O. H. CILLEY.

CONVEYER.

APPLICATION FILED SEPT. 13, 1911.

1,075,548. Patented Oct. 14, 1913.

Fig. 1.

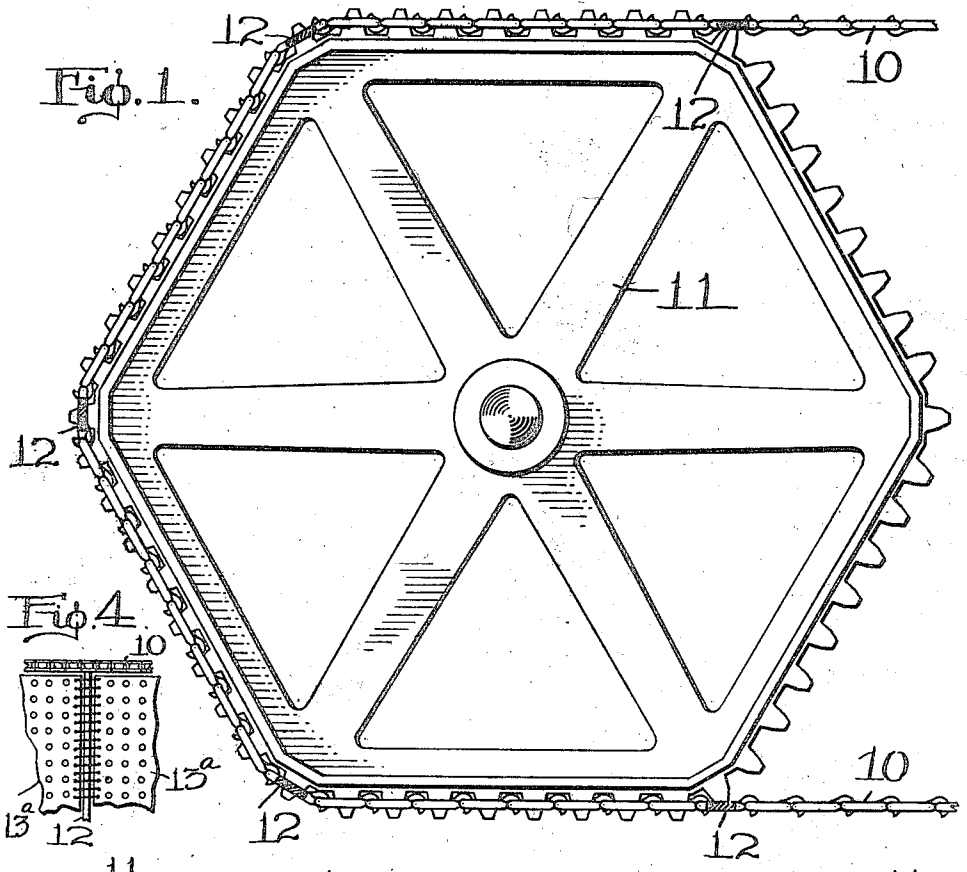


Fig. 4.

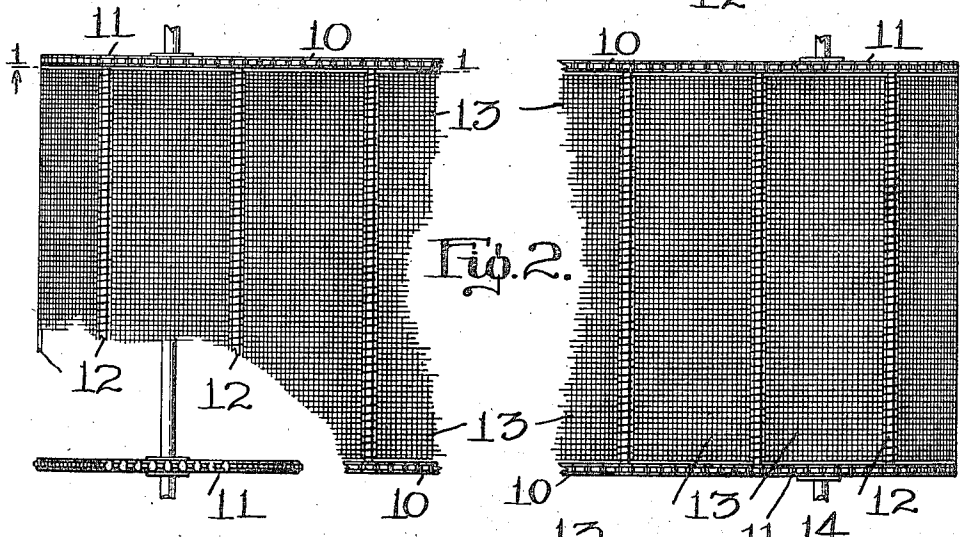
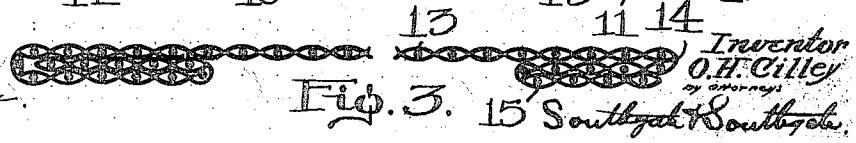


Fig. 2.



Witnesses

C. F. Messon.

E. M. Allen.

Fig. 3.

Inventor

O. H. Cilley

by attorneys

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UNITED STATES PATENT OFFICE.

OSBORN H. CILLEY, OF WESTFORD, MASSACHUSETTS, ASSIGNOR TO C. G. SARGENT'S SONS CORPORATION, OF GRANITEVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CONVEYER.

1,075,548. Specification of Letters Patent. Patented Oct. 14, 1913.

Application filed September 13, 1911. Serial No. 649,136.

To all whom it may concern:

Be it known that I, OSBORN H. CILLEY, a citizen of the United States, residing at Westford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Conveyer, of which the following is a specification.

This invention is an improvement over that of Albert H. Thompson, patented March 21, 1911, No. 987,415. In using conveyers of the type represented in that patent I find that when square meshed wire cloth or perforated sheet metal is used certain difficulties arise. Ordinarily it is necessary to provide the drums 12 shown by Thompson for supporting the apron when it passes around between the sprockets. If this is not done it is necessary to elevate the apron above the pitch line of the chain so that when the chain moves over the sprocket the wire cloth or sheet metal, which then becomes a chord of the circle, will remain perfectly straight. This, obviously, is a disadvantage as it requires the cross slats to be offset at their ends and necessitates some calculation to bring them to the proper position. If the drum is used with this kind of wire cloth or metal the tendency is for each section to retain the curve of the drum, making the apron assume a series of curves.

The principal objects of this invention are to provide an exceedingly simple means for avoiding these difficulties so that the apron can be arranged on the pitch line of the chain with straight cross bars and yet there will be no tendency for the sections to become curved by the operation thereof; also to provide an improved way of stiffening the edges of the sections of the apron.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a sectional view on the line 1—1 of Fig. 2, showing one of the sprocket wheels of this invention in elevation; Fig. 2 is a plan on reduced scale of a complete apron constructed in accordance with this invention. Fig. 3 is an enlarged transverse sectional view of a section of the apron itself somewhat diagrammatic in form showing the stiffened edges, and Fig. 4 is a fragmentary view of a modification.

The invention is shown in a practicable form in which a pair of endless chains 10 run over a pair of sprocket wheels 11. The two chains are connected by cross slats 12 on a level with the apron and fixedly secured at opposite ends to links of the two chains. These cross slats are at uniform distance apart and between them are located sections 13 of wire cloth constituting the apron proper. These sections are shown as secured in position on the slats in a manner substantially the same as that shown in the Thompson patent hereinbefore referred to.

The invention is applicable to perforated metal plates 13^a as shown in Fig. 4. It will be observed that the wire cloth sections are shown as provided with inward bends at their edges 14, the wire extending along inwardly a certain distance and then being bent outwardly again to form another layer 15. This third layer may be between the other two layers, as shown at the left. This forms a stiff edge and prevents undue wear at this point and does away with the ordinary binding of the edge with a piece of canvas or metal, as has been practiced heretofore. The principal feature of the invention, however, consists in the provision of a polygonally constructed wheel 11 having a number of equal sides and arranging the apron on the pitch line of the chain 10. It will be obvious that with this polygonal wheel the apron sections between the cross slats 12 would hang down as the apron sections pass over the sprocket wheels, if it were not for the fact that the cross slats are arranged at a distance apart equal to the length of a side of the sprocket wheel, and the chains are put on the sprocket wheels in such position that these slats come at the angular portions between each two straight sides. From this it results that the apron sections between each two slats, as it passes over the sprocket wheel, is kept straight and taut and there is no tendency for the sections to sag or bind. In other words, the apron sections are kept in uniform condition all the time and the disadvantages which have been mentioned are entirely overcome.

Although I have illustrated and described a preferred embodiment of the invention, I am aware that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claim. There-

fore I do not wish to be limited to all the details of construction herein shown and described, but

What I do claim is:—

In a conveyer, the combination of polygonal sprockets having equally spaced teeth along their flat sides and one tooth at each angle, a pair of sprocket chains located thereon at the pitch lines thereof and engaging said teeth, cross slats connecting said chains, the distance between two slats being equivalent to the length of one side of each sprocket and to the sum of the lengths of a plurality of links of the chain, the chains being located so that the slats will come at the angles of the sprockets, and a continuous endless metallic apron connected directly to all of the slats on both sides thereof on the pitch lines of the sprockets, whereby the apron is supported solely from the sprocket wheels and there is no slack therein when the apron passes over said supporting sprocket wheels.

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

OSBORN H. CILLEY.

Witnesses:

FRANK COLLINS,

FRED W. SWAIN.