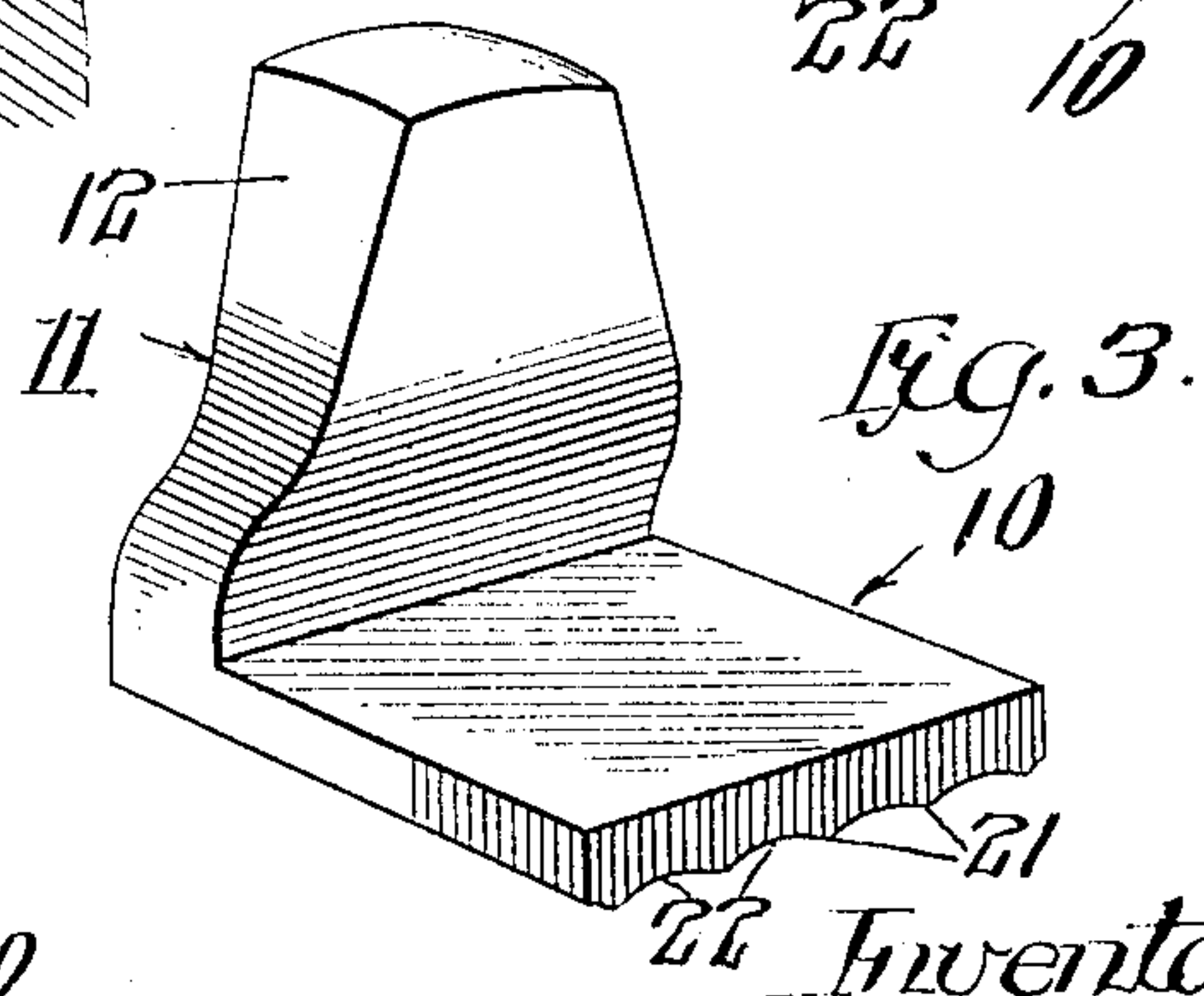
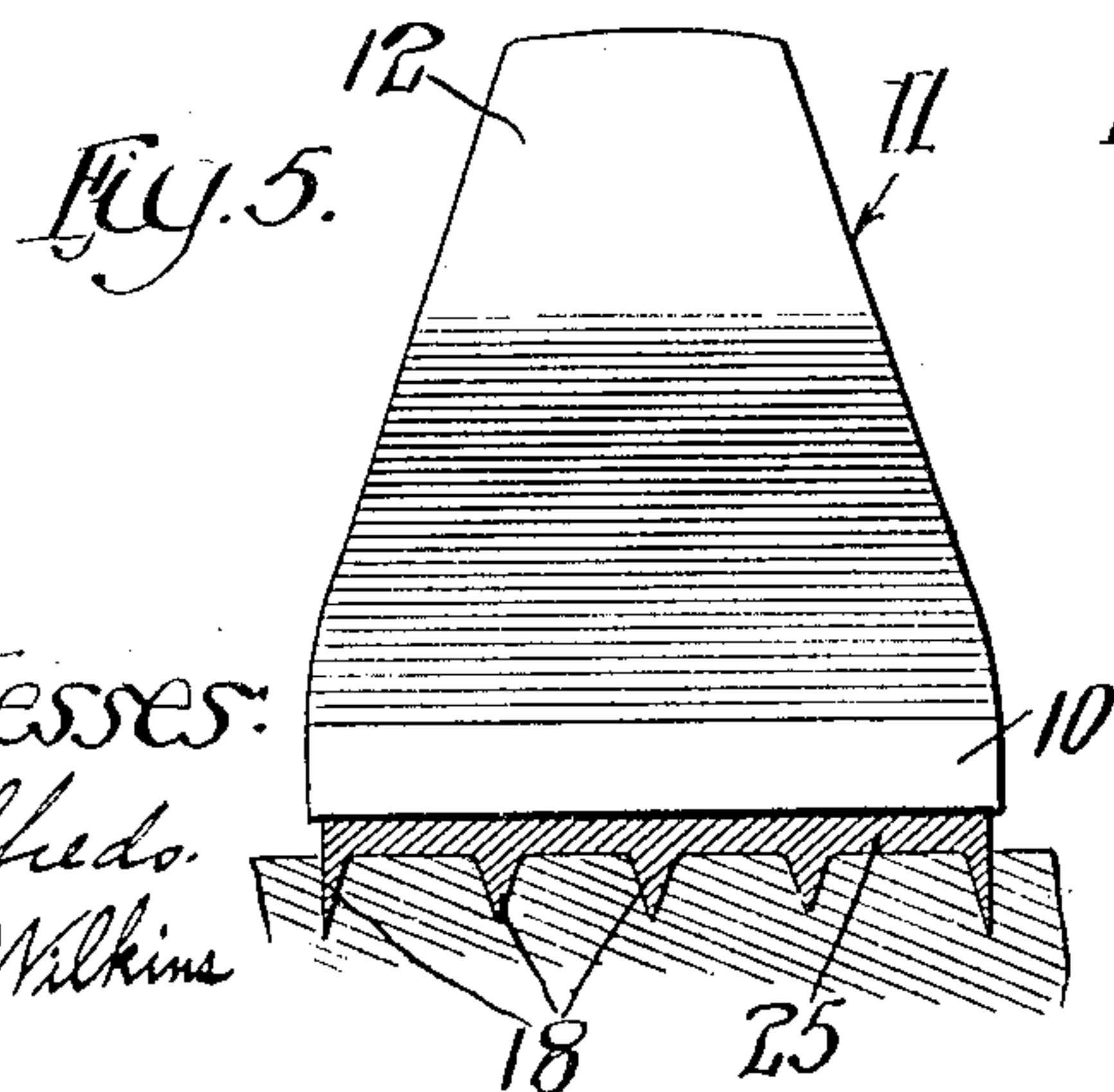
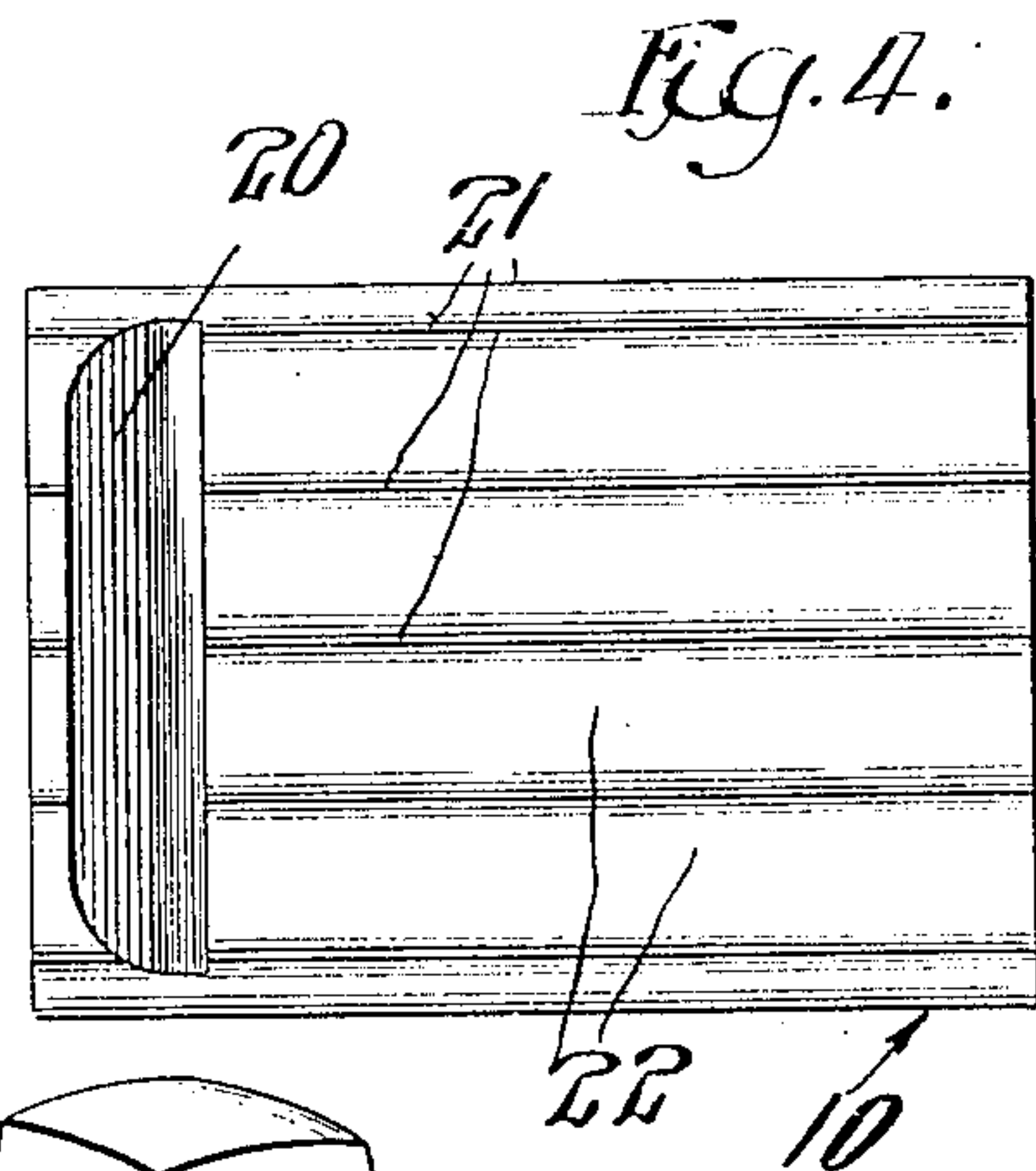
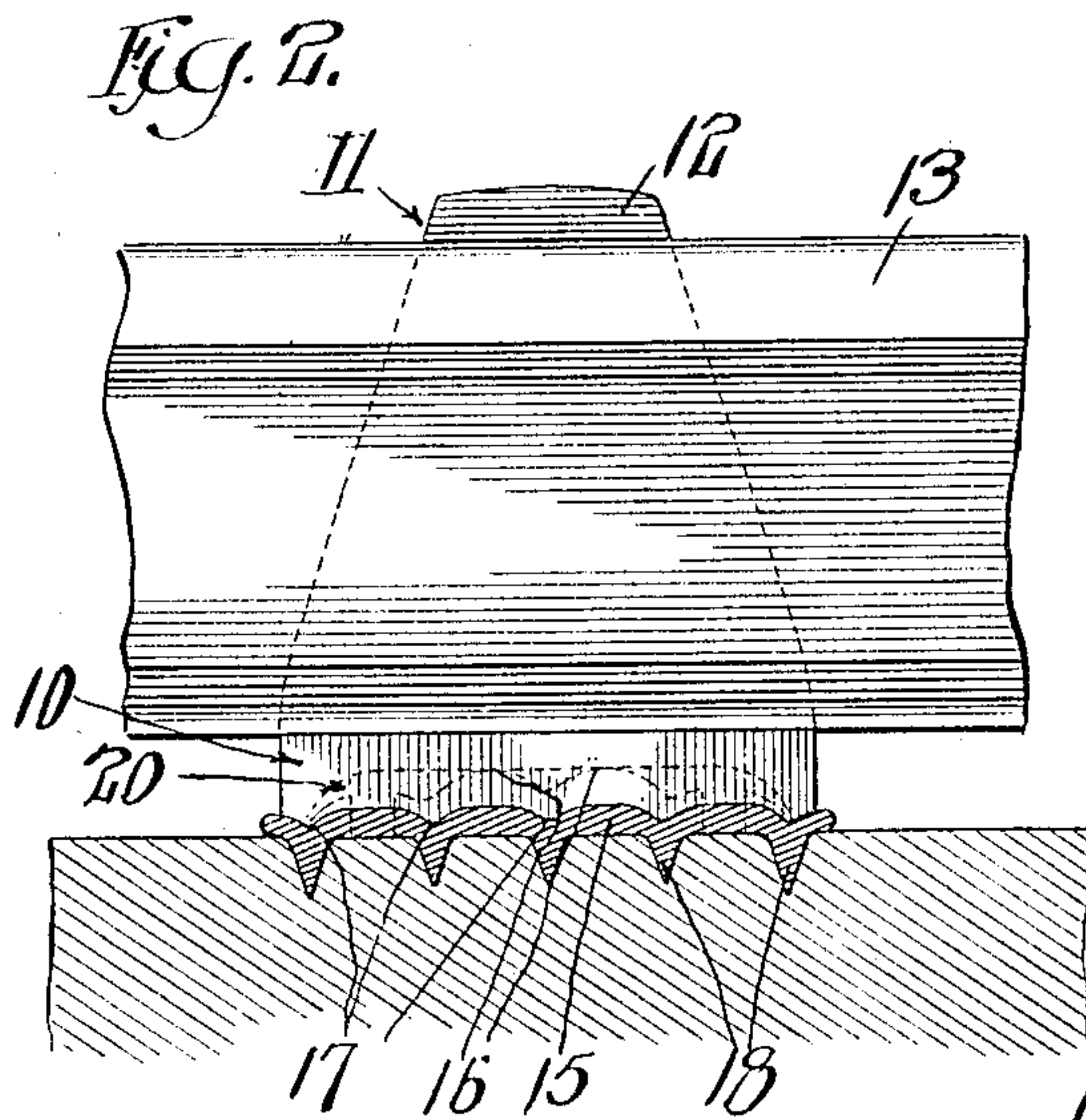
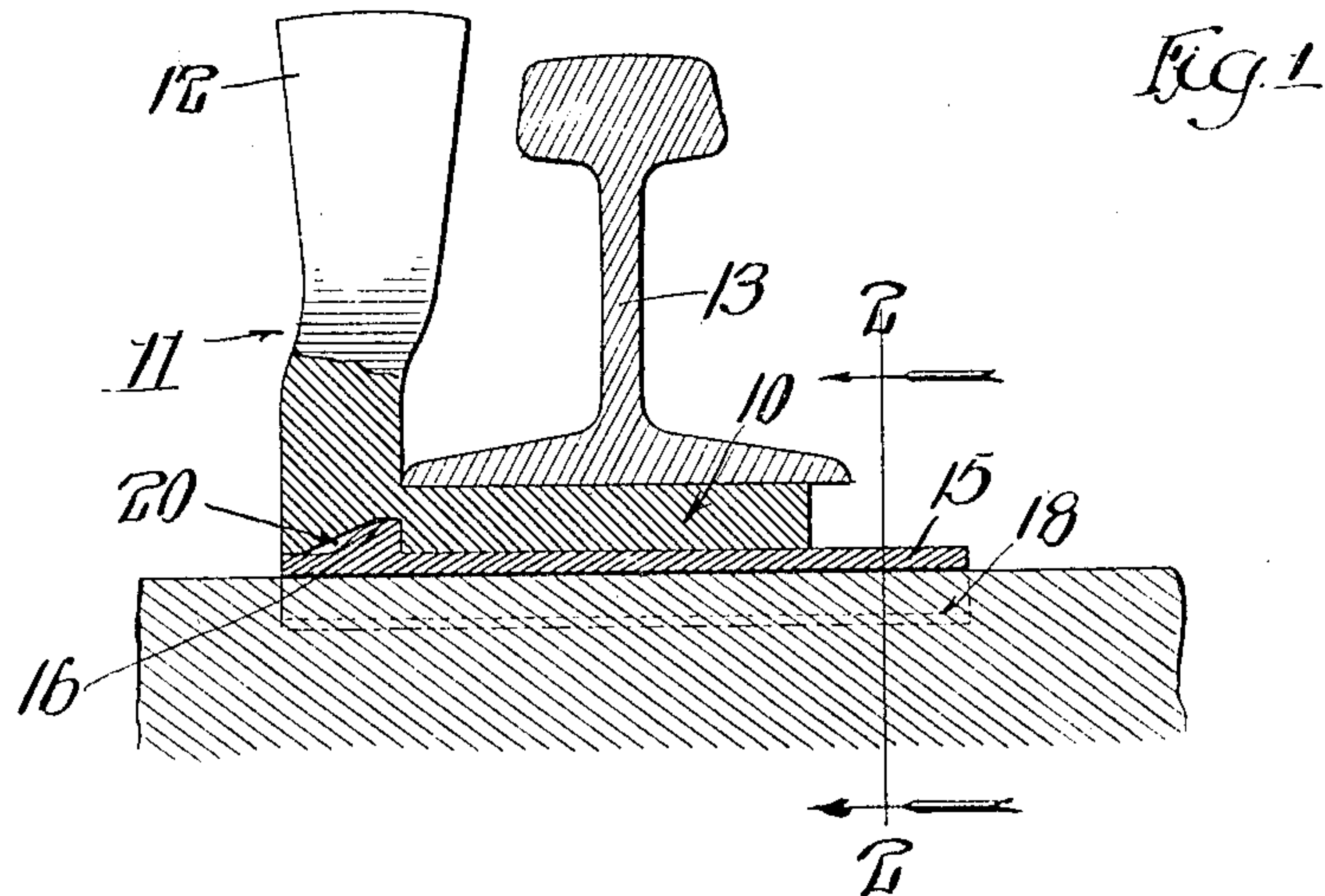


No. 887,377.

PATENTED MAY 12, 1908.

E. H. BELL.
TIE PLATE DRIVER.
APPLICATION FILED FEB. 8, 1908.



Witnesses:
H. Alfredo.
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UNITED STATES PATENT OFFICE.

EDWIN H. BELL, OF CHICAGO, ILLINOIS.

TIE-PLATE DRIVER.

No. 887,377.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed February 8, 1908. Serial No. 414,878.

To all whom it may concern:

Be it known that I, EDWIN H. BELL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tie-Plate Drivers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel device in the nature of a driver for applying to railway ties tie-plates of that character which are provided on their under surface with holding flanges or projections which are driven into the tie to hold the plates from horizontal displacement on the ties.

My improved driver is designed more particularly for applying tie-plates to the ties of a railway track on which the rails have already been laid, and the principal object of the invention is to provide a device of this character by which the tie-plates may be accurately driven to the ties while avoiding danger of injuring the rails or tie-plates.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings:—Figure 1 is a vertical, sectional view taken through a rail and a tie, showing the manner of employing my improved driver for applying a tie-plate. Fig. 2 is an outer side elevation of the parts shown in Fig. 1. Fig. 3 is a perspective view of the driver. Fig. 4 is a bottom plan view thereof. Fig. 5 is a side elevation of a driver specially designed for another form of tie-plate.

A tie-plate driver made in accordance with my invention comprises a horizontal base or follower 10 adapted to engage the upper face of the tie-plate and a vertical member 11 made integral with and rising from one side margin of the follower and formed at its upper end to constitute a striking head 12. The said base or follower is made of the same general horizontal contour as the tie-plate to be driven, but somewhat shorter than said plate, and the striking head member is made of a height to extend above the rail 13 beneath which the tie-plate is to be driven. The bottom face of the follower plate is advantageously shaped to conform to the surface contour of the upper face of

the tie-plate so as to provide a firm and extended bearing between said follower and tie-plate when the tie-plate is being driven, and thus transmit the force of the driving blows uniformly to the area of the tie-plate which the follower plate covers.

The tie-plate 15 shown in Figs. 1 and 2 is of that type which is formed on its upper face to provide near one end thereof a transverse rib 16 which constitutes a shoulder for contact with the base flange of the rail to prevent outward movement or spreading of the rail on the tie-plate, and is provided also with a plurality of longitudinal grooves 17, 17 arranged transversely to the rib 16, and separated by transversely rounded elevated bearing surfaces. The under side of the tie-plate is provided with holding flanges 18 which are forced or driven into the tie by use of my improved driving device. In order to best adapt the follower of the driver to this type of tie-plate, the under side of the follower is provided near one end thereof, beneath the striking head member with a transverse recess 20 shaped to receive the rib 16 and to bear on the upper surface of the rib, and is provided also on its under side with a plurality of parallel ribs 21, 21 arranged to fit within the grooves 17 on the upper surface of the tie-plate and intervening, transversely concave parallel recesses or grooves 22 which fit over the convexly rounded bearing surfaces of the plate.

When driving a tie-plate having a smooth upper or rail supporting surface, such as the tie-plate 25 shown in Fig. 5, the under side of the follower is made flat or smooth, as shown in said Fig. 5. A follower having a smooth or flat lower face may, however, be used to drive a tie-plate having a grooved or corrugated bearing surface should there be no rail holding rib or shoulder thereon, such as the rib 16 of the tie-plate 15. In constructions where the tie-plate is provided with such a rib or shoulder it is necessary to provide the under side of the follower with a recess to receive the same. In any event the best results are secured by forming the under side of the follower to approximately conform to the rail bearing surface of the tie-plate, inasmuch as this arrangement most uniformly distributes the driving force to the area of the tie-plate covered by the follower. Moreover, such an interfitting arrangement avoids slipping of the driver on the tie-plate and

therefore most effectively transmits the force of the driving blows to the plate. The striking head member is shown as made of the same width as the follower at its lower end and tapers inwardly towards its upper end. 5 The said head transversely is thickened in order to provide a substantially rectangular striking head.

In the use of the driver to apply tie-plates 10 to ties beneath rails which are laid and are in service, the rail holding spikes are first drawn and the rail is lifted from the tie, as by means of a lifting jack, such distance as to permit the insertion of a tie-plate thereunder and 15 the insertion of the driver follower between the plate and rail. Thereafter the rail is lowered so as to rest on the follower, the weight of the rail serving to hold the follower and plate in place during the subsequent driving operation. The driving of the plate is 20 effected by striking the striking head 12 with a heavy maul or hammer. The rail is then raised to withdraw the driver follower, after which the plate is fastened to the tie by the 25 spike which fastens the rail thereto in the usual manner.

The follower shown in the drawings does not cover the entire length of the tie-plate. When the driver is thus made but one end of 30 the plate is driven in one position of the driver and after one end of the tie-plate has been driven as described the rail is again raised and the driver removed and shifted to the other side of the rail and the follower in-

serted between the rail and the other end of 35 the plate which is driven as before.

The striking head of the driver is extended above the level of the rail, in order to avoid danger or likelihood of striking or injuring the rail when driving or setting the tie-plate. 40 The shank of the striking head member is shown as curved to bring the striking head in inwardly offset relation to the lower part of said shank, and closely adjacent to the rail head, above the level of which it rises, so 45 that the force of the driving blows will be brought nearer the center of the follower.

I claim as my invention:—

1. A driver for driving or setting railway tie-plates comprising a horizontal follower 50 plate and a striking head member rising from one margin of the follower plate and formed at its upper end to provide a striking head.

2. A driver for driving or setting railway tie-plates comprising a horizontal follower 55 plate shaped on its bottom surface to conform to the upper surface of the tie-plate, and a striking head member rising from one margin of the follower and formed at its upper 60 end to provide a striking head.

In testimony that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 6th day of February A. D., 1908.

EDWIN H. BELL.

Witnesses:

T. H. ALFREDS,
G. R. WILKINS.