G. D. PARKER.

CONVEYER.

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1,034,641.

Patented Aug. 6, 1912.

Fig. 1.

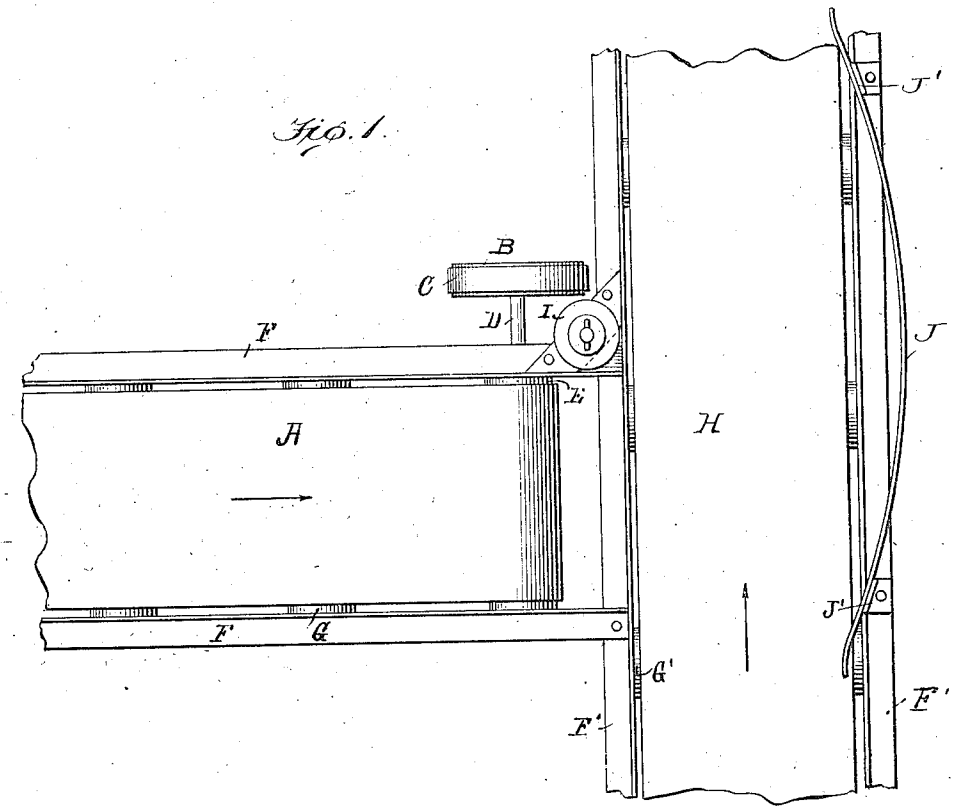
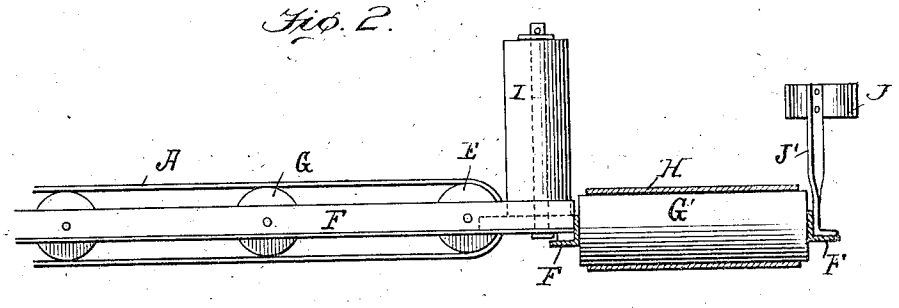


Fig. 2.



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CONVEYER.

1,034,641. Specification of Letters Patent. Patented Aug. 6, 1912.

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To all whom it may concern:

Be it known that I, GEORGE D. PARKER, a citizen of the United States, residing at Riverside, in the county of Riverside and State of California, have invented certain new and useful Improvements in Conveyers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to conveyers of the class in which distinct articles are carried forward in succession by belts, changed in direction, in transit, and still further advanced, all in an approximately horizontal plane.

The apparatus is especially intended for conveying a series of boxes, for example, filled fruit boxes such as are used in packing oranges, lemons, apples or the like, but obviously its use is not restricted to this field.

In the accompanying drawings, Figure 1 is a plan view of so much of the apparatus as is necessary to an understanding of the invention. Fig. 2 is a side elevation of the devices shown in Fig. 1.

In these views, A represents an endless approximately horizontal belt driven by any suitable means, a pulley B and belt C being shown as driving a shaft D and a conveyer carrying drum E thereon. The conveyer belt runs between parallel frame bars F, preferably of angle iron, in which the shaft D and the shafts of belt supporting rollers G are mounted. A second endless, approximately horizontal belt H runs at an angle with the first and with its upper fold preferably slightly below the corresponding fold of the belt A. This belt H, like the other, is supported by rollers G′ mounted in frame bars F′ to which the ends of the bars F are secured. The second belt lies at a suitable short distance from the drum E, so that the articles conveyed may not fall between the two belts, the distance usually varying with the character of the articles conveyed. Above the angular space between the belts and upon that side of the first belt from which the second belt advances is arranged a fulcrum-like body lying very near the margin of each belt. Preferably this body is a drum or roller I, rotatable about a vertical axis.

Above the plane of the belt H and upon that side of the same opposite the belt A is placed a yielding buffer J, shown as supported from the corresponding frame bar F′ by spring members J′. This buffer is curved outward beyond the margin of the adjacent belt to allow the corner of the box to swing through an angle of about 90° without pressing the box backward too far, and also to facilitate the initial slipping of the box along this buffer, the contact being only at the corner of the box, which meets a properly inclined surface.

In operation, articles, such for example as fruit boxes, being placed singly upon the rapidly running belt A and at a short distance apart are delivered in rapid succession upon the belt H, the spring buffer receiving the impact and preventing any box from passing materially beyond the margin of the second belt. When a considerable proportion of the weight of any article falls upon the second belt, the article is usually swung around in its own plane and its forward end portion is moved on with the second belt before the other portion has left the first belt, and the box is thus thrown against the drum I which acts as a sort of fulcrum for the article the forward end of which is urged on transversely by the second belt. Thus the rear end is swung toward the second belt and finally crowded fully thereupon, as the article finally passes the drum, in moving on toward its destination.

It is to be noted that the apparatus occupies practically no more space than the simplest conveyer, that it is inexpensive in construction and installation, and that it handles articles for which it is adapted in the most satisfactory manner and at any desirable speed. Obviously, the articles may be repeatedly changed in direction by duplicating the apparatus, and as clearly the apparatus is adapted for combination with ordinary elevating or lowering devices whenever the desired change in level is greater than that which may be readily attained by inclining the two belt conveyers above described.

What I claim is:

1. The combination with an approximately horizontal conveyer for moving distinct articles, of a second conveyer moving transversely to the first and in position to receive articles directly therefrom, and a single fulcrum-like body in the angle made by the two conveyers to serve as a pivot about which the second conveyer may swing articles passing to it from the first conveyer.

2. The combination with an endless conveyer belt, of a second transversely moving similar belt approximately in the plane of the first and in position to receive articles directly therefrom, and a fulcrum-like part arranged in and near the vertex of the angle made by the lateral margins of the two belts said belts forming the only support for the articles while changing direction, substantially as set forth.

3. The combination with two endless belt conveyers in approximately the same plane one being arranged to deliver directly upon the side of the other, of a buffer to prevent articles from being thrown beyond the receiving belt, and a vertical roller mounted closely adjacent to both belts in the angle between them and serving as a fulcrum about which each article swings through the whole angle made by the belts.

4. The combination with a power driven endless belt conveyer, of a second similar conveyer transverse to the first, closely adjacent to its end and slightly below its plane, a vertical rotary drum mounted in the angle between the belts and closely adjacent to the edge of each, and a yielding buffer in position to receive the impact of articles thrown by the first conveyer to the far side of the second.

5. The combination with two belt conveyers in approximately the same plane, forming the only support for articles carried, one of said belts being arranged to deliver articles transversely upon the other, of a vertical pivotal post closely adjacent to both belts and in the angle between them, and a buffer in position to prevent articles delivered from passing transversely off the belt receiving them, said buffer being centrally curved outward beyond the receiving belt to permit rectangular articles to turn without being pushed too far back upon the receiving belt.

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

GEORGE D. PARKER.

Witnesses:
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L. F. JOHNSON.