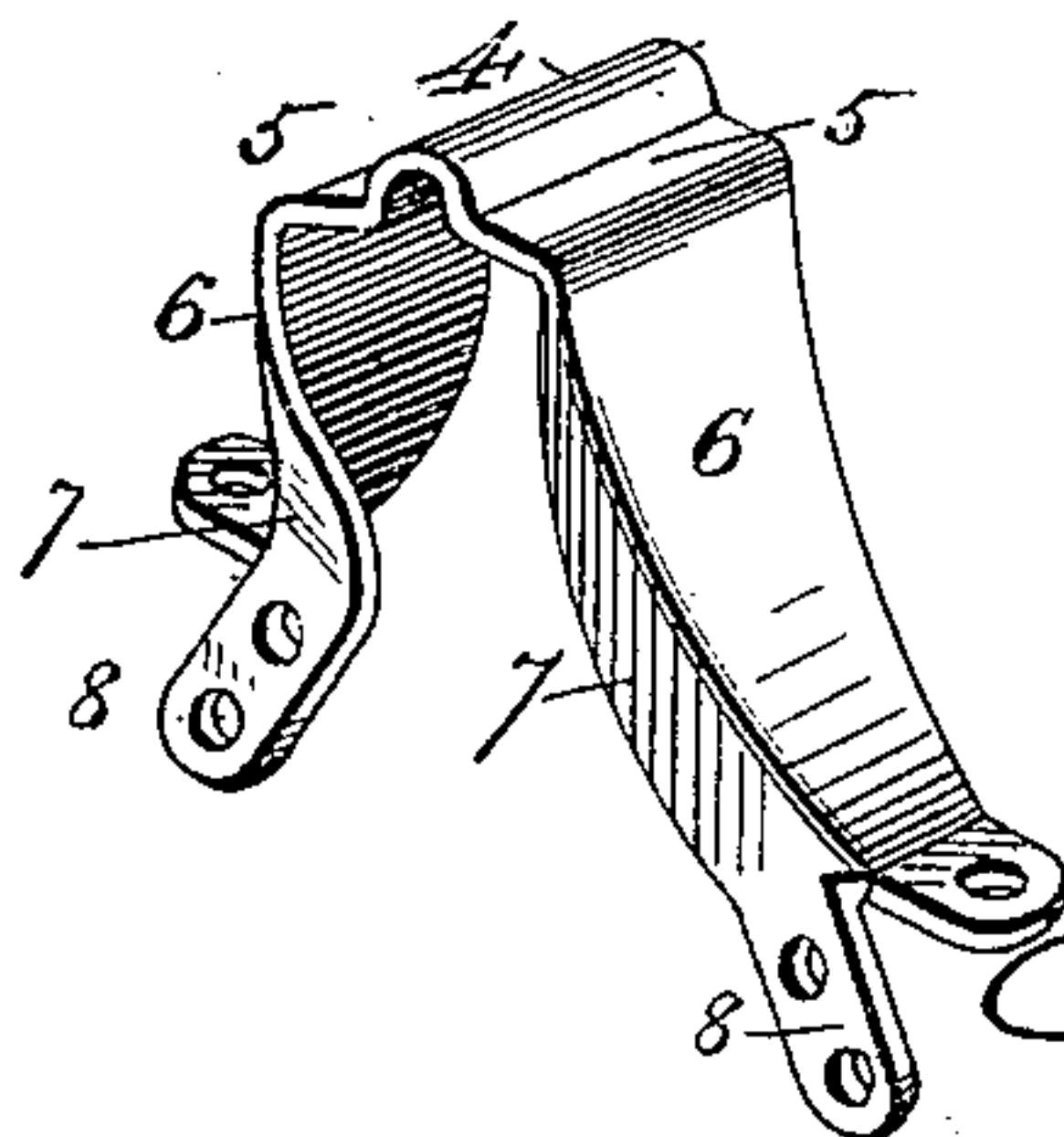
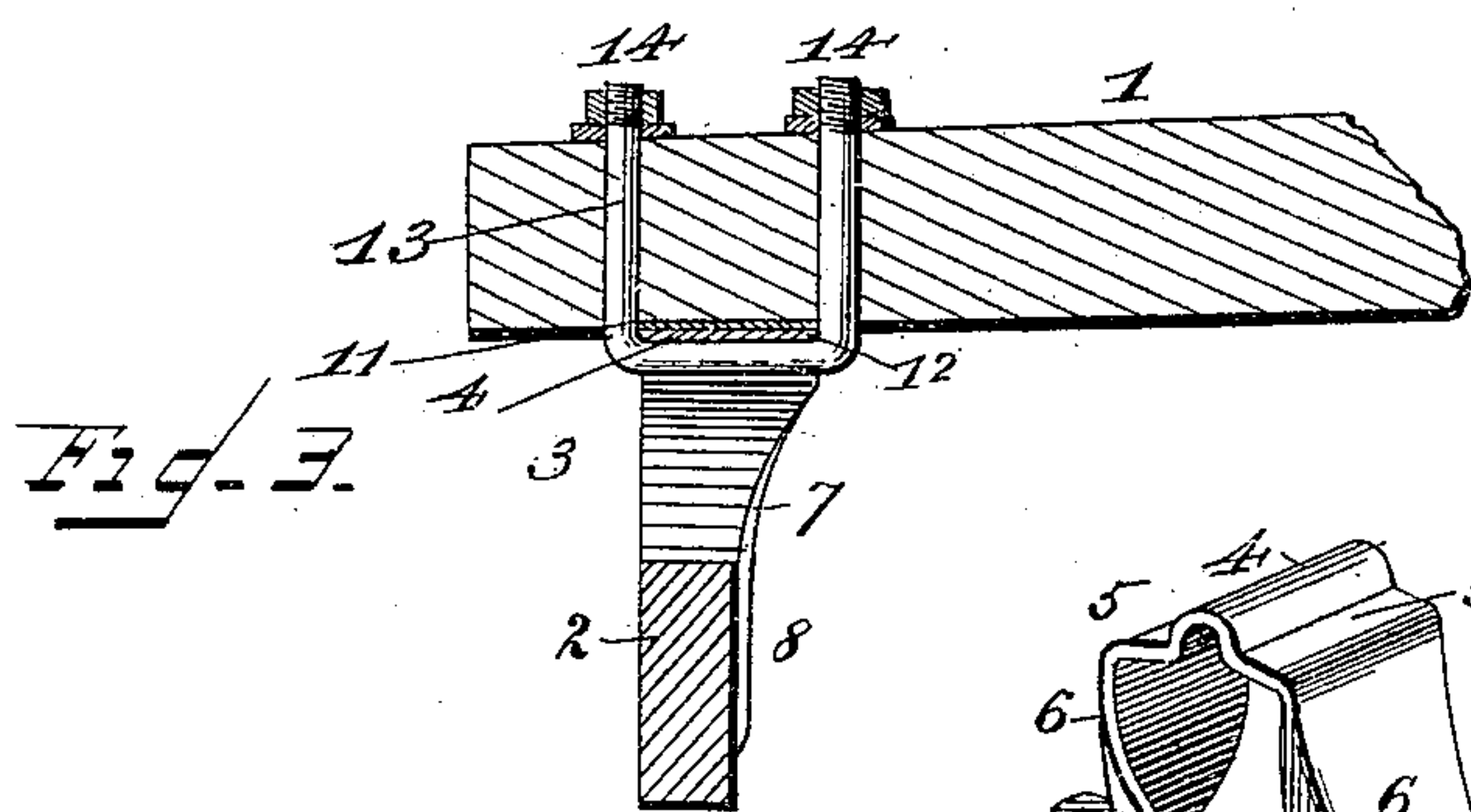
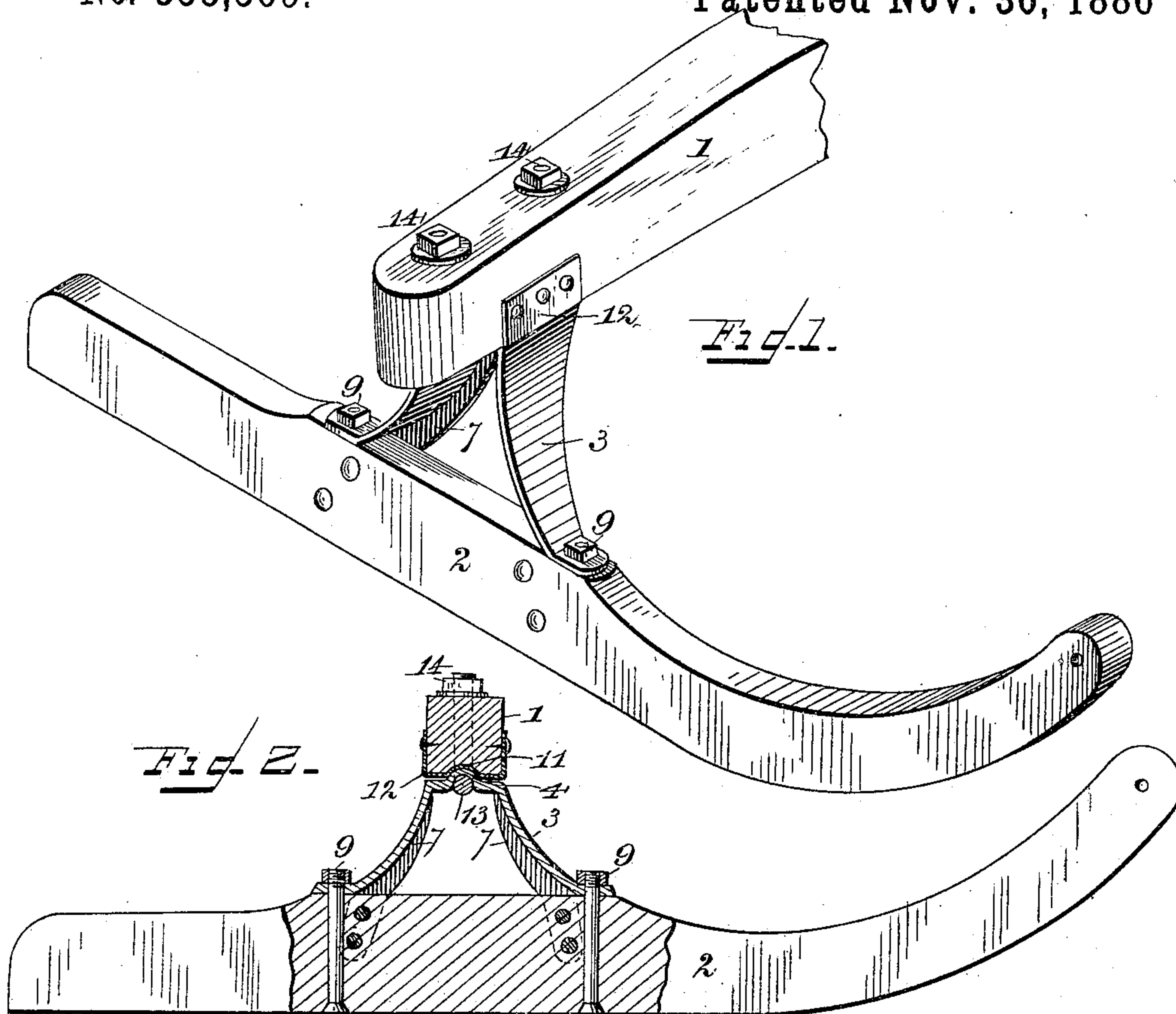


(No Model.)

T. G. MANDT.
BOB SLED.

No. 353,569.

Patented Nov. 30, 1886



WITNESSES
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UNITED STATES PATENT OFFICE.

TARGE G. MANDT, OF STOUGHTON, WISCONSIN.

BOB-SLED.

SPECIFICATION forming part of Letters Patent No. 353,569, dated November 30, 1886.

Application filed September 20, 1886. Serial No. 214,018. (No model.)

To all whom it may concern:

Be it known that I, TARGE G. MANDT, a citizen of the United States, and a resident of Stoughton, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Bob-Sleds; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of as much of a bob-sled as is necessary to illustrate my invention. Fig. 2 is a longitudinal vertical sectional view of the runner and knee. Fig. 3 is a transverse sectional view, and Fig. 4 is a perspective view of the knee detached from the runner and beam.

Similar numerals of reference indicate corresponding parts in all the figures.

My invention has relation to that class of knees for bob-sleds which are movably secured with their upper ends to the beam or cross-piece, for the purpose of admitting of the runners rocking under the load to adapt themselves to any unevenness in the road; and it consists in the improved construction and combination of parts of such a sled, as hereinafter more fully described and claimed.

In the accompanying drawings, the numeral 1 indicates the cross-piece or beam, and 2 indicates the runners, which are of the usual construction. The knees are formed each by a strip or narrow plate, 3, bent to form a semi-cylindrical bearing, 4, at the middle, and thereupon bent to form flat faces 5 at both sides of the bearing, whereupon the outer portions of the plate or strip are curved divergently, as shown at 6, having their inner edges bent to form flanges 7, being in planes at right angles to the planes of the plates and tapering in width toward their upper ends. The lower ends of these flanges form lips 8, projecting downward, and these lips will bear against the inner side of the runner, while the diverging ends of the strip are secured to the upper edge of the runner by means of vertical bolts 9. If desired, the lips may project on both sides of the runner.

The under side of the beam or cross-piece at

the point where the upper doubled end of the knee fits against it is formed with a longitudinal semi-cylindrical recess or groove, 11, and the said portion of the bolster is provided with a facing, 12, of sheet metal. A bail, 13, has its ends projecting up through the bolster, and has its central portion fitting within the recess, straddling the semi-cylindrical bearing at the upper doubled end of the knee, and having the said bearing rocking upon the said central portion, the ends of the bail being secured by means of suitable nuts, 14, and washers upon the upper side of the bolster.

The knee is preferably made from steel or wrought-iron, shaped into a strip, and thereupon bent and curved to its desired form, and the entire construction of the knee is of sufficient simplicity to admit of any blacksmith making it with the usual tools and implements; but it follows that, if so desired, the knee may be cast in the shape shown. The semi-cylindrical bearing at the upper end of the knee will rock slightly in the recess and upon the central portion of the bail, thus allowing the runners to rock under the beam, yielding to any unevenness in the road over which the sled is traveling, and admitting of the upper face of the beam to remain in a horizontal plane when traveling over rough ground. The metallic facing will prevent the doubled end of the knee from wearing the under side of the beam, and the bail will serve as a pivot for the bearing of the knee, as well as for the purpose of supporting the knee and runner and securing it to the beam.

The flanges and lips upon the inner edges of the knee will serve to hold the runner in place at the lower end of the knee, preventing the lower diverging ends of the knee from working outward upon the upper edge of the runner, and the flanges will, besides, serve to strengthen the diverging and curved legs of the knee.

The bolts securing the diverging legs of the knee to the upper edge of the runner are provided with nuts, so that the ends may be drawn down upon the bolts, in the case of their settling into the upper edge of the runner, and the bail may be drawn upward in the same manner by means of the nuts upon the ends of the bail taking up wear in the semi-cylindrical bearing, or in the central portion of the bail,

or in the recess and its facing, so that all parts of the knee may be tightened up as they wear.

Having thus described my invention, I claim and desire to secure by Letters Patent of the

5 United States—

1. In a sled, the combination, with the runner, of a knee having divergingly curved legs formed with upwardly-tapering flanges upon their inner edges, and having the lower ends
10 of the said flanges extended, forming lips bearing against the inner side of the runner, as and for the purpose shown and set forth.

2. In a sled, the combination of a knee having a semi-cylindrical bearing formed at its
15 doubled or curved upper end, and having flat

faces at the side of the bearing, a beam having a corresponding recess and having a metallic facing, and a bail having its ends passing upward through the beam, and having its middle portion fitting into the concave side of
20 the bearing of the knee, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

TARGE G. MANDT.

Witnesses:

WM. LECHER,

AUGUST PETERSON.