

(No Model.)

J. T. MILLER.
BRACE FOR STEP LADDERS.

No. 538,531.

Patented Apr. 30, 1895.

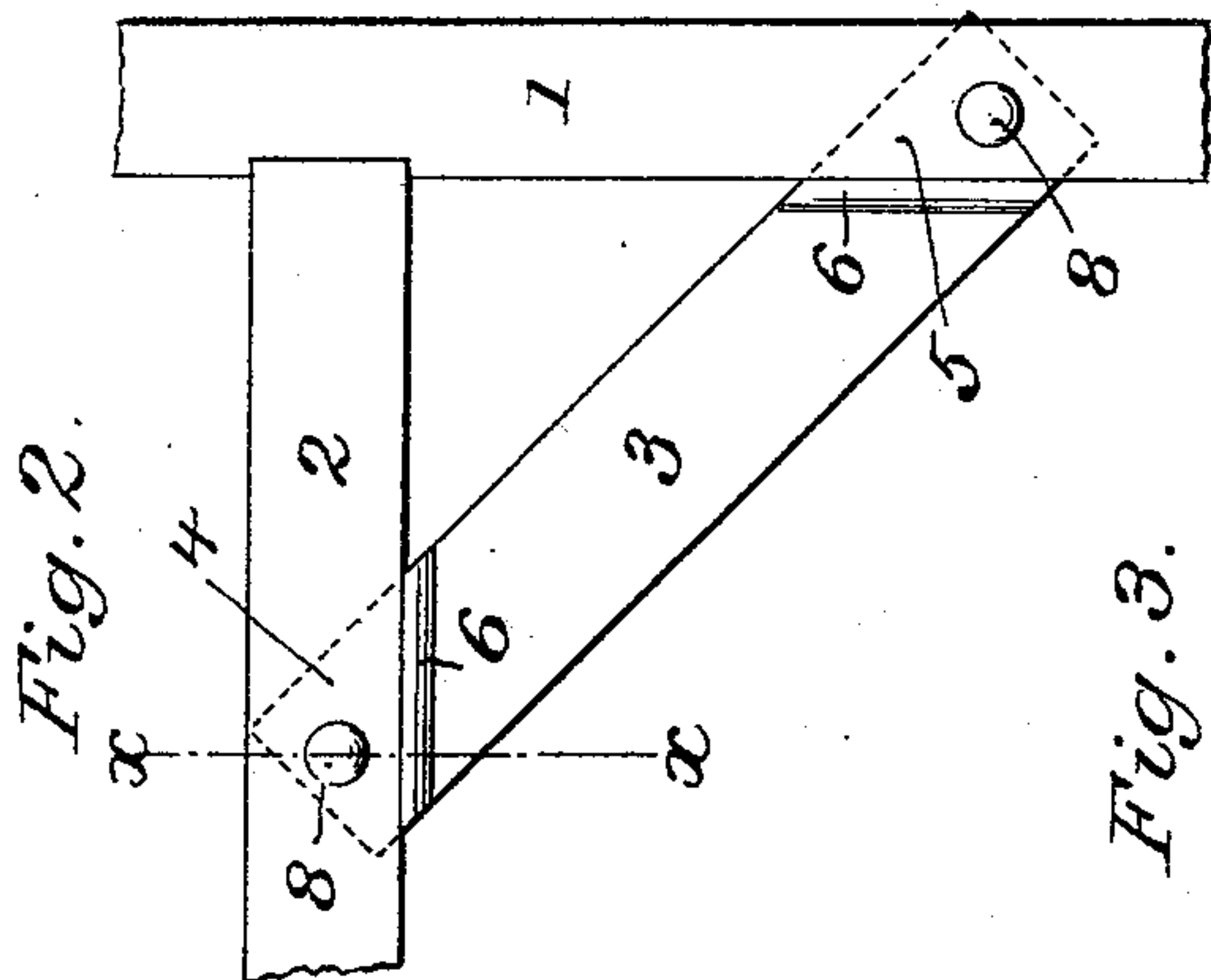


Fig. 3.

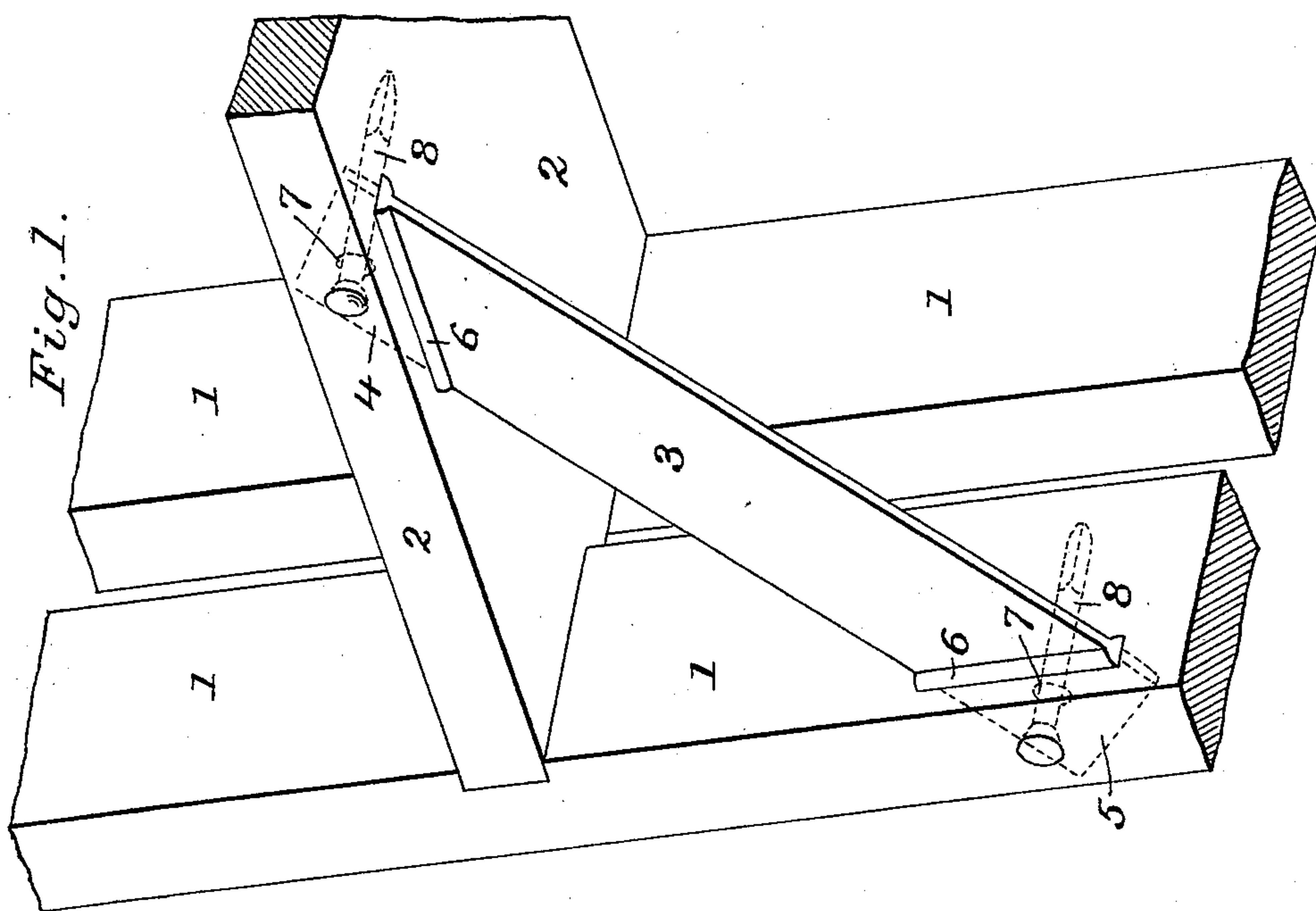
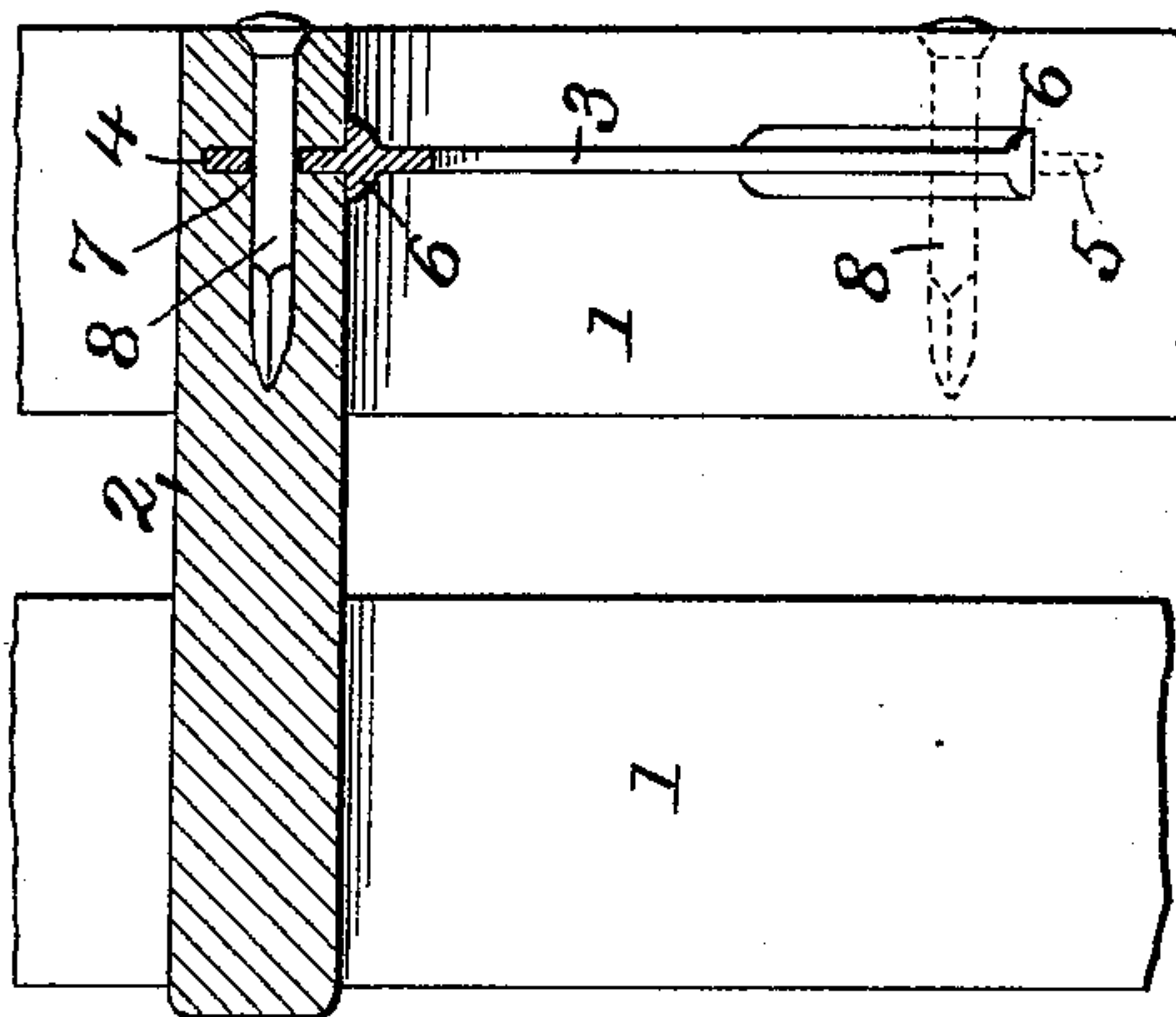
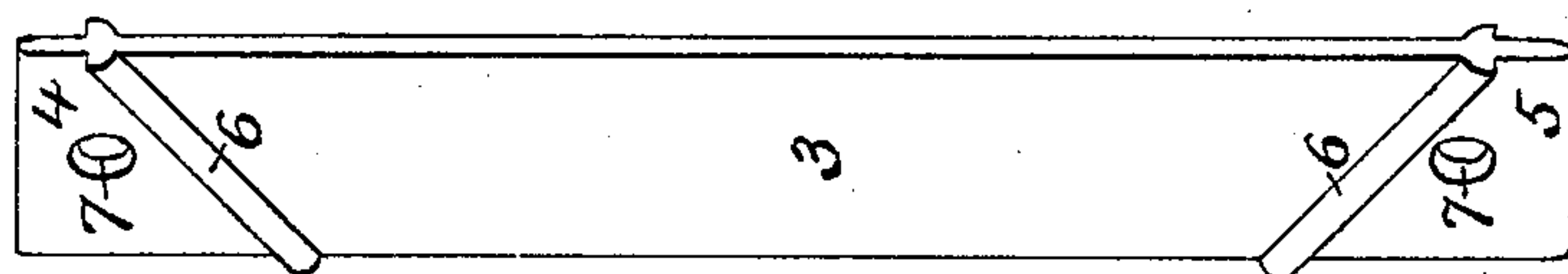


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

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BRACE FOR STEP-LADDERS.

SPECIFICATION forming part of Letters Patent No. 538,531, dated April 30, 1895.

Application filed March 9, 1895. Serial No. 541,179. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. MILLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Braces for Step-Ladders; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to means for bracing the side rails, and the steps of ladders, so as to strengthen the same, against lateral movement; and the present improvement has for its object, to provide a simple, cheap and efficient brace for such purpose, and which is adapted to be driven, initially, into place, and subsequently tied by a cross pin or nail, as will hereinafter more fully appear, and be more particularly pointed out in the claims. I attain such objects, by the construction and arrangement of parts, illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a step-ladder, illustrating my present invention; Fig. 2, an elevation of the same; Fig. 3, a sectional elevation at line $x\ x$, Fig. 2; Fig. 4, a detailed perspective view of the diagonal drive-brace.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1, represents a side rail, and 2, a step of a step ladder, joined together in the usual manner.

In the present invention, 3, is the diagonal drive brace, of a flat or other suitable cross section, having drive ends 4 and 5, that are adapted to be driven endwise, into the wood, of the ladder step and side rail, as shown.

6 are flanges or stops near the end of the drive brace, to limit the depth to which such brace is driven, into the wood of the ladder's step and side rail.

7, are orifices in the drive ends of the drive

brace 3, for the passage of a secret cross tie, pin or nail 8, that is driven into the wood of the step or side rail, to secretly lock or tie the brace in place. The brace may also be secured in place, by causing a corner of the drive ends, to project through the wood of the ladder rail and step, and bending down or setting such projecting portion against the wood.

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

1. As an improved article of manufacture, a diagonal drive brace for step ladders, provided with drive ends, that are adapted to be forcibly driven, into the wood of the ladder steps and side rails, substantially as set forth.

2. As an improved article of manufacture, a diagonal drive brace for step ladders, provided with drive ends, having orifices for the passage of cross tie pins or nails, said ends being adapted to be forcibly driven into the wood of the ladder steps and side rails, substantially as set forth.

3. As an improved article of manufacture, a diagonal drive brace for step ladders, provided with drive ends, and stop lugs or flanges, said ends being adapted to be forcibly driven into the wood of the ladder steps and side rails, substantially as set forth.

4. As an improved article of manufacture, a diagonal drive brace for step ladders, provided with stop lugs or flanges, and drive ends having orifices for the passage of cross tie pins or nails, said ends being adapted to be forcibly driven into the wood of the ladder steps and side rails, substantially as set forth.

In testimony whereof witness my hand this 4th day of March, 1895.

JOHN T. MILLER.

In presence of—

ROBERT BURNS,
GEO. H. ARTHUR.