U. OHLSEN.

FLOORING PINCERS.

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**1,106,399.** Patented Aug. 11, 1914.

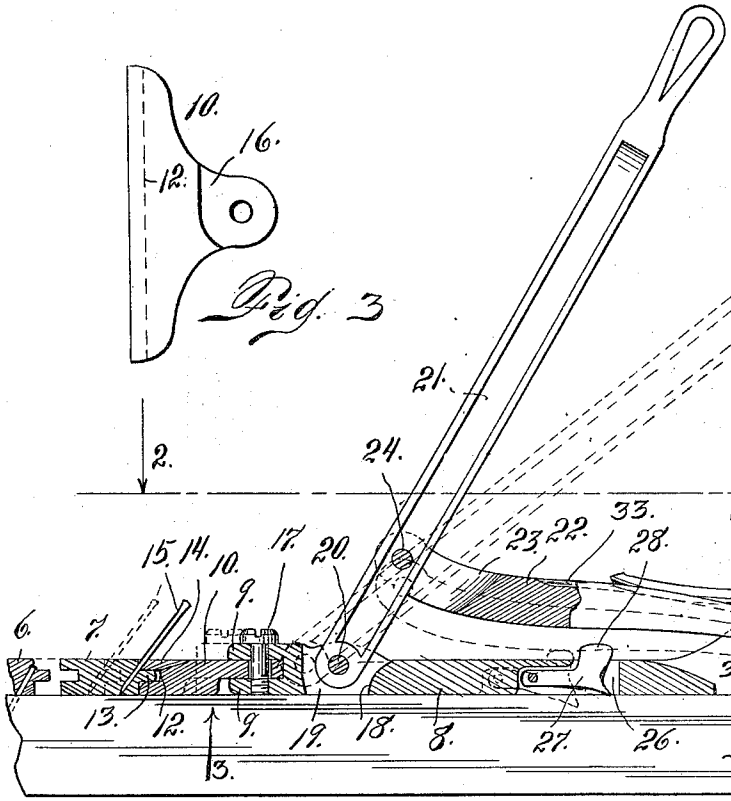



Fig. 3

Fig. 1.

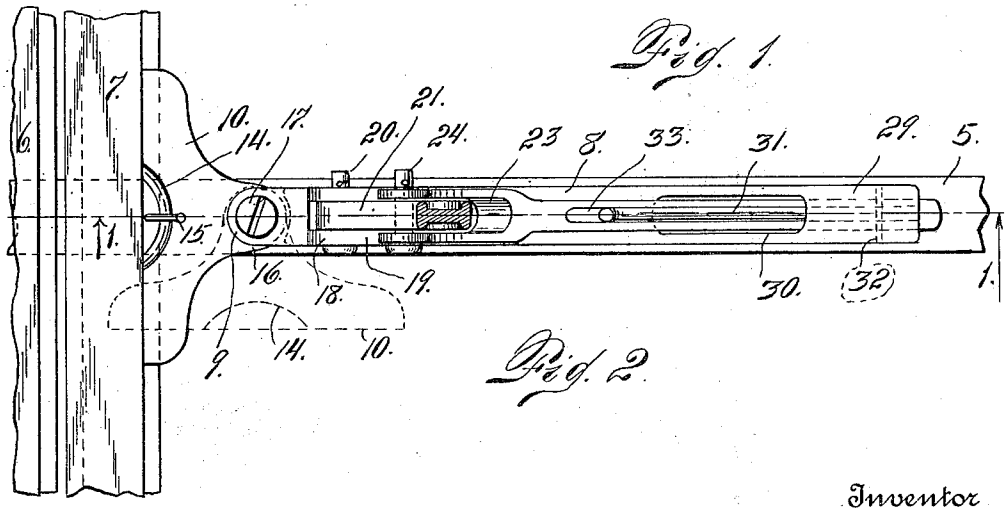



Fig. 2.

Witnesses

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## FLOORING-PINCERS.

1,106,399. Specification of Letters Patent. **Patented Aug. 11, 1914.**

Application filed February 24, 1913. Serial No. 750,064.

*To all whom it may concern:*

Be it known that I, ULRICH OHLSEN, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Flooring-Pincers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in flooring pincers and consists broadly in a device which is adapted to engage one edge of the board about to be laid and to be operated to force the board up into close contact with that section of the floor which is already laid.

One of the objects of my invention is to provide a device which shall automatically engage with the flooring support upon the initial movement in the operation of the actuating lever.

Another object is to provide a spur which shall be automatically caused to engage the flooring support at the termination of the stroke of the actuating lever whereby the board is held while the pincer mechanism is being set for a further movement.

A further object is to provide a board engaging head which shall be capable of automatically changing its angle with respect to the frame bar of the pincer in order that there may always be a comparatively wide bearing against the board.

Other objects will appear hereinafter, as I proceed with the description of that embodiment of the invention, which, for the purposes of the present application, I have illustrated in the accompanying drawing, in which:

Figure 1 is a longitudinal section taken approximately upon the line 1—1, Fig. 2. Fig. 2 is a plan view partly in section upon the line 2—2, Fig. 1. Fig. 3 is a detail of the pivoted head, viewed in the direction of the arrow 3, Fig. 1.

The same reference numerals refer to like parts throughout the views.

In the drawing, which forms a part of this specification, 5 represents a flooring support which may be merely flooring joists, or which may be a rough floor or an old floor upon which a new one is to be laid. Let 6 represent the section of flooring already laid, and 7 a board about to be laid or being laid.

The principal portion of my device which rests upon the floor support, I have given the reference numeral 8, and this portion of the pincer, I will hereinafter refer to as the frame bar. At its forward extremity, this frame bar is horizontally recessed to form two bifurcations 9, provided with vertical alining perforations. The board engaging head 10 is grooved at 12 for the reception of the tongue 13 upon the flooring board 7. The forward edge of the head is also cut away at 14 in order that a nail 15 may be driven into the board at precisely the center of the part to which pressure is applied. At the rear, the head 10 has a projection 16 of a thickness to loosely enter the space between the bifurcations 9 of the frame bar 8. This projection 16 is also provided with a perforation arranged to aline with the perforations of the bifurcations 9 and when the parts are assembled a screw pin 17 is inserted in the alining perforations and removably held in place by threads in the lower one of the bifurcations 9. By reference to Fig. 3 it may be seen that the projection 16, that is, the thin part of the head 10, extends farther toward the bearing edge of the head upon one side than upon the other side which is for the purpose of permitting the head to swing around upon one side approximately ninety degrees as indicated by the broken lines, Fig. 2.

A short distance behind the pivoted pin 17, the frame bar 8 is centrally cut away at 18, making short vertical walls 19 across which is mounted a pin 20. The lower extremity of an operating lever 21 enters the space between the walls 19 and is journaled upon the pin 20. A lever 22, which I shall hereinafter term the spur lever, is bifurcated at 23, to straddle the lever 21 to which it is pivoted by the pin 24. At its rear extremity, the spur lever 22 is provided with a downwardly and backwardly directed point or spur 25. Near the rear end of its flat part, the frame bar 8 has a second cut out portion 26 in which is pivoted to swing vertically, a spur 27, the lower edge of which is inclined downwardly very gradually toward the rear and which has an upwardly extending projection 28 arranged directly

below the spur lever 22 and adapted to be engaged thereby and pressed downwardly when the latter is in its lowest position.

The frame bar 8 is curved upwardly at its rear extremity and flattened to constitute a foot piece 29. The upwardly curved portion is slotted at 30 to provide a space through which the spur lever may slide. A spring 31, preferably of heavy steel wire is fastened in the foot piece being held from longitudinal movement by a pin 32. The forward end of the spring 31 rides in a groove 33 arranged longitudinally in the upper surface of the spur lever 22.

From the foregoing disclosure, the operation of my improved flooring pincer may be readily understood. It is a well known fact that flooring boards are seldom precisely straight, but are warped one way or the other. Usually, in laying flooring, a carpenter begins at one end of a board and works toward the opposite end. In employing my improved pincer, the frame bar 8 is placed in front of the board 7 at the point where it is desired to insert a nail and the device is moved forward until the groove 12 of the head 10 has received the tongue 13 of the board after which the operator places his foot upon the foot piece 29, thereby tending to hold the frame bar 8 from moving. He then grasps the handle of the lever 21 and pushes downwardly. During the initial part of this downward movement of the operating lever, the spur 25 is caused to engage the flooring support, the spur lever 22 being held to the work by the pressure of the spring 31. As soon as the spur is set into the support, the foot is removed and downward pressure upon the lever continued. The pin 24 now acts as the fulcrum upon which the lever 21 rocks, causing the frame bar 8 to be slid forward and to push the board 7 toward the section of flooring already laid. If the space ahead of the board 7 is not too wide, this one movement of the lever 21 will be sufficient to crowd the board into place, whereupon a nail 15 is inserted and driven, or if desired, the nail 15 may be started in the board as indicated in Fig. 1 and driven home after the board has been pinched into place. As the frame bar 8 slides forwardly, the pivoted spur 27 is drawn over the flooring support. Now, when the lever 21 reaches the broken line position of Fig. 1, the spur lever 22 is crowded downwardly against the upper surface of the projection 28 upon the spur and forces the latter down into the support as shown in broken lines. The frame bar is thereby held against rearward movement, due to the elasticity of the board 7. The lever 21 is then rocked forwardly, thereby withdrawing the spur 25 from engagement with the support. As soon, however, as the forward motion of the lever 21 is stopped and downward pressure again brought to bear upon the lever, the spur 25 again engages the flooring support at a point in advance of its previous engagement and the frame bar 8 moves forward in response to continued downward pressure upon the lever 21, the spur 27 of course, sliding freely out of engagement with the support. This "pumping" of the lever 21 may be repeated several times if necessary, the spur 27 acting each time as an automatically operated means for holding the advantage gained by each downward movement of the lever.

Although, I have shown and described my improved flooring pincer more or less minutely, I do not desire to be limited to the precise details of construction, as it is obvious that minor changes may be made without departing from the spirit of the invention as set forth in the appended claims.

I claim:

1. In combination with a support for flooring, a frame bar, the under surface of which is flat and adapted to slide upon the support, a head upon the forward extremity of said bar adapted to engage the edge of a flooring board, an operating lever pivoted to said frame bar, a spur lever pivoted at its forward end to said operating lever and means upon the said frame bar for causing the rear extremity of the spur lever to engage the flooring support during the initial movement of the operating lever.

2. In combination with a support for flooring, a frame bar, the under surface of which is flat and adapted to slide upon the support, a head upon the forward extremity of said bar adapted to engage the edge of a flooring board, an operating lever pivoted at its lower extremity to said frame bar, a spur lever pivoted at its forward end to said operating lever, and means upon said frame bar when downward pressure is applied thereto for causing the rear extremity of the spur lever to engage the flooring support during the initial movement of the operating lever.

3. In combination with a support for flooring, a frame bar, a head upon the forward extremity of said bar adapted to engage the edge of a flooring board, a foot piece upon the frame bar, a lever mechanism mounted upon said bar, and provided with a support engaging spur, and means upon the bar for causing said spur to engage the support automatically upon the initial movement of the lever mechanism.

4. In combination with a support for flooring, a frame bar, a head upon the forward extremity of said bar, adapted to engage the edge of a flooring board, an operating lever pivoted at its lower extremity to said bar, a spur lever pivoted at its forward extremity to said operating lever, means upon said frame bar for causing the rear extremity of the spur lever to engage

the flooring support during the initial movement of the spur lever, a second spur mounted in the frame bar and provided with an upwardly extending projection adapted to be engaged by the spur lever and forced downward during the final movement of the operating lever.

5. In combination with a support for flooring, a frame bar, the under surface of which is flat and adapted to slide upon the support, a head upon the forward extremity of said bar adapted to engage the edge of a flooring board, said head being connected with the frame bar by a vertical pivot and a lever mechanism interposed between the bar and support for producing a forward motion of the bar.

6. In combination with a support for flooring, a frame bar, the under surface of which is flat and adapted to slide upon the support, a head upon the forward extremity of said bar adapted to engage the edge of a flooring board, and a lever mechanism including an operating lever and a spur lever interposed between the bar and the support for producing a forward motion to the said bar.

7. In combination with a support for flooring, a frame bar, the under surface of which is flat and lies adjacent to the support, a head upon the forward extremity of said bar adapted to engage the edge of a flooring board, and an operating lever and a spur lever interposed between the said bar and support, the spur lever adapted to engage the support during the initial movement of the operating lever for sliding the frame bar upon the said support.

In testimony whereof I affix my signature in presence of two witnesses.

ULRICH OHLSEN.

Witnesses:

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**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**