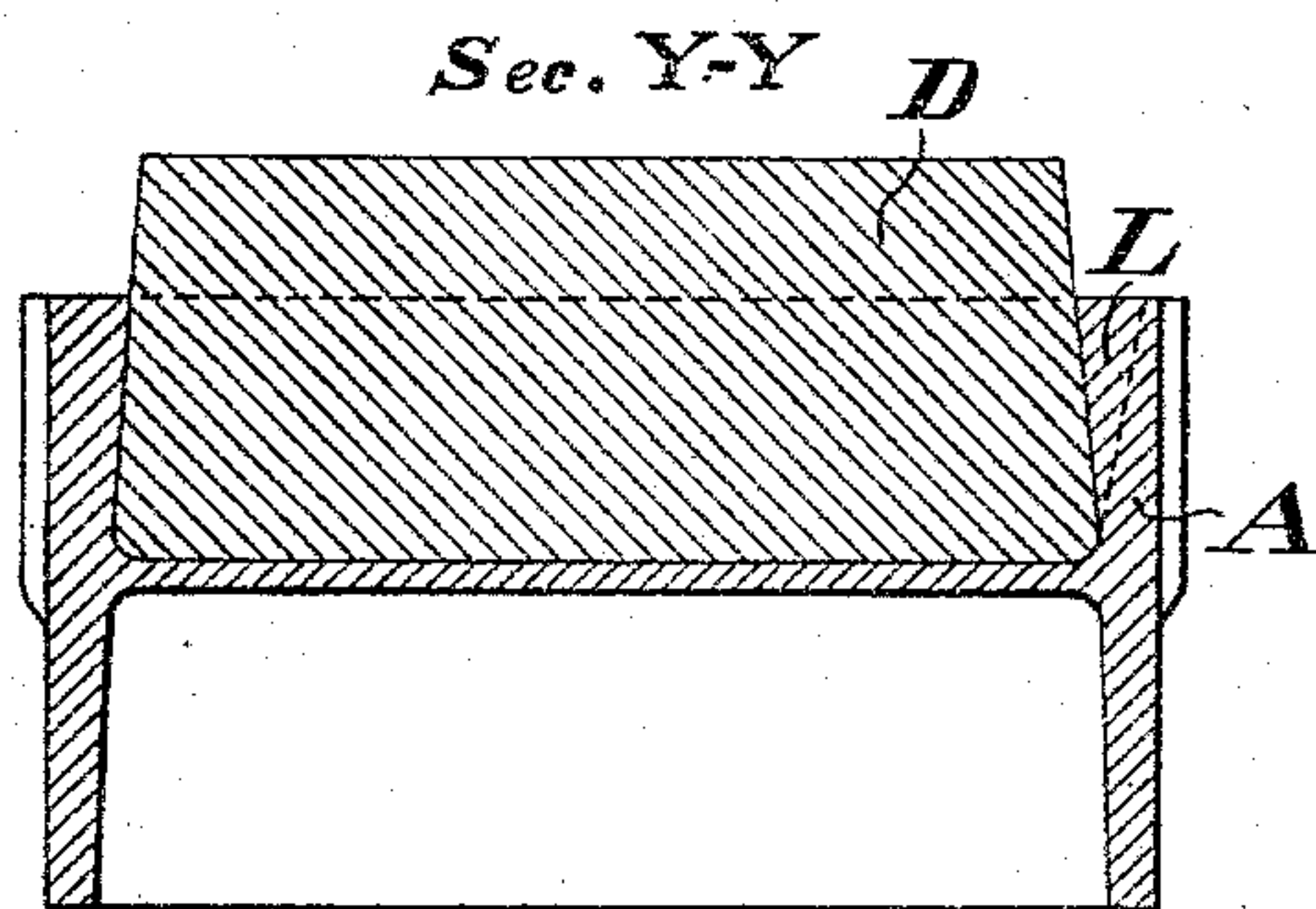
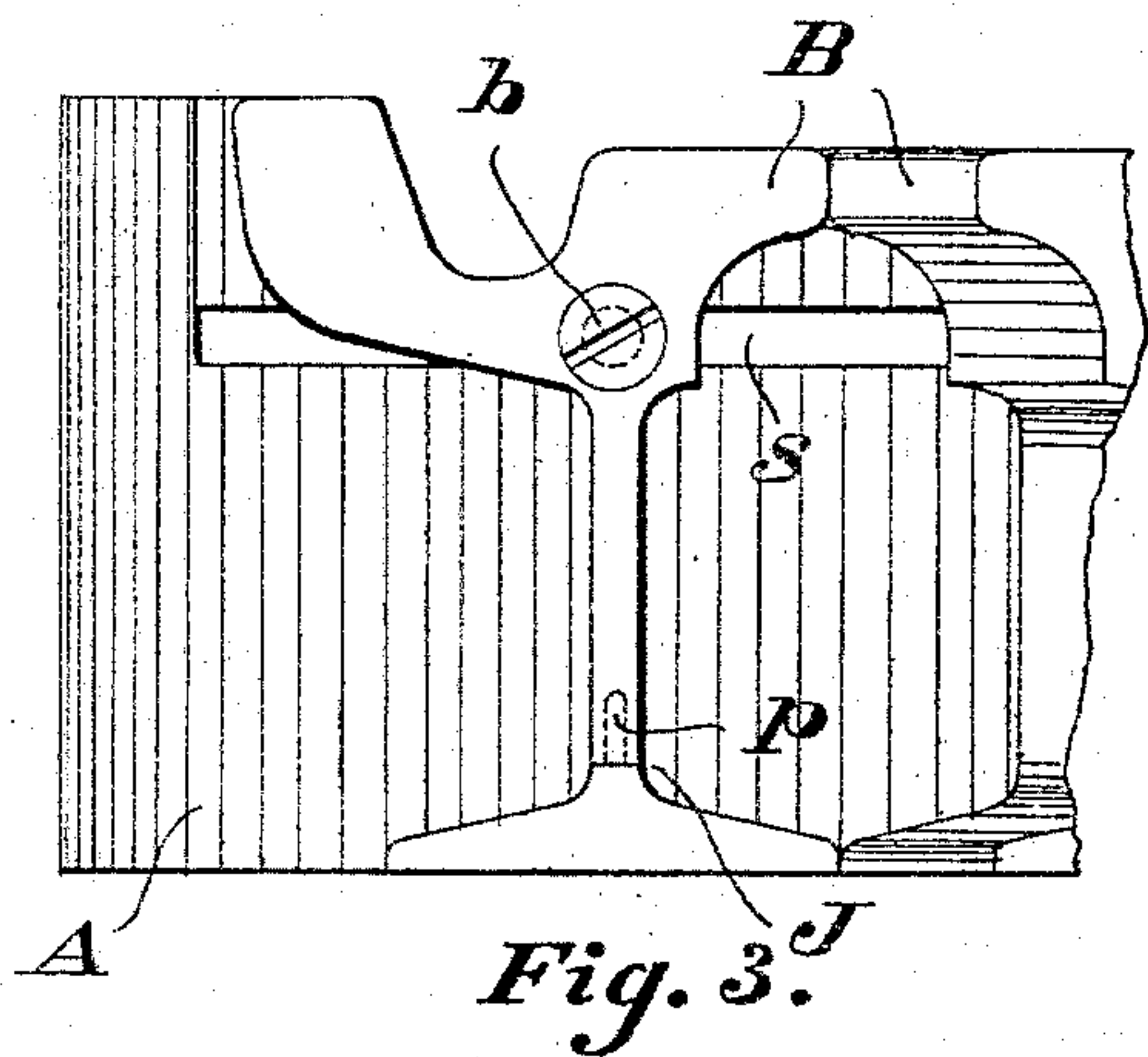
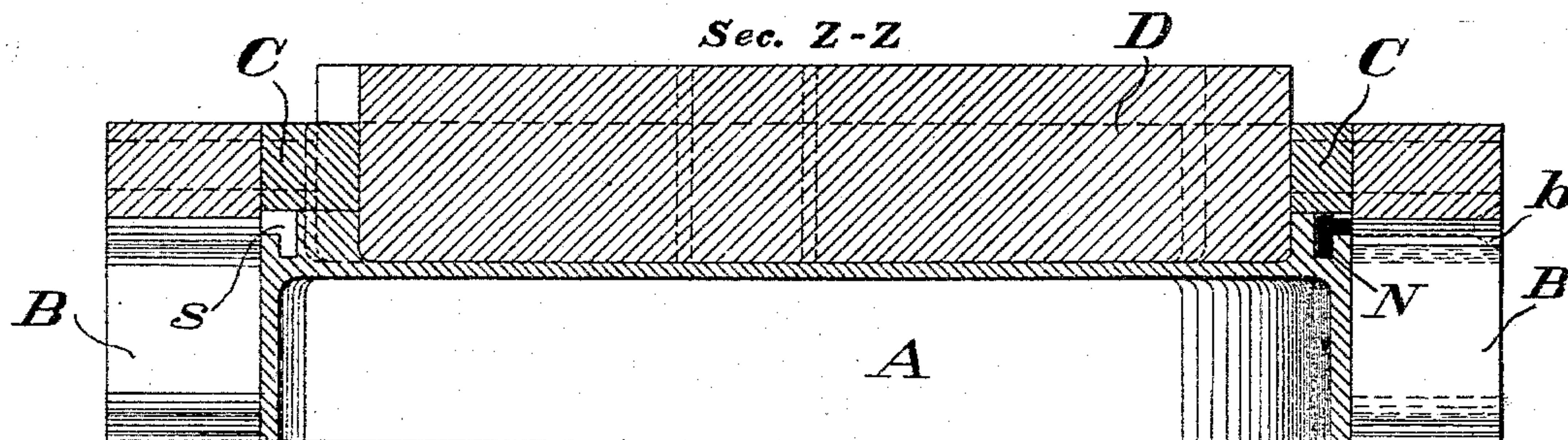
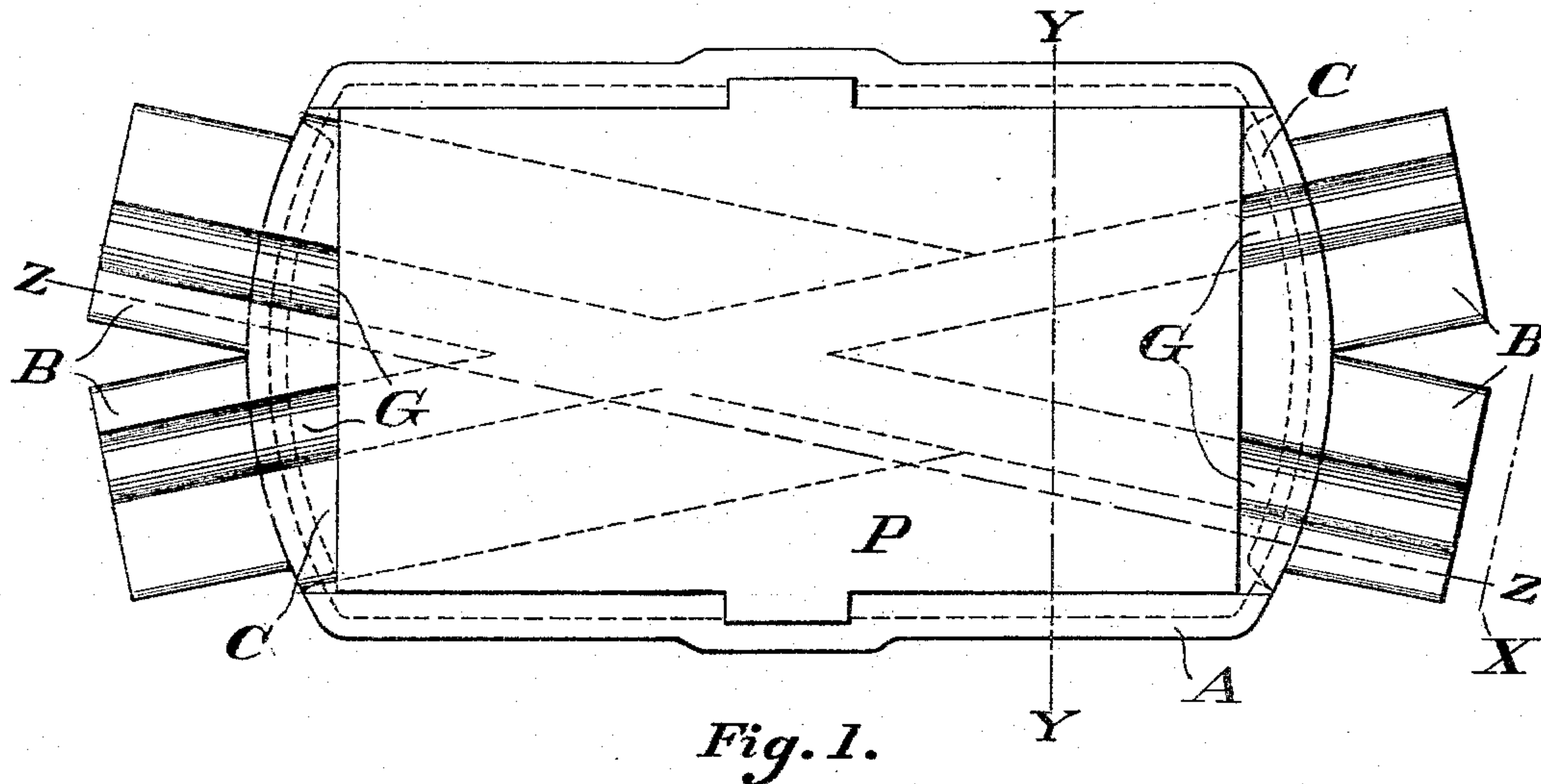


(No Model.)

A. J. MOXHAM.
PATTERN FOR RAILWAY SWITCH WORK.

No. 533,725.

Patented Feb. 5, 1895.



WITNESSES:

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ARTHUR J. MOXHAM, OF JOHNSTOWN, PENNSYLVANIA.

PATTERN FOR RAILWAY-SWITCH WORK.

SPECIFICATION forming part of Letters Patent No. 533,725, dated February 5, 1895.

Application filed March 23, 1894. Serial No. 504,894. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, county of Cambria, State of Pennsylvania, have invented a new and useful
5 Improvement in Patterns for Railway-Switch Work, of which the following specification is a true and exact description, due reference being had to the accompanying drawings.

The object of my invention is to provide a
10 pattern from which switch pieces, such as frogs or mates of various angles, may be cast, thus obviating the necessity of a different pattern for every different switch piece; and by switch piece I mean any of the various
15 structures in railway track, as frogs, crosses, mates, switches, &c.

As usually manufactured, switch work of cast metal requires a different pattern for nearly every individual piece made, for not
20 only does the slightest change in angle necessitate it, but if the angle be the same the section of rail may vary. Where many pieces of switch work are made an enormous stock of practically useless patterns soon accumu-
25 lates. The cost of these patterns, too, is a large item in the manufacture of the work.

By my invention I am enabled to adapt one pattern to a number of angles by slight changes hereinafter described, and to suit it
30 to different sections of rail.

Referring to the drawings: Figure 1 is a top view of a pattern for a cross or frog embodying my invention. Fig. 2 is a section on line Z—Z of Fig. 1. Fig. 3 is an end view on line
35 X of Fig. 1, and Fig. 4 a section on line Y—Y.

In general my invention consists of a pattern having a central body portion the ends of which are curved and have detachably
40 secured thereto, short projecting patterns adapted to form short rail ends on the casting. The switch pieces for which this class of pattern is intended are constructed having a crossing plate made of a different steel from the remainder of the piece and secured in
45 place in the body of the switch piece.

In Fig. 1 the dotted lines indicate the track surfaces on a plate in position in a complete switch piece.

The pattern is constructed as follows: A
50 is the body or frame having the ends, to which the adjustable rails B are fastened, curved as shown. On these curved ends are

the short projecting patterns B adapted to act as patterns for the rail ends. The ends of the body A being arcs of a circle whose center is
55 substantially at the crossing point of the two rails, the rail patterns B are kept approximately in proper alignment. The body A can be either shaped substantially, as Fig. 1, or otherwise, and for durability may be made
60 of metal as may also the rail patterns. The rail patterns B may be secured thereto by any suitable means. I have shown bolts *b* passing through slot S in the frame A and engaging a nut N inside thereof. By loosening
65 the bolts the rails may be adjusted to any desired angle and clamped thereat. Between the end of the pocket P, which receives the plate and the abutting rail patterns B, there is a piece C. This is of wood and readily re-
70 movable for a purpose I will later explain.

In Figs. 2 and 4 are shown a core print D which forms a recess in the mold to receive the core which forms the pocket P. This may
75 be used where the pocket is formed with sloping walls, as in Fig. 4; or, in place of the core print, a portion of the wall of the pocket may be formed loose as at L Fig. 4 so as to come off in the mold, and permit the with-
80 drawal of the pattern the use of such loose pieces being common practice in molding. The rail sections B may be formed in any manner that will permit them to be with-
85 drawn from the mold. When the rails have base flanges these flanges may be formed separate from the body of the rail, as shown at J, and may be held in place as by dowels *p* as shown. These are details which different
molders would prefer differently arranged.

It will be seen that the range of adjust-
90 ment of the rails B depends upon the length of body A, or upon the width of it if the length be constant; and in order to be prepared to make a switch piece of any angle it is only necessary to have a set of these pat-
95 terns, the widest angle of one corresponding to the sharpest angle of the next.

The rails being detachable, any desired section may be attached thereto.

I use the patterns as follows: When it is
100 desired to furnish a pattern for a certain angle and section of rail, I select from my set the body best suitable to the angle and insert pieces of wood C not having the grooves

G therein, and attach in their proper position the rail patterns B. Then I cut the grooves G in block C to correspond with the grooves in rails B. These pieces C must be renewed every time the angle changes, unless the change be slight, in which case the grooves might be changed; but as the pieces are readily changed this would hardly pay as the blank pieces may be cheaply sawed out beforehand and quickly inserted. The main body of the pattern may be thus adapted to any angle within determined limits, the only thing to be removed being the block C. Thus it will be seen that I am enabled to adapt the pattern to a number of varying switch pieces, and by slight changes provide for differences in angle and variation in rail section the most expensive part of the pattern being repeatedly used and great saving thus effected.

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

1. A pattern for railway switch work, said

pattern comprising a central body portion having curved ends to which ends are adjustably secured patterns adapted to form rail portions in the completed switch piece, substantially as described. 25

2. A pattern for railway switch work, said pattern comprising a central body portion adapted to form a casting having a pocket to receive a plate, said body portion having curved ends and rail patterns abutting and adjustably secured to said curved ends, substantially as described. 30 35

3. A pattern for railway switch work, said pattern comprising a central body portion of box form, loose and removable pieces C, and rail patterns adjustably secured to the ends of said body, substantially as described. 40

In testimony whereof I have affixed my signature in presence of two witnesses.

ARTHUR J. MOXHAM.

Witnesses:

WM. A. DONALDSON,

D. BRYAN.