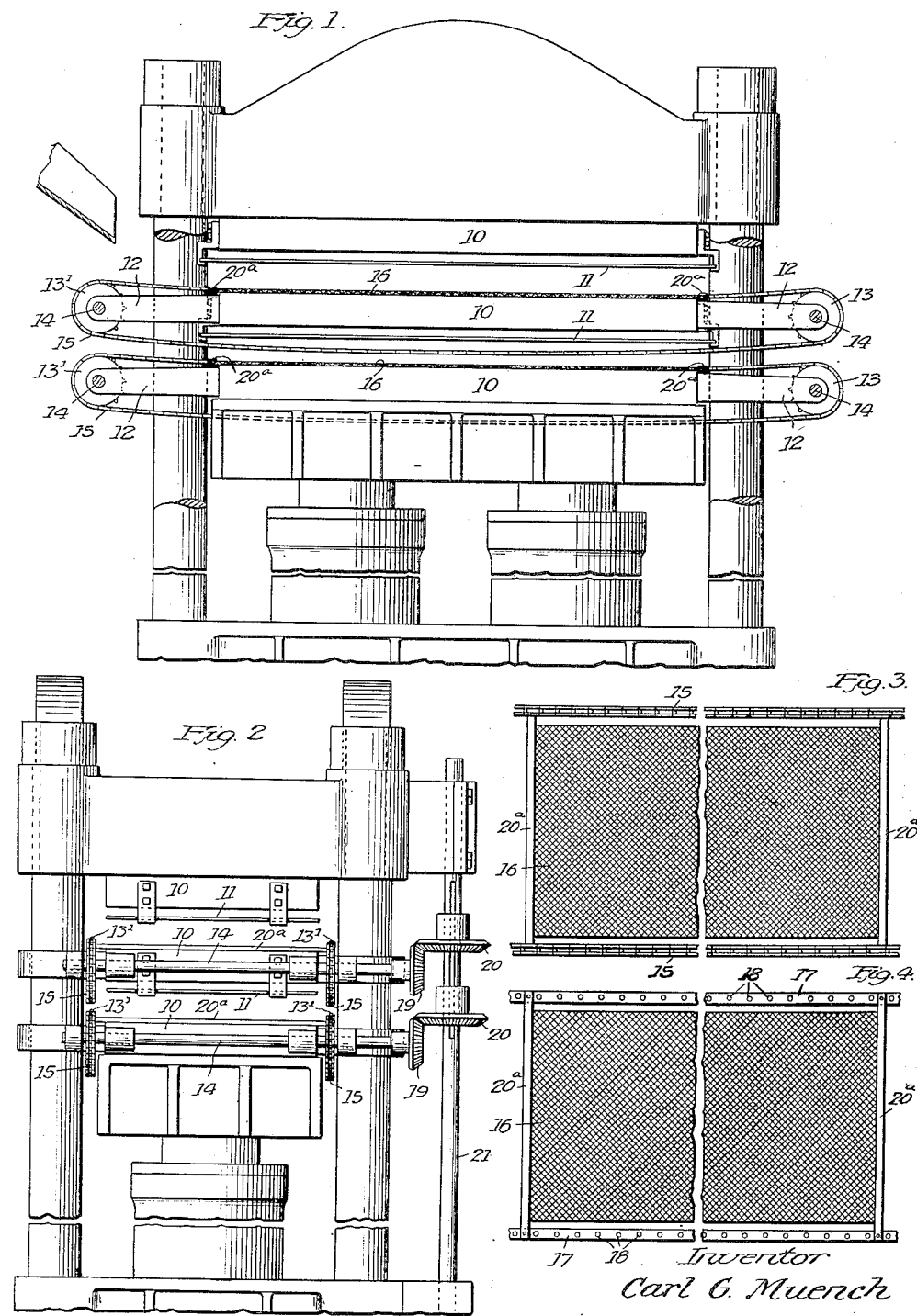


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PRESS CONVEYER

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PRESS CONVEYER

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In various phases of the manufacture of relatively large sheets of board form materials there are used relatively large multiple heated plate presses which present difficulties in handling the materials to and from between the plates of the presses.

In the large presses such as are used in the manufacture of what is generally known as hard board and of various other products which must have at least one smooth face, it is usual to employ a plate suspended from the lower side of the top plate of each pair of heated plates, which suspended plate is very smooth surfaced and serves to impart a smooth surface finish to the product produced. In various of the presses used it is necessary that provision be made for the escape of vapor from the sheet of material being processed, and this is ordinarily provided for by a screen-like member positioned between the lower face of the material being treated and the upper face of the platen on which the material is supported.

Due to the fact that in general the various materials treated in presses of the type described, which quite generally have plates approximately 4 feet by 10 or 12 feet, are extremely weak structurally, when supplied to the press it is necessary that provision be made for properly supporting the raw or untreated sheets while they are being inserted into the press.

A particular object of this invention is to provide in connection with multiple platen presses, and particularly in connection with multiple heated platen presses, means serving to properly support and convey sheets of raw material into the press for treatment. The conveying and supporting means are designed not only to convey the material into the press but they are also to serve to properly position the sheet for treatment and, if necessary, to provide the means for allowing the escape of vapor from the sheet during its treatment. The conveying structure is also to serve for removal of the finished sheets from the press.

Other and further objects of the invention are provision of the conveying and supporting means as described, wherein the screen-like members are readily visible for inspection, are readily accessible for cleaning and are relatively easy and simple to replace. Other and further advantages and improvements over existing conveying means which the structure of this invention is to supplant, will be readily apparent upon consideration of the following description when

taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is a diagrammatic side elevation of several platens of a multiple platen press and illustrates the application of the invention thereto.

Figure 2 is a diagrammatic view taken at right angles to Figure 1.

Figure 3 is a plan view of a portion of a conveyer element.

Figure 4 is a plan view of a portion of an alternative conveyer structure.

In the drawing, several platens 10 of a multiple platen press are diagrammatically indicated and associated therewith there are suspended plates 11 which may be termed finish plates or surfacing plates, since they are quite smooth and serve to impart a smooth surface finish to the material pressed. Plates 11 are ordinarily suspended from heated platens 10 by any desired means (not shown but readily understood) since in the past it has been quite usual that endless conveyer members be used with the return side operating between the lower face of a platen 10 and upper face of platen 11. This feature of suspension of plates 11 from platens 10 has at times caused serious difficulties due to loose material in some way carried in between the platen and plate by the conveyer, which loose material is quite liable to ruin plates 11 on a subsequent pressing operation. According to this invention, surface plates 11 may be secured directly against the lower faces of platens 10 whereby there is no chance for loose material to work in behind the plates and cause their destruction.

The invention comprehends that the conveyer member shall comprise only a section substantially of the dimensions of a plate whereby when the press is closed, with material therein for treatment, there is but a single run of each of the conveyers through the press, whereby it is unnecessary that the plate 11 be spaced from platen 10 as described in connection with past practices.

Supported at each end of a platen by brackets 12, there are mounted sprocket wheels 13 which preferably are mounted on shafts 14 extending across the width of the press in order that like sprockets 13' may be mounted at the opposite side of the press to rotate in unison with the sprockets 13.

Chains 15 are mounted around sprockets 13 and 13' and have attached thereto a conveyer portion 16 which, dependent upon the conditions

of use, may be foraminous, may be merely a smooth flexible sheet, or which may have any desired embossing or other finish. Of course in place of chains 15 there may be used perforated strip members 17 of relatively thin flexible material having openings 18 therethrough to contact with the teeth of sprocket wheels 13 and 13'. Conveyor portion 16 may conveniently be mounted on conveyer chains 15 or conveyer bands 17 by attachment thereto along its side edges or cross bars 20 may be mounted on and between the side chains or bands 15 and 17, in which case the ends of conveyer portions 16 are appropriately secured to these cross bars 20.

On shafts 14 which are extended to one side, there are mounted bevel gears 19 which cooperate with driving bevel gears 20 mounted on a common vertical shaft 21, whereby when shaft 21 is rotated, shafts 14 will likewise rotate to cause rotation of sprocket wheels 13 and 13', whereupon conveyer chains 15 will be moved to cause corresponding movement of conveyer section 16 mounted thereon. It will of course be readily understood that any equivalent means other than shaft 21 and cooperating bevel gears 19 and 20 may be substituted therefor to provide uniform rotation of the several shafts 14 of a press.

Conveyer 16 comprises a portion only the length of the platen with which it cooperates, whereby it will be seen that when the press is closed with the conveyer portion 16 positioned over a platen there is but one run of conveyer 16 through the press, whereby it is not necessary that there be a double layer of conveyer 16 under the material supported or alternately one pass thereof returning through the press between the lower face of a platen and the upper face of a loosely suspended surfacing plate 11. It is also evident that the conveyer as described will necessitate the use of only a fraction or $\frac{1}{2}$ of the actual material which would be involved were the conveyer 16 endless and continued around the sprockets at the opposite ends of the platens. In cases where section 16 is of screen material there is not nearly the tendency to pull this material out of shape that exists when such screen material is used in the form of a continuous conveyer operating in two passes through the press and over rolls mounted on shafts 14 in place of the sprockets 13 and 13'.

This described construction has also a great advantage over the curtain type of conveyer, that is, one wherein the conveyer at either end rolls up on a roller mounted on shaft 14, since with such construction there is a quite decided tendency for the conveyer member to warp or be twisted and be pulled out of shape and incidentally such construction necessitates the use of at least twice the length of conveyer compared to that required according to this invention.

Having described a new and improved conveyer structure for use particularly with large multiple heated platen presses, I claim:

1. In a multiple platen press, a conveyer operative to carry material between pairs of platens

thereof, the conveyer comprising continuous side members spaced the width of a platen and supporting and operating a screen-like conveying portion comprising a section only of substantially the length of a platen.

2. A multiple platen press, sprocket-like members mounted at each end of a platen thereof, endless driven members extending the length of the platen over the sprocket-like members and driven thereby, the endless driven members comprising the supports and operating means for a foraminous conveyer member section of a length, approximately a platen length, less than the total length of an endless driven member.

3. A conveyer adapted to position a sheet material over a plane table-like member, the conveyer comprising endless side members and a connecting sheet supporting member supported and carried thereby, sprocket-like members positioned at each end of the table-like member and providing support for the endless side members of the conveyers, the length of the sheet supporting member less than the length of the endless side members by at least a platen length.

4. A platen press adapted to press sheet material, the press comprising upper and lower members between which the sheet is pressed, sprocket-like members carried by the lower press member and rotatably mounted at opposite sides thereof, endless carrier members mounted on the sprocket-like members and driven therefrom, a foraminous section of substantially the length of a platen supported and carried by the carrier members, and means rotating the sprocket-like members to drive the carrier members to receive and position a sheet of material on the foraminous section over a press member, to eject the sheet and to return the foraminous section through a path under said press member and again to the upper side thereof to again receive a further sheet of material, seriatim.

5. A conveyer feed for a multiple superposed platen press comprising driving members mounted at each end of a platen, closed path driven members mounted on the driving members and extending along the sides of a platen, the upper horizontal pass of the driven members in substantially the plane of the surface of a platen, the lower horizontal pass of the driven members slightly below the plane of the bottom surface of a platen and a foraminous support mounted between and carried by the driven members, the foraminous support having a longitudinal length approximately the total length of a driven member less the length of a platen.

6. In a multiple platen press, a conveyer operative to carry material between pairs of platens thereof, the conveyer comprising continuous side members spaced the width of a platen, a pair of spaced connector members extending between the spaced continuous side members and carried thereby, and a screen-like foraminous section having a length approximately the length of a platen supported between and carried by the pair of spaced connector members.

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