

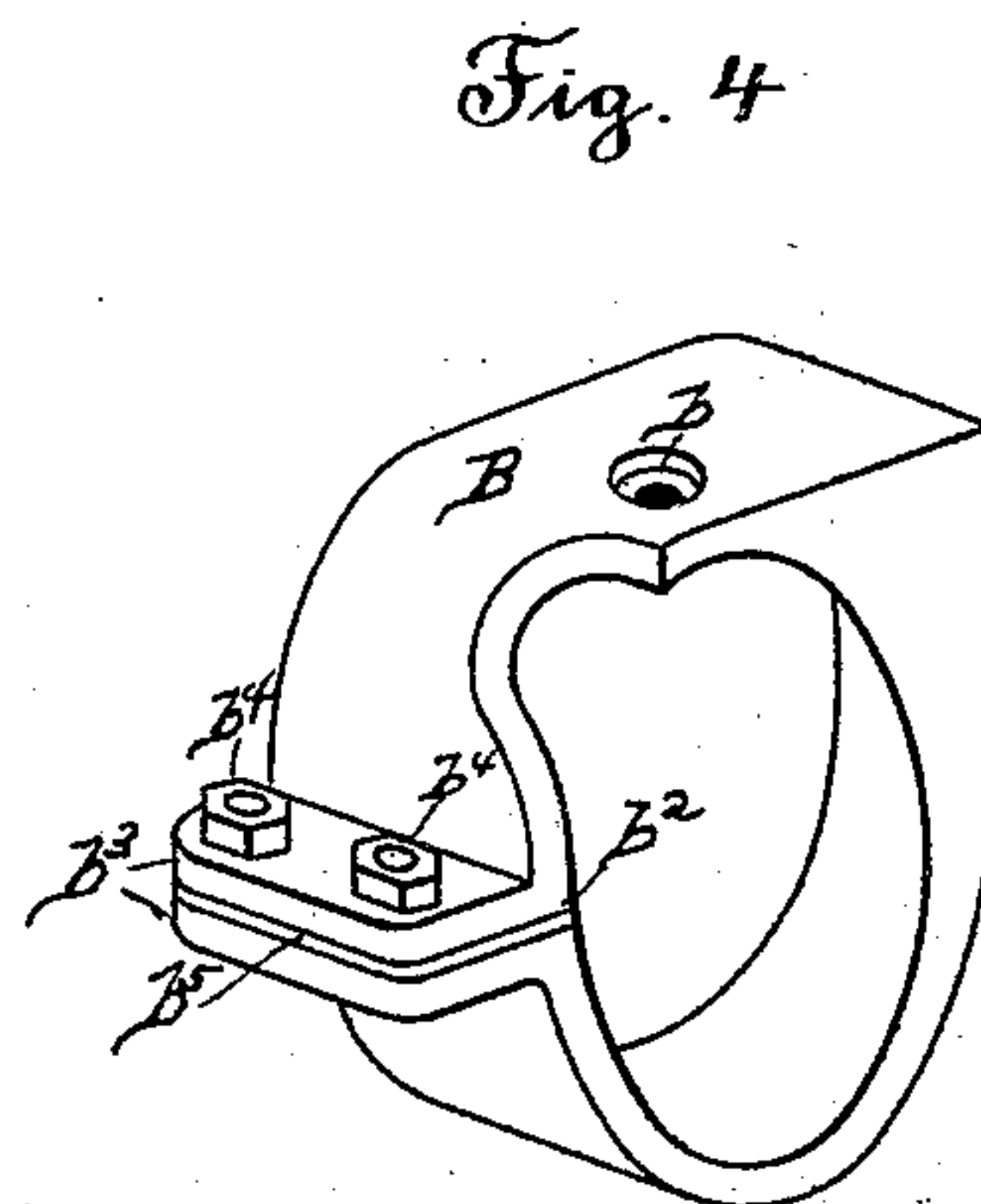
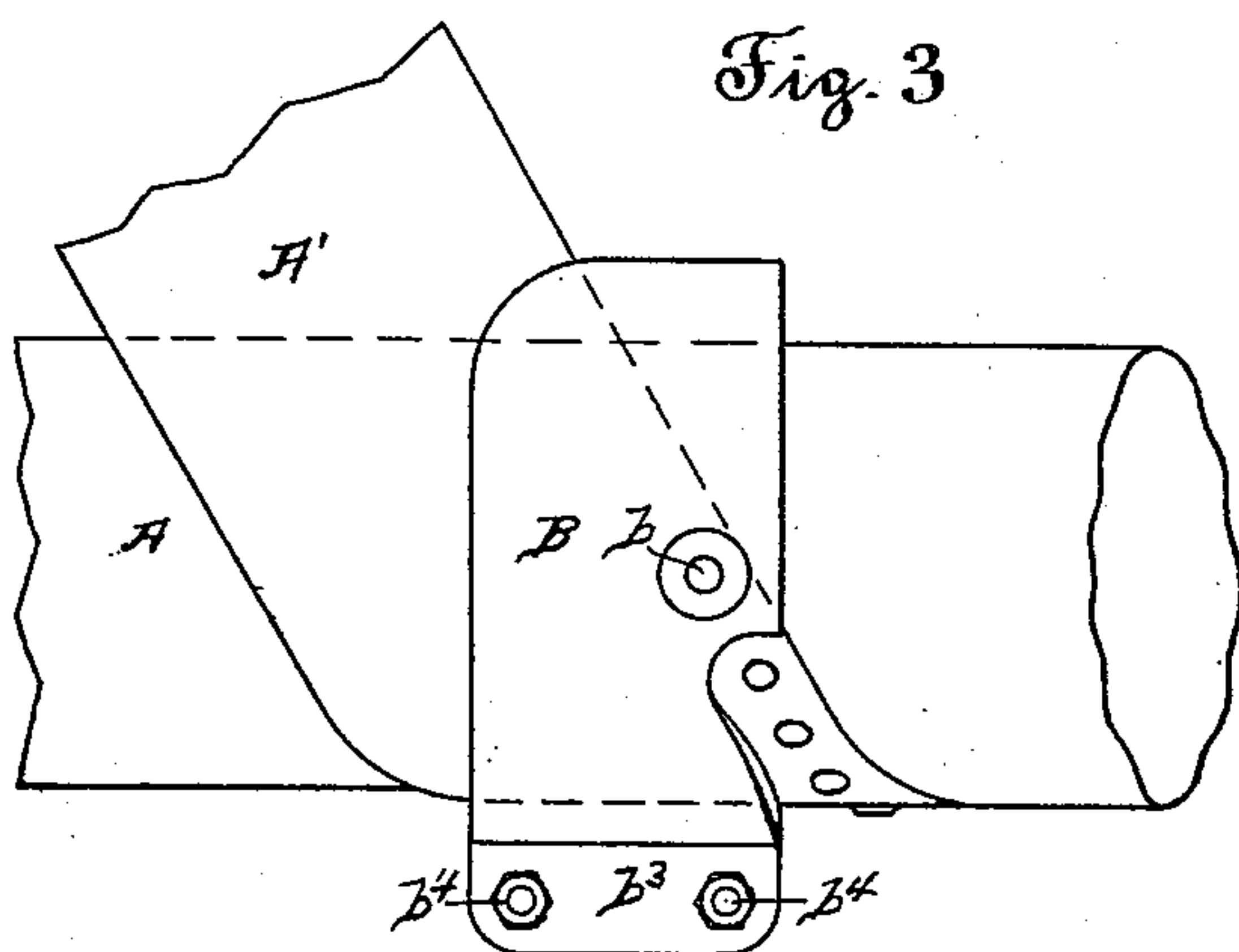
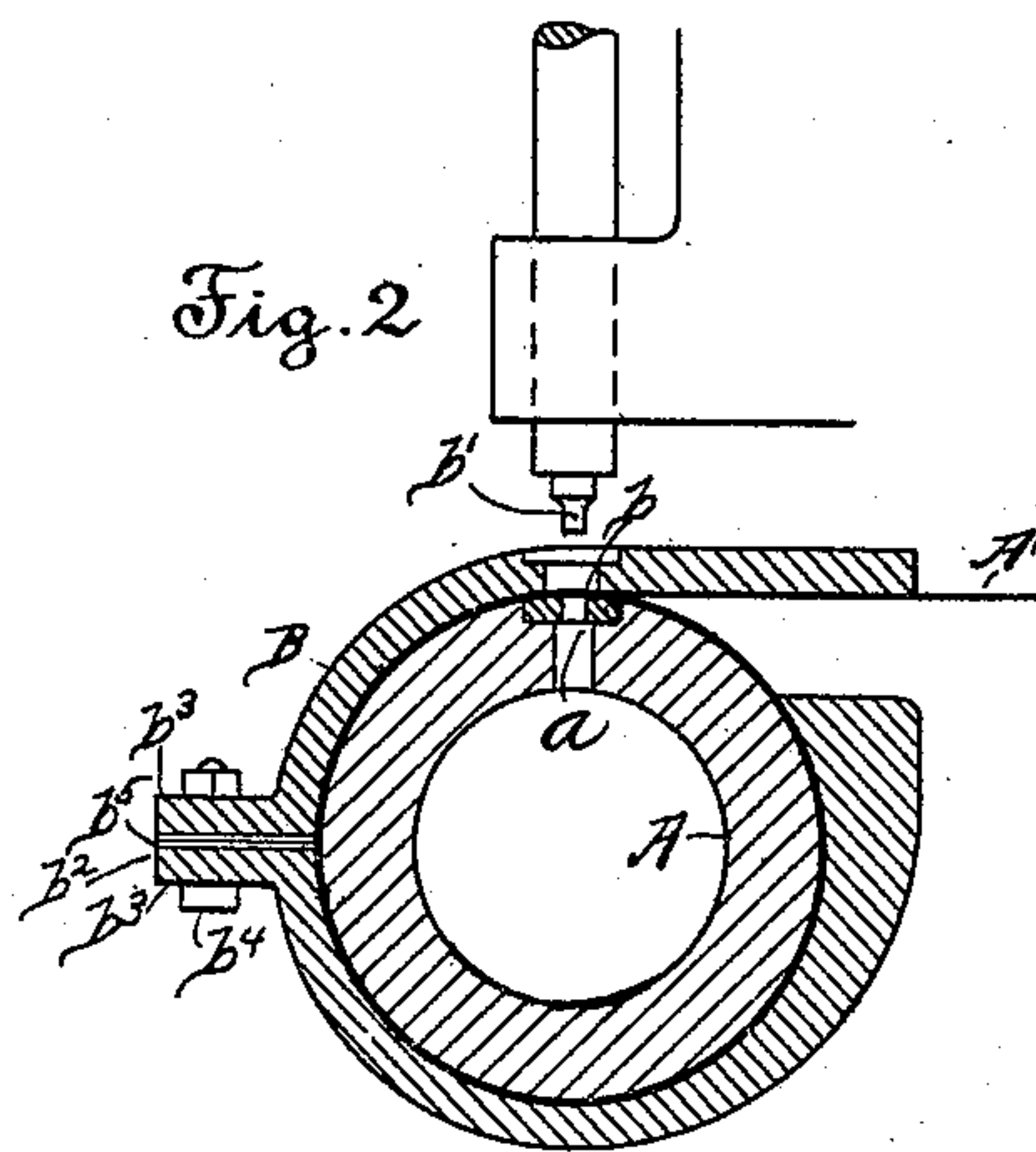
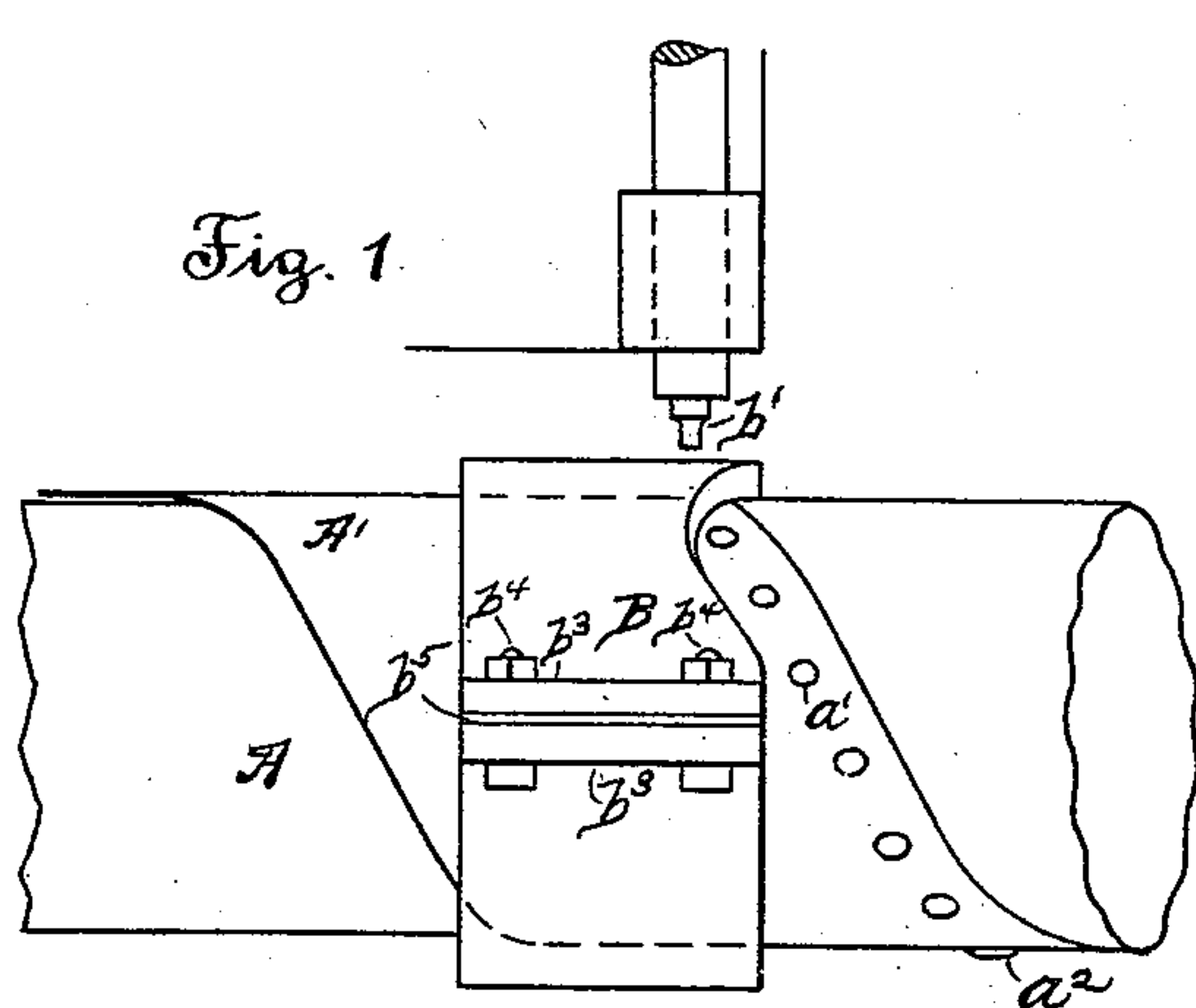
(No Model.)

H. D. RICE.

MACHINE FOR MAKING SHEET METAL PIPES.

No. 484,112.

Patented Oct. 11, 1892.



Witnesses:  
Mr. D. Evans Sen.  
Ernst Vothmann

Inventor:  
Harry D. Rice

# UNITED STATES PATENT OFFICE.

HARVEY D. RICE, OF BROOKLYN, ASSIGNOR TO THE ABENDROTH & ROOT  
MANUFACTURING COMPANY, OF NEW YORK, N. Y.

## MACHINE FOR MAKING SHEET-METAL PIPES.

SPECIFICATION forming part of Letters Patent No. 484,112, dated October 11, 1892.

Application filed March 16, 1892. Serial No. 425,110. (No model.)

*To all whom it may concern:*

Be it known that I, HARVEY D. RICE, of Brooklyn, Kings county, and State of New York, have invented a certain new and useful Improvement in Machines for Making Sheet-Metal Pipes, of which the following is a specification.

This invention relates to machines for making sheet-metal pipes in which a sheet or strip of metal is wound spirally and has the lapped edges secured together by rivets; and it consists in the construction and novel arrangement of parts, as hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a device embodying my improvement. Fig. 2 is a transverse section thereof. Fig. 3 is a top view. Fig. 4 is a perspective view of a certain part.

Similar letters of reference designate corresponding parts in all the figures.

Referring by letter to the drawings, A designates a hollow mandrel upon which a sheet or strip of metal A' is spirally wound to form a pipe or tube.

B designates a former having its interior conforming to the shape of the mandrel and the pipe thereon and adapted to surround the pipe and press it closely on the mandrel as the metal is fed along. This former is provided with a hole *b* for the passage of the punch *b'*, and the mandrel A is also provided with a hole *a* to receive the end of the punch and allow the punched-out pieces of metal to fall into the mandrel. The holes *a'* are punched through the lapped edges of the metal, and rivets *a<sup>2</sup>* are subsequently placed therein. It is found that in machines of this character the former B wears away on its interior surface quite rapidly. I therefore provide

means for adjusting the former. As here shown, the former is split transversely, as at *b<sup>2</sup>*, and the opposite sections have outwardly-extending jaws *b<sup>3</sup>*, which are perforated for the passage of clamping-bolts *b<sup>4</sup>*. Between the jaws *b<sup>3</sup>* I introduce one or more shims *b<sup>5</sup>*. These shims may be of hard wood, and as the interior of the former wears away the shim or shims are to be substituted by thinner ones, so that the diameter of the former may be reduced by manipulating the clamping-screws. As before stated, the former or holder wears away quite rapidly, and it is necessary that the holder should fit quite snugly around the pipe material.

Having described my invention, what I claim is—

1. In a machine for making pipes of strip metal, the combination, with a mandrel and a punch, of a tubular former on the mandrel and having means for adjusting its inner diameter, said mandrel and former having registering openings to receive the punch, substantially as specified.

2. In a machine for making strip-metal pipes, the combination, with a mandrel and a punch, of the former split transversely and having the outwardly-extending jaws, a shim between said jaws, and clamping means, the said mandrel and former having registering openings to receive the punch, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARVEY D. RICE.

Witnesses:

GEO. W. PAYNTAR,  
JAMES CUMMINGS.