March 27, 1951 R. E. BLOMSTROM 2,546,294

FLOOR BOARD TIGHTENER

Filed Aug. 14, 1946

Fig. 1

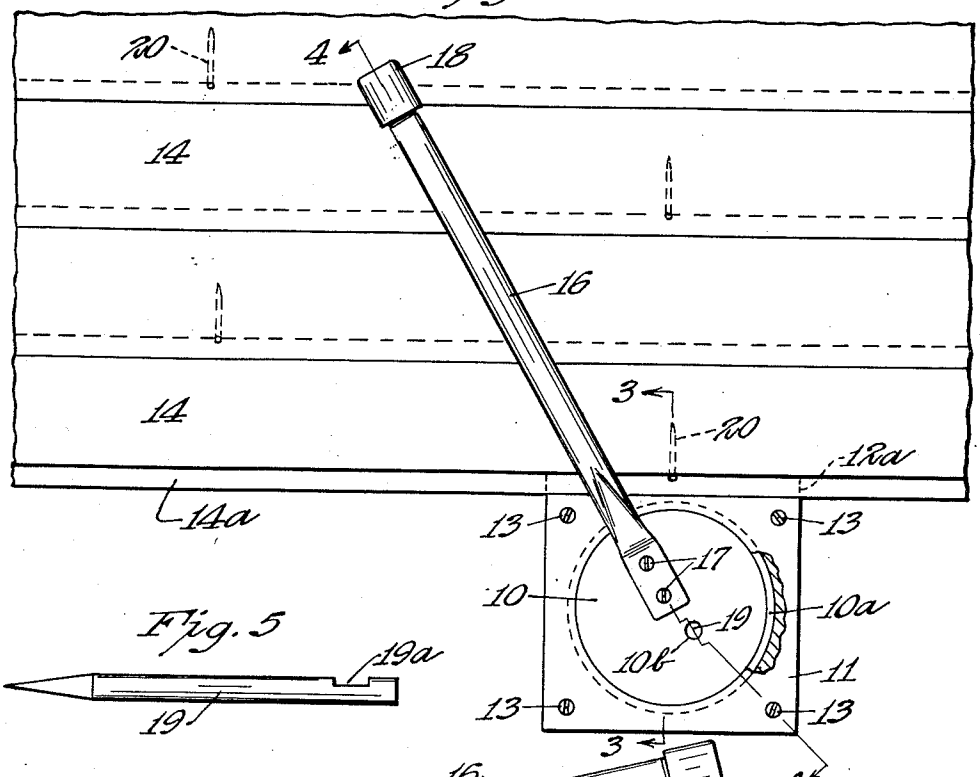


Fig. 5

Fig. 2

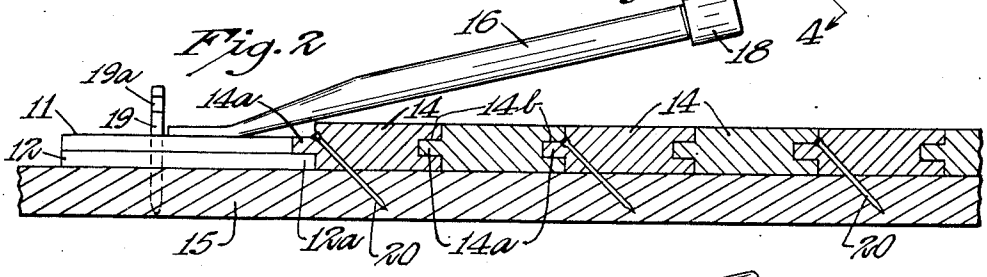


Fig. 3

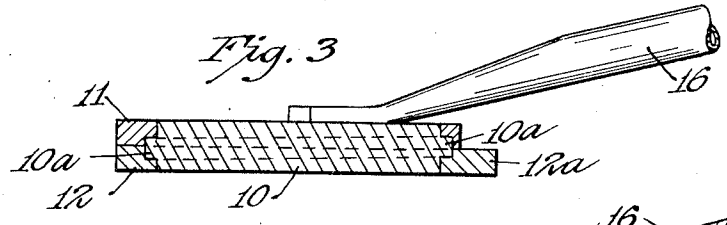
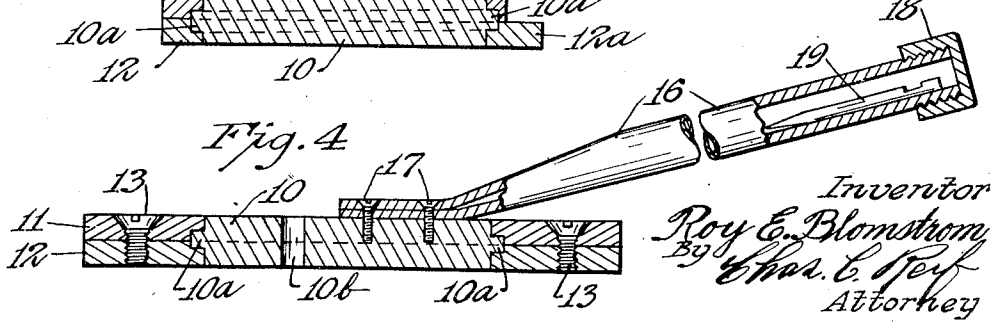


Fig. 4



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FLOOR BOARD TIGHTENER

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2 Claims. (Cl. 254—16)

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This invention relates to a device for tightening boards, such as the tongue and groove boards used in flooring. It is desirable to have each floor board pressed tightly against the adjoining board as the former is placed into position so that it can be nailed while it is so pressed.

It is an object of this invention to provide a very simple and efficient device for engaging and moving a board, such as floor board.

It is a further object of the invention to provide a floor board tightening device comprising a circular disc, the same preferably having a peripheral rib extending thereabout, upper and lower plates fitting about said disc and rib, one or more of said plates having a side constructed and arranged to engage a board such as a floor board, said disc having a vertical aperture extending therethrough at one side of the center thereof, a handle secured to said disc and extending to one side thereof, and a pin extending through said aperture and adapted to be driven into the floor support, whereby when said handle is turned said plates will be moved laterally so that they can engage a board and press it into position.

It is also an object of the invention to provide such a device as set forth in the preceding paragraph, said plates having one of their sides rectilinear and offset so that the lower plate can extend under the tongue on a floor board and the upper plate can engage the outer side of said tongue.

It is still further an object of the invention to provide such a device as set forth in the preceding paragraph save one, in which said handle is made of hollow or tubular form at its outer end and being open at its outer end so that it can receive said pin, together with a cap for closing said outer end.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a plan view of the device, the same being shown as engaging one of a number of boards, a portion of the device being broken away and another portion shown in horizontal section;

Fig. 2 is a view in side elevation of the device, a portion of flooring and floor support being shown in vertical section;

Fig. 3 is a vertical section taken on line 3—3 of Fig. 1, as indicated by the arrows;

Fig. 4 is a vertical section taken on line 4—4 of

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Fig. 1, as indicated by the arrows, Figs. 3 and 4 being shown on a reduced scale; and

Fig. 5 is a view in side elevation of a pin used.

Referring to the drawings, a device is shown comprising a circular disc 10. Disc 10 preferably is provided with a peripheral rib 10*a* disposed between its top and bottom sides, and while said rib might be variously formed, in the embodiment of the invention illustrated it is shown as rectangular in vertical cross section. Disc 10 is shown as having parallel flat top and bottom sides and rib 10*a* inclines slightly or is disposed at a slight angle to said top and bottom sides. An upper plate 11 is provided, the same having a circular opening therein, said plate fitting about the upper portion of disc 10 and being rabbeted to fit about rib 10*a*. A lower plate 12 is provided, the same also having a circular opening therein so as to fit about the lower portion of disc 10 and being rabbeted to fit about rib 10*a*, plates 11 and 12 being in engagement and thus surrounding and enclosing disc 10. Plates 11 and 12 have their top and bottom sides respectively flush with the top and bottom sides of disc 10. Plates 11 and 12 are shown as of rectangular form and as being connected some distance from disc 10 by the screws 13 threaded into plate 12 and having grooved heads countersunk into plate 12. The plates 11 and 12 are offset at one side, as shown in Figs. 2 and 3, so that the projecting portion 12*a* of plate 12 may be disposed under the tongue 14*a* of a board 14, such as a floor board shown in Fig. 2. In Fig. 2 a number of the boards 14 of tongue and groove form are shown in assembled relation to form part of a floor. A floor support 15 also formed of boards is shown beneath boards 14 and extending to one side thereof. A handle 16 is secured to disc 10 and while this handle might be variously formed, in the embodiment of the invention illustrated it is shown as a tube or pipe flattened at one end to engage the top of disc 10 and is secured to disc 10 by the countersunk screws 17. Handle 16 is bent to extend upwardly and laterally to one side of disc 10 and has an open outer end. A cap 18 is threaded on said outer end to close the same. Disc 10 is provided with a vertically extending aperture 10*b* which extends therethrough and which is adapted to have a pin 19 pass therethrough. Pin 19 has a pointed end and is adapted to be driven into the floor support 15. Pin 19 preferably is provided with a notch or slot 19*a* adjacent its upper end.

In operation when a board 14, as shown in Figs. 1 and 2, is placed in position its groove 14*b* is placed over the tongue 14*a* of the last board,

as shown in Fig. 2, and its tongue 14a is projecting at its outer side. The device described is now brought into position, as shown in Fig. 2, with portion 12a extending under tongue 14a and engaging the outer side of board 14. The side of upper plate 11 may engage the outer side of tongue 14a. With the device so positioned, the pin 19 is now passed through aperture 10b and driven into the floor support 15. Handle 16 is now turned by the operator and disc 10 must now rotate about the axis of pin 19. Due to the eccentricity of pin 19 the plates 11 and 12 are moved laterally and pressure is exerted against board 14 to press it very firmly and closely against the adjacent board. When the handle 16 is brought to or close to dead center position, as shown in Fig. 1, with its longitudinal axis substantially in line with the center of pin 19, it will remain in this position with pressure still on board 14. The nails 20 can now be driven into board 14. These nails are commonly of a type having small heads and are driven downwardly into the angle between the top of tongue 14a and the outer side of board 14. These nails are commonly called "toe nails." When the board is thus nailed, handle 14 can be swung to release the pressure on board 14 and pin 19 will be withdrawn from floor support 15. Notch or slot 19a is provided in pin 19 so that an implement can be placed in said notch or slot to quickly withdraw pin 19. By locating disc 10 in different circumferential positions before handle 16 is turned, various degrees of pressure can be exerted on the board. Rib 10a, when it is rotated due to its slight upward inclination, tends to raise the sides of plates 11 and 12 adjacent board 14. This acts to prevent binding or too much friction at the bottom of plate 12 and on the bottom of board 14. When the device is not in use, pin 19 can conveniently be placed in the outer end of handle 16. Cap 18 can be removed to so place pin 19 and then again put in place to close the outer end of handle 16 and insure that pin 19 will not be lost. The pin is thus always readily available when its use is desired.

From the above description it will be seen that I have provided a very simple and yet highly efficient device for tightening boards, such as floor boards. The device is comparatively small and comprises few parts and is thus very handy

to handle and manipulate. It is quickly placed in position and can be very quickly operated. The laying of the floor is thus speeded up and greatly facilitated. The device has been amply demonstrated in actual practice, found to be very successful and efficient and is being commercially made.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope of applicant's invention, which generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:

1. A floor-tightening device having in combination, a circular disc having a peripheral rib formed thereon, upper and lower plates fitting over said rib and surrounding said disc, said disc being revoluble between said plates, said lower plate being adapted to rest on a floor support and one of said plates having a rectilinear side constructed and arranged to engage the side of a floor board, a handle secured to and extending upwardly and laterally to one side of said disc, said disc having an aperture extending vertically therethrough at one side of the center thereof, and a pin adapted to extend through said aperture into the floor support whereby when said handle is turned said disc will rotate about said pin and said plates will be moved laterally.

2. The structure set forth in claim 1, said rib being slightly inclined to the top surface of said disc.

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REFERENCES CITED

The following references are of record in the file of this patent:

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