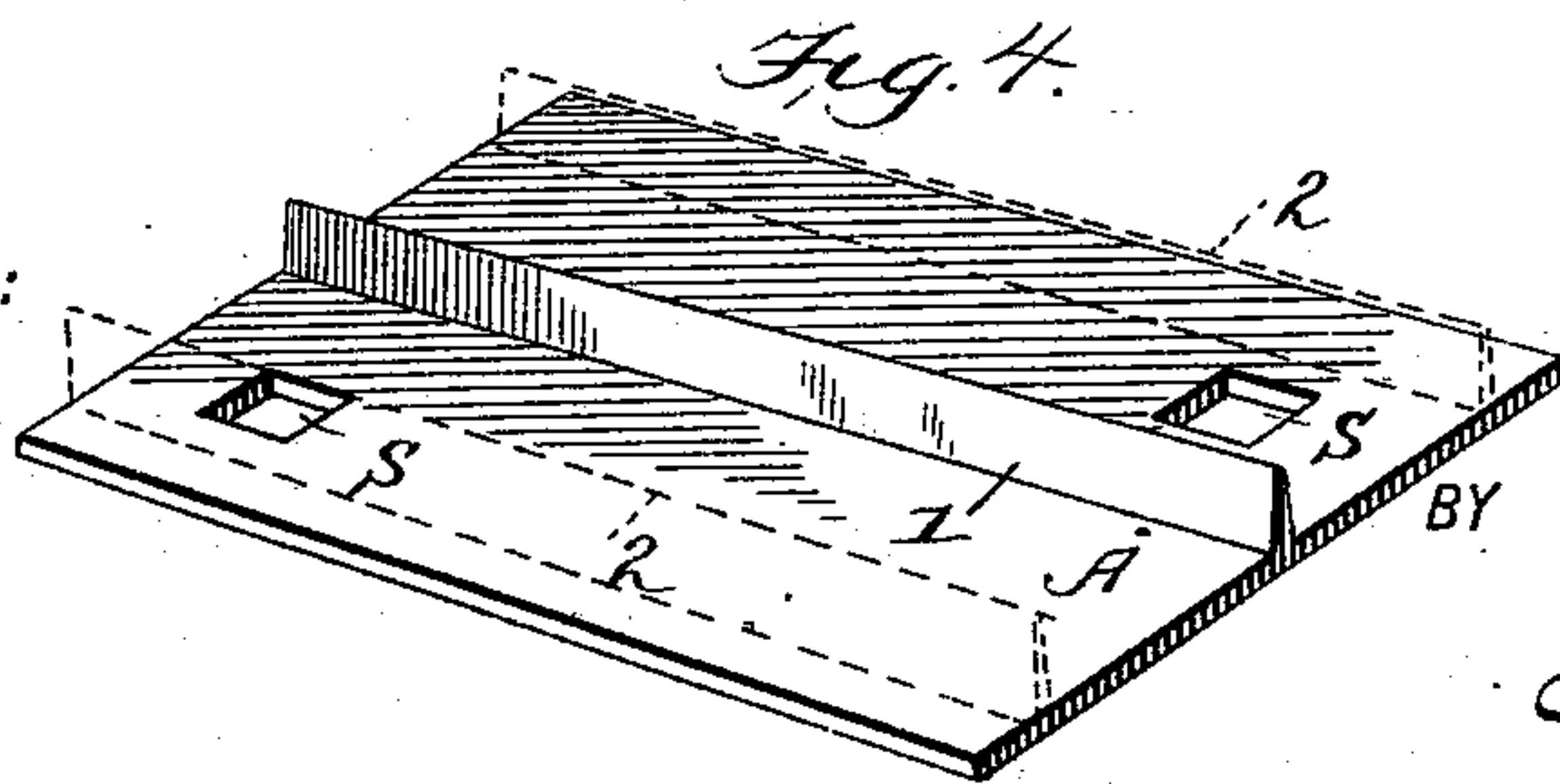
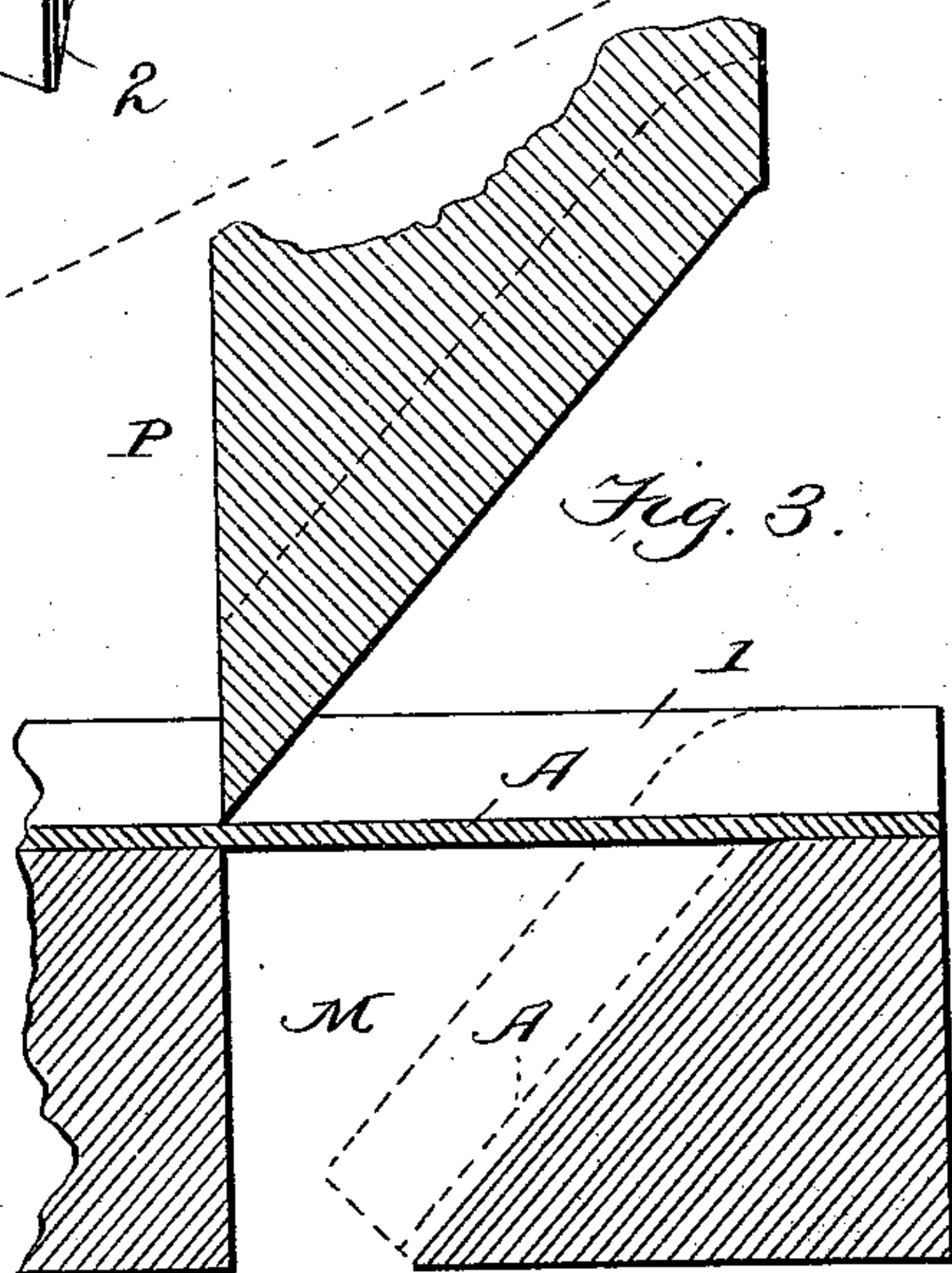
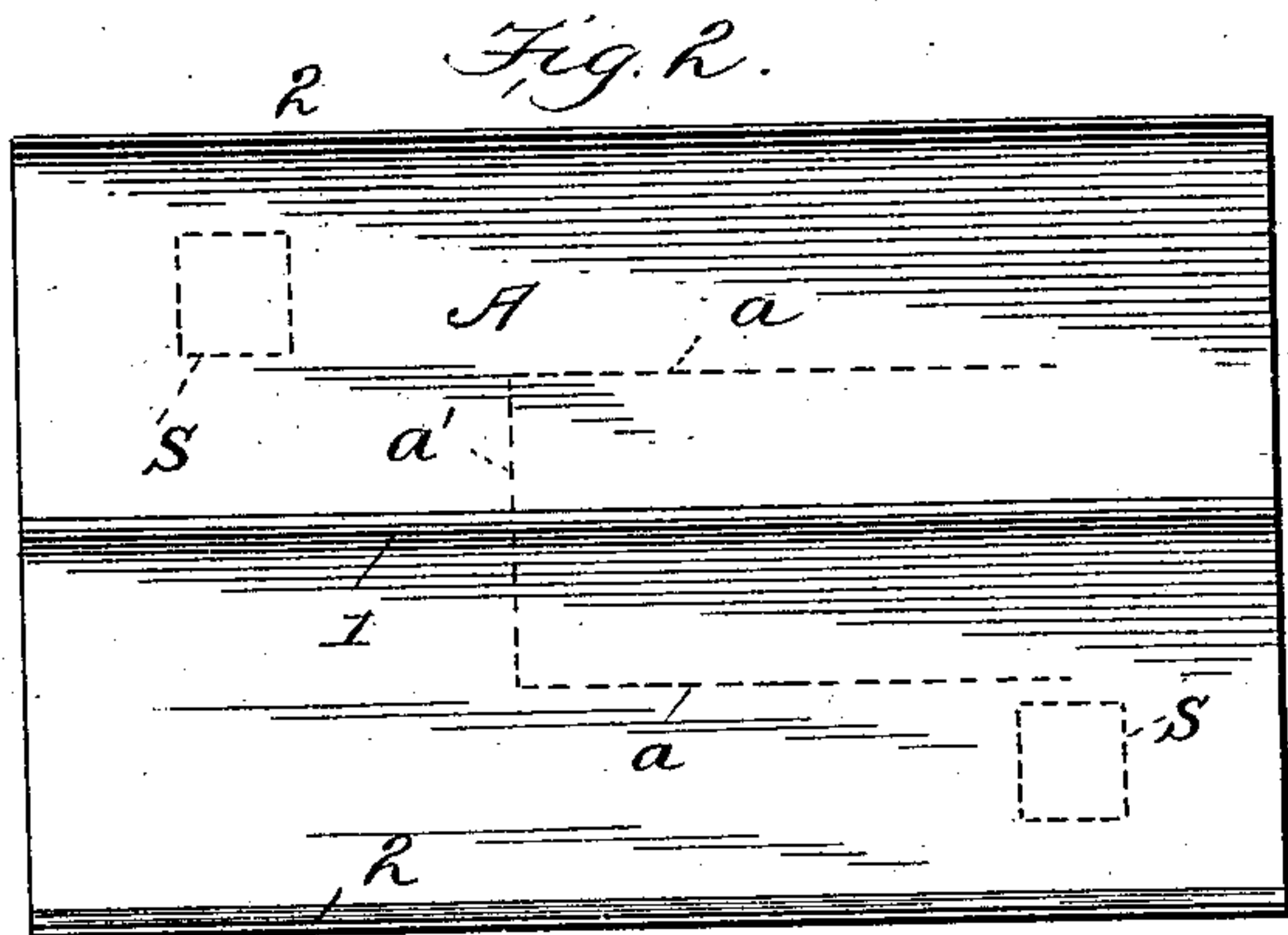
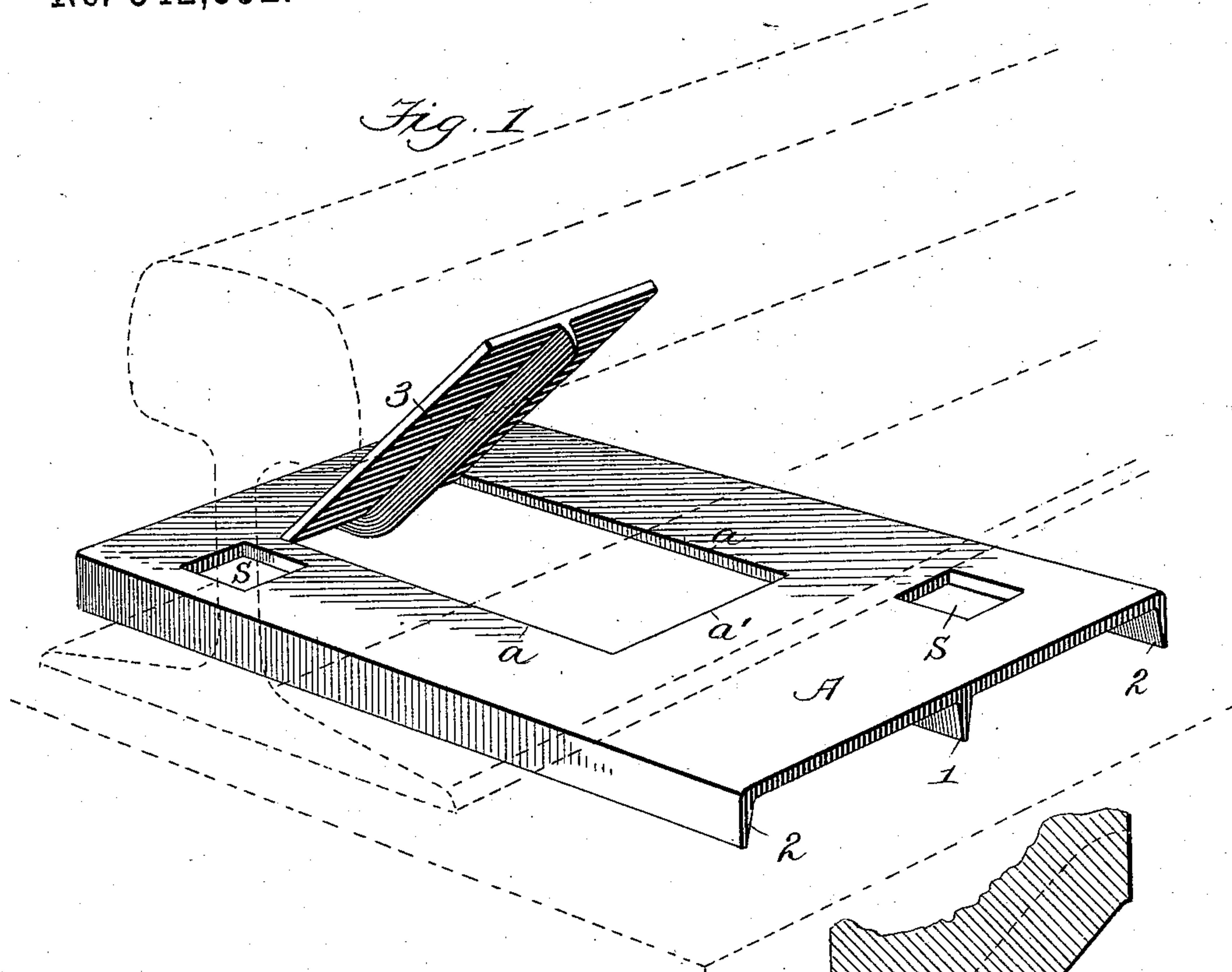


(No Model.)

C. F. QUINCY.
COMBINED TIE PLATE AND RAIL BRACE.

No. 542,352.

Patented July 9, 1895.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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COMBINED TIE-PLATE AND RAIL-BRACE.

SPECIFICATION forming part of Letters Patent No. 542,352, dated July 9, 1895.

Application filed March 6, 1895. Serial No. 540,772. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. QUINCY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Combined Tie-Plate and Rail-Brace; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a combined tie-plate and rail-brace embodying my invention, portions of the tie and rail being shown in dotted line. Fig. 2 represents a portion of a longitudinally-ribbed bar which may be employed in manufacturing said combined tie-plate and rail-brace. Fig. 3 is a vertical transverse section of a matrix and drop die or punch which may be employed in manufacturing said combined tie-plate and rail-brace. Fig. 4 is a view of a modified form of bar which may be utilized in making such combined tie-plate and rail-brace.

Like symbols refer to like parts wherever they occur.

As is now well understood in railway practice, in order to economically maintain the "way," a tie-plate should be employed to protect the tie and prevent the rapid wear, destruction, and decay thereof by the vibration of the rail under the passage of loaded wheels; that said tie-plate should be of a character to utilize the resiliency of the tie and prevent hammering of the rail, and, further, that the tie-plate should also be provided on its upper surface with some means of sustaining or supporting the rail against the lateral thrust of the passing wheel. To meet these several requirements, it has been found desirable to employ light wrought-metal plates and stiffen or truss both tie-plate and rail-brace by ribs.

The object of the present invention, therefore, is the production of a combined tie-plate and rail-brace of a form that can be readily and economically manufactured, will be light, strong, and resilient, and will afford an efficient lateral support to both the foot-flange and web or head of the rail.

To this end one feature of my invention embraces a combined tie-plate and rail-brace

having truss-ribs upon the under surface of both plate and brace, and another feature embraces the formation of free end of the ribbed rail-brace or that portion which bears upon the rail with a square face or on a line at right angles to the brace-rib, substantially as will hereinafter appear.

I will now proceed to describe my invention more specifically, so that others skilled in the art to which it appertains may apply the same.

In carrying out my invention I first produce, by means of rolls or dies, by forging, or in any of the several well-known ways of shaping wrought metal, a plate A or a bar— which is a multiple of the desired plate—said plate or bar having at least one rib 1, preferably centrally located and adapted to form the truss-rib of the rail-brace and lateral parallel ribs 2 2, adapted to form the truss-ribs of the tie-plate.

When the plate or bar is formed with a single central or intermediate truss-rib 1, the parallel truss-ribs of the plate may, if desired, be secured by bending the edges of the plate at right angles, as indicated by the dotted lines, Fig. 4.

Having obtained a wrought-metal plate provided with the said truss-rib 1, I cut the plate on lines *a a*, or parallel with the rib and equidistant therefrom, joining the said cuts by the transverse cut *a'*, or cut at substantially right angles to and across the rib, thus forming a tongue, which, upon being bent outward at an angle to the face of the plate, will constitute a rail-brace 3, provided with a truss-rib on its under surface and adapted by its square free end to take under the head of the rail and support the rail against the lateral thrust of the passing wheel.

The cutting or punching and setting up of the rail-brace 3 may be effected at a single operation by means of an anvil or matrix M and a drop die or punch P, and the spike-holes S S may be punched simultaneously or subsequently, as preferred.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A combined tie-plate and rail-brace hav-

ing truss-ribs upon the under surface of both plate and brace; substantially as and for the purposes specified.

- 5 2. A ribbed tie-plate, having a ribbed rail-brace of general rectangular form struck from the body of the plate; substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 4th day of March, 1895.

CHARLES F. QUINCY.

Witnesses:

A. T. COLAS,
J. MELMER.