

(No Model.)

J. M. DODGE.  
CONVEYER.

No. 571,347.

Patented Nov. 17, 1896.

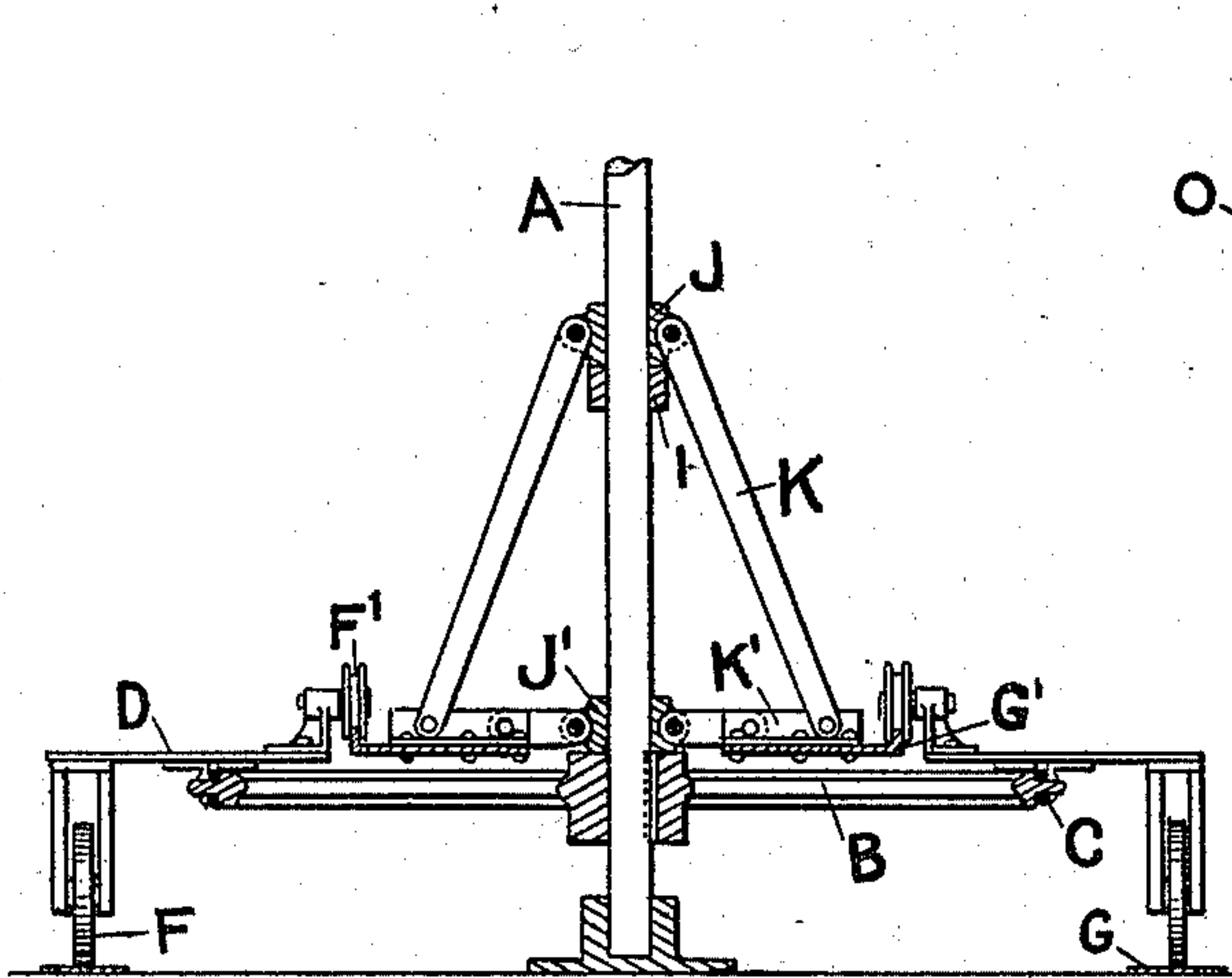


FIG. 3

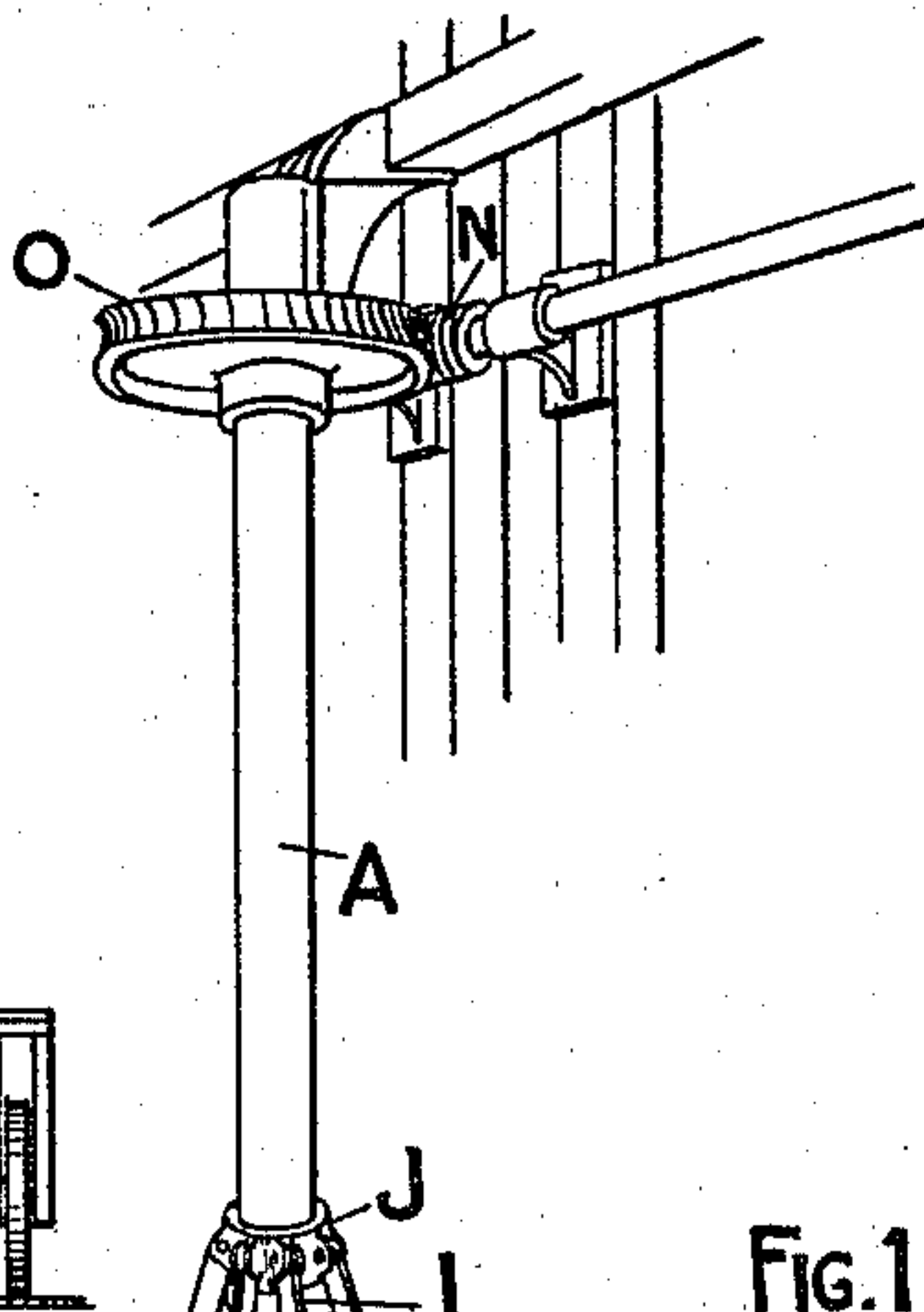


FIG. 1

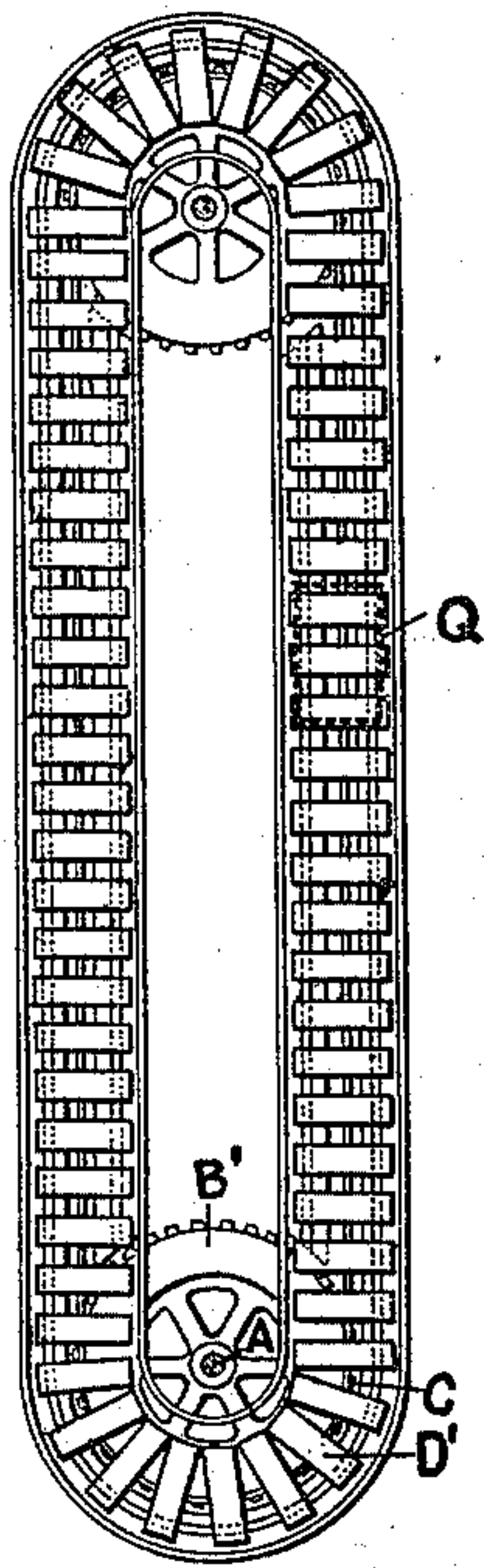


FIG. 4

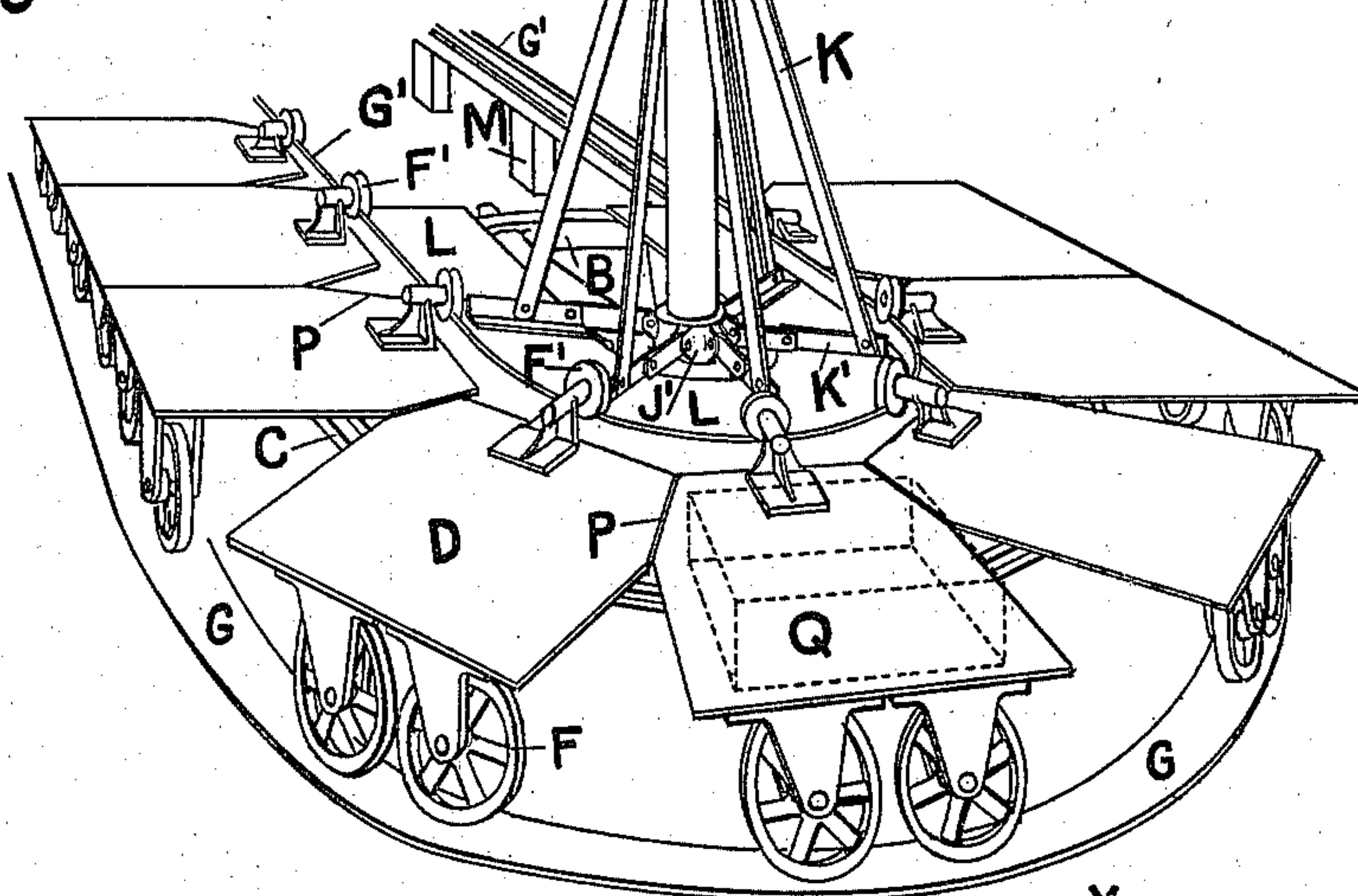


FIG. 2

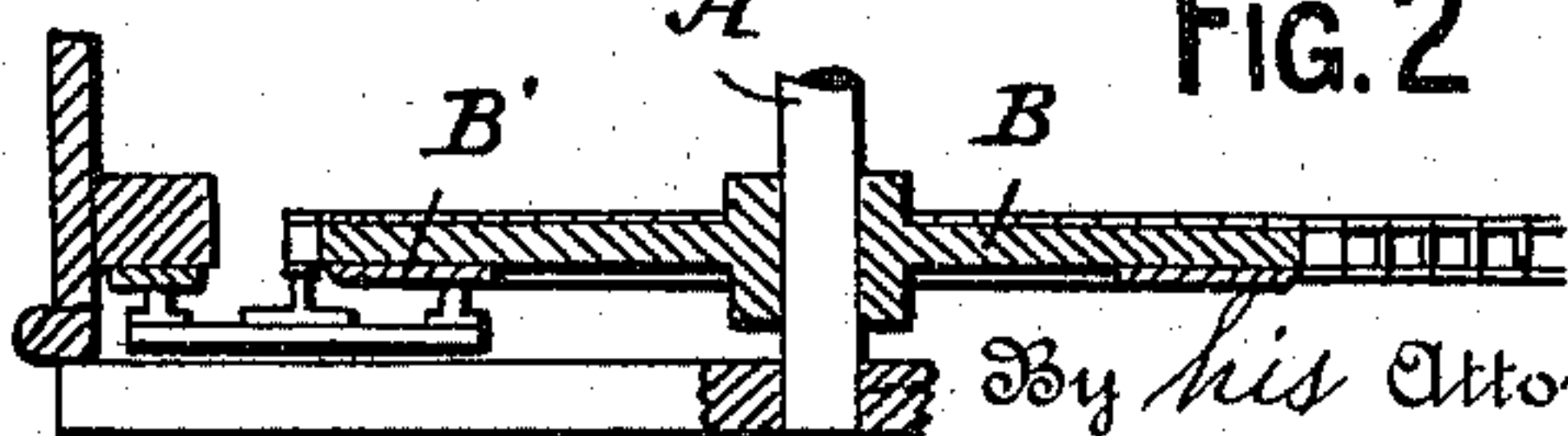


FIG. 4a

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# UNITED STATES PATENT OFFICE

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LINK-BELT ENGINEERING COMPANY, OF SAME PLACE.

## CONVEYER.

SPECIFICATION forming part of Letters Patent No. 571,347, dated November 17, 1896.

Application filed December 15, 1890. Serial No. 374,765. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. DODGE, a citizen of the United States, residing in the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Conveyers, of which the following is a specification.

My invention relates particularly to what are known as "package-conveyers."

I have devised the novel features of construction which I hereinafter set forth, and which will be more particularly pointed out in the claims of this specification.

To enable those skilled in the art to which my improvements relate to understand and practice the same, I will now proceed to describe my invention more fully, referring to the accompanying drawings, which form part of this specification, and in which similar letters refer to similar parts throughout the several views.

Figure 1 is a perspective view of the driving end of a conveyer made in accordance with my invention, illustrating a form which I prefer for heavy work and which I have thus far successfully adopted. Fig. 2 is a partial top view, on a smaller scale, of a conveyer constructed in accordance with the general arrangement illustrated in Fig. 1. Fig. 3 is a cross-section at the head-shaft, as on the line *xx* of Fig. 2, shown on about the same scale as Fig. 1. Fig. 4 is a plan view of a cheaper form of the conveyer, as hereinafter mentioned. Fig. 4<sup>a</sup> is an enlarged detail section through the sprocket-wheel of Fig. 4, showing a plate on one of the faces of the wheel.

A is the conveyer head-shaft, standing at right angles to the plane in which the platforms or carriers run.

B is the driving or head wheel of the conveyer fastened to shaft A.

C is the pitch-chain, to which are rigidly attached platforms or tables D, which are provided with wheels or rollers F F' for support on each side of the chain.

G and G' are tracks or rails on which wheels F and F' run.

I is a collar fastened rigidly to shaft A.

J and J' are loose collars on the same shaft, provided with rods or braces K and K', connected with the U-shaped support L, which

carries the semicircular portion of the rail G', leaving wheel B free to engage with chain C under the carriers.

M are short posts supporting rail G' along the straight portions of the conveyer.

N and O are respectively the worm-gear and worm driving the head-shaft A.

The operation of the device will be largely understood from the foregoing description and drawings.

Power is transmitted through the worm-gearing and head-shaft to revolve wheel B, which engages with chain C, causing carriers D to move in one direction at one side of the conveyer and the opposite direction at the other side. In passing around the wheel the chain moves in a certain circular path required by the pitch diameter and circumference of the wheel. As the platforms or carriers extend on both sides of the chain their center lines projecting radially from the shaft will be crowded together within the circle of the chains and spread apart outside of the circle. Where the platforms are large, I provide for the inner portions by cutting away enough material at the inner corners, as shown at P.

In cheaper forms for light work I construct a traveling platform or apron of a series of slats D', Fig. 4, attached to different links a sufficient distance apart to admit of their turning the curves without being cut away at the inner corners, each package being carried by two or more of the slats, as indicated by dotted lines at Q in Fig. 4. In such cases it is desirable that short pitch-chains and relatively large wheels be used, so as to avoid as far as possible any undue crowding of the carriers within the line of the chain and too great spread outside of that line.

While the rails G' are supported by posts M (or may rest on plain flooring) in the spaces between the chain-wheels, it will be seen that special provision must be made for the portion which turns the corner, because the chain-wheel must reach the chain by extending underneath the inner supports of the platforms. I therefore suspend the U-shaped support L from a position above the wheel and out of the way of the working parts, and, to avoid the use of expensive and cumbersome frame-



work reaching from the ceiling, I employ collar I, rigidly secured to shaft A, to carry loose collar J, from which are suspended braces or rods K, and arrange to hold the support L at  
 5 a fixed distance from the shaft by braces K', running to loose collar J', which latter may rest on the hub of wheel B if desired. This construction requires also that one of the supporting devices for the platforms must be  
 10 above the plane of the chain-wheel, and I have shown the wheels or rollers F' as being connected to the platforms on a level with or above the horizontal planes of the platforms and bearing on the inner rails G', while the  
 15 other wheels or rollers F extend below the horizontal planes of the platforms and bear upon the tracks or rails G. In the cheaper forms for light work I construct the wheel with a plate or flange B', on which the inner  
 20 end of each platform is supported.

Rollers F' are preferably grooved or flanged to match rail G', in order to prevent danger of running off in case the platforms receive a lateral pressure, as, for instance, in putting  
 25 packages on or taking them off. I employ various shapes and sizes of rollers to suit the circumstances, and in light work I have used plain wearing-blocks, the essential feature in  
 30 a practical package-conveyer of this description being that the platforms shall be well supported on each side of the chain in passing around the corners as well as throughout the runs between the chain-wheels. Furthermore, the cross-pieces or platforms are so ar-  
 35 ranged on the chains that they form closely-connected aprons or practically continuous tables, thereby furnishing a traveling receptacle or table adapted to receive and support upon any portion of it the articles to be con-  
 40 veyed.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a package-conveyer, the combination with chain-wheels, of an endless chain, plat- 45 forms rigidly and permanently secured to said endless chain forming a closely-connected apron or table in a plane parallel to the plane of rotation of the chain-wheels, and supporting devices connected to the platforms and 50 arranged on each side of the chain, substantially as and for the purpose set forth.

2. In a package-conveyer, the combination with an endless chain, of a series of platforms secured to said chain, track-rails for the plat- 55 forms, and sprocket-wheels for the chain, the said wheels being provided with a plate or flange on which the inner ends of the platforms are supported, substantially as and for the purpose set forth. 60

3. In a package-conveyer, the combination with chain-wheels, of a pitch-chain supported thereon, a series of platforms rigidly and per- 65 manently secured to the chain in a plane parallel to the plane of rotation of the chain-wheels, inner and outer track-rails, and supporting devices between the platforms and rails, one being below and the other above the horizontal planes of the platforms, sub- 70 stantially as described.

4. In a package-conveyer, the combination with the chain-wheels, of a chain mounted thereon, a series of platforms connected with the chain and moving in a plane parallel to the plane of the chain-wheels, track-rails for 75 the platforms, supporting devices between the platforms and track-rails, a head-shaft connected to one of the chain-wheels, and means connected to said shaft for supporting a portion of one of the track-rails, substan- 80 tially as described.

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Witnesses:

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