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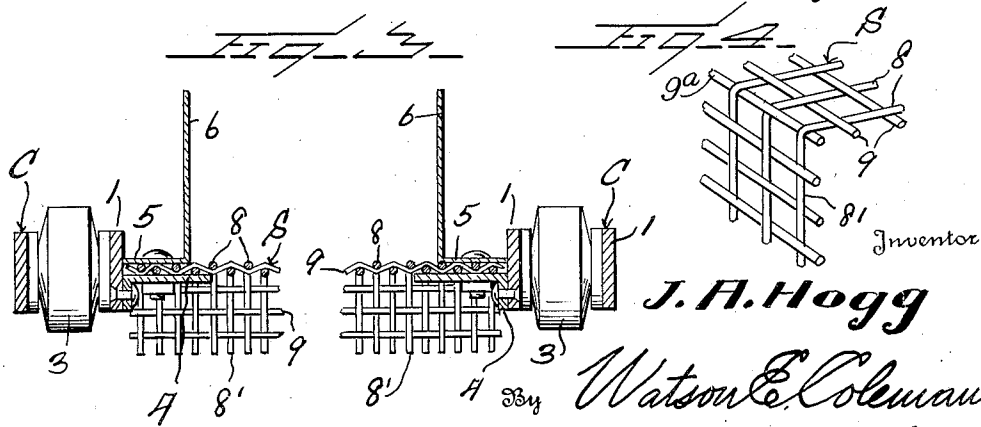
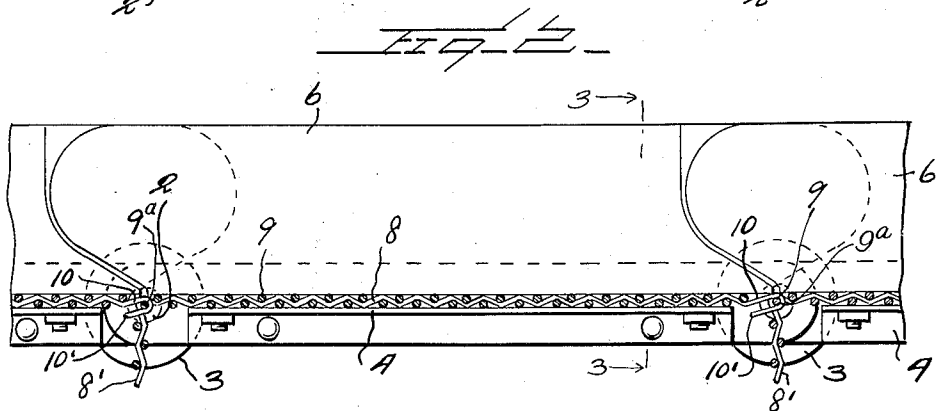
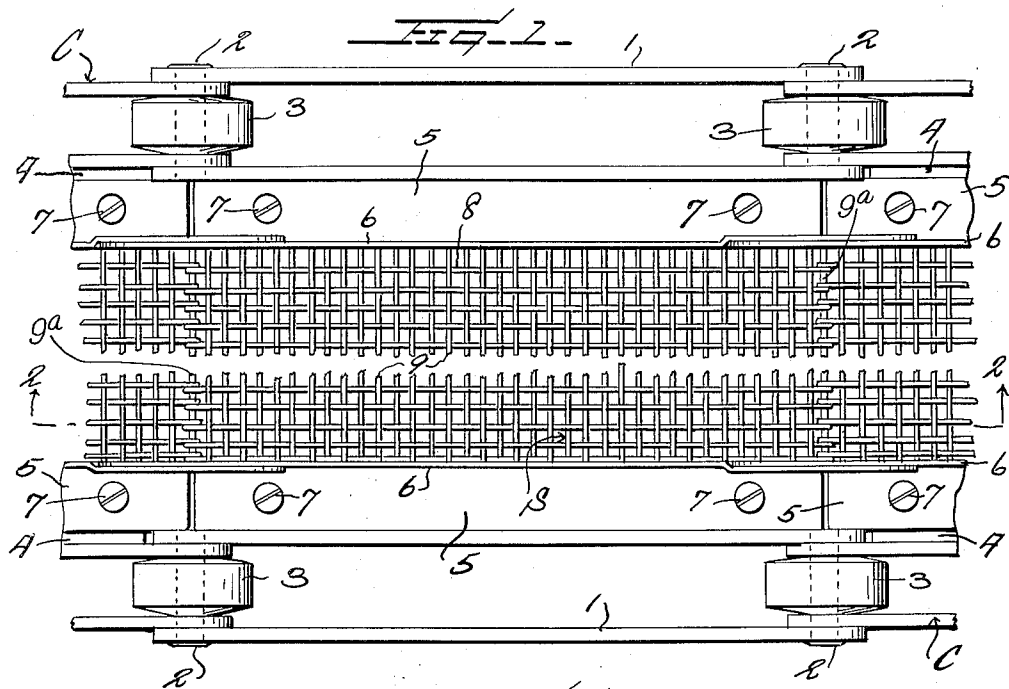
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1,988,041

ENDLESS SCREEN CONVEYER

Filed Oct. 14, 1933

2 Sheets-Sheet 1



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Fig. 5.

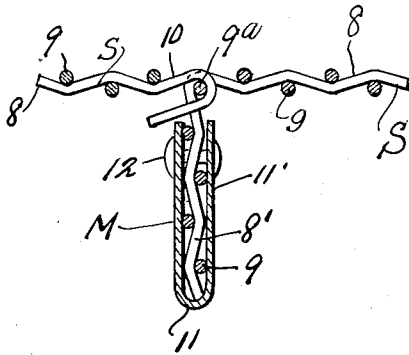
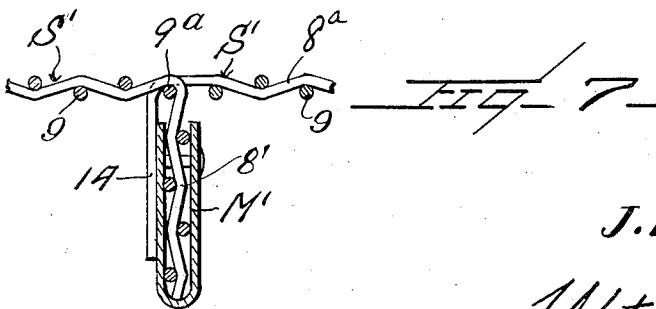
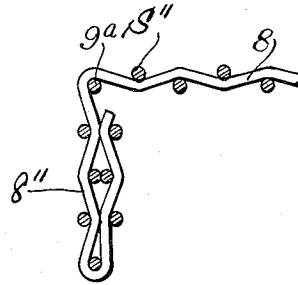


Fig. 6.



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UNITED STATES PATENT OFFICE

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ENDLESS SCREEN CONVEYER

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2 Claims. (Cl. 198—194)

This invention relates to endless screen conveyers designed for supporting material upon a perforated or reticulated conveyer.

An object of this invention is to provide a conveyer of this type wherein the sections of the screen are pivotally connected to each other in a very simple manner and without the necessity of using pivot pins which require to be inserted or removed in order to join or disjoin the screen sections.

A further object of this invention is to provide a conveyer of this kind wherein each of the screen sections at one end thereof is angularly bent downward to provide a stiffening means for the conveyer; the downward bend being coincident with one of the transverse wires of the screen section so that the transverse wire with the longitudinal wires defines a series of eyes with which hooks on the next adjacent screen section may engage, the downward bend of the screen section acting to prevent any withdrawal or pulling out of this transverse wire under the strain applied to the screen sections.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is a fragmentary view in plan of a conveyer constructed in accordance with an embodiment of my invention;

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2;

Figure 4 is a fragmentary view in perspective of an end portion of a screen section as herein employed;

Figure 5 is a fragmentary sectional view taken vertically through connected portions of screen sections illustrating another embodiment of my invention;

Figure 6 is a fragmentary sectional view through an end portion of a screen section constructed in accordance with another embodiment of my invention;

Figure 7 is a fragmentary sectional view taken through adjacent connected portions of screen sections and illustrating a still further embodiment of the invention.

As illustrated in the accompanying drawings, the side chains C are endless and each of these chains C is formed of complementary pairs of links 1. The links of adjacent pairs have their

extremities connected together by stud shafts 2 and upon each of these shafts 2 is mounted a roller 3 for coaction with the usual trackways (not shown). The links 1 are relatively long and, as herein disclosed, each of the inner links comprises a pair of spaced parallel members. The links of each complementary pair are provided therealong with inwardly disposed elongated supporting members 4 providing supports for the side marginal portions of a screen section S interposed between said pair of links. The supporting members 4 extend substantially from one end of each inner link to the other but terminate at such points as to assure no hindrance or obstruction to the desired articulation of the screen sections of the conveyer and more especially when passing around the periphery of suitable drums or wheels for guiding and driving the conveyer.

Resting upon the marginal portions of the screen section overlying the supporting members 4 are the lateral flanges 5 defining the inner longitudinal marginal portions of the side walls 6 preferably of sheet metal and which are provided to retain the material upon the screen. These walls 6 are held in applied position by the bolts 7 or other desired fastening elements passing through the flanges 5, the supporting members 4 and the interposed marginal portions of the screen section S.

The extremities of the side walls 6 have overlapping end portions to form substantially continuous wall at each side of the conveyer.

Each of the sections S comprises a series of longitudinally extending wires 8 and transverse wires 9 spaced apart to provide a mesh which is illustrated in the accompanying drawings as rectangular. At one end of the section S the longitudinal wires 8 extend free and unobstructed a material distance beyond the adjacent end transverse wire 9 and said extended portions are returned to provide inwardly facing hook members 10, the bill 10' of each of which being at the inner side of the section S or that side of the section S remote from the walls 6. The hook members 10 are arranged in a series extending transversely of a section S at an end thereof and engaged with a transverse wire 9^a of an adjacent section S through the eyes at the opposite sides of such transverse strand. The wire 9^a with which the hook members 10 engage is at a desired distance inwardly of the adjacent end of the fabric from which the section is formed and the portions 8' of the strands 8 outwardly of this transverse wire 9^a are angularly bent inward at substantially right angles whereby said portions 8' together

with the transverse strands 9 associated therewith provide a transverse strengthening member for said end portion of the section S.

As will be seen from Figure 4, the wire 9^a which is coincident with the upper end of the downwardly bent portion 8', together with the wires 8, defines a series of horizontally disposed eyes with which the hooks 10 are adapted to engage and because, beyond this wire 9^a the screen is bent downward or inward, as at 8', the wire 9^a cannot be pulled out by any longitudinal strain on the screen sections. Thus, the wire 9^a acts as the pintle or pivot pin upon which the screen sections oscillate without the necessity of using a separate and distinct pivot pin for this purpose, thus doing away with the necessity of having to withdraw this pivot pin when it is desired to detach the screen sections from engagement with each other. Not only does this downward bend of the end of each screen section prevent the pulling out of the transverse wire 9^a but this angularly bent portion also constitutes a stiffening member, stiffening the screen across its entire extent. This is particularly necessary by reason of the fact that these screens are from six to eight feet wide and are therefore very liable to sag at the middle unless the screen sections are stiffened.

Each of the sections S is of a length from the inner ends or bights of the hook members 10 to the transverse strand 9^a with which the hook members of an adjacent section are adapted to engage substantially equal to the distance between the adjacent pivotal connections of the links so that in assembly of a conveyer the transverse wire 9^a with which the hook members 10 of an adjacent section engage is substantially aligned with the axial centers of the stud shafts 2 which afford pivotal connection between adjacent links.

As illustrated in Figure 6 of the accompanying drawings the portions 8'' of the longitudinal wires of a screen section S'' are of a sufficient length to allow said portions to be returned back upon themselves whereby the resultant stiffening member for the screen section is rigidly reinforced and additionally stiffened.

As illustrated in Figure 5 the strengthening member M, which is constructed the same as hereinbefore described with respect to the disclosure in Figures 1 to 4 inclusive, is rigidly reinforced and stiffened by a U-shaped metal member 11, the member M extending between the side walls 11' of said member 11. These side walls 11' are held to the member M by one or more rivets 12 or other desired fastening elements which extend through the side walls 11' and through the member M.

In the embodiment of the invention as illustrated in Figure 7 the screen section S' at one end is provided with a stiffening portion 8' similar to that illustrated in Figure 5 but the transverse wire 9^a at the top of said stiffening portion 8' instead of being engaged by hook mem-

bers of an adjacent section is engaged by the substantially straight extension 14 of each of the longitudinal wires 8^a of the adjacent section S'.

It is believed to be clearly apparent from the foregoing that I have produced a conveyer which is formed of sections which may be readily and easily applied or detached and which, when assembled, presents a substantially continuous screen section having substantially uniform mesh throughout its entire length yet possessing sufficient flexibility or articulation to allow the conveyer to readily pass over or around the drums or pulleys employed in connection with conveyers such as this.

From the foregoing description it is thought to be obvious that an endless screen conveyer constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. A conveyer screen including a series of screen sections, each screen section consisting of longitudinal and transverse wires, all of the longitudinal wires at one end of the section being bent inward, the intersection of said bent portions of the longitudinal wires and the body of the screen being coincident with one of the transverse wires of the screen whereby the inwardly bent portions of the longitudinal wires prevent the pulling out of the said transverse wire under longitudinal strain on the section, the longitudinal wires at the opposite end of the section being bent inward and hooking over the said transverse wire.

2. A conveyer screen including a series of screen sections, each section consisting of interwoven longitudinal and transverse wires, one end of the screen section being angularly bent downward entirely across the section to constitute a stiffener, the intersection of said bent portion and the body of the screen being in coincidence with one of the transverse wires of the screen whereby the last named transverse wire and the intersecting longitudinal wires immediately behind the bend define eyes disposed in the same plane as the body of the section and whereby the downwardly bent portion prevents the pulling out of the said transverse wire under longitudinal strain, the longitudinal wires at the opposite end of the section being reverted to form vertically disposed hooks to engage in the said eyes and over the said transverse wire which is coincident with the bend.

JAMES ALBERT HOGG.