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JOINT FOR CONVEYERS

Filed Feb. 24, 1932

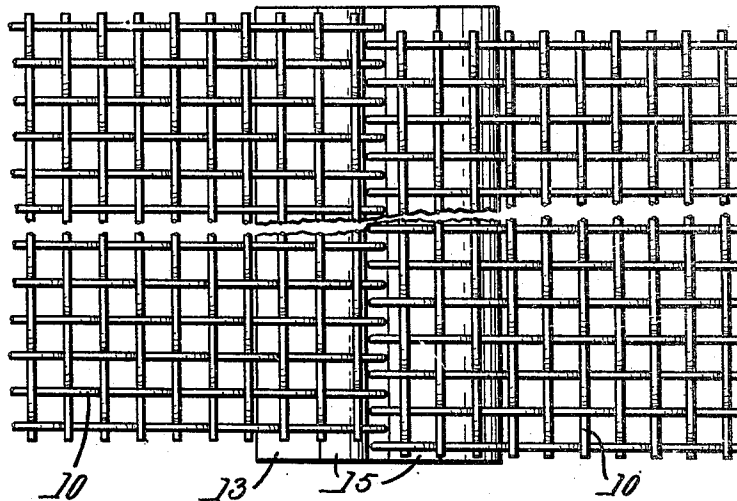


Fig. 1.

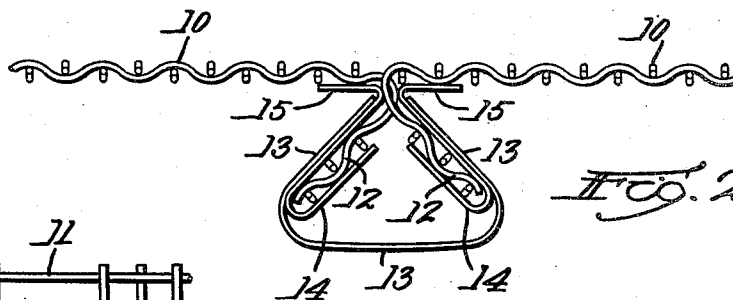


Fig. 2.

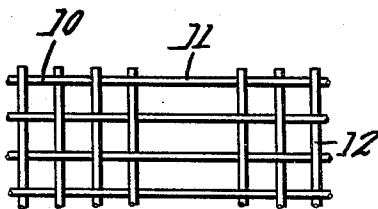


Fig. 3.

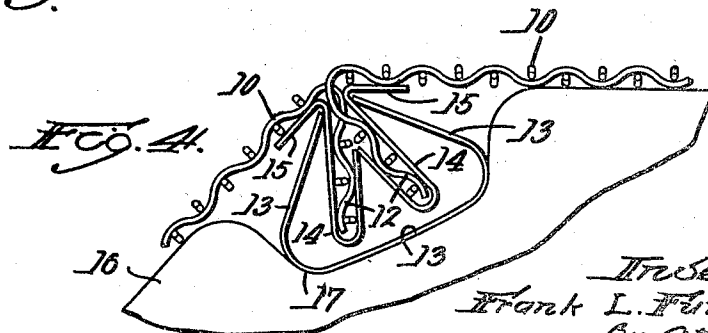


Fig. 4.

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JOINT FOR CONVEYERS

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This invention relates to a metal conveyer for carrying fibrous or other material and is particularly adapted for use in driers but capable of other uses.

The principal objects of the invention are to provide a construction of joint which will be flexible enough to stand strains strong enough to pull two sections apart to a slight extent; to provide a construction in which the joint will be protected all around against the entrance of lint and fibres, and to provide integral with the joint a spring for bringing the parts together to normal position after they have been distorted.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is a plan of a portion of an apron or conveyer constructed in accordance with this invention;

Fig. 2 is a side view showing the position of the parts when the two adjacent sections of the conveyer are in alignment with each other;

Fig. 3 is a fragmentary view showing the way in which the woven wire section of the conveyer has to be changed in order to apply it to this invention, and

Fig. 4 is a view similar to Fig. 1 showing the conveyer going around a drum and the joint entering a groove therein.

Ordinarily conveyers made of woven wire or other material are joined between the sections by metal rods passing through from side to side. These rods are rigid and not capable of yielding if some obstruction is encountered so that in such a case the conveyer is permanently distorted. Also if only a rod is used it does not constitute a very good device for engaging the groove in the drum which drives the conveyer.

This invention is reduced to very simple terms. Each section 10 is made of square mesh woven wire or other fabric prepared by removing some of the strands at 11 as shown in Fig. 3. Then this part of the fabric is bent upon itself into the shape shown in Fig. 2 to form the angularly extending ends 12.

Two of these sections are bent in the same

shape but, of course, oppositely at their ends and are placed together as indicated in Figs. 1 and 2. No bar has to be threaded through them and the method of manufacture therefore is simplified. The two downwardly extending ends 12 make an angle of approximately 90° with each other when the parts are in the position shown in Fig. 2 and they themselves do not connect the two adjacent sections of the conveyer together but they do overlap to prevent any serious side motion.

The ends 12 are connected together by a sheet spring steel joint 13 which is of triangular shape, open at the top and closed at the bottom. This is put on by enclosing the two ends 12 in it and forcing the joint or sheet of metal 13 across the fabric in a direction transverse to its length so as to bring it into the position shown in Fig. 2.

It is regarded as preferable to bind the edges of the ends 12 by a pair of metal pieces 14 of U-shaped form and of such size as to receive the fabric between them and these members are brought out through the opening at the top of the joint 13 and provided with a pair of flanges 15, which, in the position shown in Fig. 2, are in the same plane. These binding pieces 14 are not absolutely essential and can be omitted.

It will be seen by comparing Figs. 2 and 4 that this constitutes a yielding but strong joint between each two sections of wire fabric which, in case of an obstruction, will allow the two adjacent sections to swing apart but will bring them back together again immediately after the obstruction is passed. In this way no permanent distortion of the conveyer will be likely to take place. Furthermore, when the chain is bent over the drum 16, which supports or drives it, the joint 13 will come down into the groove 17 in this drum and constitute a driving projection which will have a material amount of area and enable the drum to drive it positively. At the same time the drive is flexible as the joint 13 can yield either way and also can yield radially or circumferentially to counteract any misplacement on the drums or any obstruction that may be met. The joint 13 is practically closed except at the top where the

wires come down through it and in that place the flanges 15 largely protect it from the entrance of fibres or lint. Furthermore there is plenty of room for a considerable collection of materials in it and it can be cleaned out
 5 from either end without dismantling it.

Although I have illustrated and described only one form of the invention I am aware of the fact that modifications can be made
 10 therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited in this respect, but what I do claim is:

1. In a conveyer, the combination of a series of sections of foraminous metallic material, the ends of the adjacent sections being bent downwardly at an angle and a joint connecting the said ends, consisting of a triangular spring extending transversely of the
 20 conveyer and having a bottom and two converging sides which are adapted to receive between them and be engaged by the said ends when the conveyer is in a straight condition, the interior of the triangular joint being
 25 unobstructed to allow said ends free play therein, for the purpose described.

2. As an article of manufacture, a conveyer comprising sections made up of woven
 30 wire fabric comprising cross bars, some of the cross bars near the adjacent ends of said fabric being removed and the fabric being bent away from the plane of the conveyer at that point to cause the ends to project away
 35 from the conveyer in diverging directions, and a yielding sheet metal joint receiving said ends practically enclosing the ends on all sides except where said ends pass into it for holding the two sections of the conveyer
 40 together yieldingly.

3. As an article of manufacture, a conveyer comprising a series of sections, said sections having some of their cross wires removed throughout a space adjacent to the
 45 ends and bent out of the plane of the conveyer at the ends, sheet metal members covering the edges of the bent portions and extending upwardly along the same to the bottom of the conveyer sections, and a spring
 50 metal joint covering the same and extending below the ends, said sheet metal pieces having flanges extending outwardly from them at the top in the plane of the conveyer sections, for the purpose described.

4. As an article of manufacture, a conveyer comprising a series of sections, said sections having some of their cross wires removed throughout a space adjacent to the
 60 ends and bent out of the plane of the conveyer at the ends, sheet metal members covering the edges of the bent portions and extending upwardly along the same to the bottom of the conveyer sections and having flanges extending
 65 outwardly from them at the top in the

plane of the conveyer sections, and yielding means for holding said sheet metal pieces together.

In testimony whereof I have hereunto affixed my signature.

FRANK L. FURBUSH.

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