

No. 889,725.

PATENTED JUNE 2, 1908.

M. SHANER.

METALLIC RAILROAD CROSS TIE AND CONNECTION FOR RAILS ON TIES.

APPLICATION FILED APR. 19, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

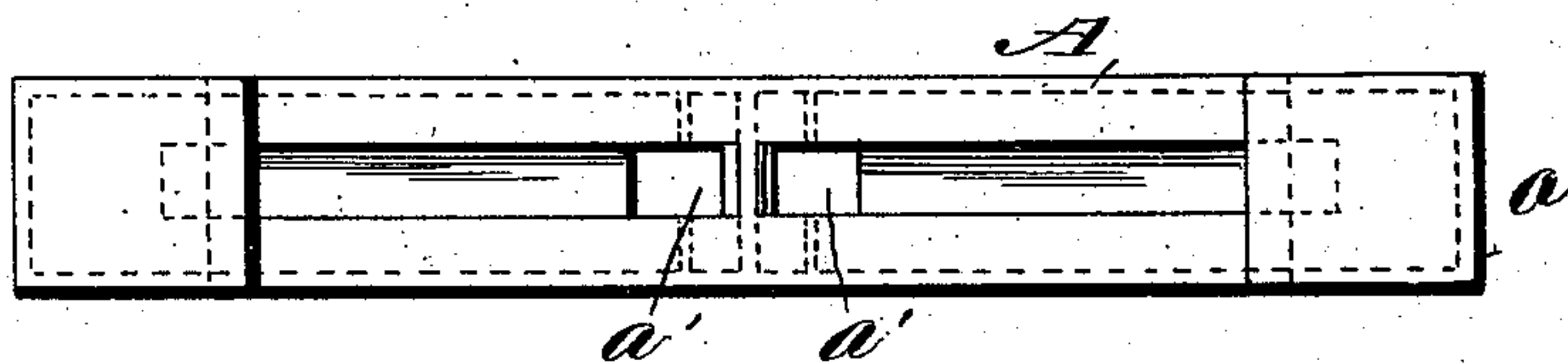


Fig. 2.

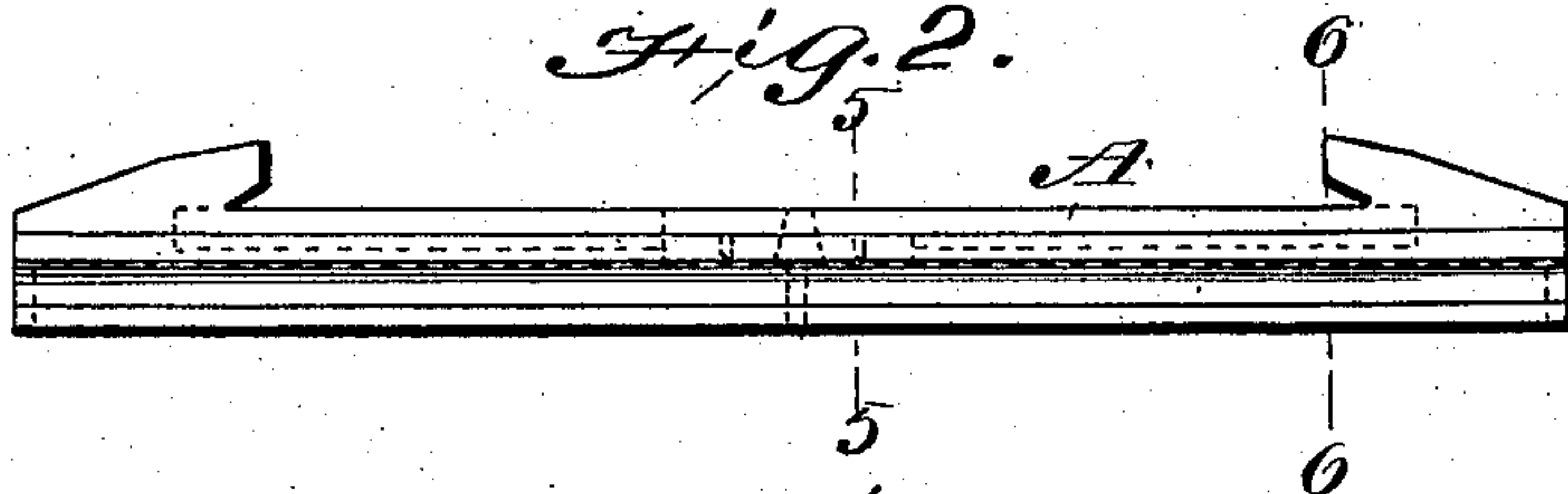


Fig. 3.

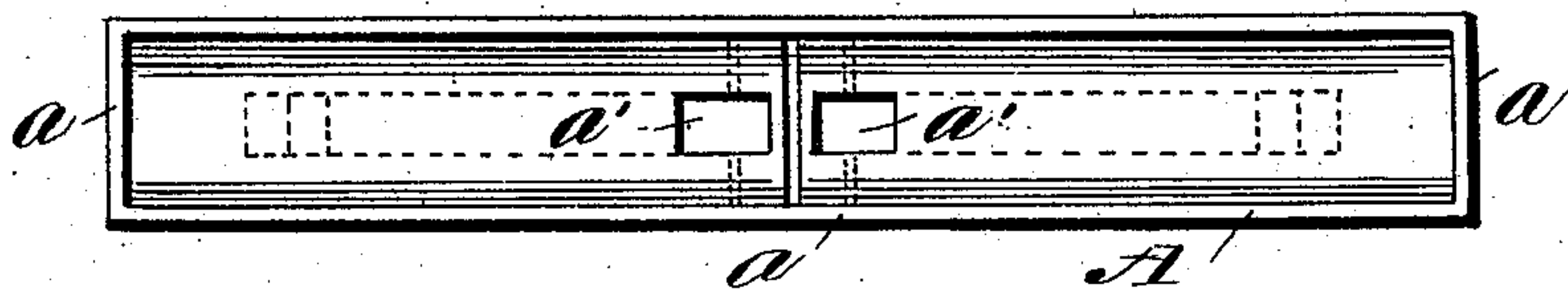


Fig. 4.



Fig. 5.

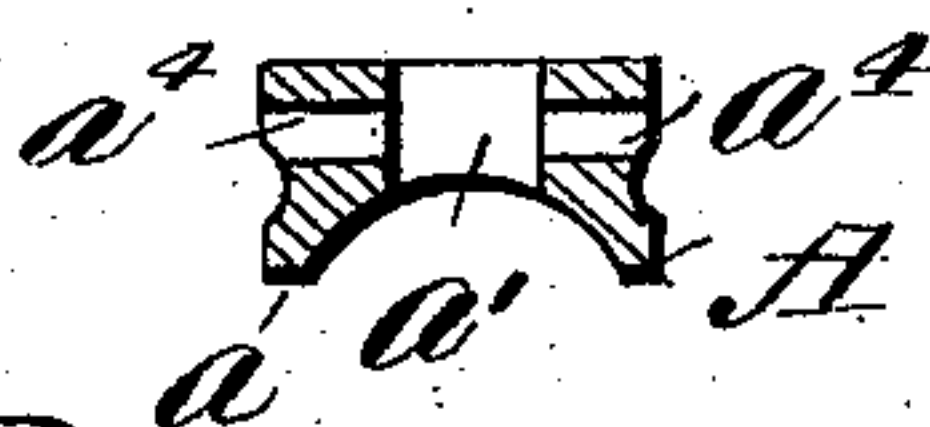


Fig. 6.



Fig. 7.

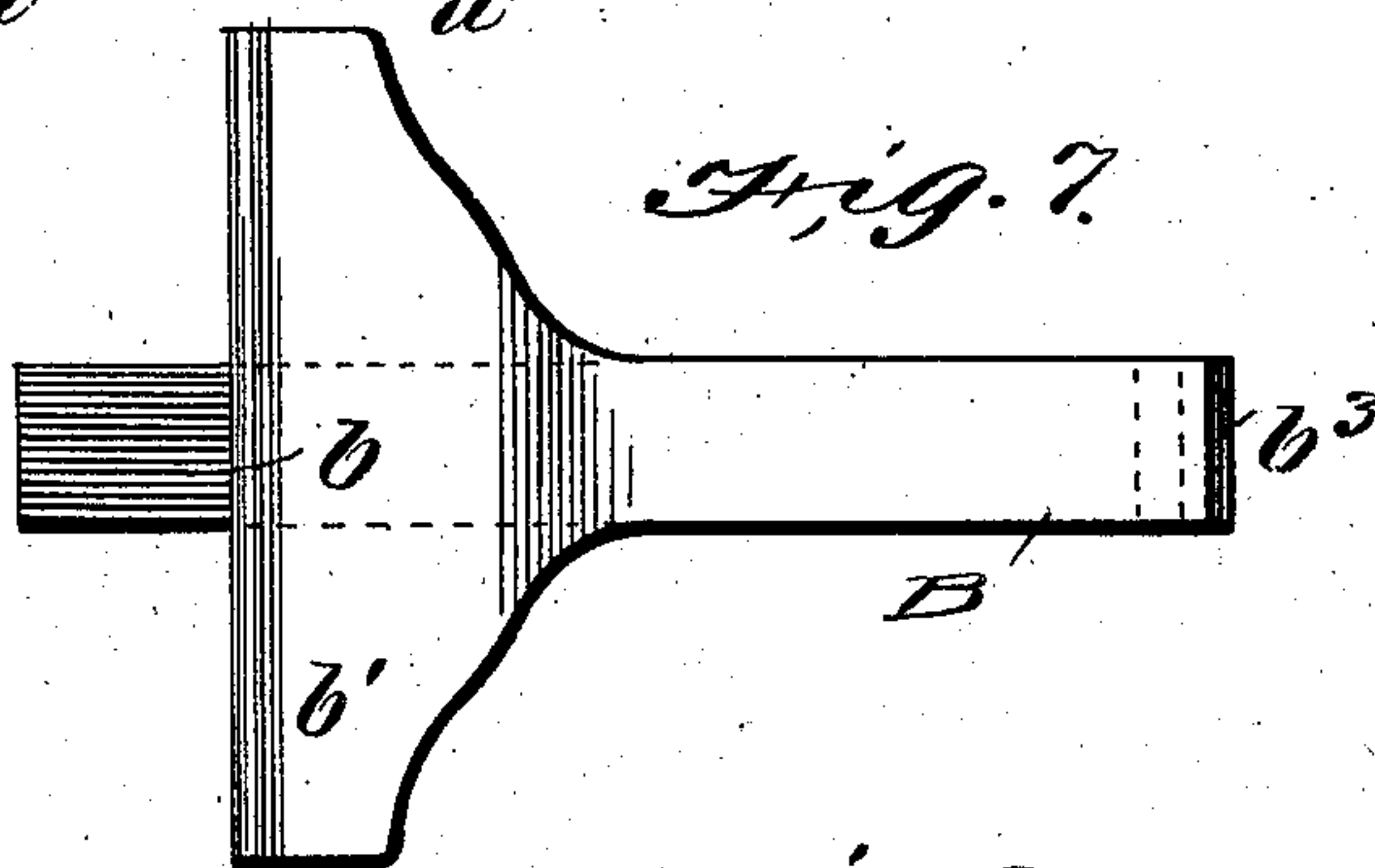
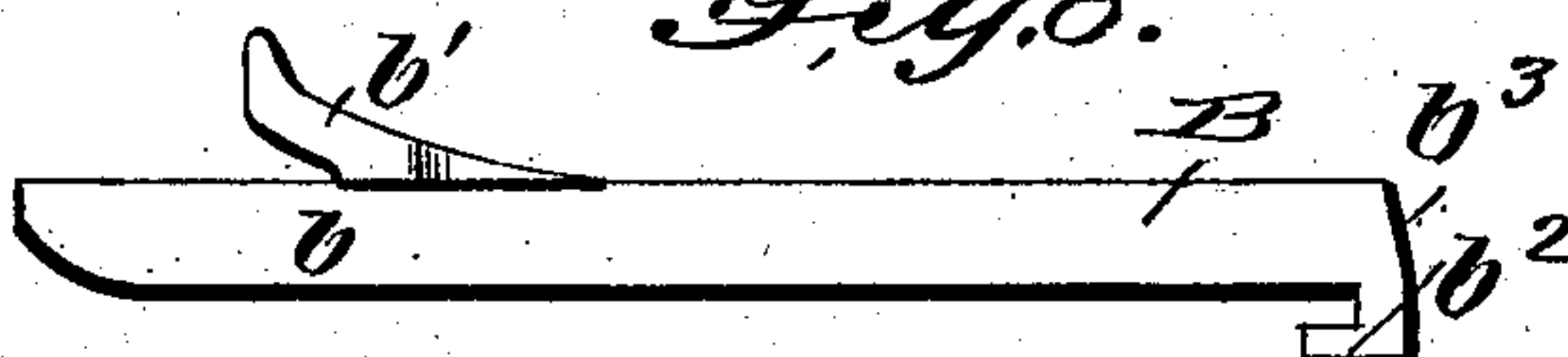


Fig. 8.



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Fig. 13.



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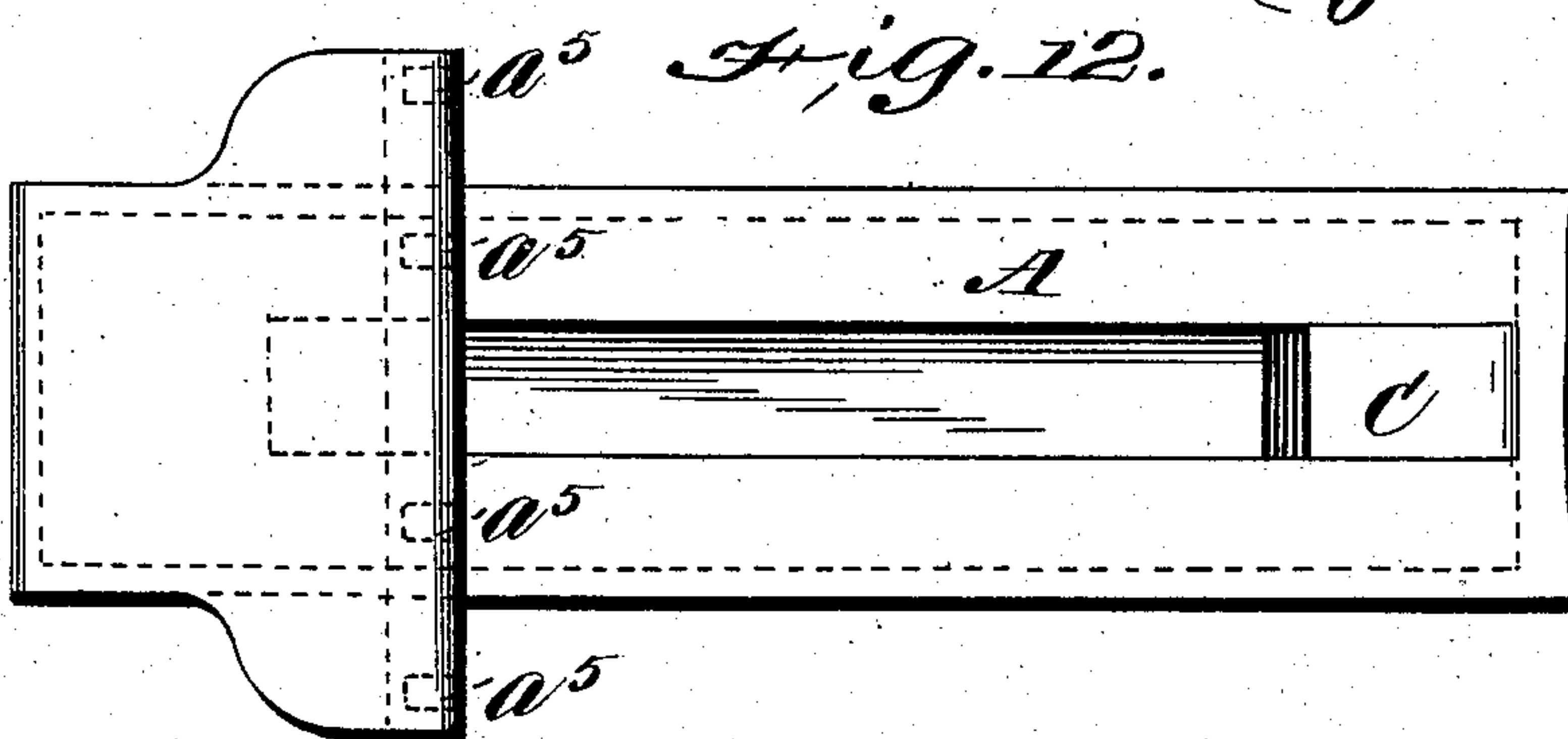
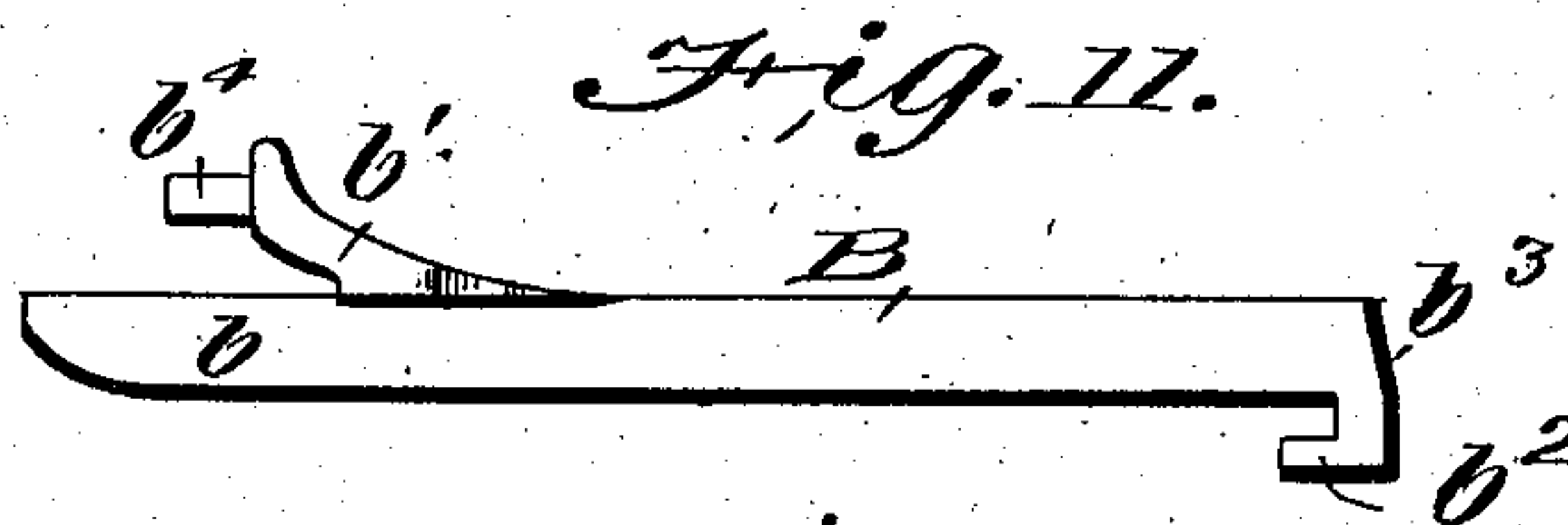
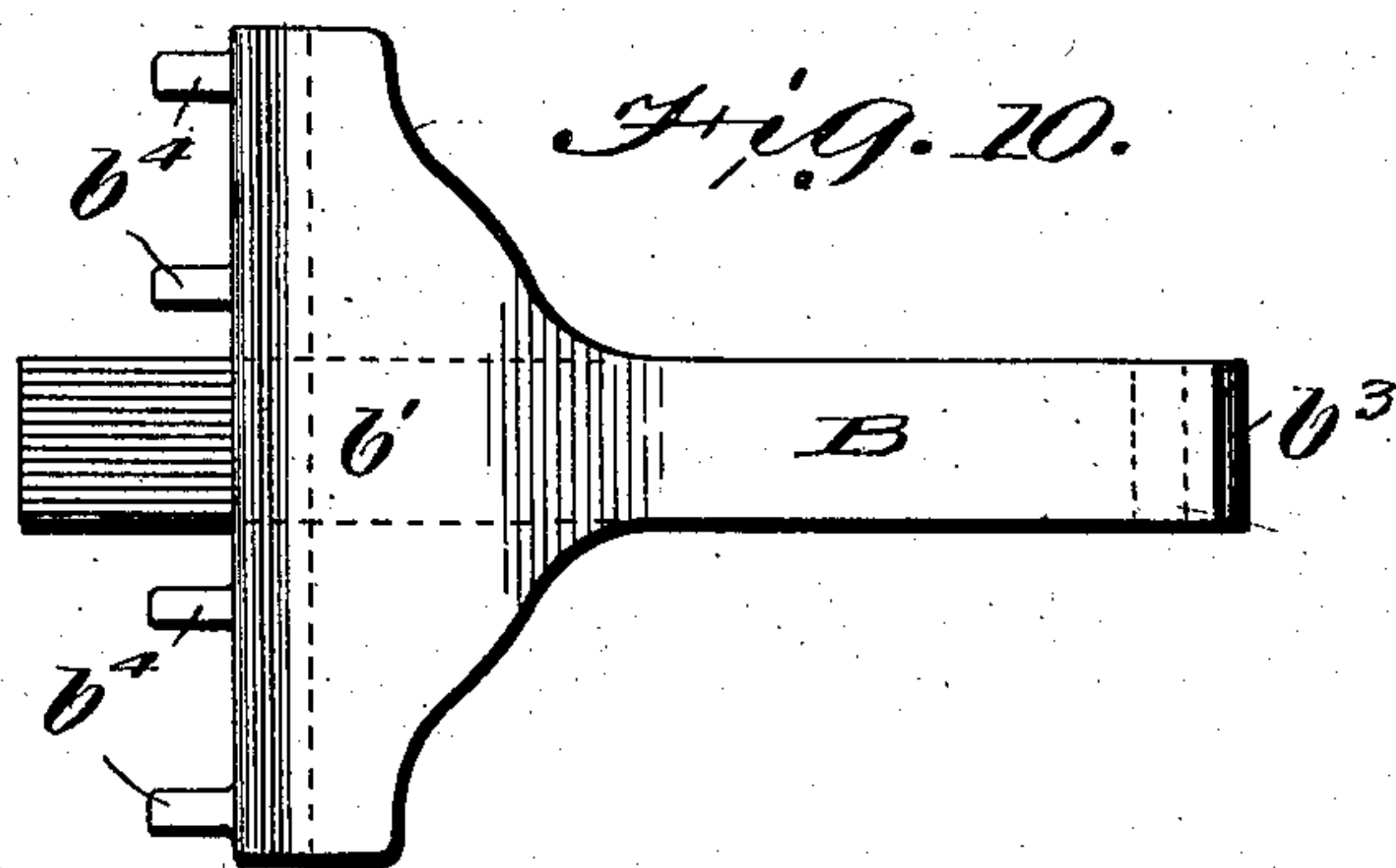
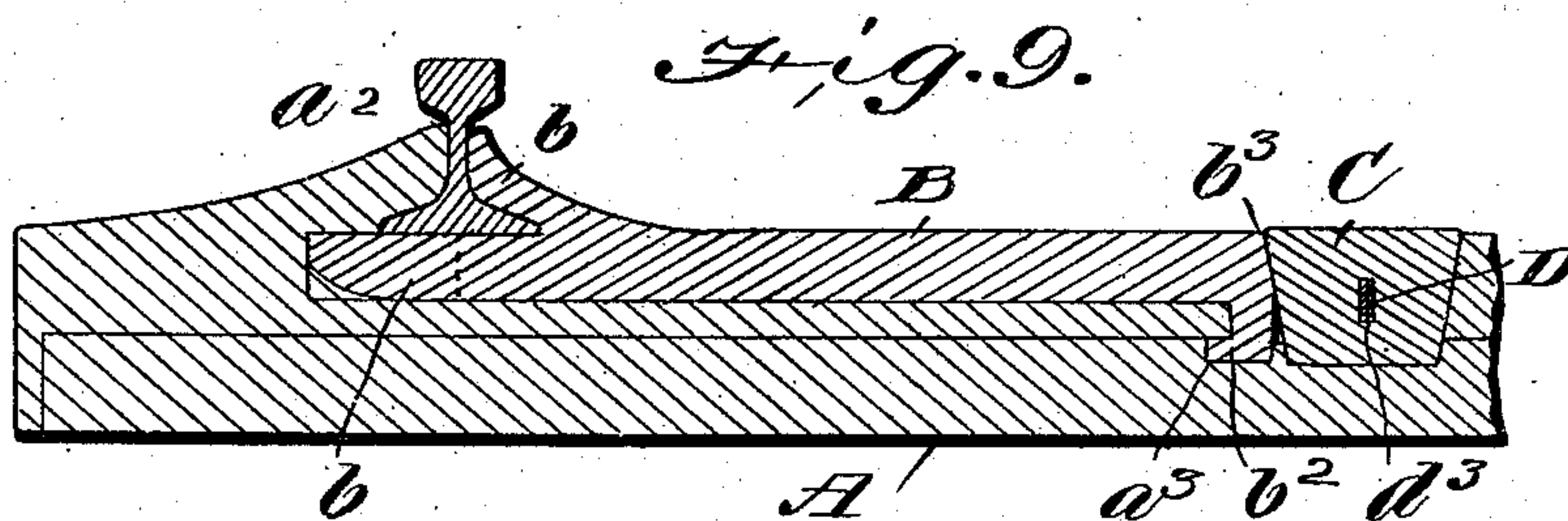
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

MACONIUS SHANER, OF BETHLEHEM, PENNSYLVANIA.

METALLIC RAILROAD CROSS-TIE AND CONNECTION FOR RAILS ON TIES.

No. 889,725.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed April 19, 1907. Serial No. 369,080.

To all whom it may concern:

Be it known that I, MACONIUS SHANER, a citizen of the United States, residing at Bethlehem, in the county of Northampton and State of Pennsylvania, have invented a new and useful Metallic Cross-Tie, of which the following is a specification.

My invention is an improvement in ties for railroads, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a top plan view of the tie. Fig. 2 is a side view. Fig. 3 is a bottom plan view. Fig. 4 is an end view. Fig. 5 is a section on the line 5—5 of Fig. 2. Fig. 6 is a section on the line 6—6 of Fig. 2. Fig. 7 is a top view of the clamping bar. Fig. 8 is a side view of the same. Fig. 9 is a sectional view of one end of the tie. Fig. 10 is a plan view of another form of clamping bar. Fig. 11 is a side view of the same. Fig. 12 is a plan view of one end of the tie; and Fig. 13 is a perspective view of the cotter pin.

The tie A is substantially rectangular in cross section, and the bottom and the sides thereof are concave as shown in Figs. 4, 5 and 6 the bottom at the ends and center having transverse ribs a to prevent longitudinal displacement of the tie, while the concave surfaces prevent lateral and vertical displacement.

The top of the tie is provided with alined longitudinal grooves, each groove extending from approximately the center of the tie to a point adjacent to the end thereof, and the inner ends of the grooves are provided with recesses a' , the outer face of the said recesses being undercut as at a^3 , for a purpose to be hereafter described.

A clamping bar B is arranged in each of the longitudinal grooves, the outer end of the said clamping bar having a portion b upon which the base of the rail is adapted to rest, the said portion being received beneath the overhanging part of the lug a^2 and with a portion b' for engaging the inner face of the web of the rail. The inner ends of the clamping bars are provided with undercut lugs b^2 for engaging the undercut faces a^3 of the recesses before described. The inner ends of the said bars are also beveled as at b^3 , and wedges C are arranged between said inner ends and the adjacent end of the groove,

which is also beveled, whereby to force said clamping bars into firm engagement with the inner face of the web of the rail.

After the wedge is in position, the cotter pin D, shown in Fig. 13, is inserted through registering openings a^4 , d^3 , in the sides of the groove and the wedge, respectively, whereby to retain said wedge in place. At points where adjacent rails meet, the projection b' on the clamping bar, is provided with spaced pins b^4 for engaging the openings in the webs of the rail, which usually receive the bolts of the fish plate, and the undercut lug a^2 of the tie is provided with openings a^5 for receiving the ends of the pins, which pins are passed through the openings of the webs of the rail and into the openings of the lugs, thus firmly locking the rails together and dispensing with the necessity for fish plates.

I claim:

1. A metallic railroad tie provided in its upper face with longitudinal alined grooves, and at the outer ends of said grooves with undercut lugs overhanging said grooves, said lugs being adapted to engage the outer faces of the webs of the rails, said tie being provided with recesses at the inner ends of said grooves, said recesses having their outer faces undercut, and their inner faces beveled, and clamping bars within the grooves, said clamping bars having a portion arranged beneath the rail and upon which the base of the rail rests, and a portion for engaging the inner face of the web of the rail, the inner end of said bar being beveled and provided with a hook for engaging the undercut face of the recess, and wedges in the recesses for engaging said beveled ends of the bars.

2. A railroad tie, having in its upper face longitudinal alined grooves, and provided at the outer ends of the grooves with lugs overhanging said grooves, and adapted to engage the outer face of the web of the rail, bars in the grooves, said bars being provided with portions underlying the rail and upon which the base of the rail rests, and with portions engaging the inner face of the web of the rail, and means engaging the inner ends of the bars for forcing them against the rail.

3. A railroad tie having in the upper face thereof longitudinal alined grooves, said tie being provided with overhanging lugs at the outer ends of the grooves for engaging the outer face of the web of the rail, clamping

bars within the grooves and upon which the base of the rail rests, said bars being provided with projections for engaging the inner faces of the web of the rail, and means for clamping said bars in place.

4. A railroad tie having its sides and bottom concave, the bottom being provided at the ends and center with transverse ribs, a lug at each end of the tie on the upper surface thereof for engaging the outer side of the rail, clamping bars for engaging the inner faces of the webs of the rails, and means for securing said clamping bars in place.

5. A tie having its sides and bottom concave, the bottom being provided with transverse ribs at its ends and center, said tie being provided on its upper face with lugs near the ends thereof for engaging the outer faces of the webs of the rails, and means in connection with the tie for engaging the inner faces of the rails to clamp said rails against the lugs.

6. A tie provided with concave sides and a concave bottom, said bottom being provided with transverse ribs at its ends, and

at its center, and means in connection with the tie for clamping the rails thereto.

7. A railroad tie having upon the upper surface thereof longitudinal aligned grooves, said tie being provided with undercut lugs at the ends of the grooves for engaging the outer face of the web of the rail, clamping bars within the grooves and upon which the bases of the rail rest, said bars having a portion for engaging the inner face of the web of the rail, means engaging the inner ends of said bars for clamping them in place, the web engaging portion of said bars being provided with spaced pins for traversing the openings in the ends of adjacent rails, the undercut-lugs being provided with openings for receiving the ends of said pins.

8. A metallic railroad tie having its sides and its bottom concave, the bottom being provided at each end and at its center with transverse ribs for the purpose set forth.

MACONIUS SHANER.

Witnesses:

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T. A. MELLON.