

No. 774,895.

PATENTED NOV. 15, 1904.

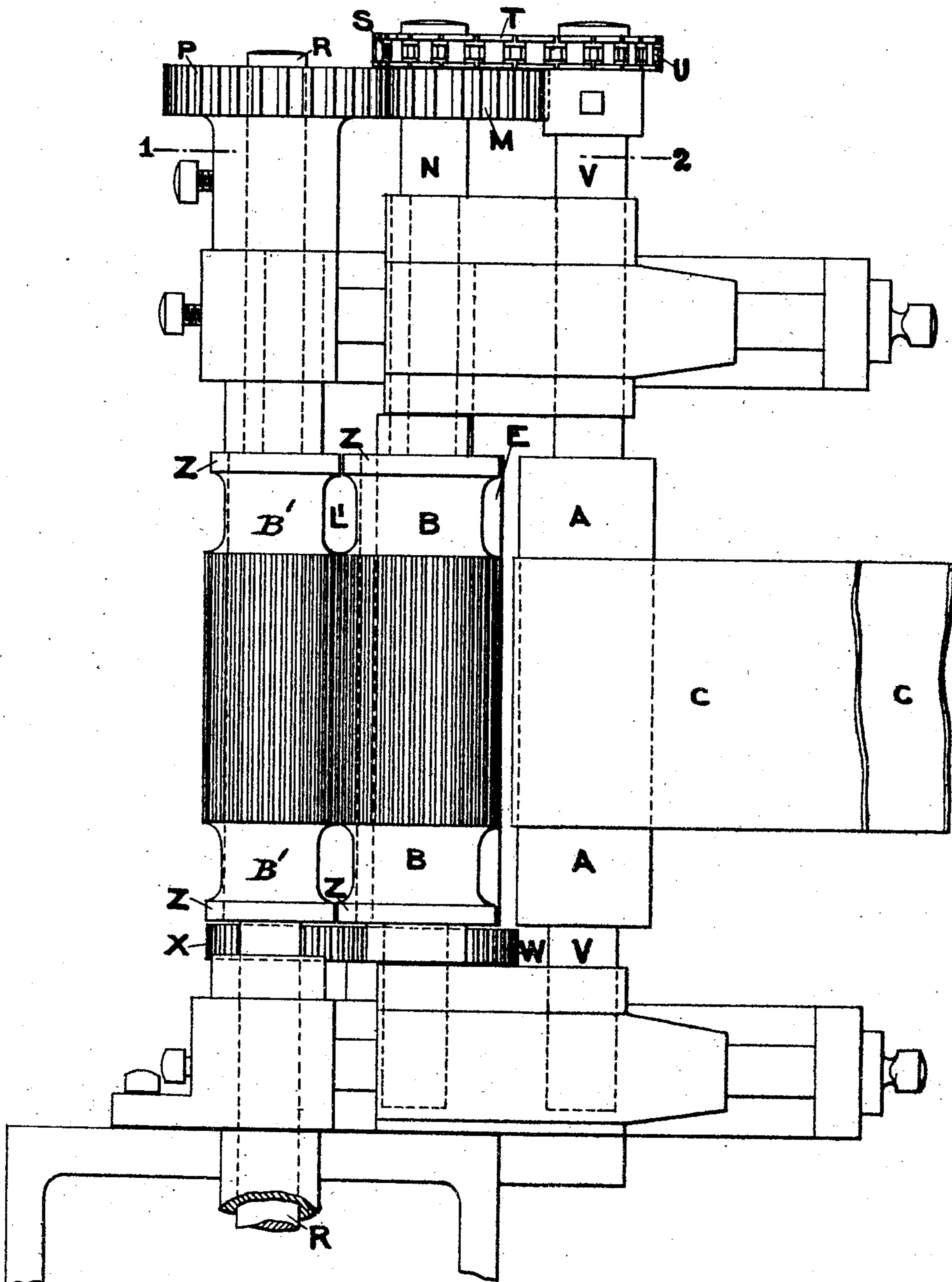
J. ROBERTSHAW.
CIRCLE COMB.

APPLICATION FILED OCT. 26, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

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Herbert Wilcock

INVENTOR

Jesse Robertshaw
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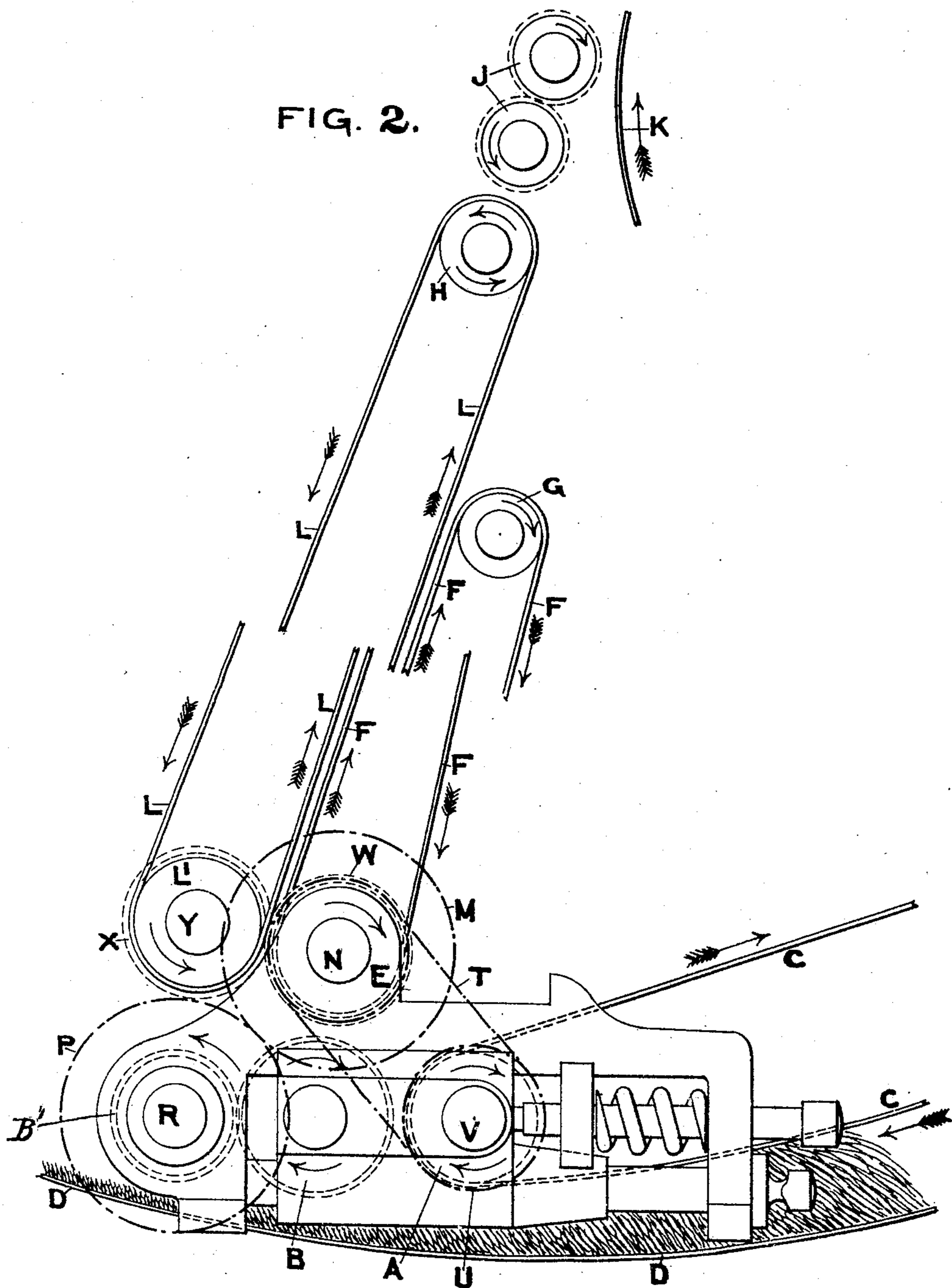
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3 SHEETS—SHEET 2.



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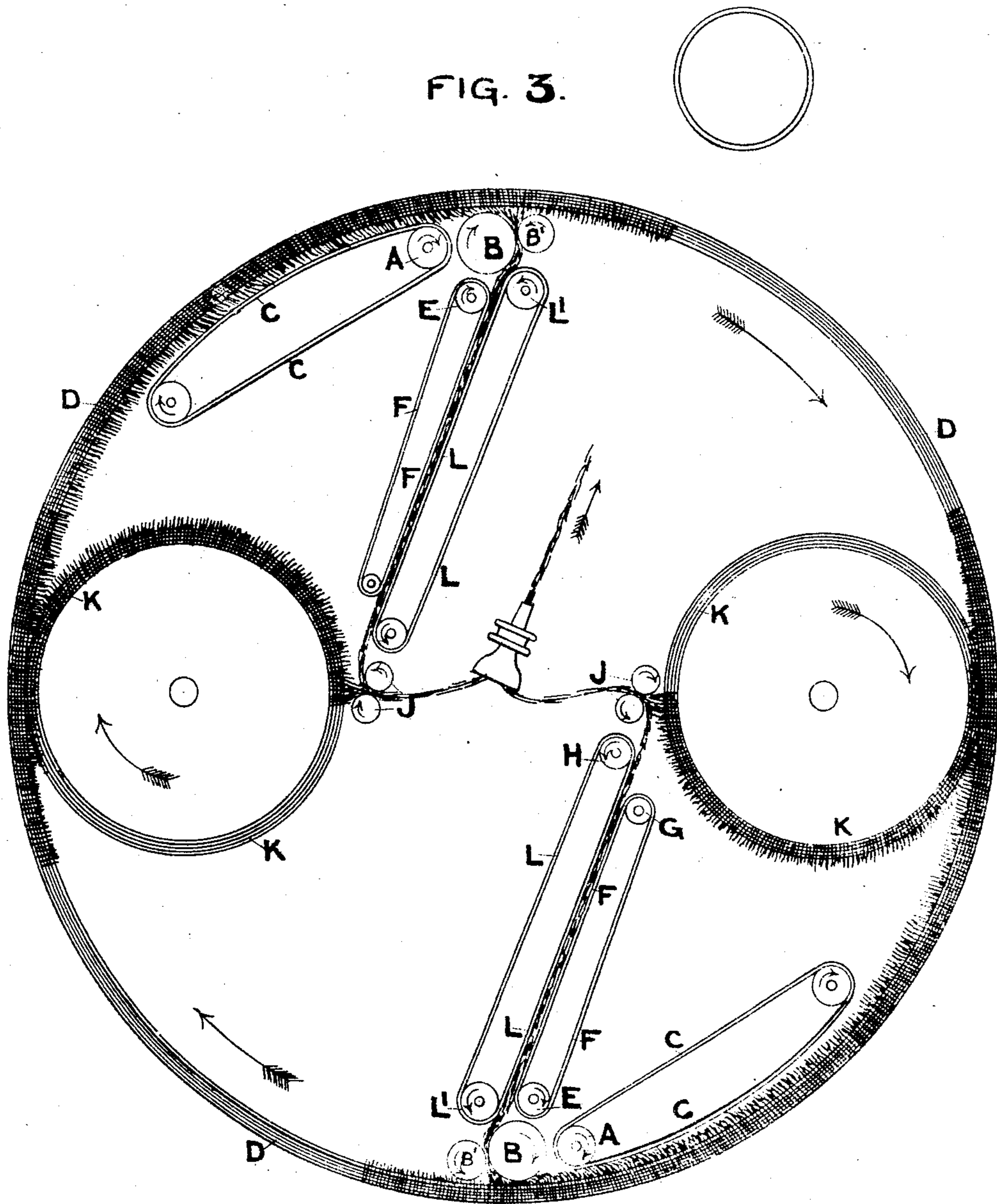
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CIRCLE COMB.

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NO MODEL.

3 SHEETS—SHEET 3.

FIG. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JESSE ROBERTSHAW, OF HECKMONDWIKE, ENGLAND.

CIRCLE-COMB.

SPECIFICATION forming part of Letters Patent No. 774,895, dated November 15, 1904.

Application filed October 26, 1903. Serial No. 178,621. (No model.)

To all whom it may concern:

Be it known that I, JESSE ROBERTSHAW, a subject of the King of Great Britain, and a resident of Heckmondwike, in the county of York, England, have invented new and useful Improvements in Circle-Combs, of which the following is a specification.

My invention relates to improvements in wool-combing machinery, and has for its object the prevention of the extraordinary wear and tear hitherto taking place in the carrying aprons or leathers of Noble's wool-combing machines or the like. Hitherto it has been customary to drive the said leathers or aprons by passing the same between the fluted drawing-off rollers. In doing so such leathers were subjected to the nip of the rollers and became corrugated or fluted in a corresponding degree, greatly weakening or breaking up the fiber of the leathers at these parts, so that the lives of said leathers might be anything from a few hours to a few days, a foreign substance or an extra thickness or quantity of sliver being sufficient to break such leathers owing to their having become weakened by the corrugations and nip aforesaid. These constant breakages and renewals mean loss of time and considerable expense.

My improvements consist in so mounting these carrying aprons or leathers that they are not subject to the nip of or driven directly by the fluted drawing-off rollers, consequently are not subject to any wear and tear beyond that incurred in carrying the fibers from the drawing-off rollers of the large circle to the drawing-off rollers of the little circles. In this manner there are no stoppages or time lost from frequent breakages and renewals, the lives of such leathers are prolonged indefinitely, and a great saving is effected in reducing such breakages and renewals to a minimum.

In the accompanying drawings similar letters refer to similar parts throughout the several views.

Figure 1 is a front view of drawing-off rollers of the large circle with my improvements applied. Fig. 2 is a plan view of Fig. 1 through the line 1 2. Fig. 3 is a diagram of the large and little circles of a Noble or round

combing-machine with my improvements applied.

In carrying out my invention I preferably employ an additional or vertical jockey-roller A to the right of and in close proximity to the driven roller B of the fluted drawing-off rollers B B'. Over this roller A and a second roller (shown in Fig. 3 farther to the right) travels the endless stroking-apron C for carrying or guiding the fibers upon the large circle D direct to the nip of said drawing-off rollers. This apron C hitherto passed between and was driven by the drawing-off rollers and acted as stroking and carrying apron for carrying the sliver from the large circle to the drawing-off rollers and from thence to where it united with the sliver coming from the little circle. I now obviate this by employing a second vertical jockey-roller E immediately behind the driven roller B and an additional apron F, the latter traveling round this roller E and the ordinary back roller G. A further roller H, adjoining the drawing-off rollers J of the little circle K, is employed, around which travels the other carrying-apron L from roller L'. Any adjusting mechanism suitable for giving the necessary tension to the endless aprons may be employed in order to prevent them slipping.

I preferably drive the jockey-roller E by means of a pinion-wheel M upon its shaft N, gearing with and operated by a similar pinion P upon the driving-roller shaft R. A chain-wheel S upon the shaft N operates by chain T a chain-wheel U upon the jockey-roller shaft V of the stroke apron or leather C.

The roller L' and apron L are operated by a pinion W upon shaft N, gearing with a similar pinion X upon the shaft Y. These pinions W and X are placed below their respective rollers E and L'. By these means the fibers are carried or guided by the stroke-apron C in the direction indicated by arrows to the drawing-off rollers, where they are seized and passed forward to the carrying-aprons F L, which feed them forward to the drawing-off rollers J of the little circle. In this manner the aprons do not pass between or are subjected to the nip of the drawing-off rollers, but simply pass round their respective

rollers in feeding or guiding the sliver, so that the whole of the wear and tear incurred is that from the tension put upon them by the fibers and in driving same.

5 I also prefer to employ drawing-off rollers with suitable collar-bearings Z above and below and make the flutings in said rollers much finer or more numerous than hitherto. The collars Z upon each roller are in contact when
10 the said rollers are in position and regulate or adjust the position of such drawing-off rollers one with the other sufficient for the driving-roller to operate the driven roller, draw off the fibers from the comb, and prevent
15 the rib of one roller bedding against or within the corresponding recess in the other roller. In this way there is sufficient space for the passage of the fibers without undue nip or injury to the same.

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

In a circle-comb, the combination, with a large circle D, and a small circle K; of a pair

of fluted drawing-off rollers B B' arranged adjacent to the said large circle, an endless
25 stroking-apron C arranged adjacent to the said large circle and provided with a driving-shaft V, a second pair of fluted drawing-off rollers arranged adjacent to the said small circle, two
30 endless carrier-aprons F and L for conducting a sliver in a direct line from the rollers B B' to the rollers J, the said apron F being provided with a driving-shaft N, toothed driving-wheels W and X operatively connecting the
35 said carrier-aprons together, chain-wheels S and U and a drive-chain T operatively connecting the said shafts V and N, and intergearing toothed wheels M and P secured respectively on the said shaft N and on the driving-shaft of
40 the said roller B'.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JESSE ROBERTSHAW.

Witnesses:

THOS. B. HANSON,
WM. HOWARTH.