

No. 874,982.

PATENTED DEC. 31, 1907.

H. C. NORTON.  
CONVEYER BELT.

APPLICATION FILED SEPT. 10, 1907.

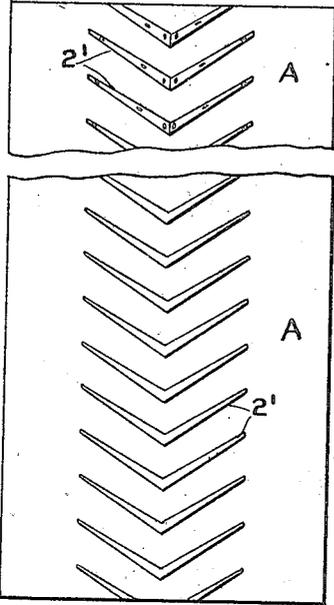


FIG. 2

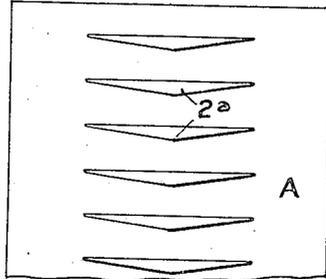


FIG. 3

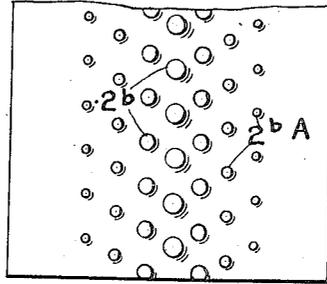


FIG. 4

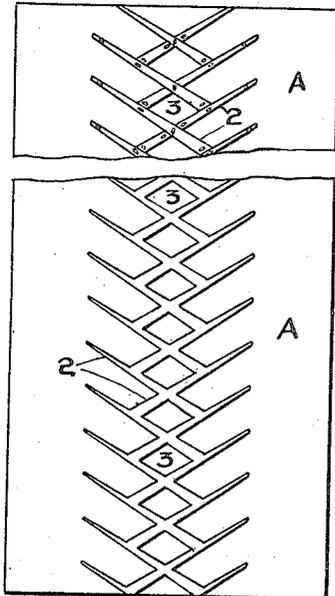
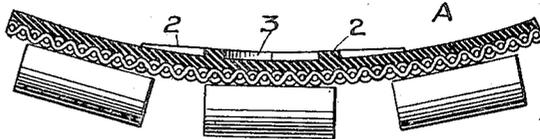


FIG. 1

FIG. 5



WITNESSES

*Leop. Boillot*  
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Henry C. Norton  
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Attorney

# UNITED STATES PATENT OFFICE.

HENRY C. NORTON, OF SAN FRANCISCO, CALIFORNIA.

## CONVEYER-BELT.

No. 874,982.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed September 10, 1907. Serial No. 392,161.

*To all whom it may concern:*

Be it known that I, HENRY C. NORTON, citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Conveyer-Belts, of which the following is a specification.

My invention relates to conveyer belts, and especially belts of the trough type for use on dredgers and the like, for conveying stones, rocks, tailings, gravel, and other or like abrasive material.

The conveyer belts used on dredgers are commonly designated as "stacker-belts", and are usually about thirty inches wide, being made of rubber and fabric; and being very long and heavy, are quite expensive. The wear on these belts comes almost entirely in their center, or the bottom of the trough, and after a few months' use the belts become worn out and useless. Although the wearing surface of these belts is usually provided with a heavy layer of soft rubber to protect the fabric and to retard the slippage of the stones, yet, at the same time, these wearing surfaces being smooth, do not prevent the backward rolling of the stones and gravel, with a consequent heavy wear on the mine owner.

It is my purpose to construct these heavy conveyer trough belts with a central corrugated or roughened portion, which, while giving additional thickness and strength to the points of the belts where most needed, will also provide means, in the nature of pockets or riffles, for the catchment of the finer sands and gravel; and which sands and gravel, lodging in these pockets, will serve as a cushion on which the heavier and jagged rocks and cobbles will strike and rest, without really coming in abrasive contact with the rubber or fabric of the belt. These pockets or riffles, corrugations, projections, or the like, which I contemplate using, will operate to arrest the rolling of the rocks and gravel, and which rolling is in fact the real source of heaviest wear nowadays on the belts.

Having reference to the accompanying drawings—Figure 1 is a plan view representing the preferred form of the invention. Figs. 2—3—4 represent modifications of the same. Fig. 5 is a transverse section of Fig. 1.

A indicates a conveyer belt which may be thirty inches, more or less, in width, and made of any suitable material.

The invention resides in the use of the riffles 2, which are shown in Fig. 1 as arranged diagonally of the belt, with the ends of the riffles adjacent the center of the belt thicker and wider, and with their outer ends tapering off, more or less, to a point towards the outside of the belt. These riffles, however, occupy only about half of the belt, so that with a thirty-inch belt the riffles would terminate about seven and one-half inches, more or less, from the edges of the belt. The inner and thicker ends of the riffles cross each other, so that a series of diamond-shaped pockets 3 are formed along the longitudinal center of the belt. The size of these diamond-shaped spaces depends, of course, on the closeness with which the riffles are placed together, but ordinarily a pocket would be about four inches wide, as measured lengthwise of the belt. These riffles may be made integral with the belt, or they might be made of any suitable material, as leather, metal, or a combination of rubber and fabric, and attached to belts already in use by any appropriate means. Being made thicker and wider where the most wear on the belt comes, they naturally reinforce the belt along this area of wear. More particularly, though, they form arresters to the backward flow of the sand and gravel, and to the backward rolling of the heavy stones and boulders. The gravel and sand lodging in the pockets will be carried upward, and by forming a layer over the portion of the belt carrying the load and subject to the roughest usage, will in a measure protect the belt, so that even if some of the rocks and boulders roll backward they will roll on a layer of sand and gravel, and will not come in direct contact with the belt. By a construction of this sort, the life of the belt will be materially lengthened.

In Figs. 2, 3 and 4, I have shown modifications of the same idea. In Fig. 2, the riffles 2' are arranged V-shape, with the apex portion of the riffles in the locus of the central axis of the belt, and made thicker and wider for the purpose of withstanding the wear. In Fig. 3, the riffles 2<sup>a</sup> extend straight across the central half of the belt, and are made thicker and wider at their middle, tapering off to either end. In Fig. 4, the belt is made with a series of knobs, lugs, or protuberances 2<sup>b</sup>, and preferably these knobs or projections are thickest and biggest in the middle of the belt.

Having thus described my invention, what

I claim and desire to secure by Letters Patent  
is—

1. A conveyer belt of the trough type, having a central wearing surface corrugated with the outer ends of the corrugations terminating a considerable distance from the side edges of the belt.
2. A conveyer belt, having its longitudinal central portion only corrugated with the corrugations of tapering form and the widest portions thereof located in the center of the belt.
3. A conveyer belt having a transversely corrugated wearing surface, the corrugations being thickest and widest in the middle of the belt, and tapering off to nothing towards the edges of the belt and terminating a considerable distance from said edges.
4. A conveyer belt, having pockets along

its central wearing surface, said pockets formed by diagonally disposed intersecting riffles which decrease in horizontal width outwardly towards the edges of the belt and whose outer ends terminate a considerable distance short of said edges.

5. A conveyer belt having pockets along its central wearing surface, said pockets formed by diagonally disposed intersecting riffles, said riffles being thickest at their lower ends adjacent to the center of the belt.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY C. NORTON.

Witnesses:

F. O. BUSHNELL,  
A. C. SAVEAGA.