

No. 704,203.

Patented July 8, 1902.

J. MOORHOUSE.

PULLEY AND BAND POWER TRANSMITTING APPLIANCE.

(Application filed Mar. 1, 1901.)

(No Model.)

2 Sheets—Sheet 1.

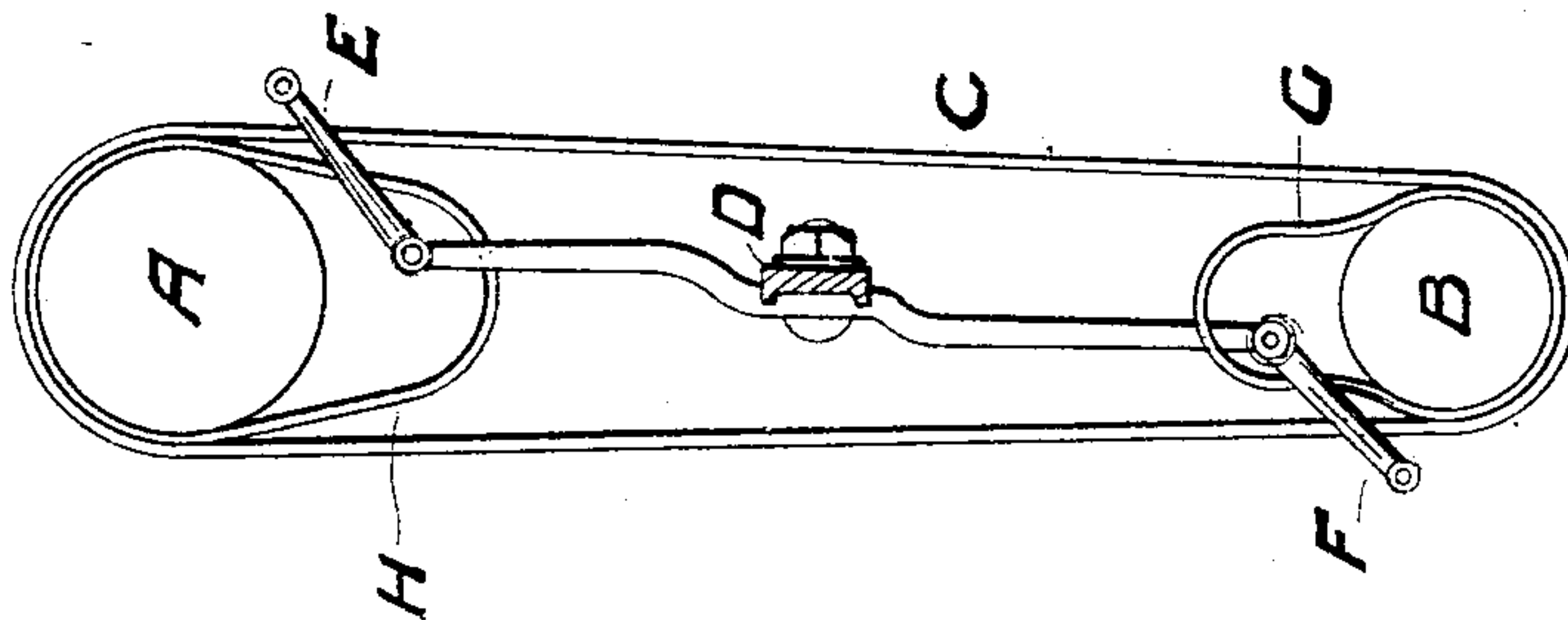


FIG. 2.

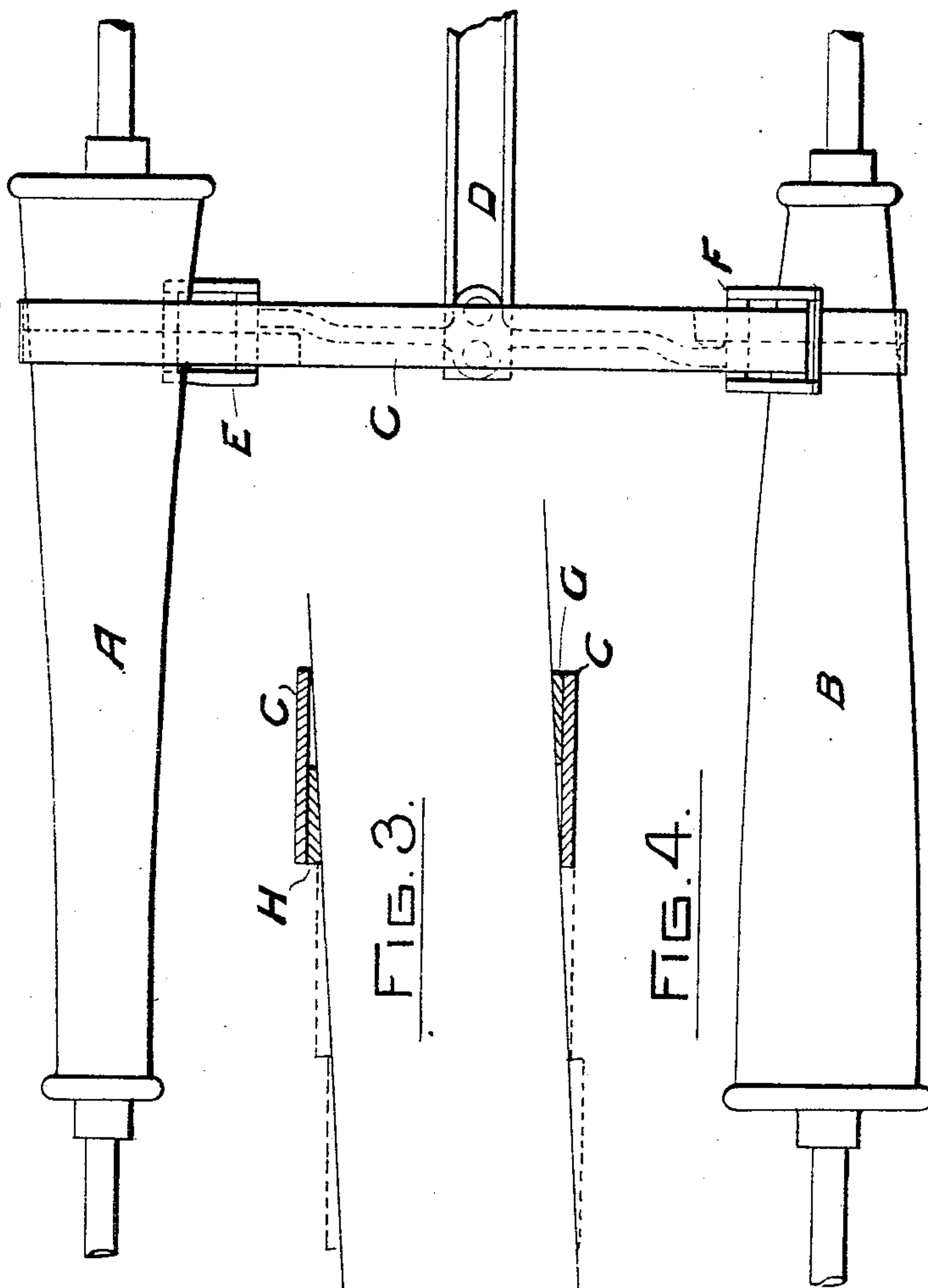


FIG. 1.

Witnesses:
Geo. H. Potts.
John Camp.

INVENTOR:
Joseph Moorhouse.
By his Attorney: Walter Gunn.

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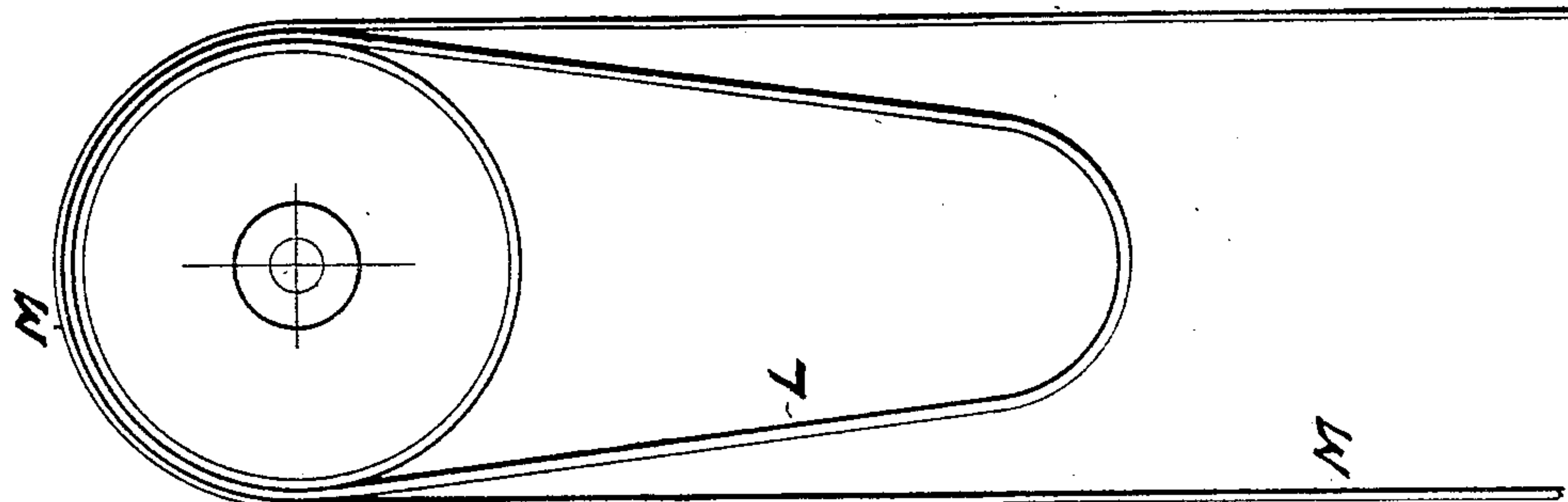


FIG. 8.

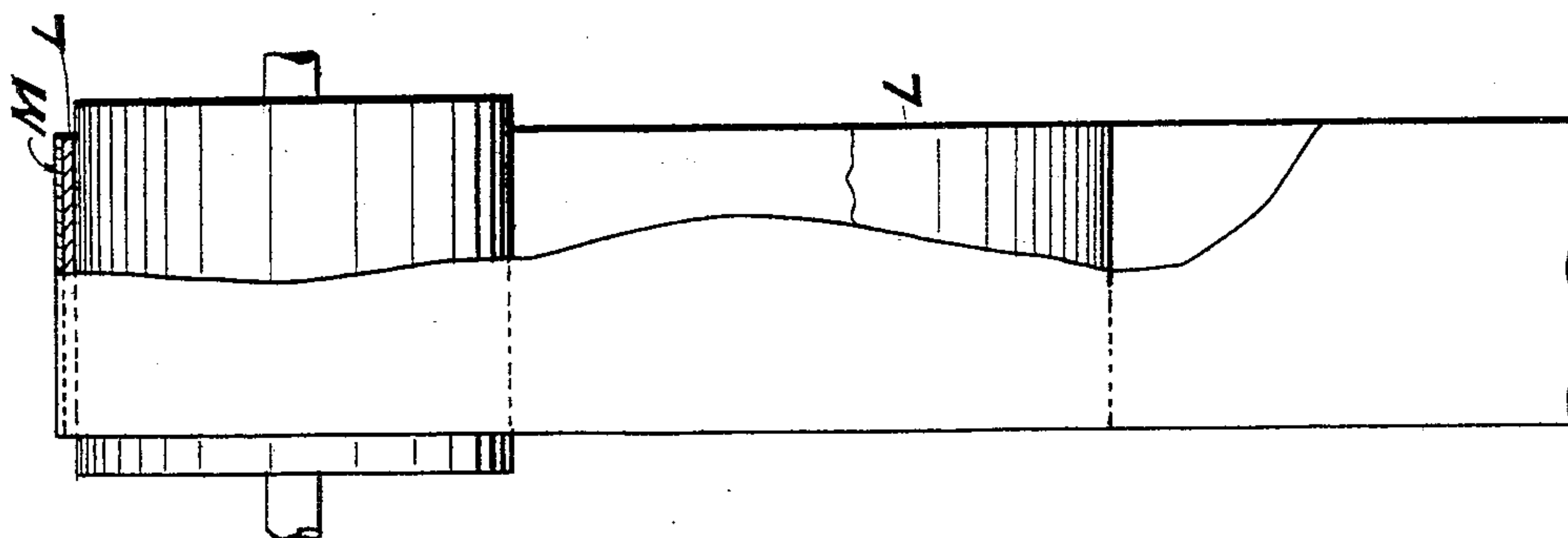


FIG. 7.

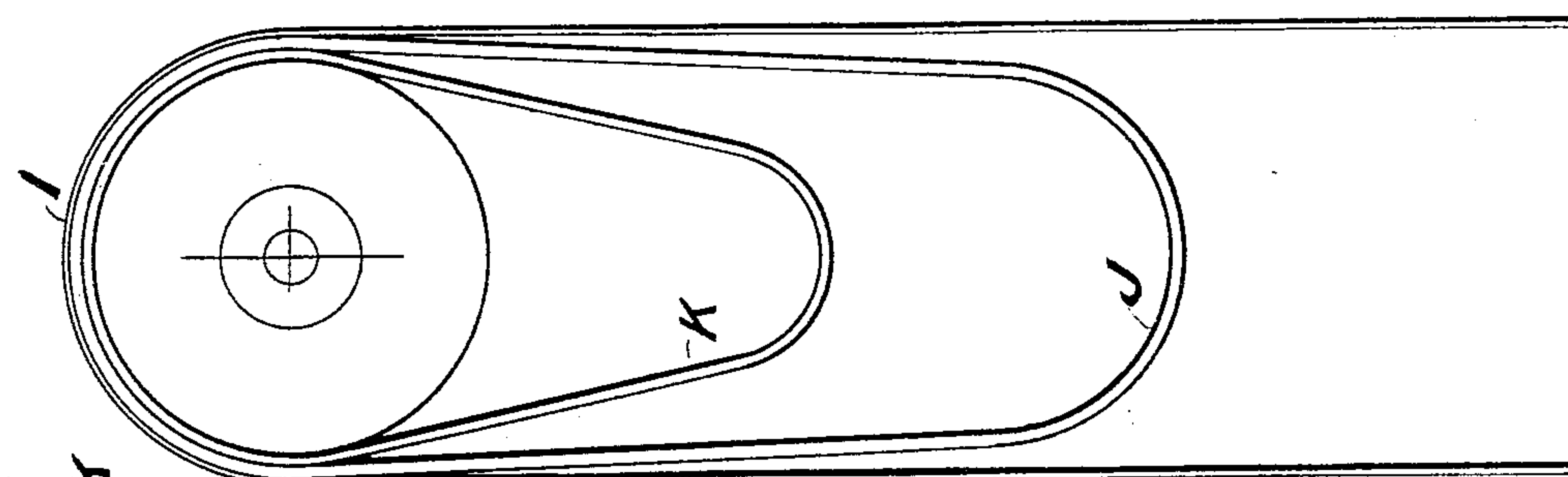


FIG. 6.

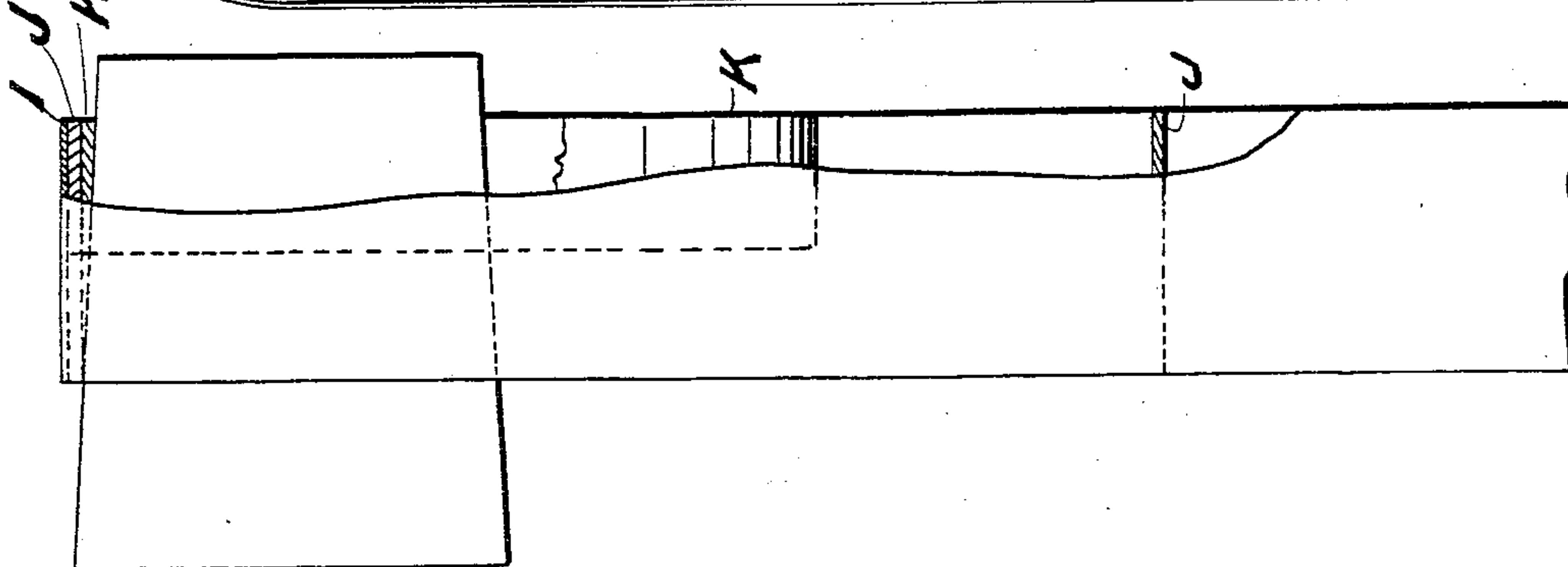


FIG. 5.

Witnesses:
Geo H Potts
John Camp.

INVENTOR:
Joseph Moorhouse
By his Attorney: Walter Gurne.

UNITED STATES PATENT OFFICE.

JOSEPH MOORHOUSE, OF ASHTON-UNDER-LYNE, ENGLAND.

PULLEY-AND-BAND POWER-TRANSMITTING APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 704,203, dated July 8, 1902.

Application filed March 1, 1901. Serial No. 49,503. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MOORHOUSE, a subject of the King of Great Britain and Ireland, and a resident of Ashton-under-Lyne, near Manchester, England, have invented certain new and useful Improvements in Pulley-and-Band Power-Transmitting Appliances, of which the following is a specification.

10 This invention relates to pulley-and-band or like power-transmitting appliances, and has for its object, first, to improve the driving efficiency of the band; secondly, in the case of cone-driving to render the speeds of
15 the two opposite edges of the band equal or approximately equal, and, thirdly, to permit of the use of a metallic in lieu of a leather or woven band.

On the accompanying drawings I show
20 three applications of my invention, in all of which the essential improvement is the interposition of one or more loose leather or like supple bands or straps between the pulley and the driving-band.

25 On Sheet 1 Figures 1 and 2 illustrate the application of my invention to the driving-cones of a slubbing-frame, Figs. 3 and 4 being enlarged transverse sections of the driving-band and the intermediate bands. On
30 Sheet 2 Figs. 5 and 6 illustrate part side and end views of an ordinary cone-pulley with two intermediate leather bands, one for rendering the speeds of the opposite edges of the band equal and the other for permitting of
35 the use of a metallic driving-band. Figs. 7 and 8 illustrate an ordinary straight pulley with a loose intermediate leather band and a metallic driving-band.

Referring to Figs. 1 to 4, A B are the two
40 cone-pulleys of the slubbing-frame, C the ordinary leather driving-belt, and D the usual belt-traversing bar carrying two belt-guiders E F. Around the pulleys A B and between such pulleys and the driving-belt C, I mount
45 the two loose straps G H. Both straps are about half the width of the belt C and both lie nearest that edge of the belt C which passes around the narrower portion of the cone. Hence the strap G lies to the right and
50 the strap H lies to the left of the belt C.

Each strap G H is of a section which, with the belt C horizontal and parallel with the

axis of the pulleys A B and that edge around the larger portion of the cone touching, fills about half the space between the belt and
55 cone periphery, and so increases the periphery over which the belt has to pass that when in motion the two edges of the belt are caused to travel at practically the same speed, the straps G H merely acting as a packing and
60 cushion and by being loose and separate from each other and the belt C each acting as a step for the particular pulley around which it passes. Both straps and belt are
65 moved laterally by the guiders E F, which are a close fit and encircle both belt and straps, and with the straps of greater circumference than the wider ends of the cones they readily move from end to end of the
70 cones along with the belt C and at each move produce (theoretically) "steps" after the manner of a stepped pulley, as shown by dotted lines in Figs. 3 and 4. A driving-belt
75 thus provided with an intermediate strap will last considerably longer than a belt without it and instead of being heated by the excessive friction that an ordinary belt has to undergo it is kept comparatively cool. With
80 both edges of the belt in effective operation the belt is also more effective during action, and in starting and stopping the frame it has great certainty of action.

The ends of the straps abut and are joined by laces in such manner as to avoid the joint
85 being lumpy.

The taper section of the straps may be obtained by the hammering of one edge or by thinning such edge by a knife.

Referring to Figs. 5 and 6, I is a thin metallic driving-band, J a leather belt, and K a
90 leather packing-strap. This latter equalizes the speeds of the driving-band and the belt J serves as a cushion for the metallic band I.

In Figs. 7 and 8 L is the loose packing-strap, and M a thin metallic driving-band.
95

The principle underlying the use of the leather packing-strap J or L and a metallic driving-band I or M is that of reversing the ordinary leather-to-metal driving and rendering it metal-to-leather, also of obtaining a
100 soft elastic substance for the driving-band to pass over, so that with the band tightly adjusted any slackness will not arise from elongation of the band, as with a leather band, but from

the compression of the packing-straps, which will be infinitesimal for a very long period. A further and obvious advantage will be the increased durability of the driving-band, 5 which I propose to make from very thin ribbon-like metal or from woven wire.

The belts or straps J, K, and L are all loose and large enough to pass over the largest portions of the pulleys to which they are applied. 10

When applied to a driving-band which requires to be shifted from a fast to a loose pulley, or vice versa, the guider embraces both belts in like manner to the guiders 15 shown in Fig. 1.

What I claim is—

The combination of two pulleys, one at least of which is conical, a driving-belt passing around said pulleys, a loose packing-strap intermediate the belt and conical pulley, 20 and means embracing said belt and strap to hold them in operative position, as and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH MOORHOUSE.

Witnesses:

WALTER GUNN,
JOHN CAMP.