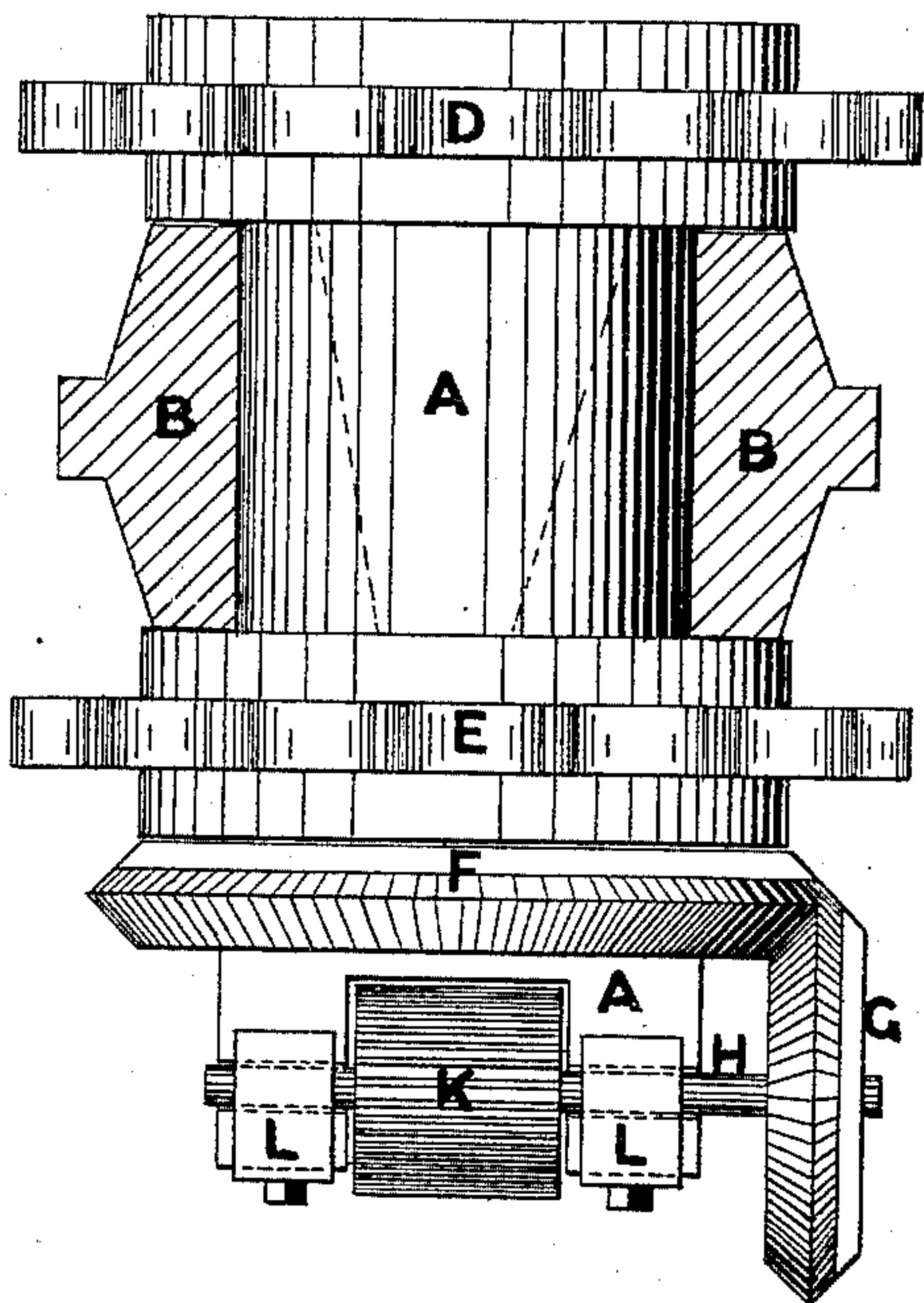


FIG 4

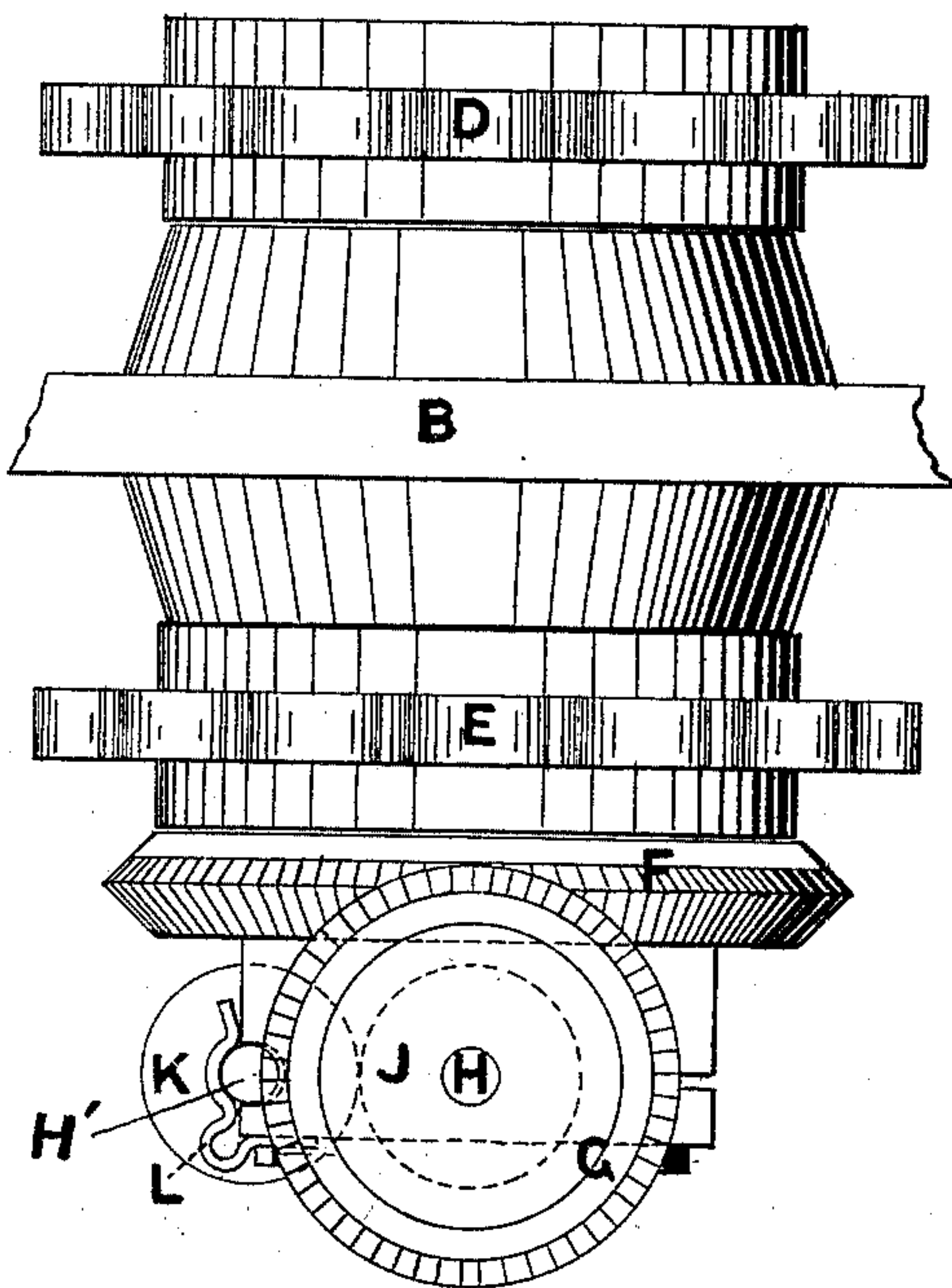


FIG 5

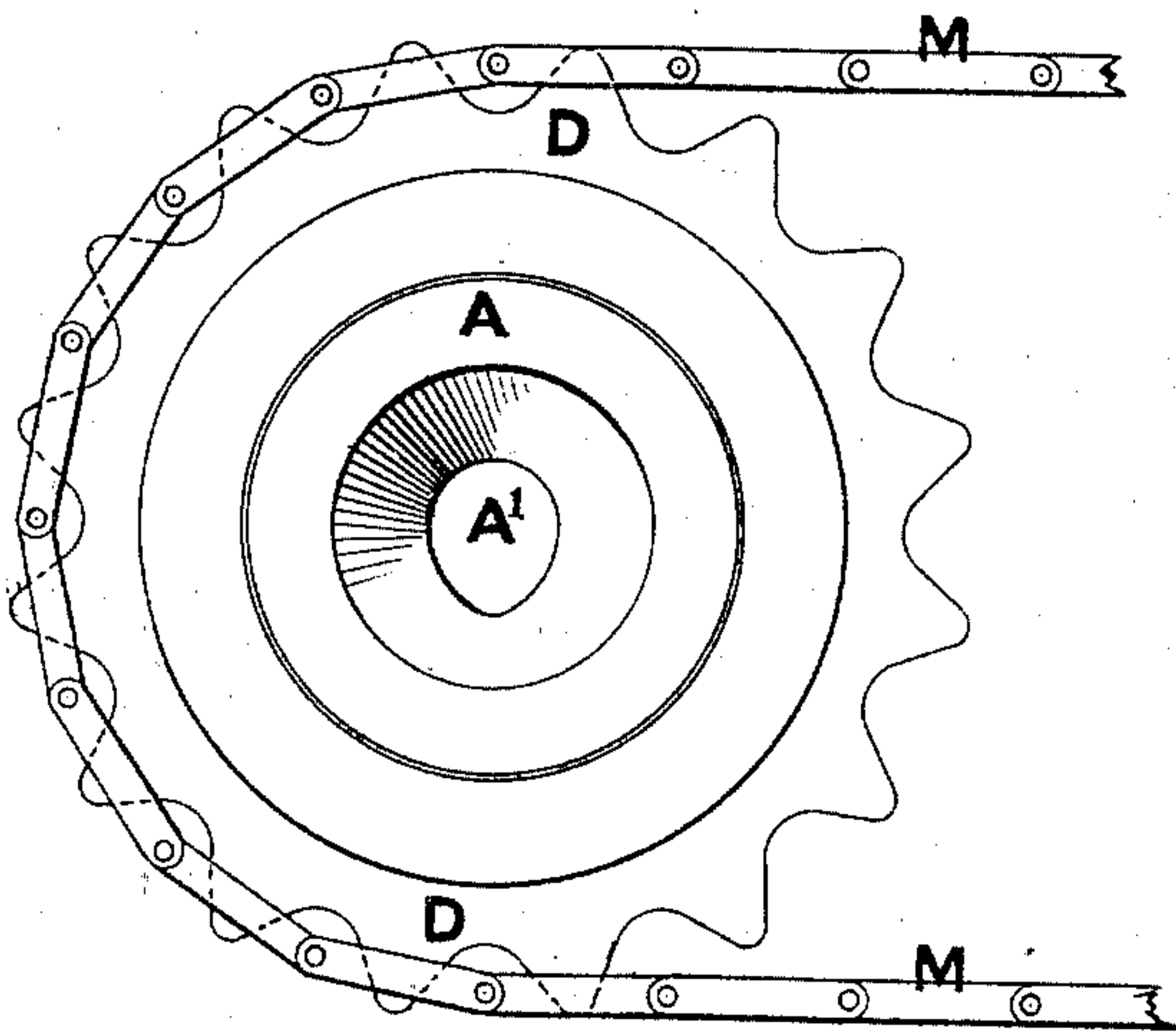
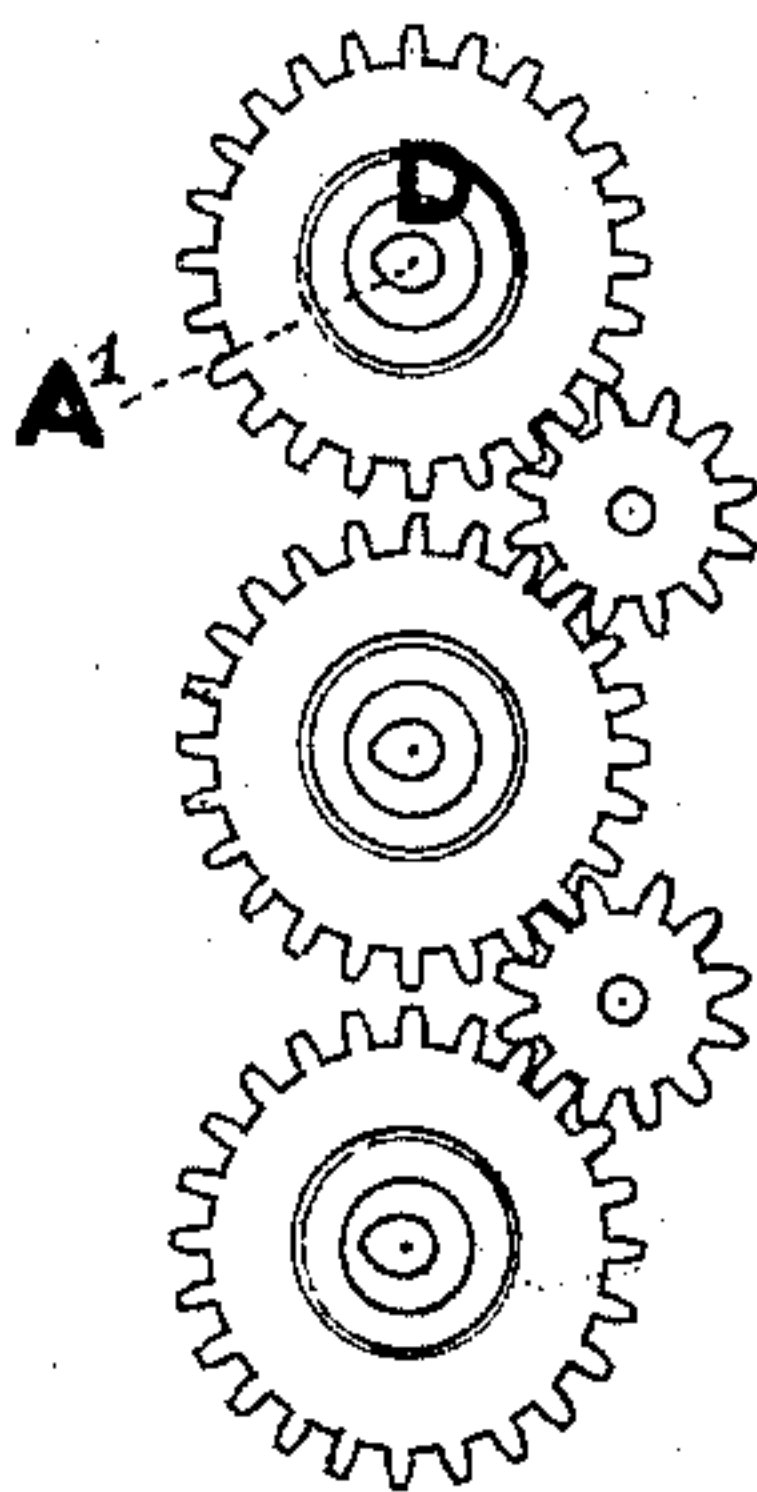


FIG 3^A



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UNITED STATES PATENT OFFICE.

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SPINNING-FRAME.

SPECIFICATION forming part of Letters Patent No. 436,326, dated September 9, 1890.

Application filed July 20, 1889. Serial No. 318,180. (No model.) Patented in England September 21, 1888, No. 13,649.

To all whom it may concern:

Be it known that we, JOSIAH PORRITT, scribing overlooker, of Laurel Street, Bradford, ALBERT PORRITT, licensed broker, of Meadow Lane, Leeds, MARSHALL PORRITT, machine-maker, of Leeds Road, Bradford, and WILLIAM HENRY FENTON, shoddy and mungo manufacturer, of Field Lane, Batley, all in the county of York, England, subjects of the Queen of Great Britain, have invented certain new and useful Improvements in Spinning-Frames, (for which we have obtained a patent in Great Britain, No. 13,649, bearing date September 21, 1888,) of which the following is a specification.

This invention has for its object to improve and simplify that type of twisting-heads for spinning frames or machinery wherein a rotating roving-tube and drawing and twisting rollers are employed so that as the tube rotates the rollers revolve on their axes and also travel in a circle to both draw and twist the fiber.

Our invention involves the features of construction, the combination or arrangement of devices, and the principles of operation, hereinafter described in detail, and specifically set forth in the claims, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional end elevation of a portion of a spinning-frame, showing our invention applied thereto. Fig. 2 is a broken plan view of the same. Fig. 3 is a side elevation, on an enlarged scale, of the twisting-head, showing its supporting-rail in section. Fig. 3^a is a top plan view showing modified mechanism for rotating the cylindrical bearing or roving-tube. Fig. 4 is a front elevation of the twisting-head, showing the supporting-rail broken away. Fig. 5 is a top plan view of the twisting-head, showing a portion of one of the endless chains for operating the same.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, referring to the drawings, where the letter A indicates the roving-tube, or, as we will term it, the "rotary cylindrical bearing," carried above each spinning-spindle C in the fixed rail B of the frame.

Upon the said bearing, above and below, are

chain-wheels D and E. The chain-wheel D above the rail B is keyed upon the bearing A, and the chain-wheel E below the said rail is loose upon the bearing and has upon its under side the bevel or miter wheel F, gearing into a smaller bevel or miter wheel G upon the spindle H, carried by the bearing A.

Upon the above-named spindle H is the fluted or plain roller J, which drives a second fluted or plain roller K upon a spindle H', carried also on the lower part of the bearing A, and held in contact with the roller J by springs L. The bearing A has an oblong conical orifice A' extending therethrough in a vertical plane for the passage of the yarn (being spun or twisted) to the drawing-rollers J and K, which are rotated along with the bearing A, as well as rotated upon their spindles at the same time, thereby putting in the necessary twist as well as drawing the yarn or giving the required draft. The chain-wheels D and E are driven separately by chains M and N, the top chain M passing over the guide-wheels O P to the chain-wheel Q, upon the same stud with which is the gear-wheel R, which gears with the change-wheel S, which is operated by gear-wheel T upon the vertical shaft U, operated by bevel-wheels V and W and driving-shaft X. The bottom chain passes in a similar manner over the guide-wheels O' P' to the chain-wheel Q', upon the same stud with which is the gear-wheel R', which gears into change-wheel S', which is operated by gear-wheel T' upon the vertical shaft U, as before described. Both chains are held in position by a guide-rail V, fixed in front of the frame.

Instead of the chains, as aforesaid, gear-wheels, as shown at Fig. 3^a, may be employed for driving the bearings A.

Our invention is shown in the annexed drawings as applied to "ring" spinning and twisting frames, but may be applied to "fly" or "cap" frames. The spindle C is located below the twisting-head and is rotated in any suitable or well-known manner.

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

1. The combination, in a spinning-frame, of

the rail, the cylindrical bearing journaled in the rail and having a conical roving-passage, the chain-wheel fixed to the bearing above the rail, the chain-wheel loose on the bearing below the rail and provided with an attached bevel-gear, the drawing and twisting rollers journaled on the bearing beneath said loose chain-wheel and its bevel-gear, a bevel-gear connected to one of the rollers, and a pair of parallel drive-chains, substantially as described.

2. The combination, in a spinning-frame, of the rail, the rotary cylindrical bearing extending through and supported by the rail, a drive-wheel fixed to the bearing above the rail, a drive-wheel loose on the bearing below the

rail and having an attached bevel-gear, the drawing and twisting rollers journaled to the bearing below the loose drive-wheel and its bevel-gear, a bevel-gear connected to one of the rollers, and means for driving the drive-wheels above and below the rail, substantially as described.

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