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COMBINATION ENDLESS CONVEYER BELT AND GRADER SCREEN

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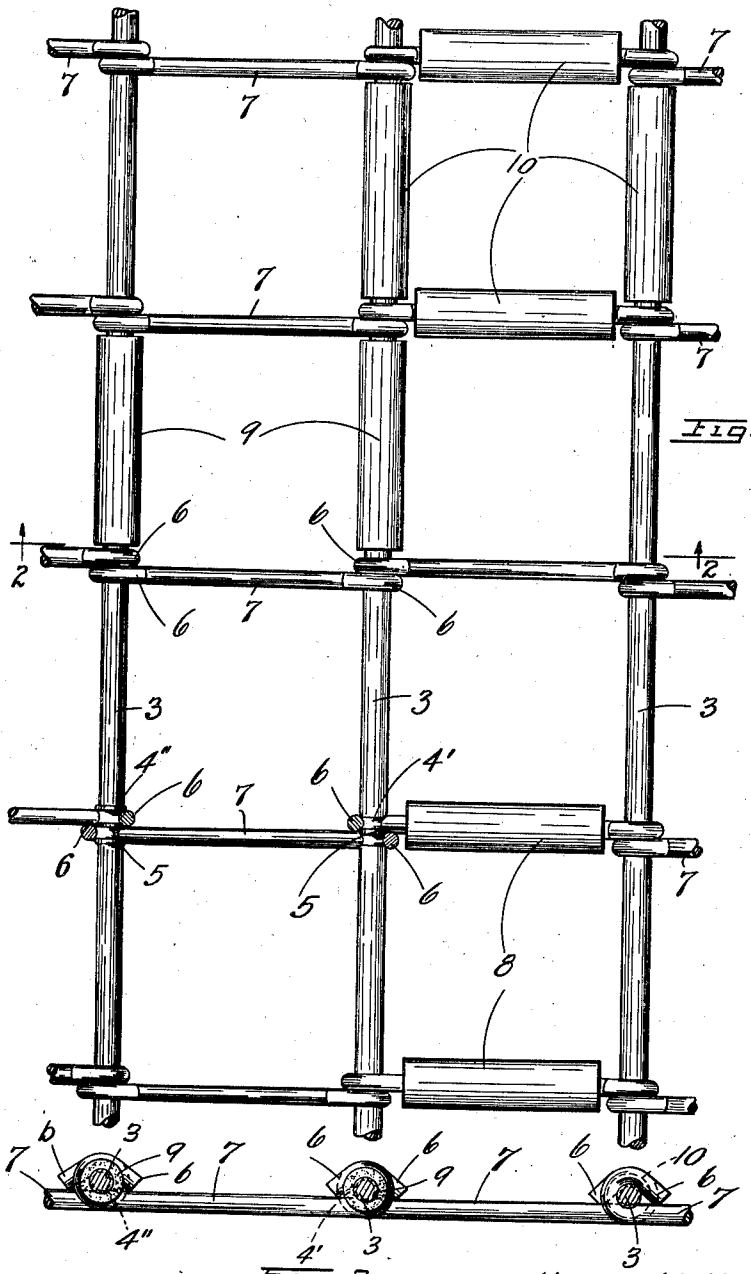


Fig. 1.

Fig. 2.

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COMBINATION ENDLESS CONVEYER BELT AND GRADER SCREEN

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2 Claims. (Cl. 209—84)

This invention relates to a combination endless conveyer belt and grader screen. The principal object of my invention is to provide an endless conveyer belt for graders and sorting equipment, which belt will also act as a grader for the material or articles being conveyed thereby.

A further object is to provide transverse rods so formed as to provide an inexpensive method whereby the respective ends of the interconnecting longitudinal links are each individually held against lateral movement.

A further object of my invention is to provide rotatable resilient buffer means carried on the transverse rods, on the longitudinal links or on both.

With the foregoing and other objects in view, as will appear as the description proceeds, the invention consists of the novel construction, combination and arrangement of co-operating elements as hereinafter more specifically set forth, claimed and shown in the accompanying drawing forming a part of the present application, in which:—

Fig. 1 is a bottom plan view of a portion of a conveyer belt, showing the preferred embodiment of my invention.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Like numerals of reference designate corresponding parts throughout the different views.

In Fig. 1, I have shown only a section of my combination endless conveyer belt and grader screen. Those skilled in the art will appreciate that the same may be made in any desired width and length to be used in connection with various types of graders and sorting equipment.

The transverse rods 3 are provided with spaced pairs of adjacent annular grooves 4, which may be machine-tooled out as illustrated at 4' or may be rolled in as at 4''. In either case, the forming of the pair of adjacent grooves 4 leave an intermediate annular shoulder 5. By this construction, I provide spaced adjacent grooves with intermediate spacing shoulder for reception of the eyed or looped ends 6 of the longitudinal intermediate links 7, connecting between each successive pairs of transverse rods 3.

If desired, the longitudinal links 7 may be provided with rotatable resilient buffers 8; the transverse rods 3 may be provided with rotatable resilient buffers 9, or they may both be provided with annular rotatable resilient buffers as shown at 10, according to the material or articles being graded or sorted.

I do not wish to limit my combination endless conveyer belt and grader screen to approximately square openings as illustrated in Fig. 1, as the openings will be varied in length and width according to the material or articles being graded or sorted. This will be accomplished by the length of the longitudinal links 7 and the spacing relationship between the respective pairs of adjacent annular grooves formed on the transverse rods 3.

As will be noted from the illustration in Fig. 2, the eyed or looped ends 6 of the longitudinal intermediate links 7 provide a plurality of spaced humps, which humps would normally be on the inner side of an endless belt. The rollers, over which belts of this nature are trained in common use, are generally flat and these humps on the inner side of the belt would cause an up and down vibratory motion to the belt as it travels over the various rollers of a machine or apparatus with which it is being used. By this construction, I provide a screen having an outer substantially flat conveyer surface and an inner surface provided with a plurality of spaced, humped portions.

The foregoing specification and annexed drawing disclose the preferred embodiment of my invention, but it is to be understood that minor changes may be resorted to in the commercial adaptation of my invention without departing from the scope of the invention as hereinafter claimed.

What I claim as new is:

1. An endless conveyer belt and grader screen, comprising a plurality of transverse rods disposed in spaced relation longitudinally of the belt, each of the rods being formed with a series of grooves spaced longitudinally of the rod, each of said grooves comprising independent annular channels formed in the rod separated only by a narrow annular projection forming a division between the channels, and a plurality of links connecting successive rods and forming the longitudinal elements of the belt, each of said links being looped in similar channels of adjacent rods with the links of one groove projecting in opposite directions relative to the rod formed with such groove, each link being coiled downwardly with respect to the same surface of the belt, whereby the upper surface of the belt is relatively smooth and the lower surface is formed at the juncture of each pair of links and the rods with hump-like projections extending below the normal lower surface of the belt.

2. A construction as defined in claim 1, wherein the links are provided with loosely fitting resilient buffers, limited in longitudinal play by the links for all such buffers.

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