

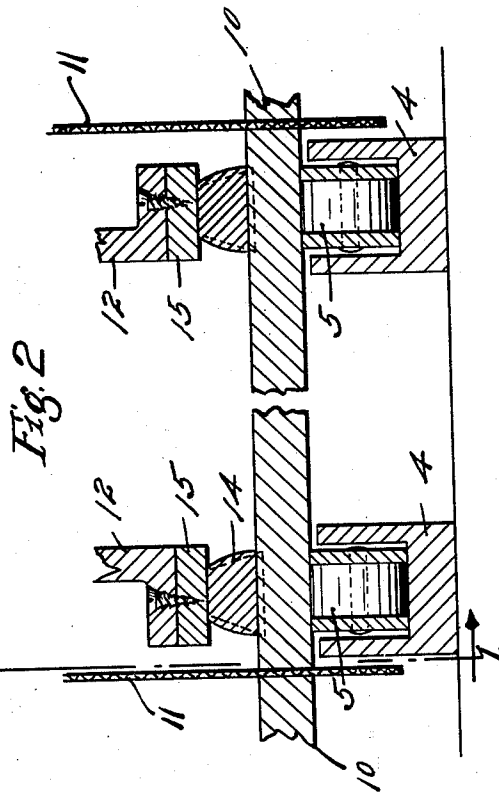
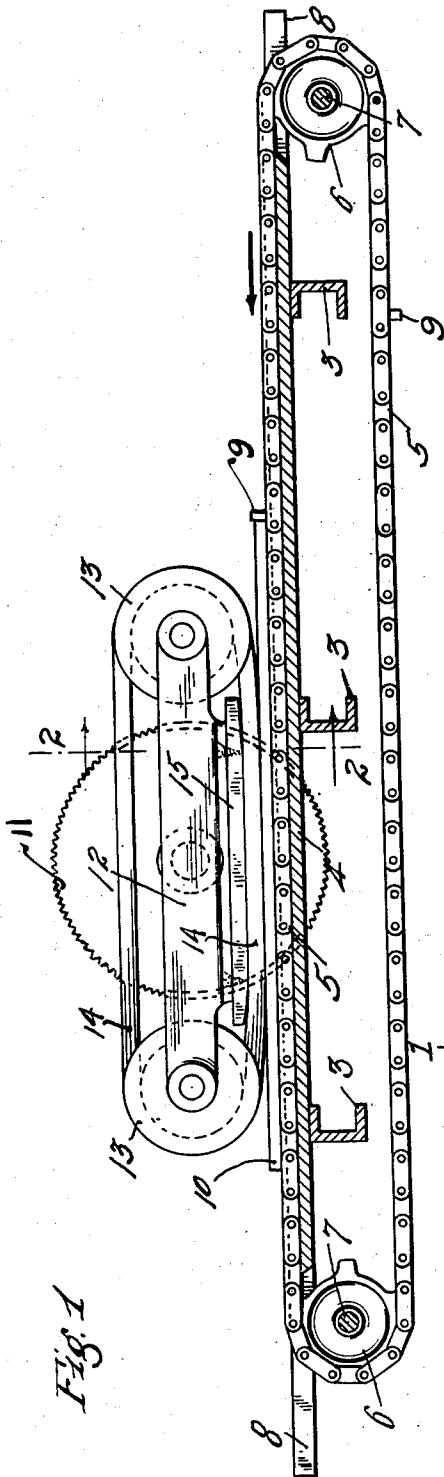
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WORK HOLDER FOR ENDLESS CONVEYERS

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WORK HOLDER FOR ENDLESS CONVEYERS

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3 Claims. (Cl. 143—49)

My invention relates to machines employing endless conveyers for delivering work such as boards or strips to saws, planers or the like and is directed to an improved work holder for holding the board or the like tightly pressed on the end-
less conveyer while it is being delivered to the saw or cutting instrument. Generally stated, the invention consists of the novel devices, combina-
tions of devices and arrangement of parts hereinafter described and defined in the claims.

The nature of the invention and the important function thereby performed will be more fully described after having first described the same that is incorporated in a sawing machine, illustrated in the accompanying drawing, wherein like characters indicate like parts throughout the several views.

Referring to the drawing:

Fig. 1 is a view partly in side elevation and partly in vertical longitudinal section, showing the machine embodying the invention, being taken on the line 1—1 of Fig. 2; and

Fig. 2 is a transverse vertical section taken on the line 2—2 of Fig. 1.

The numeral 3 indicates metal beams that constitute elements of a lower supporting frame, on which are placed parallel longitudinally extended channel-shaped skids 4, rigidly secured. Endless sprocket chains 5 are arranged to run over sprockets 6 carried by shafts 7 journaled in suitable bearings, not shown but which would be rigid on the lower framework. The upper portions of these chains are arranged to work in the channel-shaped skids 4. The ends of the skids 4 are slotted at 8 to permit the chain to pass freely from and to the sprocket chains. Preferably, the left-hand sprocket 6 will be the positively driven sprocket. Certain links of the chains are provided with driving lugs 9 that positively force a board 10 to and past the cutting instruments, which, as illustrated, are ordinary power driven circle saws 11.

Rigidly secured above the skids is an overhead frame 12 on which are loosely journaled laterally-spaced pairs of grooved wheels 13. Working in the grooved wheels 13 is a work holding or presser belt 14, which, in transverse cross section, is in the form of a truncated V or, in other words, is in the shape of a dovetail flange and fits correspondingly formed peripheral grooves in the wheel 13. This belt 14 is of a pliable material such as rubberized fabric. The narrow inner edges of the belts 14 are arranged to run against the under surfaces of belt pressing means which are illustrated as being in the nature of fixed shoes 15

that are secured to the bottom of the frame 12 and have bevelled lower end surfaces. The frame 12, in respect to the lower frame and the skids, is herein treated as fixed or rigid but, in practice, the usual means for adjusting but rigidly setting the said frame and the shoe 15 and belt 14 in different vertical positions for action on boards or the like of different thickness may, of course, be provided. In Fig. 2 the normal cross section of the elastic presser belt is indicated by dotted lines, and the compressed condition thereof is indicated by full lines.

The importance of the cross sectional form of the presser belts 14 will now be considered. In the first place, this form gives a minimum width of surface engagement between the narrow inner edges of the belts and the shoes 15 and a maximum width of engagement with the board or work 10. In the second place, the V-shaped or bevelled formation gives a maximum of side width for bulging of the elastic belts under pressure produced between the board and the shoes. In the third place, the tendency toward lateral swaying of the belts under compression is neutralized by the reversed bevel of the side surfaces of the belts. In practice it has been found that when the elastic belts are made square or rectangular in cross section, compression thereof will tend to sway or rock the belts toward one side or the other. As above stated, this action is neutralized in the reverse bevel of the applicant's belts. Of course, the under surface of the fixed shoes 15 will be very smoothly or highly polished, so that the frictional engagement between the belts and these shoes is reduced to a minimum.

The efficiency of the arrangement of belts and cooperating devices described has been thoroughly demonstrated in practice, and the statements of the advantages above made are based on actual experience.

What I claim is:

1. In a machine of the kind described, the combination with skids and feed belts movable on said skids, of an overhead frame having guide wheels journaled thereon, and an elastic belt running over said grooved wheels, said belt having truncated V-shaped form in cross section, arranged with its outer relatively wide surface for engagement with the board or work movable by said feed belt, said overhead frame being provided between said guide wheels with belt pressing means with the under surface of which the relatively narrow inner surface of said elastic belt is engageable.

2. The structure defined in claim 1 in which

said wheels, elastic presser belt and shoe are duplicated on said upper frame in a laterally spaced pair.

5 3. In a machine of the kind described, the combination with skids and feed belts movable on said skids, of an over-head frame having belt-guiding wheels journaled thereon and provided between said wheels with a longitudinally extend-

ed rigidly secured shoe, and an elastic presser belt running over said wheels and with frictional engagement with and under said shoe, said belt being of truncated V-shaped form in cross section with its under surface exposed for contact with 5 the work being fed by said feed belts.

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