

966,706.

Fig. 1.

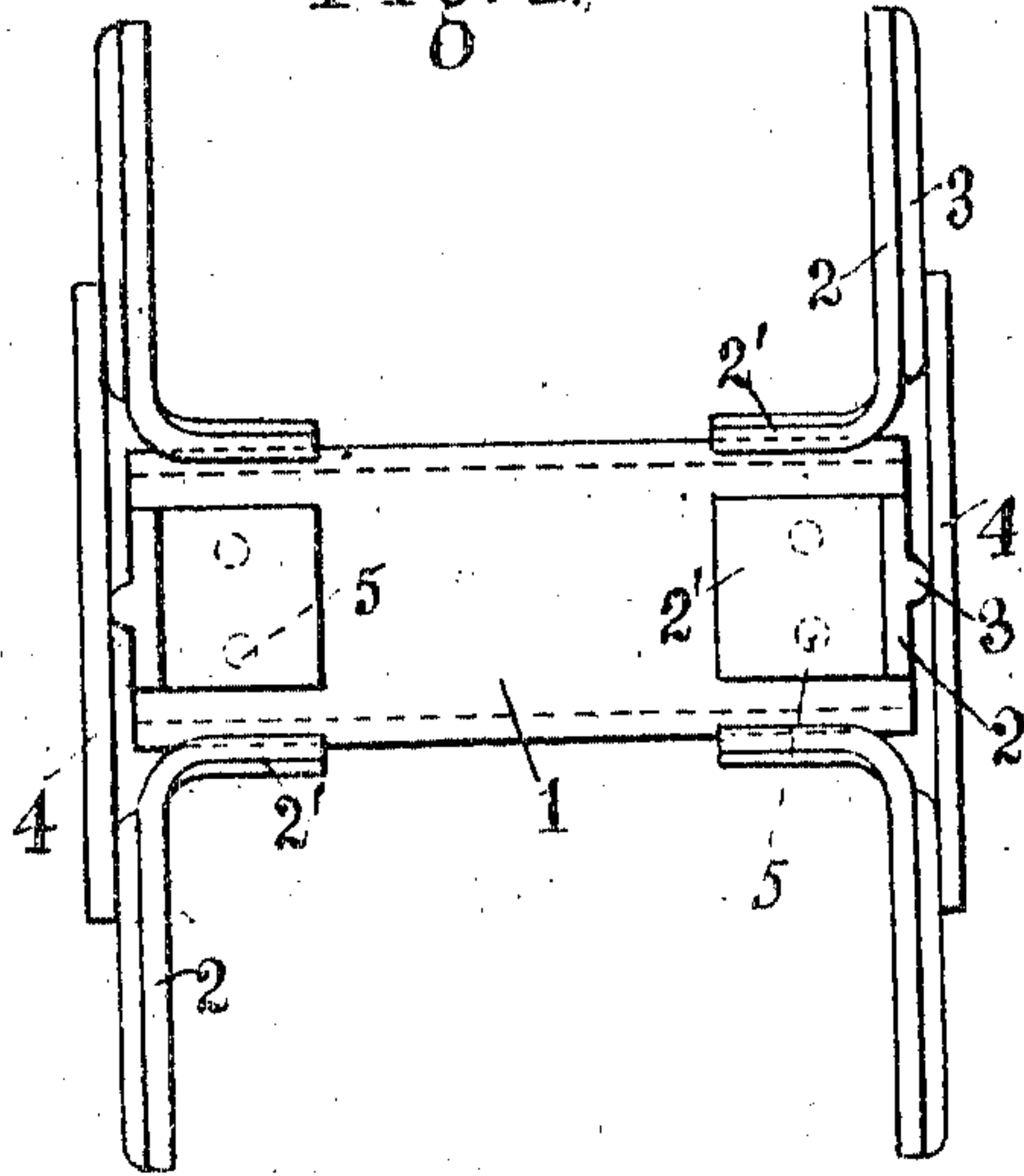


Fig. 5.

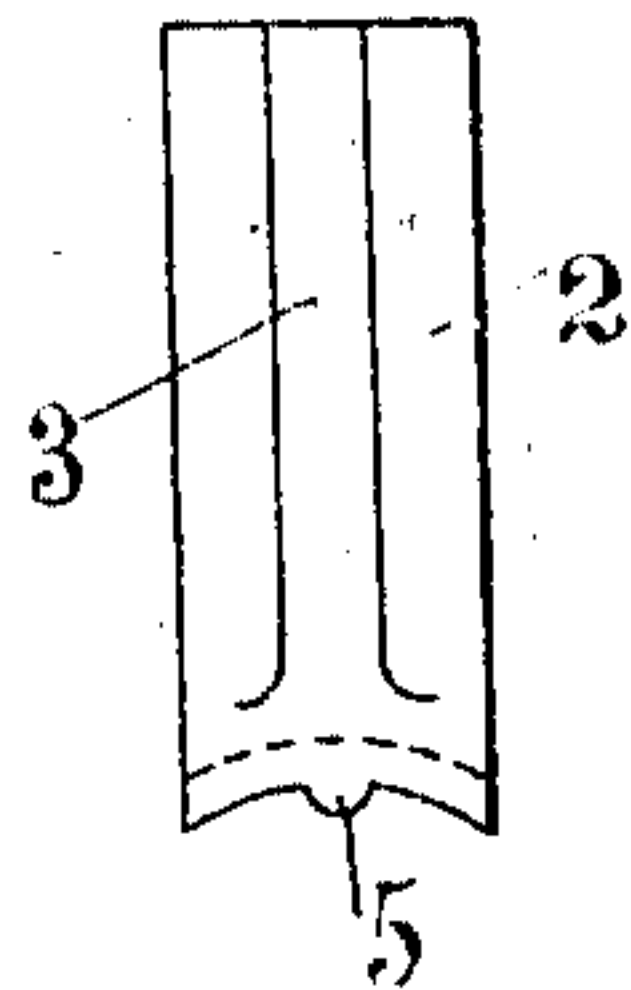


Fig. 3.

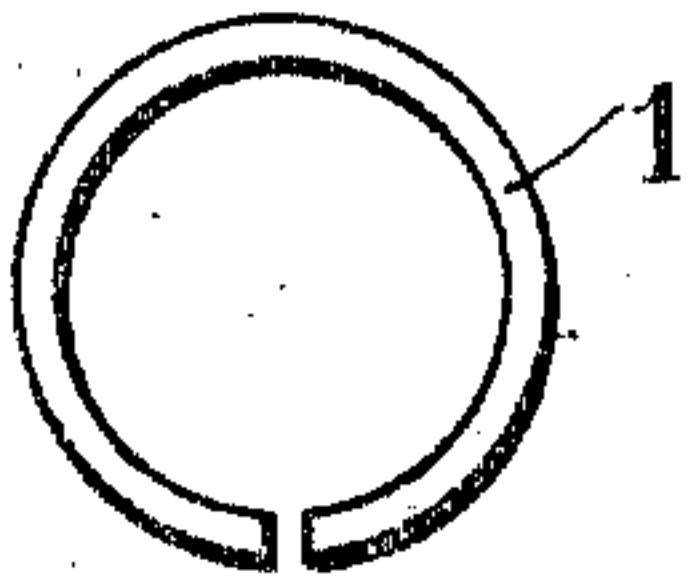


Fig. 4.

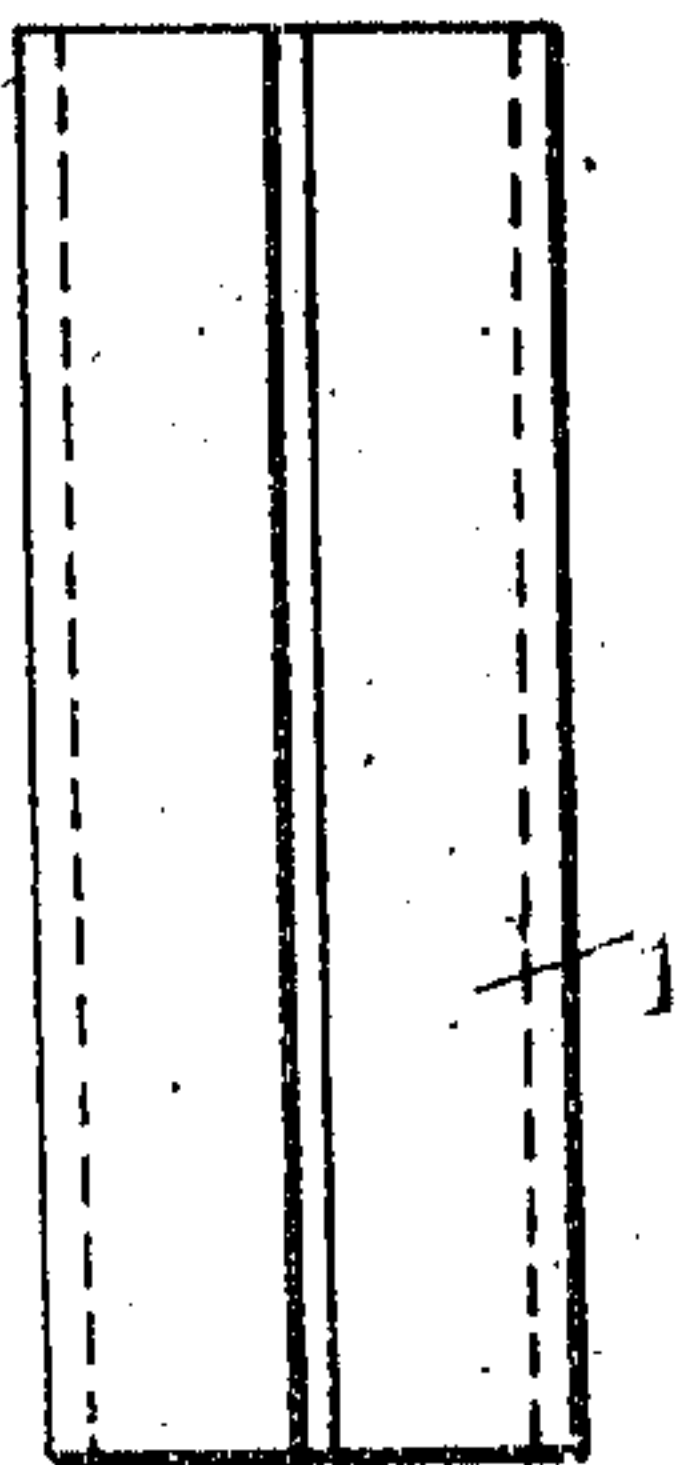


Fig. 2.

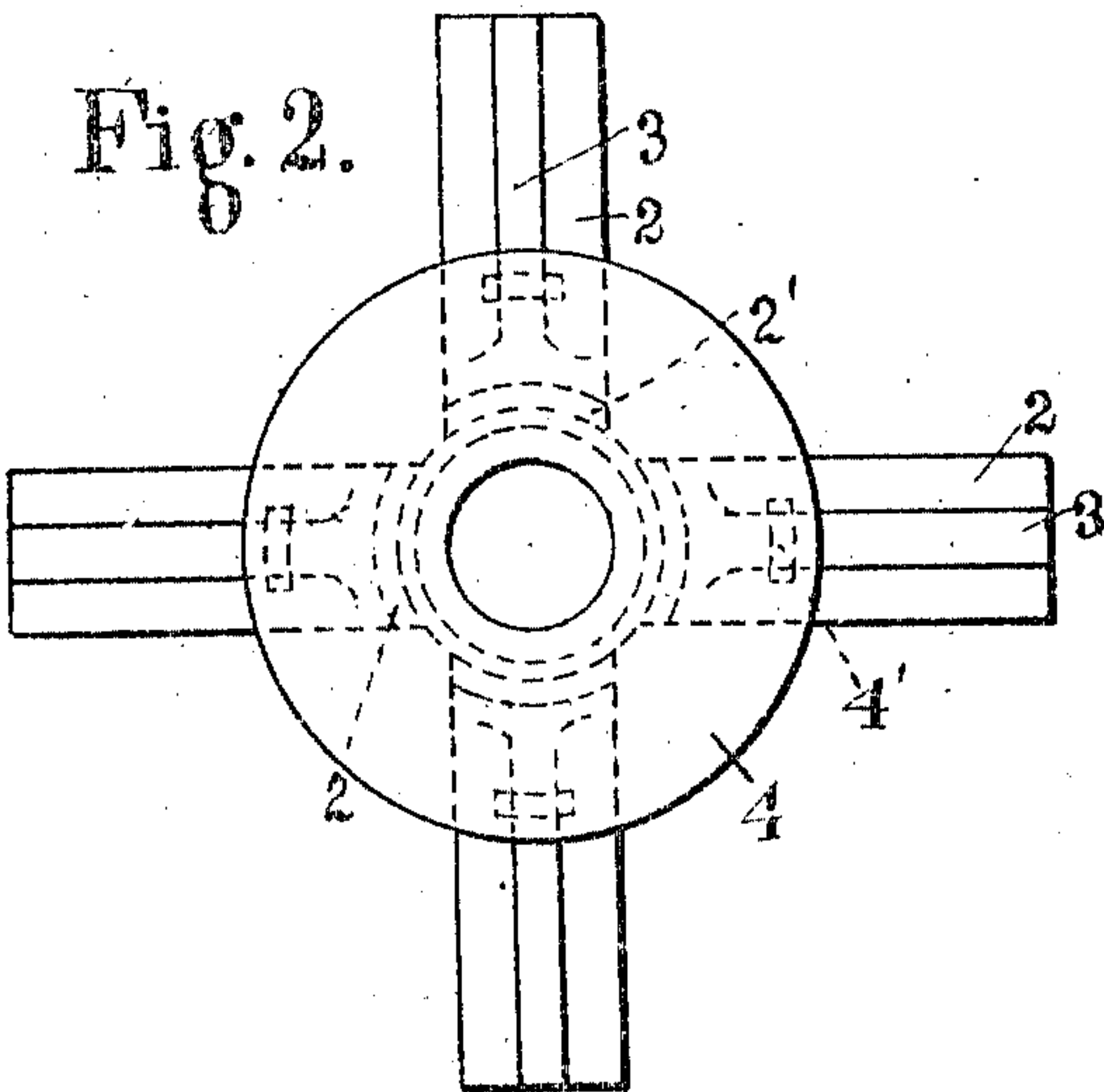


Fig. 6.

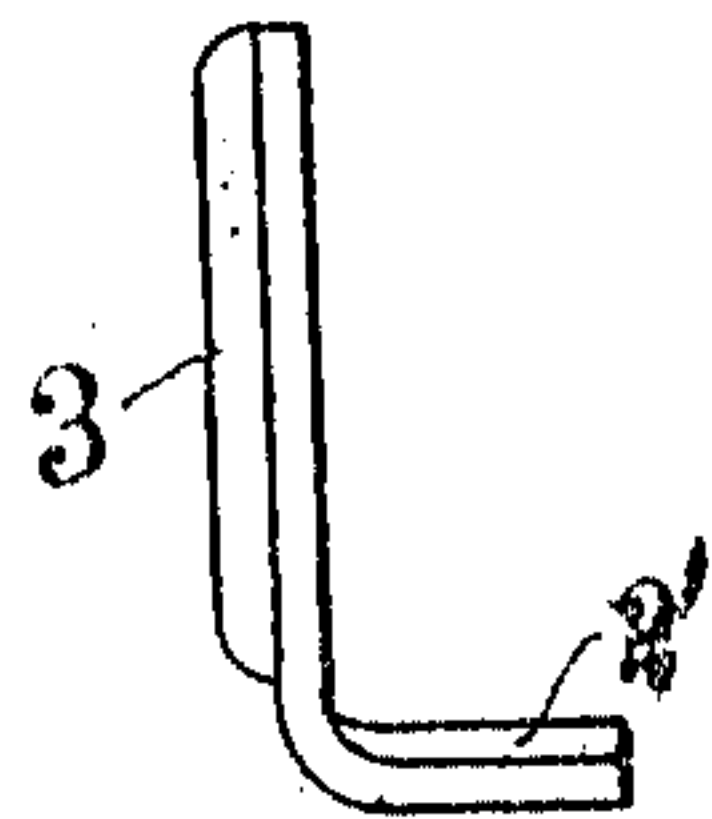


Fig. 7.

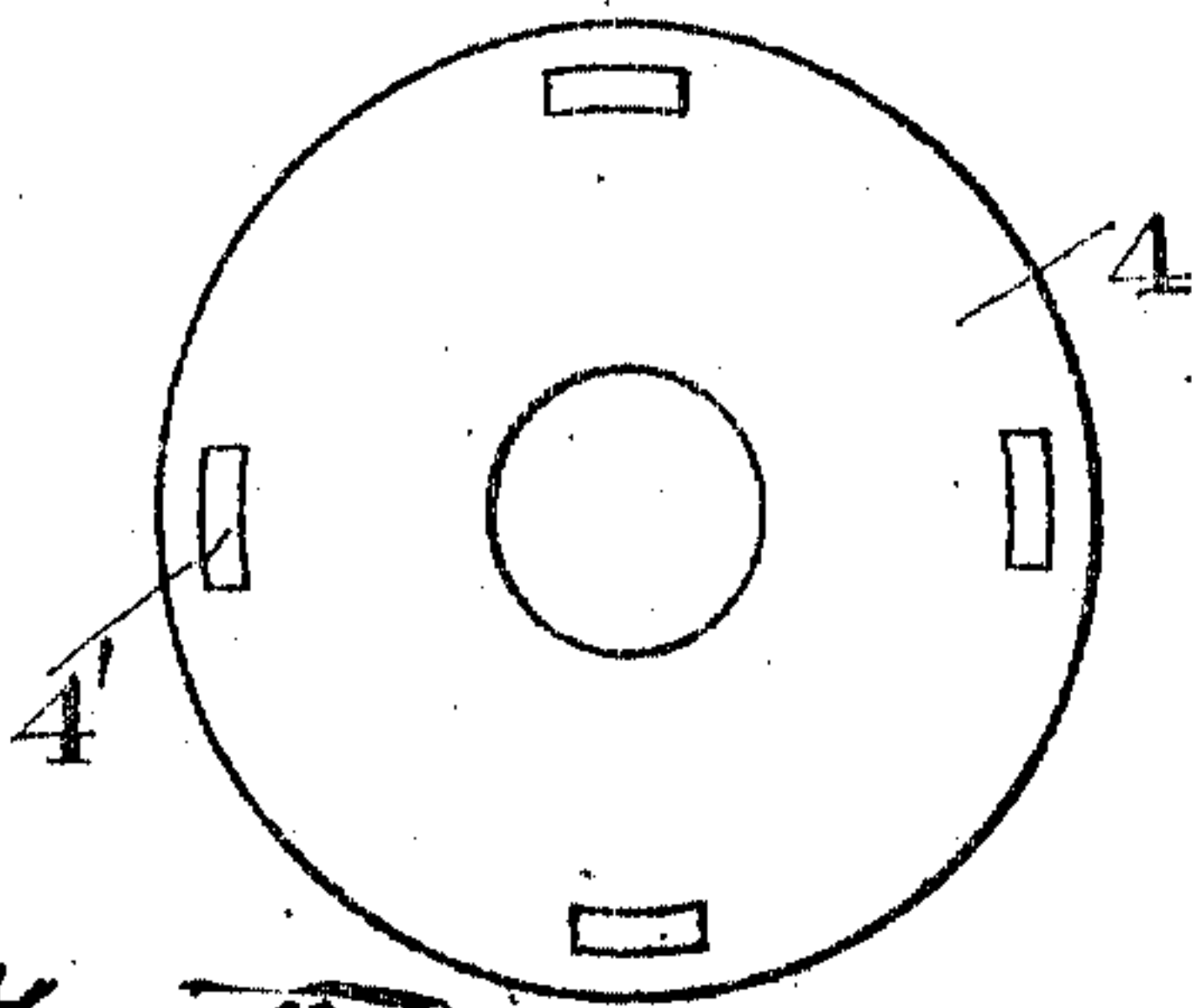


Fig. 8.



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Patented Aug. 9, 1910.

2 SHEETS—SHEET 2.

Fig. 9.

Fig. 13. Fig. 14.

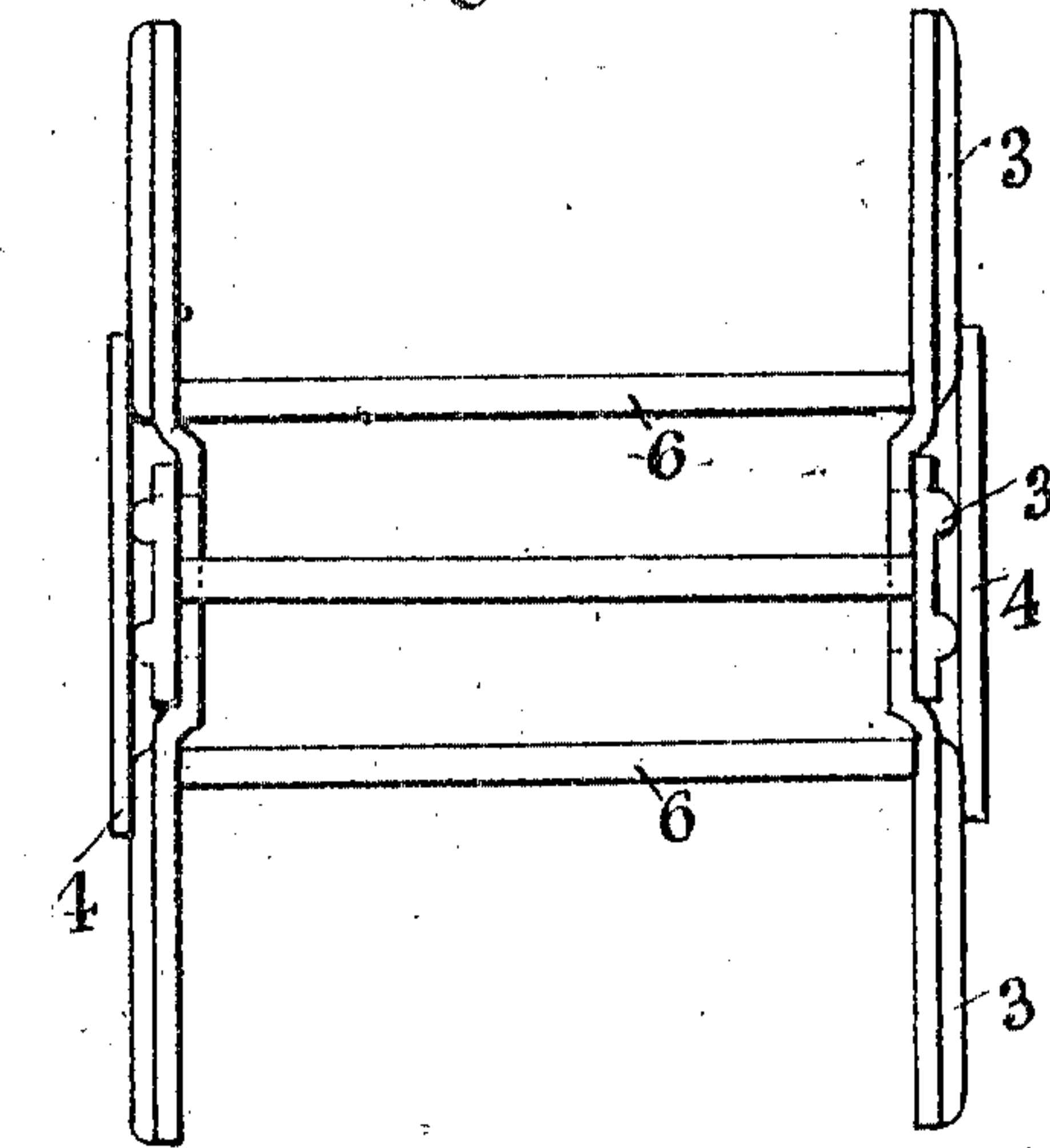
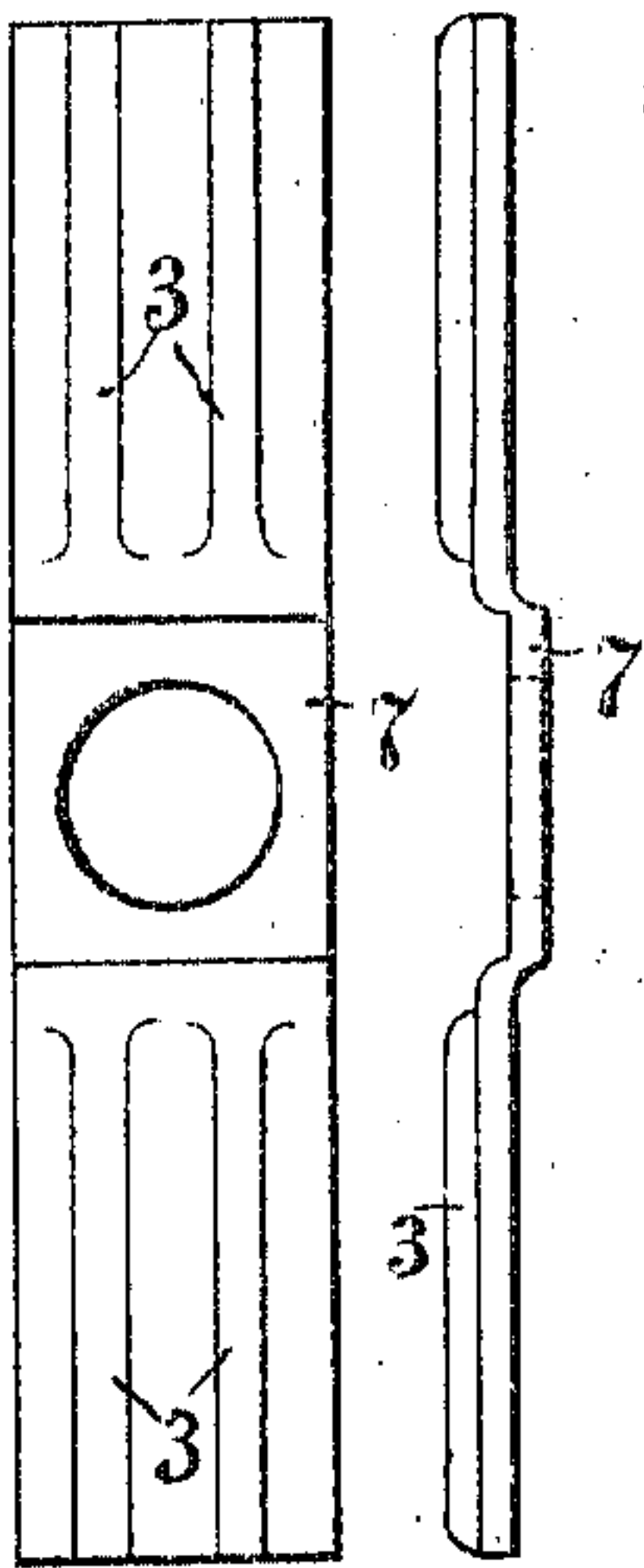


Fig. 11 Fig. 12.

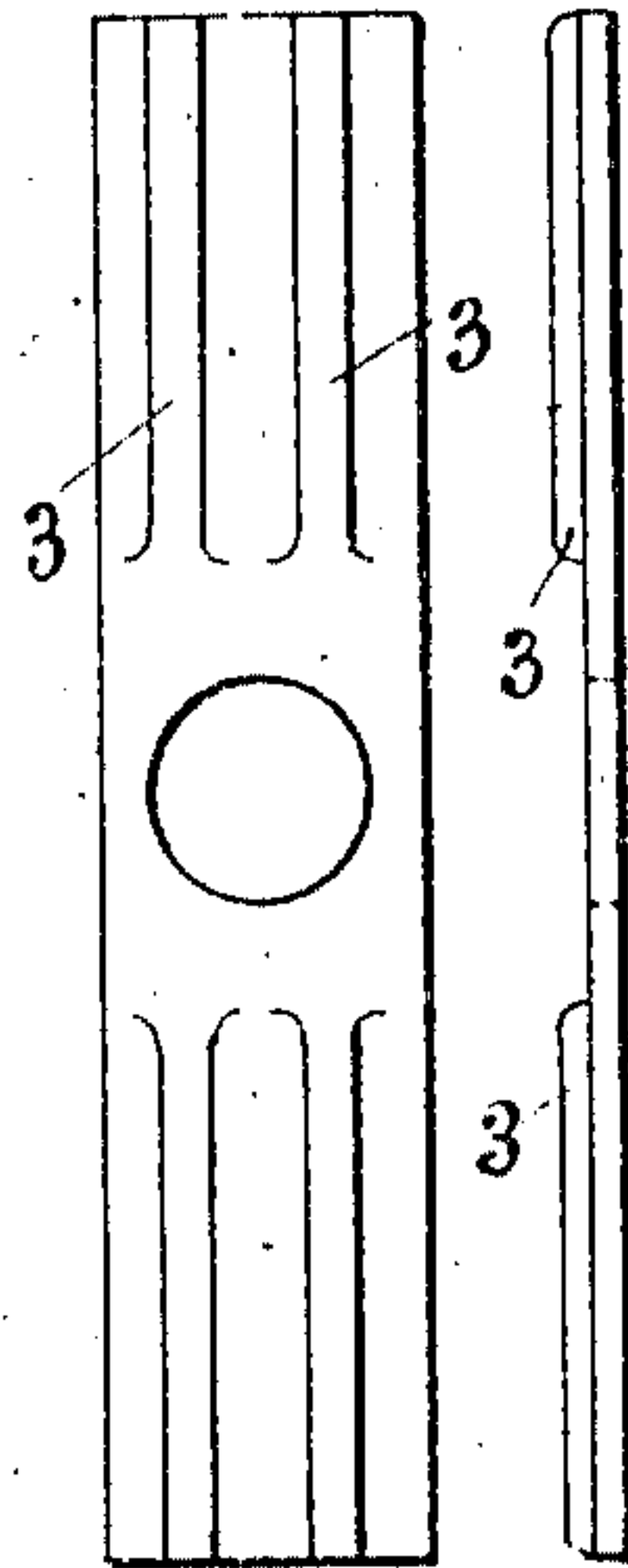


Fig. 10.

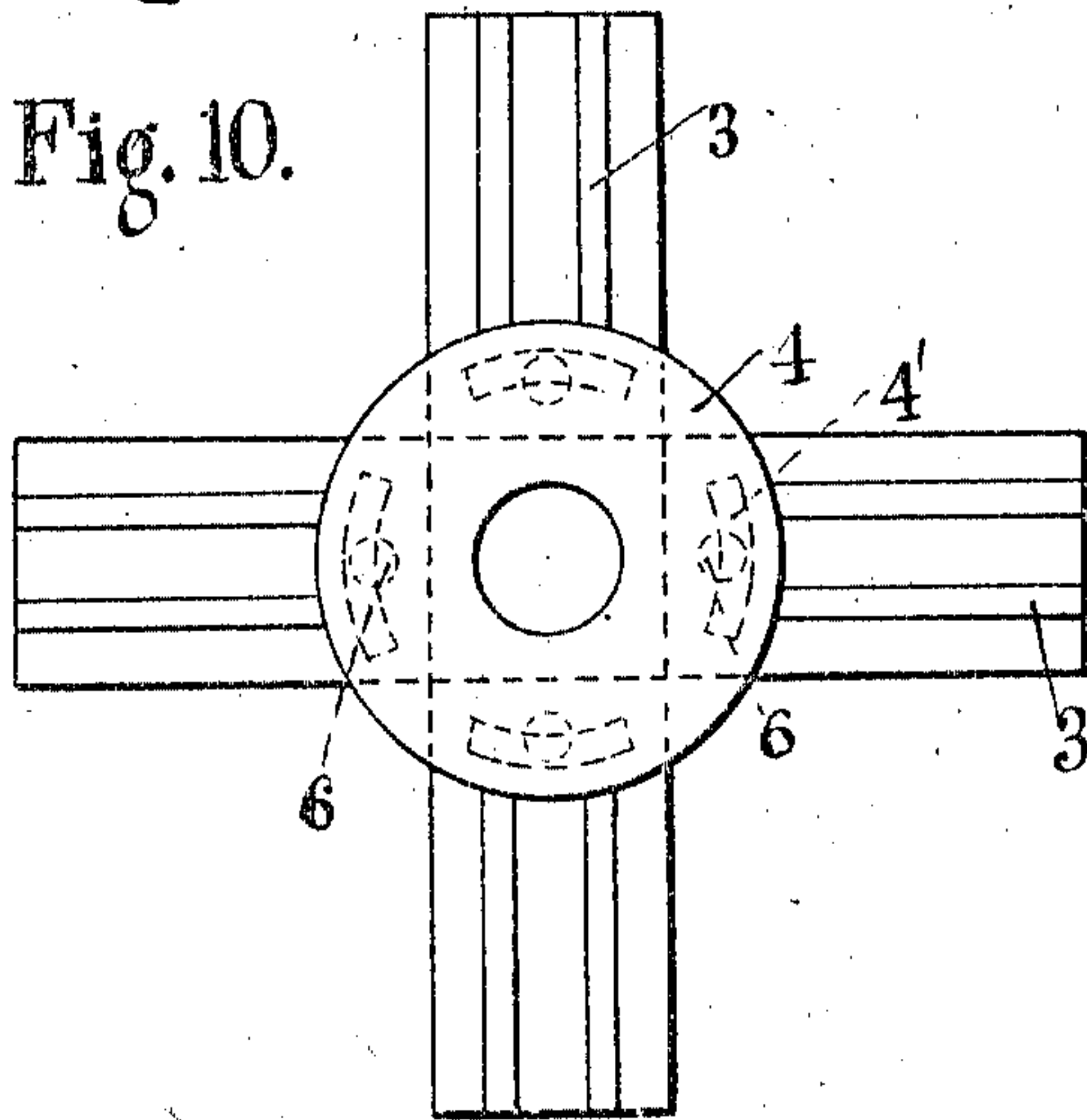


Fig. 15.

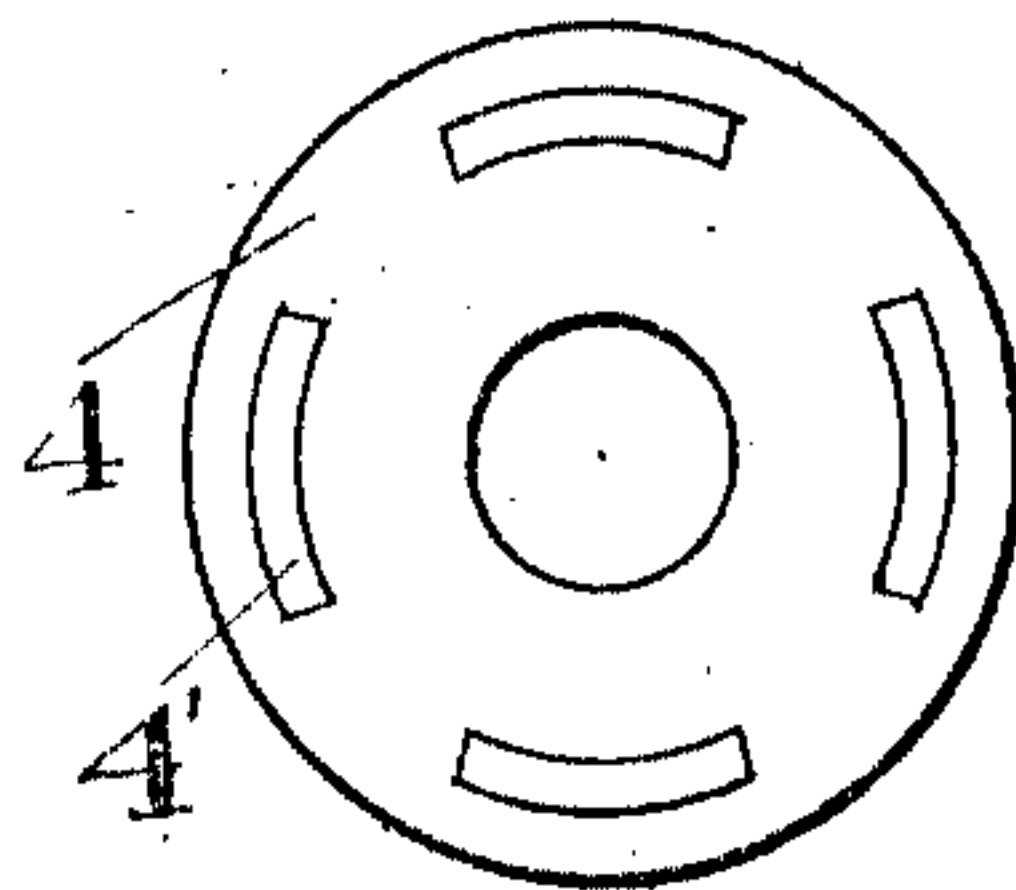
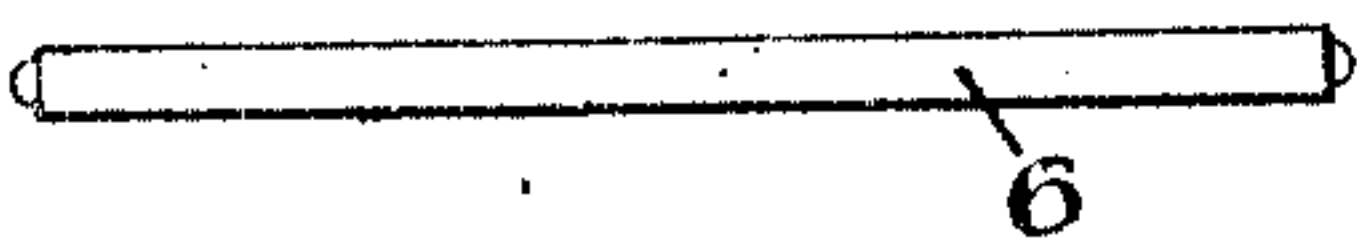
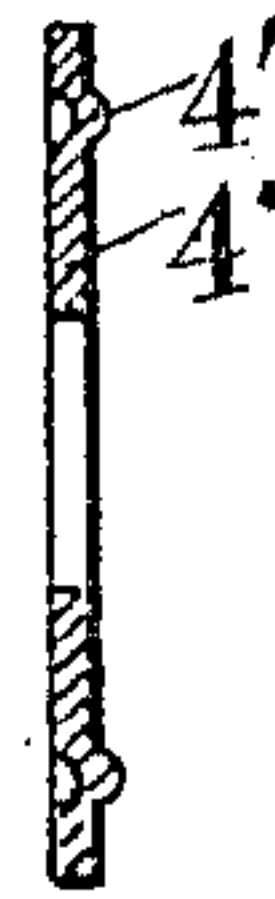


Fig. 16.

Fig. 17.



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UNITED STATES PATENT OFFICE.

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REEL.

966,706.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed June 11, 1909. Serial No. 501,505.

To all whom it may concern:

Be it known that I, ADOLPH F. RIETZEL, a citizen of the United States, and a resident of Westerly, in the county of Washington and State of Rhode Island, have invented certain new and useful Improvements in Reels, of which the following is a specification.

My invention relates to the construction of reels made entirely of metal.

The object of my invention is to afford a metal reel suitable for holding and shipping barbed or other wire and so constructed that it shall not only be stronger, cheaper and lighter than the skeleton wooden reels heretofore customarily employed for such purpose but shall be also indestructible by fire or rough handling and not liable to collapse when heavily loaded.

A further object of the invention is to provide reels of such construction that when made of the same style and pattern they will be of uniform weight instead of varying greatly in weight as do the wooden reels employed for supporting and shipping barbed or other wire.

A further object of the invention is to construct the reel in a way to utilize the process of electric welding in the manufacture thereof, thereupon cheapening the production as well as affording a reel which will be strong and rigid although made up of a number of pieces or parts.

To these ends my invention consists in the novel construction of metal reel hereinafter more particularly described and then specified in the claims.

In the accompanying drawings, Figure 1 is a plan of a completed reel constructed in accordance with my invention. Fig. 2 is an end elevation thereof. Fig. 3 is an end view and Fig. 4 a plan of the metal tube forming the body or drum of the reel. Fig. 5 is an elevation of the metal plate constituting an arm of the reel and Fig. 6 is an edge view thereof. Fig. 7 is a plan and Fig. 8 a cross-section through a strengthening plate or flange that may be employed for strengthening the skeleton reel made by the union of the parts shown in Figs. 3, 4, 5 and 6. Fig. 9 is a plan of a modified form of reel embodying my invention. Fig. 10 is an end elevation of the same. Fig. 11 is a plan and Fig. 12 an edge view of a metal plate or strip used for the arm of the reel. Fig. 13

is a plan and Fig. 14 an edge view of another plate or strip modified in form at its center to receive the strip shown in Fig. 11 as a crossing strip. Fig. 15 shows one of the rods used in making the body or drum portion of the reel. Fig. 16 is a plan and Fig. 17 a cross-section through the strengthening plate or washer of the reel.

The drum or body of the reel might be made up as a continuous metal tube or might be made up of a number of bars or rods and it will be understood that my invention is not limited to one form or the other as either might be used without departing from the spirit of my invention as both ways are employed to form the tubular body portion.

Referring to Fig. 1, the body or drum of the reel shown at 1 consists of a sheet metal tube or other metal tube and may be constructed of a piece of sheet metal bent up to form as indicated in Figs. 3 and 4. The arms 2 of the reel consist also of metal strips or plates whose ends 2' are bent at right angles to the major portion forming the radially extending arm or wing and are shaped or curved as indicated in Figs. 5 and 6, to conform to the cylindrical or curved surface of the drum portion 1 so as to fit thereon. These strips or plates 2 are also preferably ribbed radially with one or more ribs indicated at 3, which ribs are useful not only for stiffening the arms but also afford the welding projections by which a strengthening plate or washer 4 may be welded to the end of the reel. The end portions of the strips are provided also with suitable welding projections indicated at 5, made in any desired way, as for instance by indenting the metal strip so as to form welding contacts or spots of limited area on the inner face of the bent portion 2' which shall engage the periphery of the tube and serve to localize the electric welding current passed from the strip to the tube or body 1 and thereby localize the electric heating in the electric welding operation of welding the strip to the tube. Any number of such welding projections may be provided on either of the parts to be joined, as well understood in the art, and the localization of the heating and of the pressure at the spots where the welding is to be effected may be produced in any other way, without departing from my invention. In this process of welding the arms to the drum by the electric

welding process, suitable conducting electrodes adapted to support the parts supply current thereto and apply pressure in the required direction for welding after plasticity has been reached are employed, as will be well understood by those versed in the electric metal working art.

To strengthen the reel it is preferable to apply the end plates, flanges or washers 4 which may consist of plates welded directly to the arms 2. These plates 4 are furnished preferably with the welding projections 4' made in any way, as for instance by indenting the metal plate 4 and are located in position so that when applied to the end of the skeleton reel they will engage upon the arms 2 and preferably upon the ribs 3 with which the latter are furnished. When the ribs 3 and projections 4' are curved it is obvious that they will engage at their crossing point by a mere contact point or spot affording an effective means of localizing the electric heating of the parts in the electric welding operation of uniting the arms and plate. The union of these parts by these welding projections used in the electric welding process is also effected in the way ordinarily employed, as for instance by means of electrodes of suitable shape between which the parts are inserted in properly assembled position and by which the heating current and pressure are applied.

In the modification of my invention shown in Fig. 9 and following, the arms or strips of metal 2 are provided with two ribs 3 and the body or drum portion of the reel, instead of being made as a metal tube, is composed of bars or rods 6 end-welded between the arms 2 at points intermediate the ribs 3. Said rods 6 are provided with points or projections on their ends of small area to localize the electric heating on the surface of the strips 2, as is usual in the end-welding of a rod to a flat surface, as is well understood in the electric welding art.

The strips 2 are preferably of such length that each forms at its ends two diametrically opposite arms of the reel and they are arranged in the reel to cross or intersect one another at or near the center of the completed reel. One of said strips is provided with a depressed center 7 to receive the other at the crossing point and so as to bring the arms into substantially the same plane, thereby facilitating the welding of the strengthening flange or washer 4 to said arms. The plate 4 is provided, as before described, with the welding projections 4' which however are in this case of sufficient length circumferentially to lie upon both of the ribs of the plates 2 so that there shall be a welding of the plate 4 and the strips or plates 2 at two points or spots on each arm. This welding of the plate 4 to the strips is effected in

the way ordinarily used in the electric welding art and results in the firm union of them by the welding projections afforded by the projections 4' and the ribs 3. This welding of the arms and plate is preferably effected after the rods have been welded in place between the arms.

I do not limit myself to any particular method of electrically welding the arms and plate together at spots in their opposed or meeting surfaces but prefer to employ projections as described for locating the spots of union and localizing the electric heating and welding pressure.

Obviously further, it would be within my invention to provide welding projections of other forms and differently disposed upon the portions of the reel which are welded together.

What I claim as my invention is:

1. A metal reel comprising a body or drum, radially projecting arms provided with ribs and welded to said drum, and a strengthening washer welded to said arms by the ribs. 85
2. A metal reel comprising a body or drum, reel arms or wings welded to said drum and provided with radial ribs and a strengthening washer welded to said arms by said ribs. 90
3. In a metal reel, reel arms or wings consisting of ribbed metal strips, a reel body or drum comprising rods welded by their ends to the inner faces of said strips and strengthening plates or washers welded to the outer faces of said strips. 95
4. In a metal reel, reel arms or wings consisting of ribbed metal strips, a reel body or drum comprising rods welded by their ends to the inner faces of said strips and strengthening plates or washers united by welding projections to the outer faces of said strips. 100
5. In a metal reel, ribbed reel arms combined with rods or bars end-welded to the inner faces of said arms and strengthening plates or washers welded by their faces to said ribs. 105
6. In a metal reel, a metal body portion combined with ribbed wings or arms welded to the body portion and a strengthening plate or washer united to the arms by welding projections afforded by the ribs. 110
7. A metal reel consisting of metal strips forming the arms of the reel and provided with radial ribs, rods end-welded to the inner faces of the strips between ribs and end plates welded to said ribs. 115

Signed at New York in the county of New York and State of New York this 12th day of May A. D. 1909.

ADOLPH F. RIETZEL.

Witnesses:

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EDWARD M. JELLINEK.