

No. 757,117.

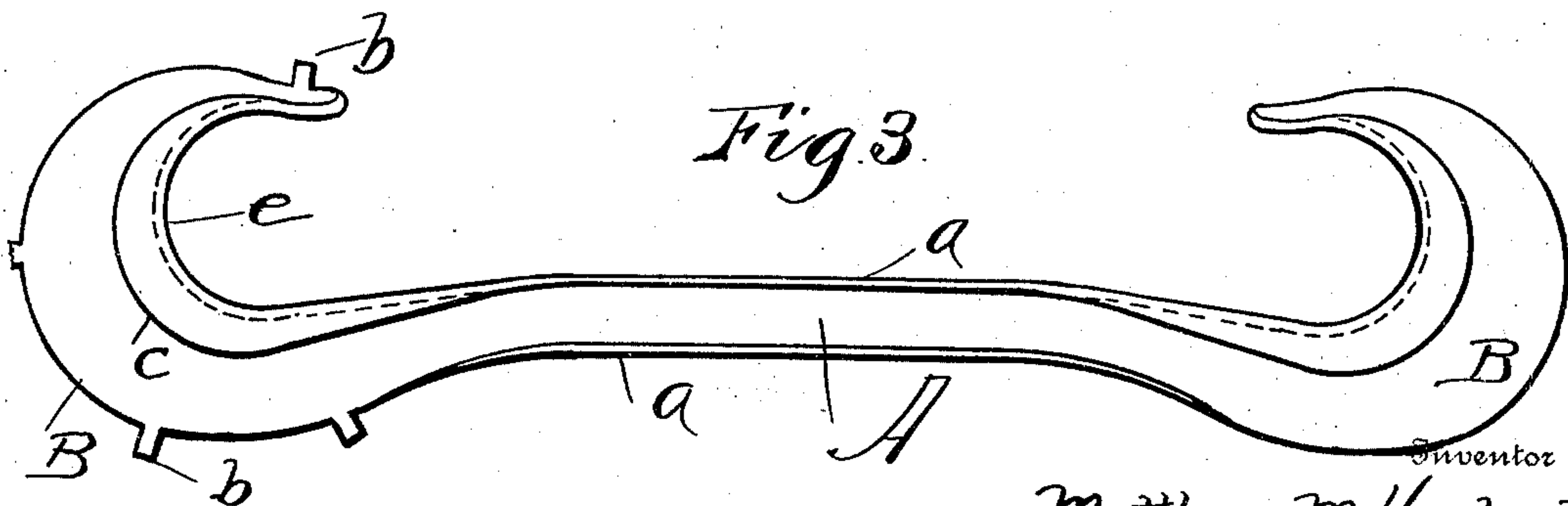
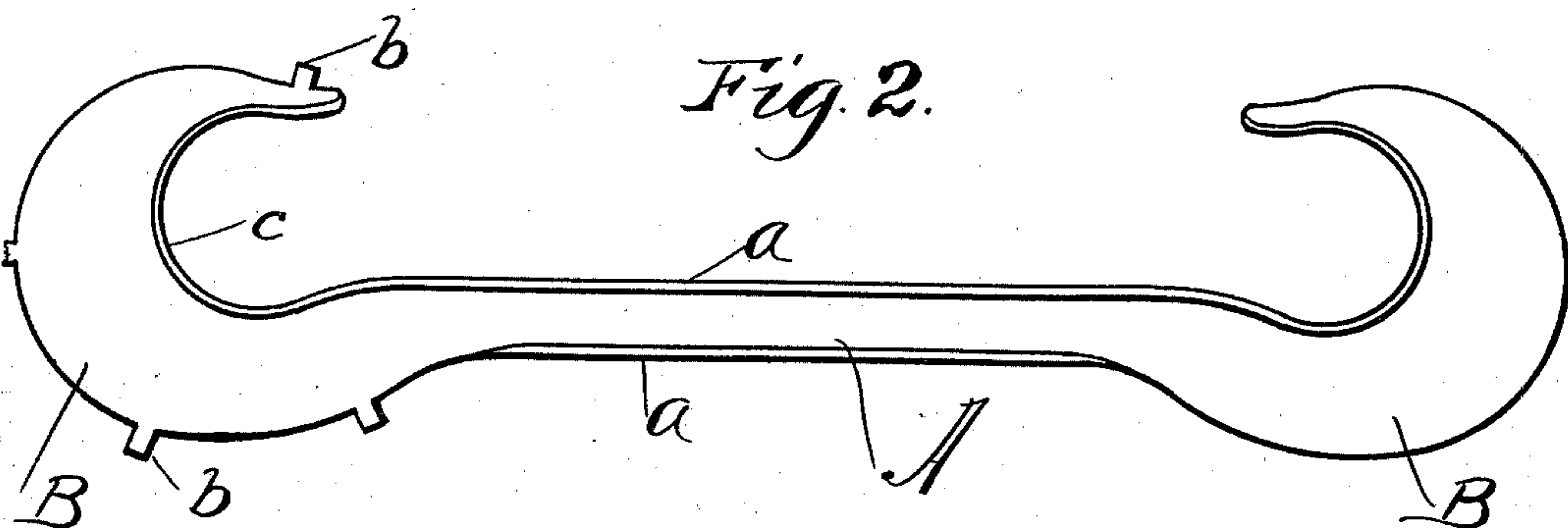
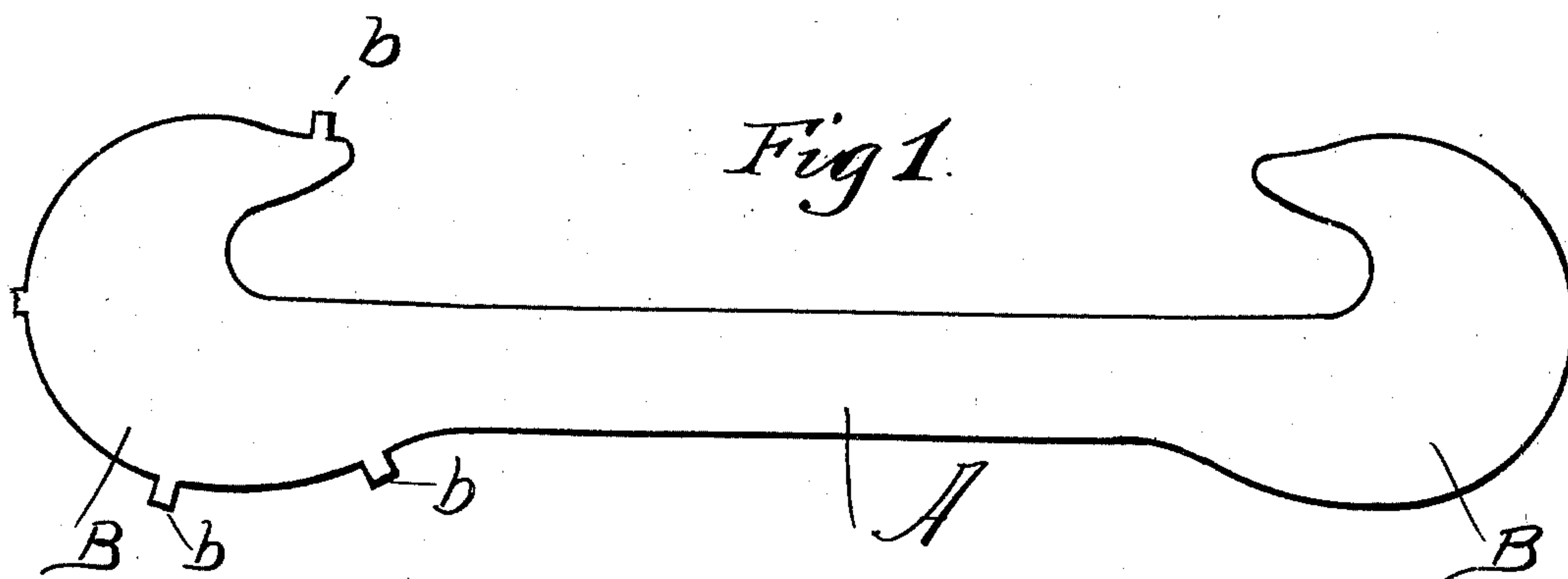
PATENTED APR. 12, 1904.

M. M. HOWLAND.
HOOK.

APPLICATION FILED NOV. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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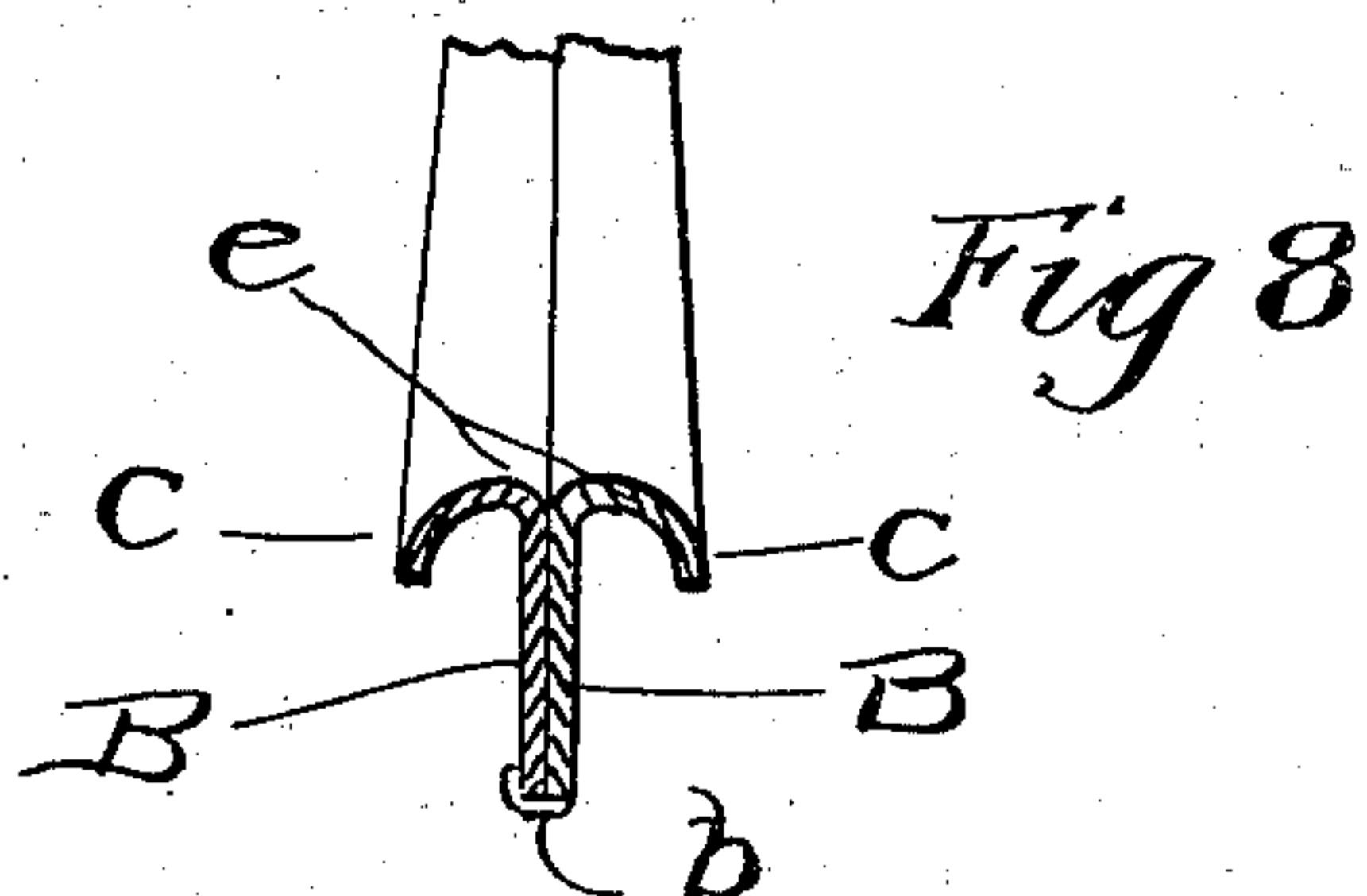
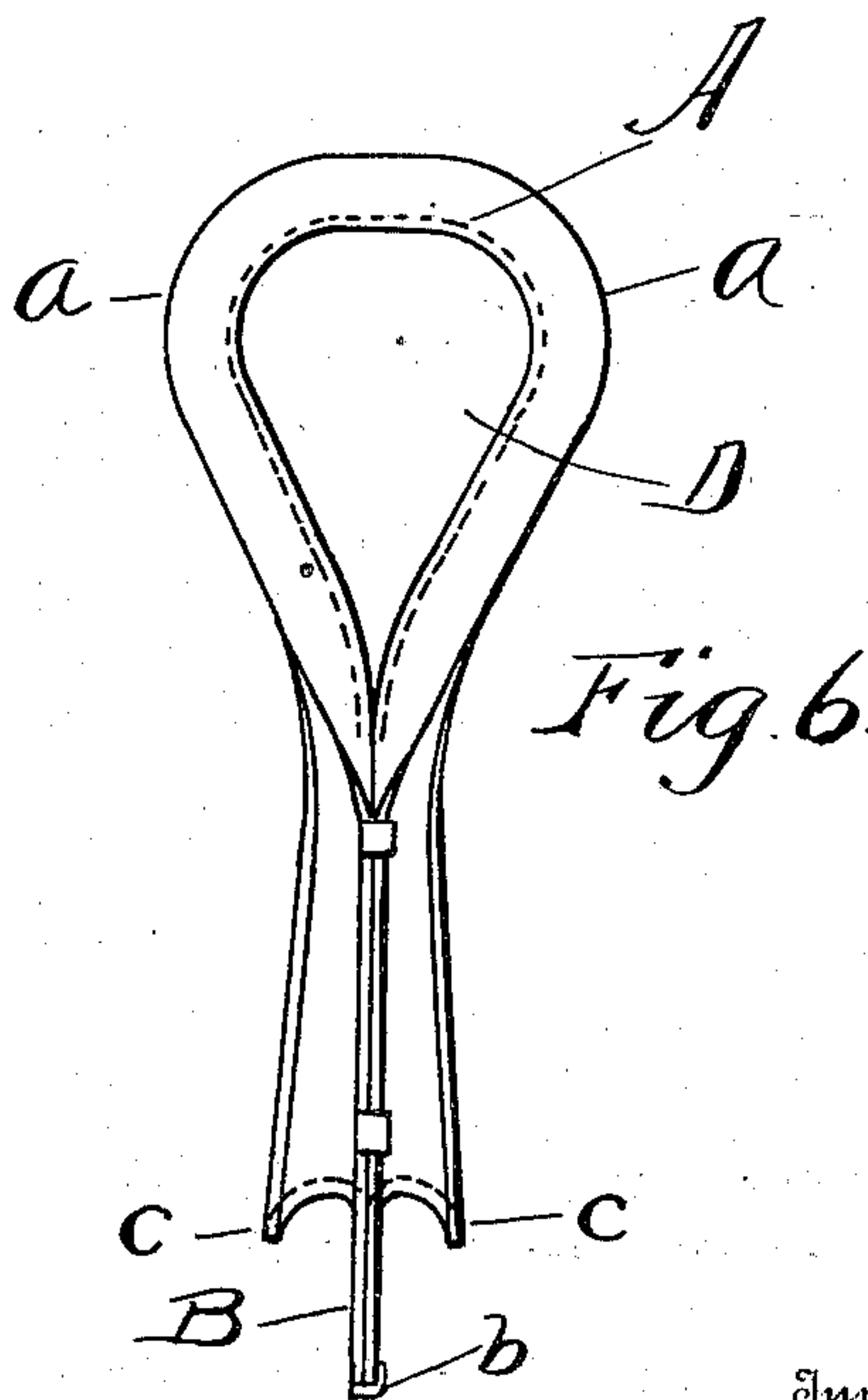
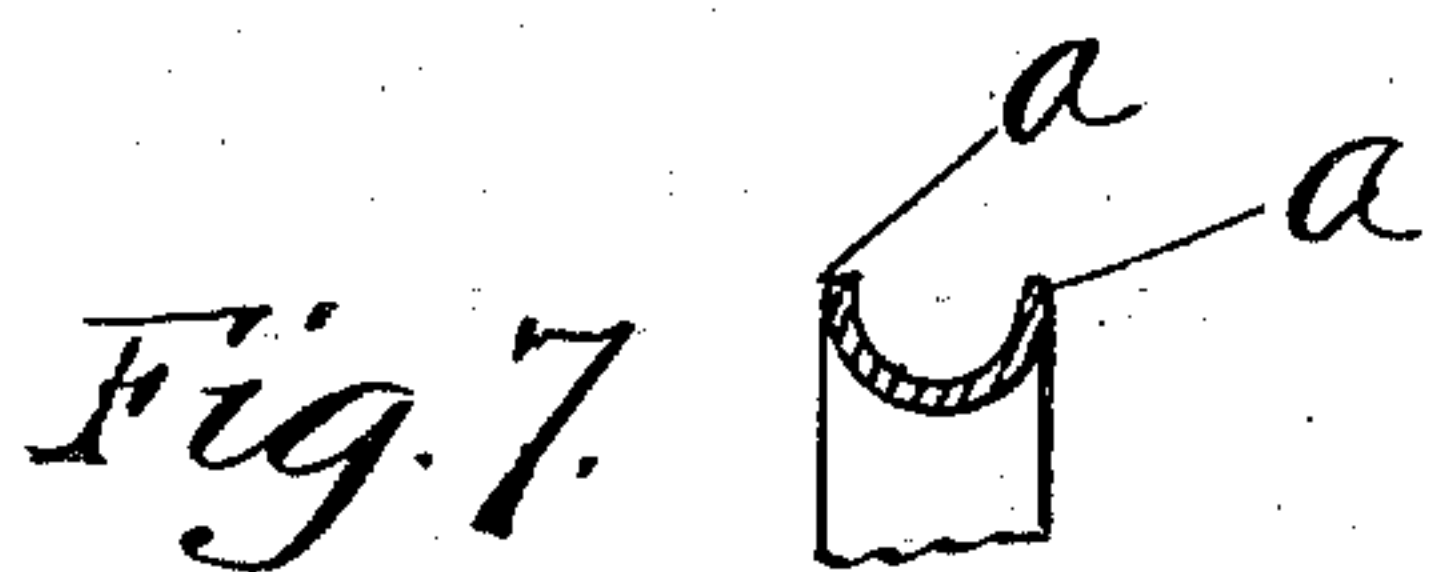
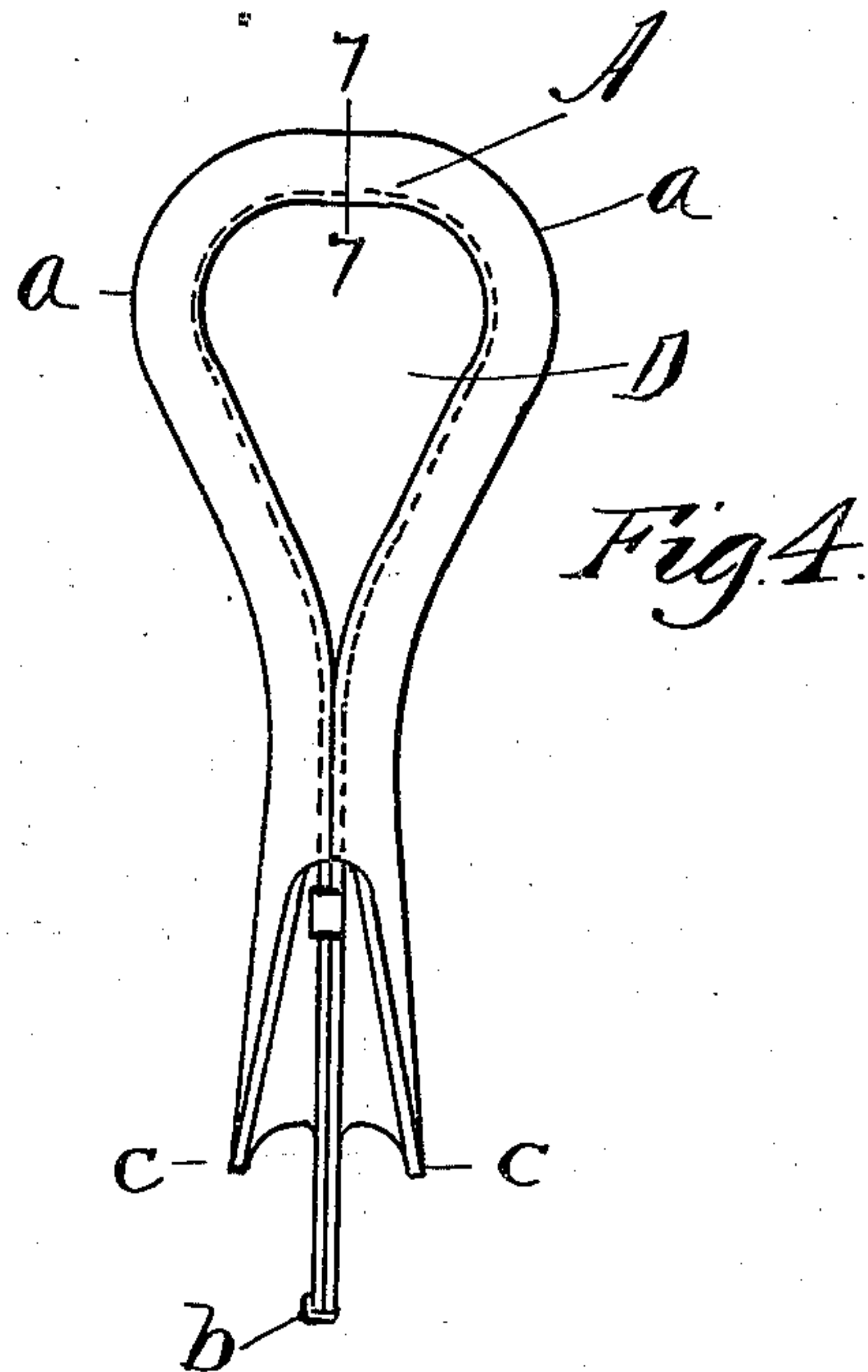
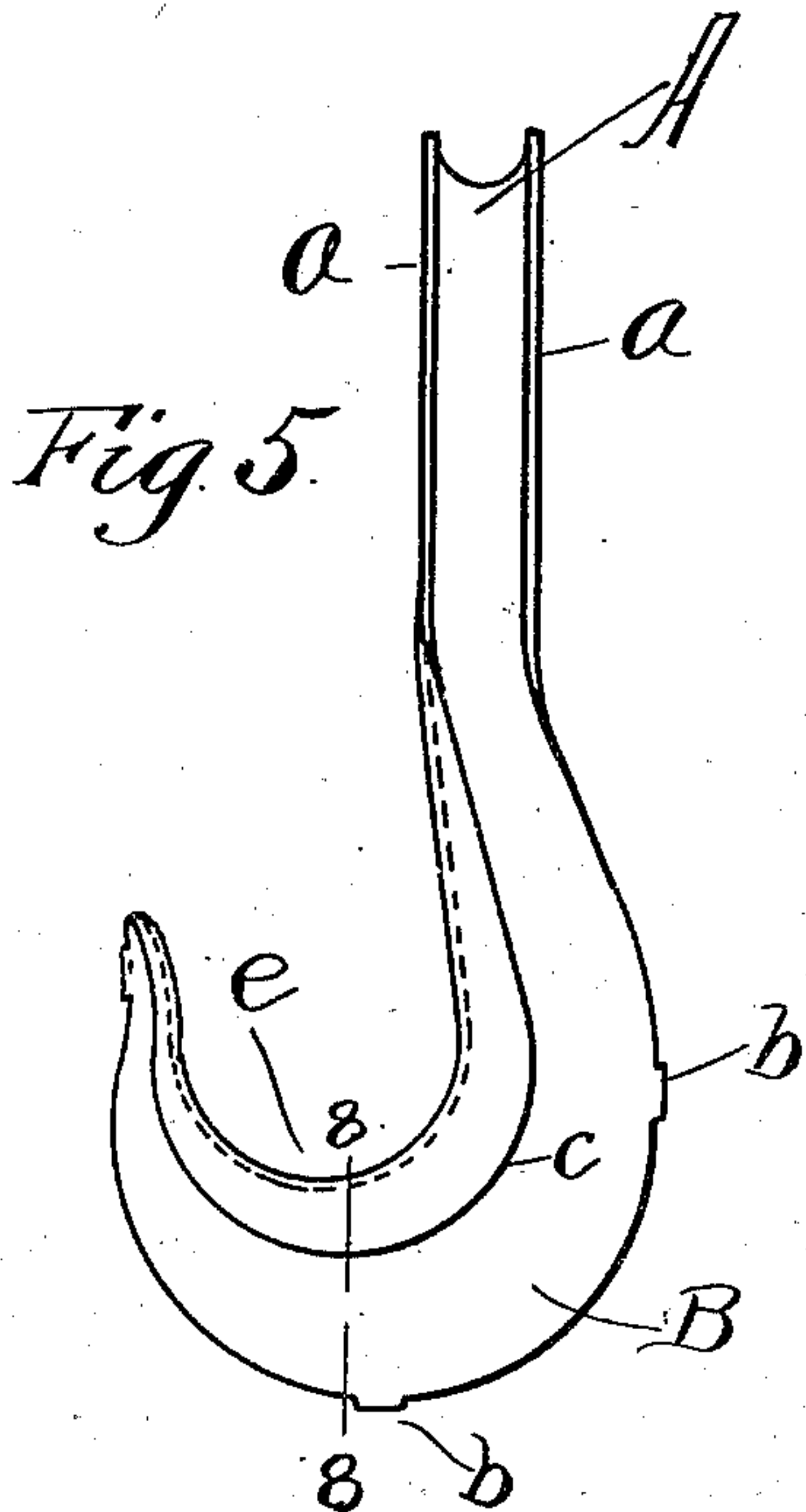
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

MATTHEW M. HOWLAND, OF PROVIDENCE, RHODE ISLAND.

HOOK.

SPECIFICATION forming part of Letters Patent No. 757,117, dated April 12, 1904.

Application filed November 13, 1903. Serial No. 181,042. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW M. HOWLAND, a resident of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Hooks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in hooks, the primary object of the invention being to construct a hook of any suitable stock or material by doubling or folding a piece of the same upon itself, bringing two portions of the stock together, making the hook portion of a double thickness, thereby strengthening what is ordinarily the weakest part, and forming an eye for the hook at the bend by the bringing of the two parts together.

A further object of the invention is to bend or draw and swage the stock used into a hook of the form above described having the maximum amount of strength and the minimum amount of weight.

With these and other objects in view the invention consists of certain novel features of construction and arrangement of parts, as will be more fully hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 shows one form in which the blank may be cut from the sheet-stock before it is drawn or bent. Fig. 2 shows ribs or flanges drawn up on the blank. Fig. 3 shows the flanges on the hooked portion bent or rounded over, forming a saddle on which to receive the strain. Fig. 4 is a front view showing the two ends bent back and brought together, forming a double-hooked portion, said ends being secured together in position by lugs or retaining-points. Fig. 5 is a side elevation showing my improved construction of hook. Fig. 6 is a rear view of the hook, showing the ribs and fins for stiffening the same. Fig. 7 shows a section of the eye of the hook on line 7 7 of Fig. 4. Fig. 8 illustrates a section of the hook portion on line

8 8 of Fig. 5, showing the curved flanges which form the saddle.

In the construction of this hook any material may be used which may be swaged or drawn either hot or cold, and any process or method may be employed to produce the hook in the desired form without departing from the spirit and scope of my invention.

Referring to the drawings, one method of constructing this hook is illustrated in the first three figures, which figures show the blank as having been struck from a thin sheet of metal with a hooked portion B B formed on each end. This hooked portion may be struck from flat stock in the form shown, or the first operation may be to strike out a ribbon of metal straight on the ends and running lengthwise of the grain, then draw up the flanges *a* and *c*, and afterward turn the ends into the form of hook shown in Fig. 3.

At A is the middle portion, which joins the two ends together. A number of small lugs or retaining projections *b b* are formed on and extend out from the periphery of one of the hooked ends. When the hooked parts are brought together, as hereinafter described, these small lugs are bent or turned over the edge of the web of the adjacent member to hold the two from separating after being brought together, as shown in Figs. 4 and 6.

When the hooked ends are stamped out in the first operation, as shown in Fig. 1, the next operation would be to draw up the ribs *a a* into the form shown in Figs. 2 and 7 on the portion A and at the same time raise the rib *c* to form the flange or saddle *e* of the hook portion. This flange is then bent or carried over, forming a saddle. (Best illustrated in Fig. 8.) After the blank has been drawn by successive steps into the form illustrated in Fig. 3 the two ends B B are bent over and brought together, as illustrated in Figs. 4 and 6. By thus doubling the stock upon itself, bringing the two ends together, a loop or eye D is naturally formed above the hook by the bent metal. The two halves of the hooked portion are then secured in position by turning the lugs *b b* over the edge of the web B of

the adjacent half, thus binding the two parts firmly together, forming a complete hook with a deep web of a double thickness, giving the greatest possible strength for the weight of material employed.

By bending or turning up the metal and forming ribs at *a a*, as above described, greatly-increased strength and rigidity is given to the eye, and at the same time nicely-rounded surfaces are presented to a rope or other material which may be spliced in said eye. In turning over the lips *c c* on the web a saddle *e* is formed with a broad bearing-surface, which will sustain a great strain on a rope, leather, or other similar material without fear of cutting.

By forming the ends of the blank into a hook shape and bringing the two ends together the stock at the point where the most strain comes is doubled, and consequently doubles the strength of the hook, this being the part in hooks of other construction that gives way first. When a strain is applied to the hook, the natural tendency is to more closely bind the two parts together and for each part to support the other.

This hook is very simple in construction and inexpensive to manufacture and has many natural advantages over the ordinary solid hook, the greatest being that of combining the minimum weight with the maximum strength.

My invention is not restricted to the precise construction and arrangement of parts herein shown and described, nor to the various details thereof, as the same may be modified or rearranged in various particulars without departing from the spirit and scope of my invention, one practical embodiment of which has been herein illustrated and described without attempting to show all of the various forms and modifications in which my invention might be embodied.

I claim—

1. A hook constructed by doubling or folding a piece of stock upon itself bringing two portions of the same together making the hook portion of a double thickness, and an eye for the hook formed at the bend by the bringing of the two parts together.

2. A hook constructed by doubling the two ends of the stock back upon itself forming a

hook portion of a double thickness, and an eye in said hook formed by the bend in bringing the two ends together.

3. A hook constructed from flat stock said stock being doubled upon itself forming a hooked portion of a double thickness of material, and an eye in said hook formed by the bend in the material.

4. A hook constructed from flat stock, said stock being doubled upon itself forming a double thickness of material at its hooked portion, ribs drawn up around the eye of said hook, said eye being formed by bending the material upon itself.

5. A hook constructed from flat stock, said stock being doubled upon itself forming a hooked portion of double thickness, ribs or flanges on said hooked portion forming a saddle on which to take the strain, an eye in said hook formed by the bend in the material.

6. A hook constructed from flat stock, said stock being doubled upon itself forming a hooked portion of double thickness, ribs or flanges on said hooked portion forming a saddle on which to take the strain, an eye in said hook, strengthening-ribs drawn up around said eye, said eye being formed by the bend in doubling the material upon itself.

7. A hook constructed from flat stock, said stock being doubled upon itself forming a double thickness of material at its hooked portion, means for holding said two thicknesses together, ribs drawn up around the eye of said hook, said eye being formed by the bend in doubling the material upon itself.

8. A hook constructed from flat stock, said stock being doubled upon itself forming a hooked portion of double thickness, ribs or flanges on said hooked portion forming a saddle on which to take the strain, means for securing said two thicknesses together, an eye in said hook, strengthening-ribs drawn around said eye, said eye being formed by the bend in doubling the material upon itself.

In testimony whereof I have hereunto set my hand this 12th day of November, A. D. 1903.

MATTHEW M. HOWLAND.

In presence of—

HOWARD E. BARLOW,
FRANK A. FOSTER.