

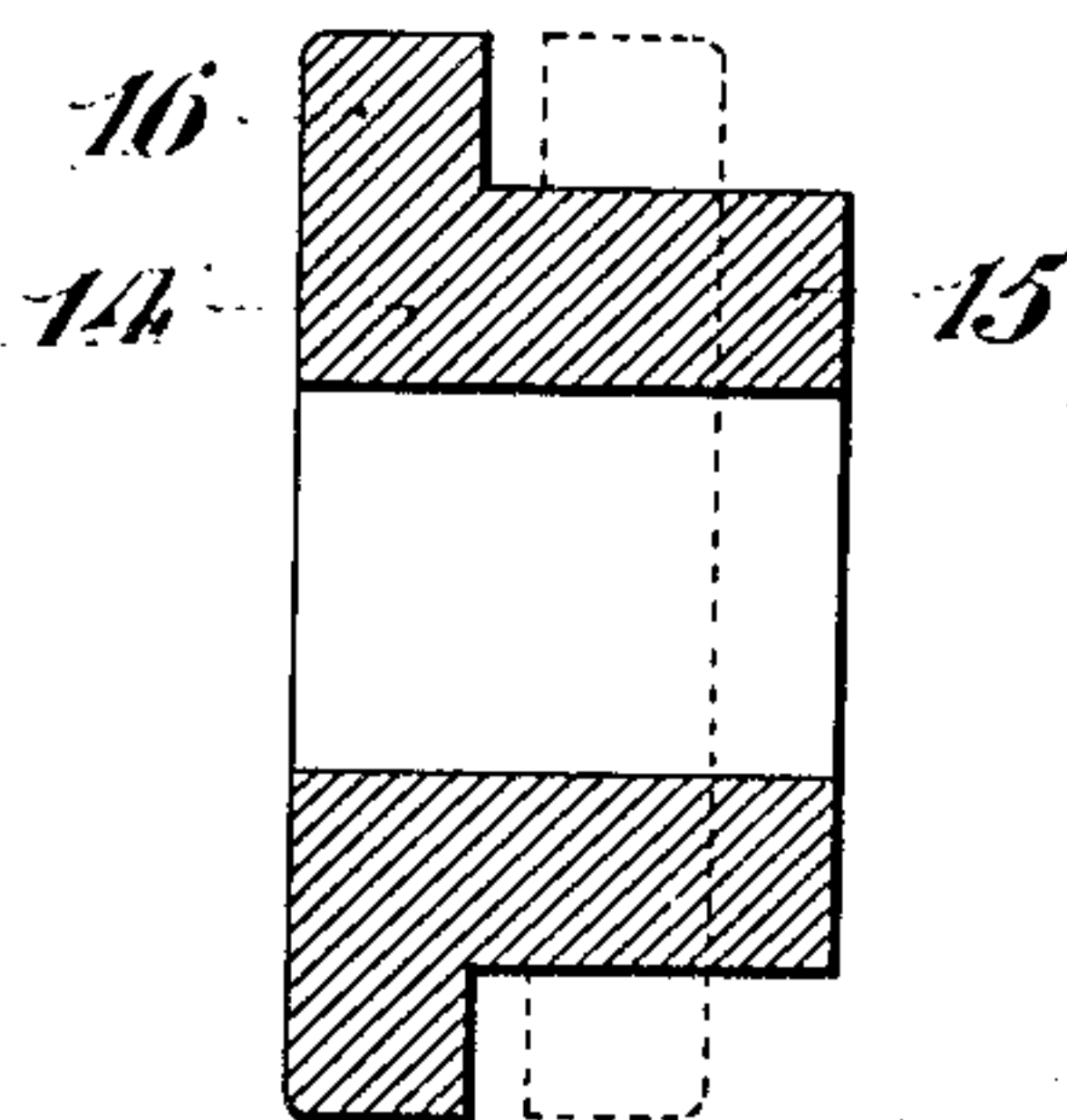
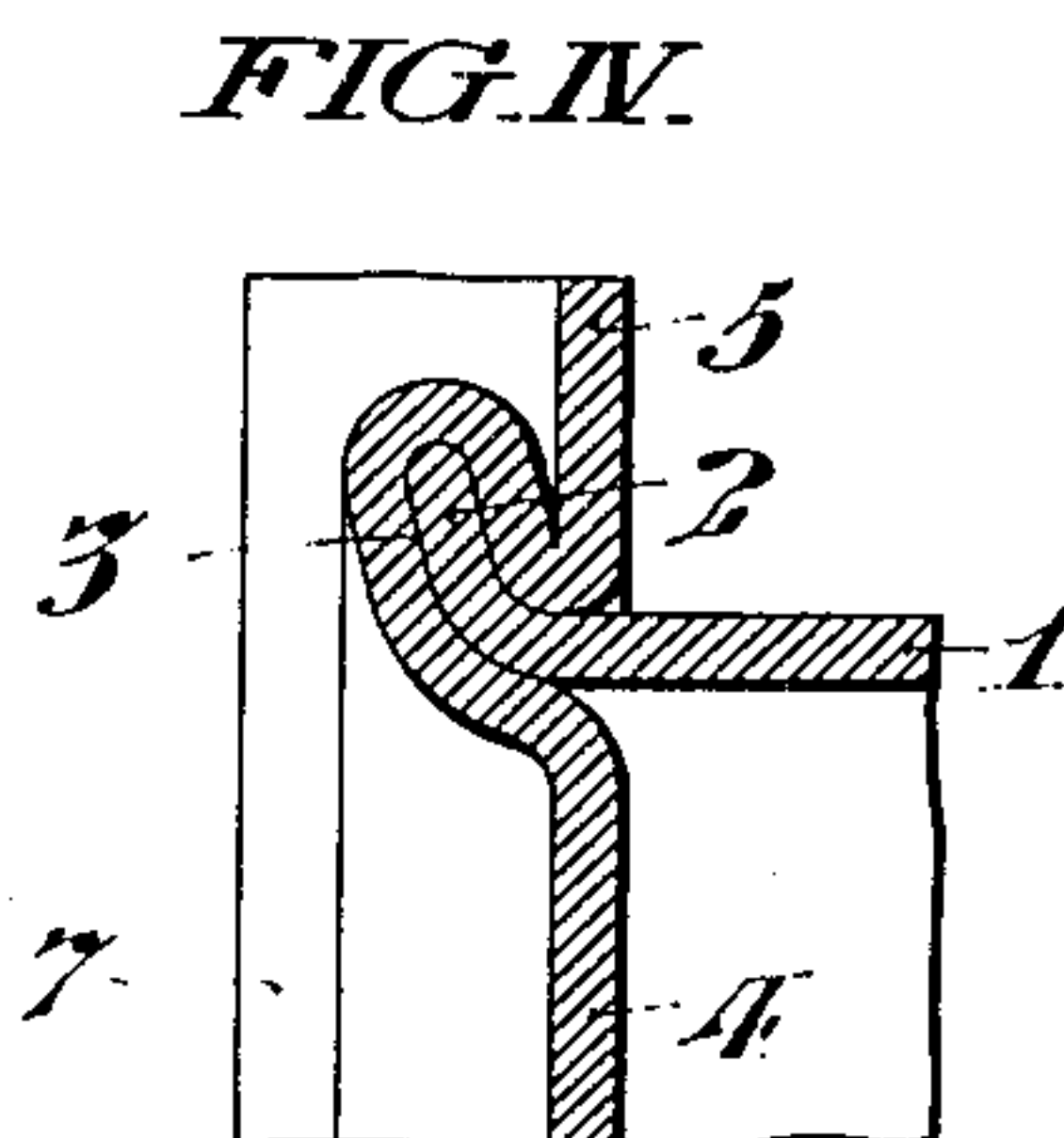
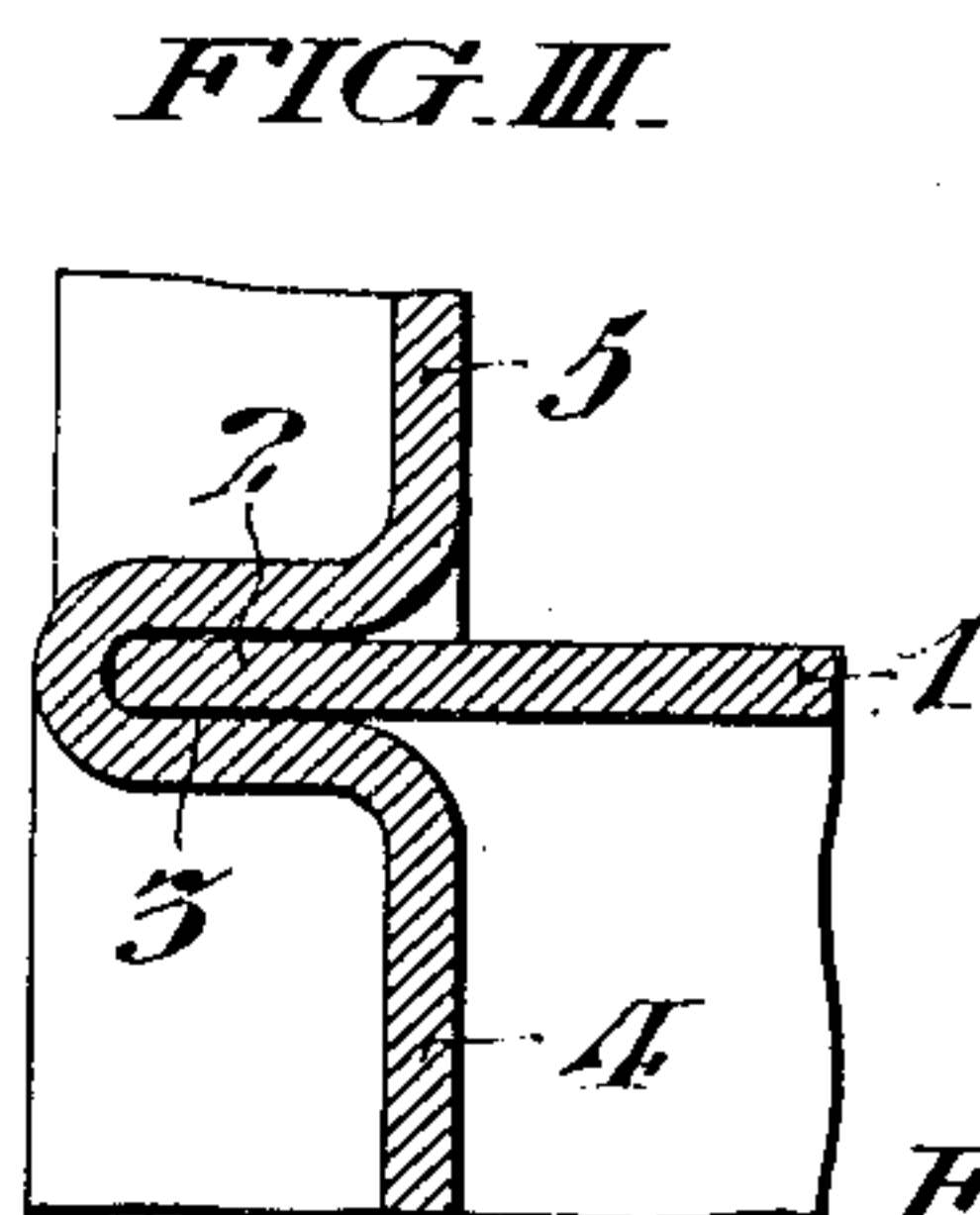
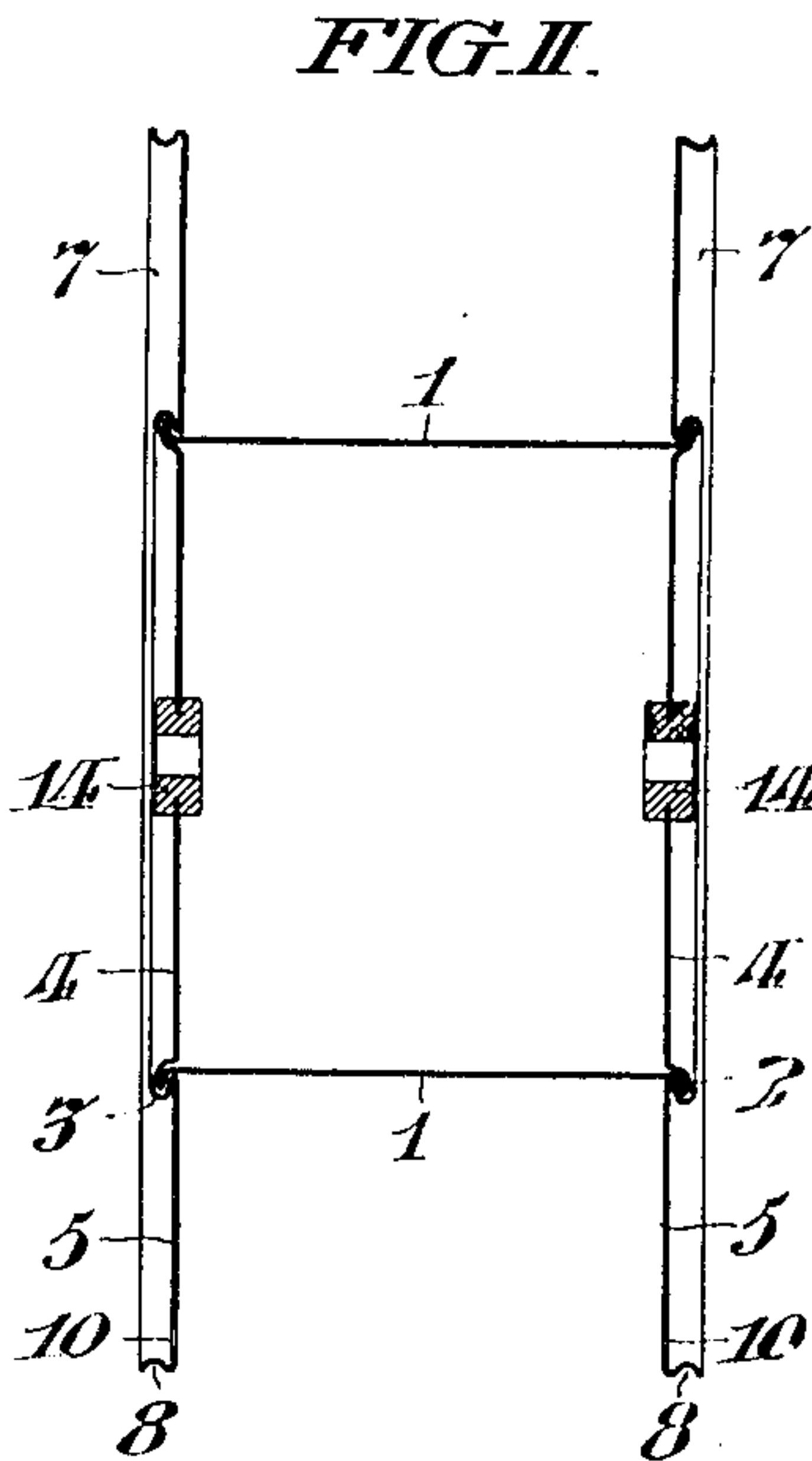
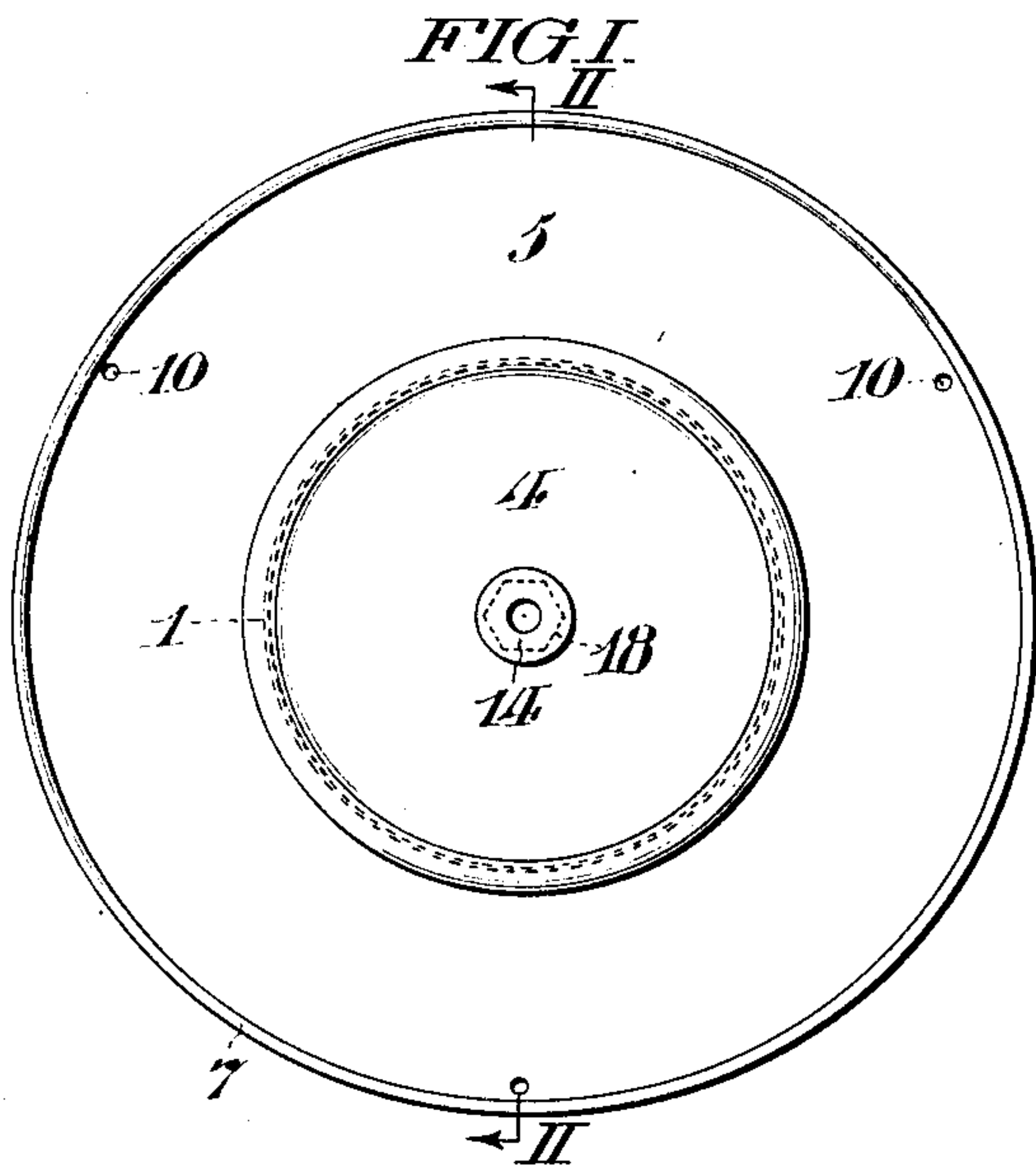
No. 860,521.

PATENTED JULY 16, 1907.

C. A. BRINLEY & A. W. MORRIS.

REEL.

APPLICATION FILED JAN. 9, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES A. BRINLEY, OF PHILADELPHIA, PENNSYLVANIA, AND ALBERT WOOD MORRIS, OF CAMDEN, NEW JERSEY, ASSIGNORS TO THE AMERICAN PULLEY COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

REEL.

No. 860,521.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed January 9, 1906. Serial No. 295,243.

To all whom it may concern:

Be it known that we, CHARLES A. BRINLEY, of Philadelphia, in the State of Pennsylvania, and ALBERT WOOD MORRIS, of Camden, in the State of New Jersey, have invented certain new and useful Improvements in Reels, whereof the following is a specification, reference being had to the accompanying drawings.

Our improvements may be advantageously employed in reels adapted to support rubber hose or rubber covered electric conductors during the process of vulcanizing the same. As heretofore constructed, such reels have comprised drums provided with separate end flanges projecting radially beyond the circumference of the drum to retain the hose or conductor wound thereon, and secured to the drum solely by rivets, bolts or similar separate attaching means. Such construction is objectionable for the reason that reels employed as aforesaid, are subjected to great changes in temperature and rough usage, with the effect of loosening such attaching means and requiring frequent repairs.

Therefore, it is an object of our invention to provide a more durable reel adapted for the purpose aforesaid, comprising a drum and flanges which are permanently connected without the employment of rivets, bolts or other separate attaching means.

However, it is to be understood that our improvements may be embodied in reels or spools adapted for other purposes than that above contemplated.

As hereinafter described, our invention comprises a reel constructed of sheet metal, the body or drum portion of which is a hollow metal cylinder which is permanently connected with disk heads at its opposite ends, having flanges projecting radially beyond the circumference of said drum to retain the hose or conductor wound thereon; the connection between the drum and said heads being effected by first forming circular channels in said heads to receive the ends of the drum and then bending said channels aside from their original position with the ends of the drum inserted therein, so as to permanently hold the latter.

In the accompanying drawings, Figure I, is an end elevation of a reel conveniently embodying our improvements. Fig. II, is a sectional view of said reel, taken on the line II, II, in Fig. I. Fig. III, is a fragmentary sectional view, showing the initial form of the channel in the reel head and its initial relation to the end of the drum. Fig. IV, is a fragmentary sectional view similar to Fig. III, but showing the final form of the connection between the drum and the head, indicated in Fig. II. Fig. V, is a sectional view showing the initial form of one of the axial bearings indicated in Fig. II.

In said figures;—the reel comprises the central hollow cylindrical sheet metal drum 1, having its opposite ends

2, entered in channels 3, in the sheet metal disk heads 4. Said heads 4, comprise flanges 5, extending radially beyond the circumference of said drum to support the hose or conductor wound on the latter, and have rims 7, in unitary relation therewith comprising the circumferential grooves 8. Said rims 7, stiffen and reinforce said heads 4, so that the reel may be supported and rolled upon them without being deformed, and said grooves are adapted to receive a flexible band or bands by which the reel may be rotated to wind or unwind the hose or conductor with respect to the drum. We also find it convenient to provide said flanges 5, with holes 10, to facilitate the manipulation of the reel.

It is to be understood that the circular channels 3, are initially formed in the heads 4, with cylindrical sides extending parallel with the drum 1, so as to receive the ends 2, of the latter as shown in Fig. III, and then said channels are deflected outwardly to the position shown in Fig. IV, so as to permanently engage the ends of the drum therein. However, it is to be understood that said channels may be otherwise deflected, for instance, they may be turned inwardly instead of outwardly as shown, the only essential being that they may be changed from their original position so as to prevent the disengagement of the ends of the drum.

We find it convenient to provide the heads 4, with axial bearings 14, to receive a shaft upon which the reel may be rotated, and we prefer to secure said bearings in the heads without rivets, bolts or similar attaching means. In the form shown, said bearings are formed of metal bushings initially of the shape shown in Fig. V; each having a cylindrical body 15, and flange 16. Said bushings being inserted in the openings 18, in the heads 4, which are of polygonal configuration as indicated in Fig. I, are permanently secured therein by being pressed and deformed into the shape shown in Figs. I, and II, in which form they fill the polygonal openings 18, and are thus prevented from rotating in the same.

We do not desire to limit ourselves to the precise details of construction and arrangement herein described, as it is obvious that various modifications may be made therein, without departing from the essential features of our invention.

We claim:—

1. In a reel, the combination with two metal disks having circular channel recesses; of a hollow metal drum connecting said disks, having its ends embedded in said recesses and bent out of alignment with its body portion; and, axial bearings in said disks in concentric relation with said drum, each comprising a primarily separate metallic bushing having flanges in unitary relation, embracing the opposite sides of the respective disk, substantially as set forth.

2. In a reel, the combination with two metal disks having circular channel recesses; of a hollow metal drum connecting said disks, having its ends embedded in said re-

- cesses and bent out of alinement with its body portion; and, axial bearings in said disks in concentric relation with said drum, each comprising a primarily separate metallic bushing embracing the opposite sides of the respective disk; said bushings being of irregular circumferential configuration, fitted to corresponding irregular openings in said disks, preventing rotation of the bushing in the disk, substantially as set forth.
3. In a reel, the combination with a hollow metal drum; of sheet metal disks secured to the ends of said drum by direct engagement therewith; and, rim flanges on said disks in unitary relation therewith, comprising grooves, substantially as set forth.
4. In a reel, the combination with a hollow metal drum; of sheet metal disks at the opposite ends of said drum, respectively provided with rim flanges in unitary relation with said disks; said drum and disks being permanently connected by direct engagement of the ends of said drum in recesses in said disks, substantially as set forth.
5. In a reel, the combination with two metal disks having circular channel recesses comprising parallel walls extending obliquely with respect to the axis of the reel and plane flanges extending radially beyond said recesses; of a hollow metal drum connecting said disks, having its ends inclosed by said recesses, substantially as set forth.
6. In a reel, the combination with two metal disks having imperforate circular channel recesses and plane flanges extending radially beyond said recesses; of a hollow metal drum connecting said disks, having its ends bent out of alinement with its body portion and inclosed by said recesses, substantially as set forth.
7. In a reel, the combination with two metal disks having imperforate recesses and flanges extending radially beyond said recesses; of a hollow metal drum connecting said disks, having its ends engaged in and covered by said recesses, substantially as set forth.
8. In a reel, the combination with two metal disks having imperforate circular channel recesses and flanges extending radially beyond said recesses; of a hollow metal drum connecting said disks, having its ends engaged in and covered by said recesses, substantially as set forth.
9. In a reel, the combination with two metal disks having imperforate circular channel recesses and flanges extending radially beyond said recesses; of a hollow metal drum connecting said disks, having its ends engaged in and covered by said recesses; and, rim flanges on said disks in unitary relation therewith, substantially as set forth.
- In testimony whereof, we have hereunto signed our names, at Philadelphia in the State of Pennsylvania this sixth day of January 1906.
- CHARLES A. BRINLEY.
ALBERT WOOD MORRIS.
- Witnesses:
ARTHUR E. PAIGE,
CLIFTON C. HALLOWELL.