April 25, 1944. W. E. McDONALD 2,347,604

FLOOR PRESS

Filed April 6, 1942 2 Sheets-Sheet 1

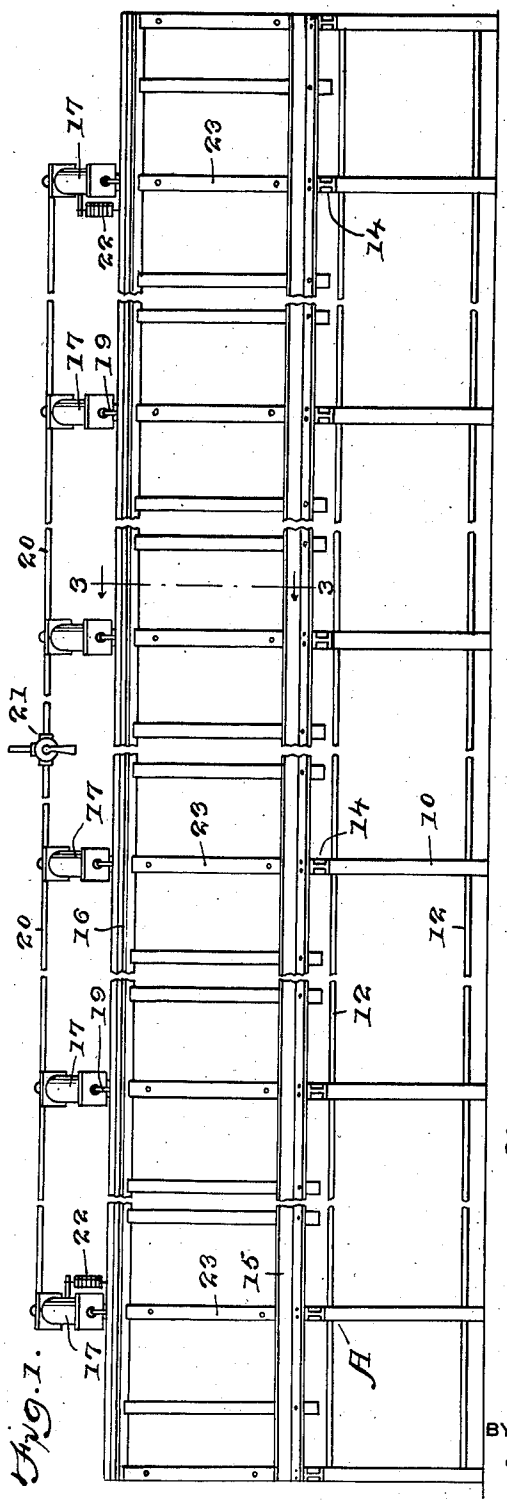


Fig. 1.

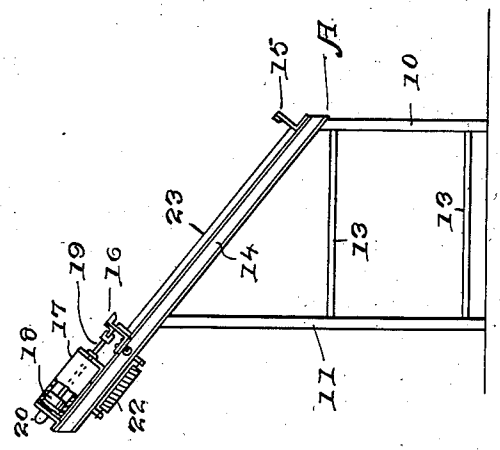


Fig. 2.

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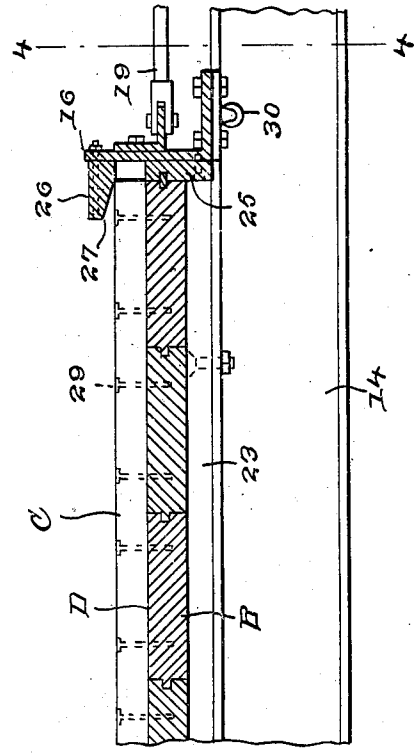


Fig. 4.

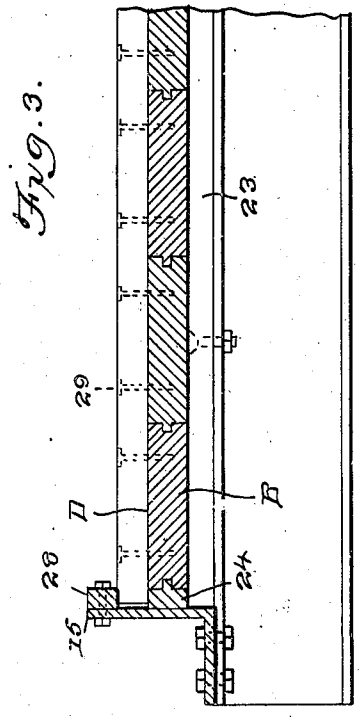
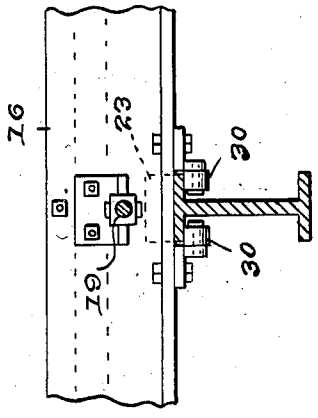


Fig. 3.



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UNITED STATES PATENT OFFICE

2,347,604

FLOOR PRESS

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Application April 6, 1942, Serial No. 437,881

1 Claim. (Cl. 144—289)

The invention relates to a press, and more especially to floor presses.

The primary object of the invention is the provision of a press of this character, wherein prefabricated and prefinished sectional floors for prefabricated homes and other buildings can readily be effected, in that tongued and grooved lumber flooring in determined widths and lengths will be assembled, so that they will not warp, crack or bulge on the permanent placing thereof within an edifice.

Another object of the invention is the provision of a press of this character, wherein panels or sections of lumber flooring can be readily and conveniently built in a factory or plant, and such panels or sections assembled at a building to form the complete floor, thus avoiding the conventional laying of the lumber in individual lengths as by the present day practice.

A further object of the invention is the provision of a press of this character, wherein by the use thereof large wastes of lumber in laying floors in buildings as is now common will be eliminated, it being well known that no carpenter is able to nail flooring with an even pressure at the joints, these variations become magnified when the natural moisture in the lumber flooring dries in a heated building, while the prefabricated panels or sections created by the press overcome such difficulties, relieving unsightly cracks and bulges appearing in the floor.

A still further object of the invention is the provision of a press of this character, which is simple in its construction, thoroughly reliable and efficient in operation, strong, durable, automatic in the working thereof, easily handled, requiring a single attendant, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention, and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a front elevation of the press constructed in accordance with the invention.

Figure 2 is an end view.

Figure 3 is an enlarged sectional view taken approximately on the line 3—3 of Figure 1, showing a panel or section of flooring assembled therein.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally the machine or press in its entirety, B the tongued and grooved individual lumber flooring or pieces thereof, and C the furring superimposed on the flooring and made fast thereto while glue is setting, which is applied to the said furring C at the contacting surface thereof with the flooring or pieces B, these being placed face down in the machine or press A, the glue joint being indicated at D.

The machine or press comprises a stand having spaced front and rear vertical legs or uprights 10 and 11, respectively, which are spaced apart by longitudinal and transverse brace bars 12 and 13, respectively, which give rigidity to the stand. The front legs or uprights 10 preferably are of less heighth than the rear legs or uprights 11, so as to support a forwardly inclined table or frame including steel beams faced with wood 14, conveniently spaced, a fixed steel back plate also wood faced 15, secured to the lower portion of the table or frame and running transversely to the steel beams 14, and a movable pressure bar 16 resting on the table or frame at or near the upper portion thereof.

A group or battery of pneumatic pressure devices conveniently spaced are secured to the upper portion of the table or frame, these devices including cylinders 17 and pneumatically operated pistons 18 inside thereof, the latter being connected to driving rods 19, which are attached in a suitable manner to the pressure bar 16. These cylinders 17 are included in an air line 20. The air supply to the line 20 is controlled by one master air valve 21.

A suitable coil spring 22 is fastened to the table or frame and to the pressure bar 16 to cause the pistons 18 in the cylinders 17 to return to normal position when the air valve 21 is closed, and the exhaust of air from the said cylinder 17 being effected in any suitable manner during the return of the pistons to normal position.

The machine or press is designed to form floor panels or sections from tongued and grooved lumber flooring in widths of 36 or 48 inches and in lengths of from 14 to 32 feet, although such proportions may be varied as the occasion may require.

The lumber lagging 23 is the wood facing to the beams 14 and are longitudinally thereof, being fastened in any suitable manner. The ends of such lagging 23 next to the pressure bar 16

constitute stops therefor to limit the pressure movement thereof.

The wood facings for the back plate 15 and the pressure bar 16 are indicated at 24 and 25, respectively, while this pressure bar at its upper edge carries a guide 26 having the beveled area 27 which acts upon the furring C during the assembling of the flooring B to hold the furring tight against the latter. The back plate 15 has the strip 28 carried thereon to also hold this furring C tight against the flooring.

In addition to the gluing of the furring C nails 29 are driven through the same into the pieces B as is clearly shown in the drawings.

The table or frame is made fast to the stand of the press or machine in any suitable manner.

The pressure bar 16 is supplied with guide rollers, one being indicated at 30, and such pressure bar is slidably coupled with the beams 14 for its movements.

In the operation of the machine or press, finished tongued and grooved lumber flooring with the finished surfaces downwardly is placed longitudinally on the table or frame of the said machine or press A by the men operating the same and assembled to form a loosely fitting panel or section. The bottom of this loosely fitting panel or section rests on the back plate 15 and the top of the same is at or near the pressure bar 16. The operators then place approximately 1 x 3 inches lumber strips C which is the furring coated with glue or other adhesive, the adhesive side downward on top of the loosely fitting panel or section then resting in the press or machine A. These strips C are laid transversely to the lumber flooring B and are preferably spaced 16 inches apart over the entire length of the panel or section.

One of the operators then operates the air valve 21 admitting air to the cylinders 17. This drives the pistons 18 forcing the pressure bar 16 against the panel or section and thus the latter is thereby compressed between the pressure bar 16 and the back plate 15. The 1" x 3" strips are then nailed to the flooring during which time a constant pressure is maintained on the flooring panel or section. The completed section is then moved horizontally to one end of the machine or press A, cut off at the desired length, leaving the trim end in the machine or press. The trim end consists of a short panel or section of odd length pieces of lumber flooring and is used to form the nucleus of the next loosely assembled panel or section placed in the machine or press, thereby eliminating all waste of lumber.

The machine or press will eliminate large wastes of lumber in laying floors in buildings. It will provide a floor of superior quality and workmanship to that of conventional laid floors.

This machine or press will overcome the usual difficulties encountered in ordinary methods of laying flooring by providing a uniform pressure against the lumber during the time the same is being nailed.

The finished panels or sections under assembly are ready for fastening directly to the sub-floor of a house or building. They are manufactured in sufficient lengths to run the full length of the entire building or of any room therein. The 16 inch spacing of the 1" x 3" strips is done so that these strips C will correspond in direction and placement with the joists having conventional 16 inch O. C. spacing.

These panels or sections will not warp, crack or bulge. They are to be built, in a factory by the use of the machine or press and the flooring sections are to be assembled at the building site to form the complete floor.

What is claimed is:

In a press for clamping together a piece of furring and a panel or the like, an elongated support, a fixed clamping plate on the support following one longer edge of the same, a pressure bar directly opposite said plate and movably connected to the support, means for advancing said bar toward the plate and arranged at predetermined intervals along the said bar, facings on confronting surfaces of said plate and bar, respectively, and having interfitting engagement with the panel for the true alignment of such panel therewith, a guide on the pressure bar and having a beveled area for riding upon the furring to effect wedging pressure thereon and maintaining the latter tight against the panel, a strip carried by the plate and spaced from the support for holding the furring next thereto against the panel, and means for controlling the advancing means.

WAYNE E. McDONALD.