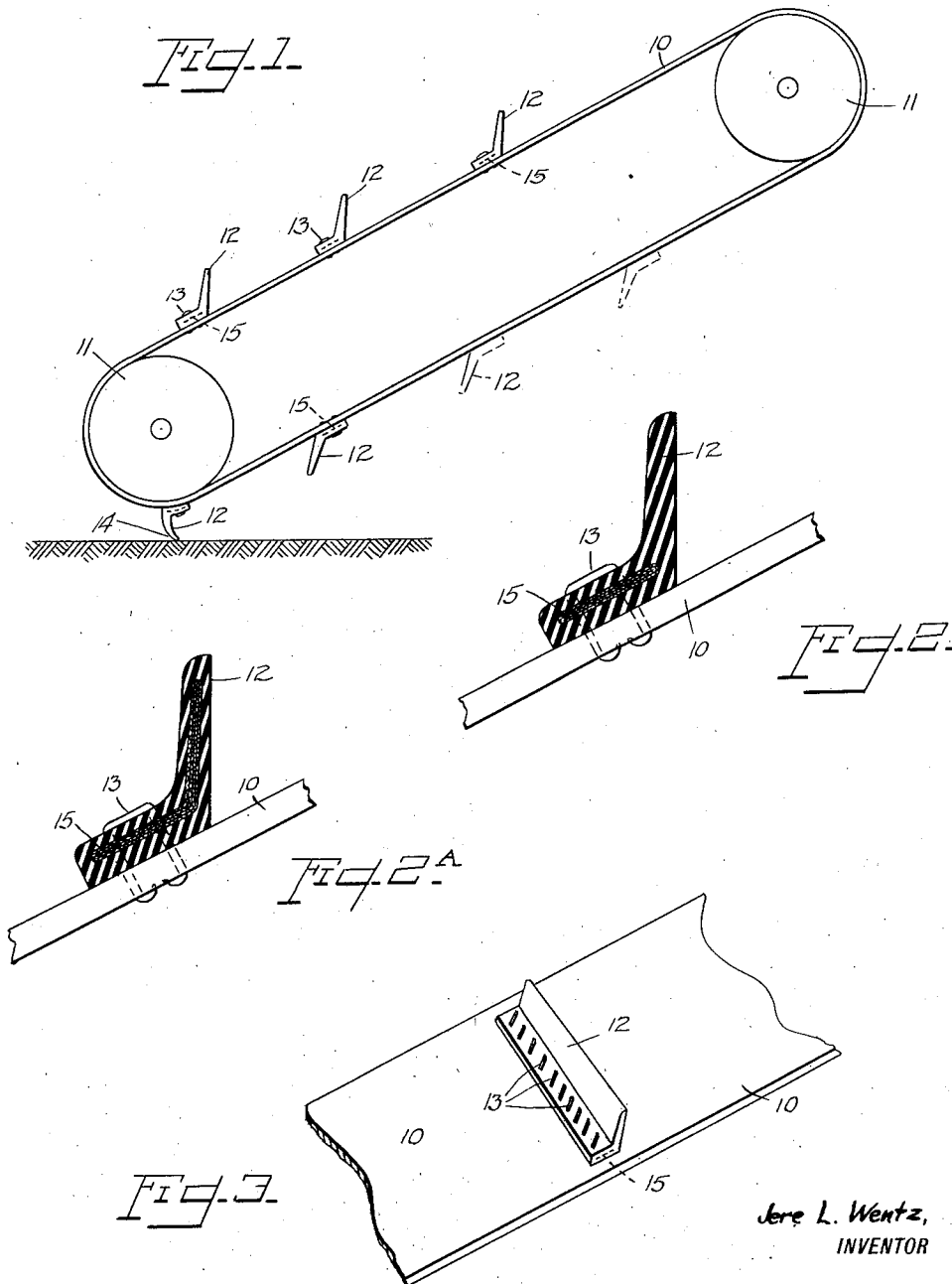


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J. L. WENTZ
FLEXIBLE CONVEYER FLIGHT

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UNITED STATES PATENT OFFICE.

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FLEXIBLE CONVEYER FLIGHT.

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To all whom it may concern:

Be it known that I, JERE L. WENTZ, citizen of the United States of America, residing at Passaic, county of Passaic, State of New Jersey, have invented new and useful Improvements in Flexible Conveyer Flights, of which the following is a specification.

My invention relates to conveyer belts and particularly to that type having spaced flights thereon.

Conveyer belts, and particularly those used on tractors and for similar purposes wherein they are designed to carry materials along an incline, have been provided with spaced flights to serve as supports for goods and materials being carried. The object of my invention is to provide such a belt, having step-like projections or flights, which are so designed as to be most effectual when the belt is in an inclined position, without, however, having an impaired usefulness during horizontal operation.

Other novel features of construction of my invention are fully described in this specification, set forth in the appended claims, and illustratively exemplified in the accompanying drawings in which—

Fig. 1 is a diagrammatical side elevational view of a conveyer belt equipped with my new flights;

Fig. 2 is an enlarged detail side view of one of my flights attached to the belt, the flight being shown in section;

Fig. 2^a is a modification of the flight of Fig. 2; and

Fig. 3 is a perspective view of the portion of belt shown in Fig. 2.

Referring to the drawings, and particularly to Fig. 1, 10 represents a belt of the usual construction and mounted on pulleys 11, or by other known means mounted so as to extend and move between desired points. I have shown one pulley member elevated above the other so that the belt is in an inclined position. Mounted at spaced intervals along the outside of the belt are flights 12 having substantially L-shaped cross-sections; and the flights are placed so that the backs of the upright portions of the L's, on the load-carrying side of the belt, face the upward incline, or in other words, with the upright portion of each L at the normally forward end of the bottom portion. The flights 12 are preferably of a width slightly less than the width of the belt and have a

relatively thick bottom portion and a somewhat thinner and slightly tapered upright portion. The bottom portion is fastened to the belt by any suitable means, and I have illustratively shown staples 13 extending through the bottom portion of the flights and through the belt, with their points turned inward and clenched on the under side of the belt.

The flights are preferably made of a resilient and non-abrasive, non-metallic material, such as rubber; and the rubber should be of such a quality and the upright portions should be of such a thickness that whereas strength enough exists to support a weight or load placed upon the belt, yet sufficient yieldability is present to allow the tip of the flight to bend back on itself as illustrated at 14, Fig. 1, when an obstruction is encountered. It will be noted that such bending back does not substantially collapse the pocket or enlarge the angle formed between the front face of the flight and the belt.

The flights must accordingly be designed and built in accordance with the use to which they are to be put, but I prefer to strengthen and stiffen the bottom portion in any case by constructing it with an insert or filling of fabric or similar reinforcing material 15. If desired, similar filling of any desired thickness and strength depending upon requirements may be inserted in the upright portion as shown in Fig. 2^a.

A particular feature of my invention lies in the fact that I make the L-shaped cross-section of a flight with an obtuse angle so that an acute angle exists between the belt and the load-engaging, or front, face of the flight. As a result, the belt may be quite steeply inclined and the flights will support a load at any inclination, the most efficient position being of course one in which the bisector of the acute angle is vertical. This position will be one in which the belt is considerably more than 45 degrees to the horizontal. At the same time, the flexibility and yieldability of the flights allow efficient utilization of the belt at less inclined or horizontal positions.

What I claim is:

1. A conveyer belt provided with spaced flights having bendable tips adapted to yield upon encountering obstructions, each flight having one face forming with the belt an angle of less than 90 degrees to constitute

a non-collapsible pocket for conveyed material.

2. A conveyer belt provided with spaced flights of substantially L-shaped cross-section and of a resilient non-abrasive bendable material.

3. A conveyer belt as claimed in claim 2, in which the upright portion of each flight forms an obtuse angle with the bottom portion.

4. A conveyer belt comprising a belt, spaced L-shaped flights of a resilient non-abrasive bendable material, and means for attaching the latter to the belt, said means comprising staples extending through the bottom portion of each flight and the belt.

5. A conveyer belt as claimed in claim 2, in which said flights have each a relatively

thick bottom portion and a somewhat thinner and tapered upright portion at the normally forward end of the bottom portion.

6. A conveyer belt provided with spaced reinforced flights of substantially L-shaped cross-section and of a resilient non-abrasive bendable material.

7. A conveyer belt as claimed in claim 6, in which said reinforcement consists of a bendable filling entirely enclosed by said material and extending up into the upright portion of the flight.

8. In combination, a conveyer belt, and an angular flight secured thereto, said flight consisting of rubber having a fabric reinforcement in at least one arm thereof.

In testimony whereof I affix my signature.

JERE L. WENTZ.