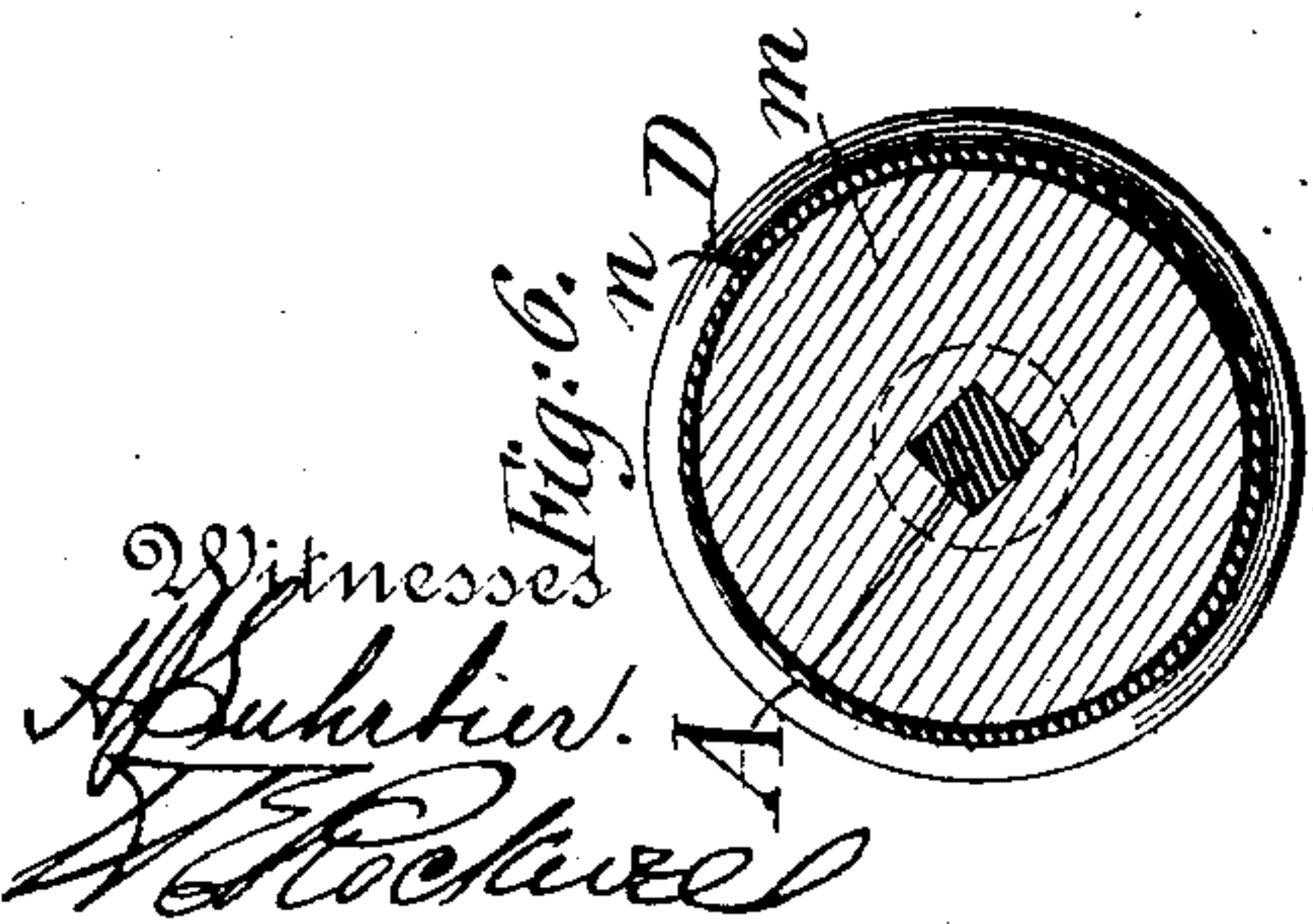
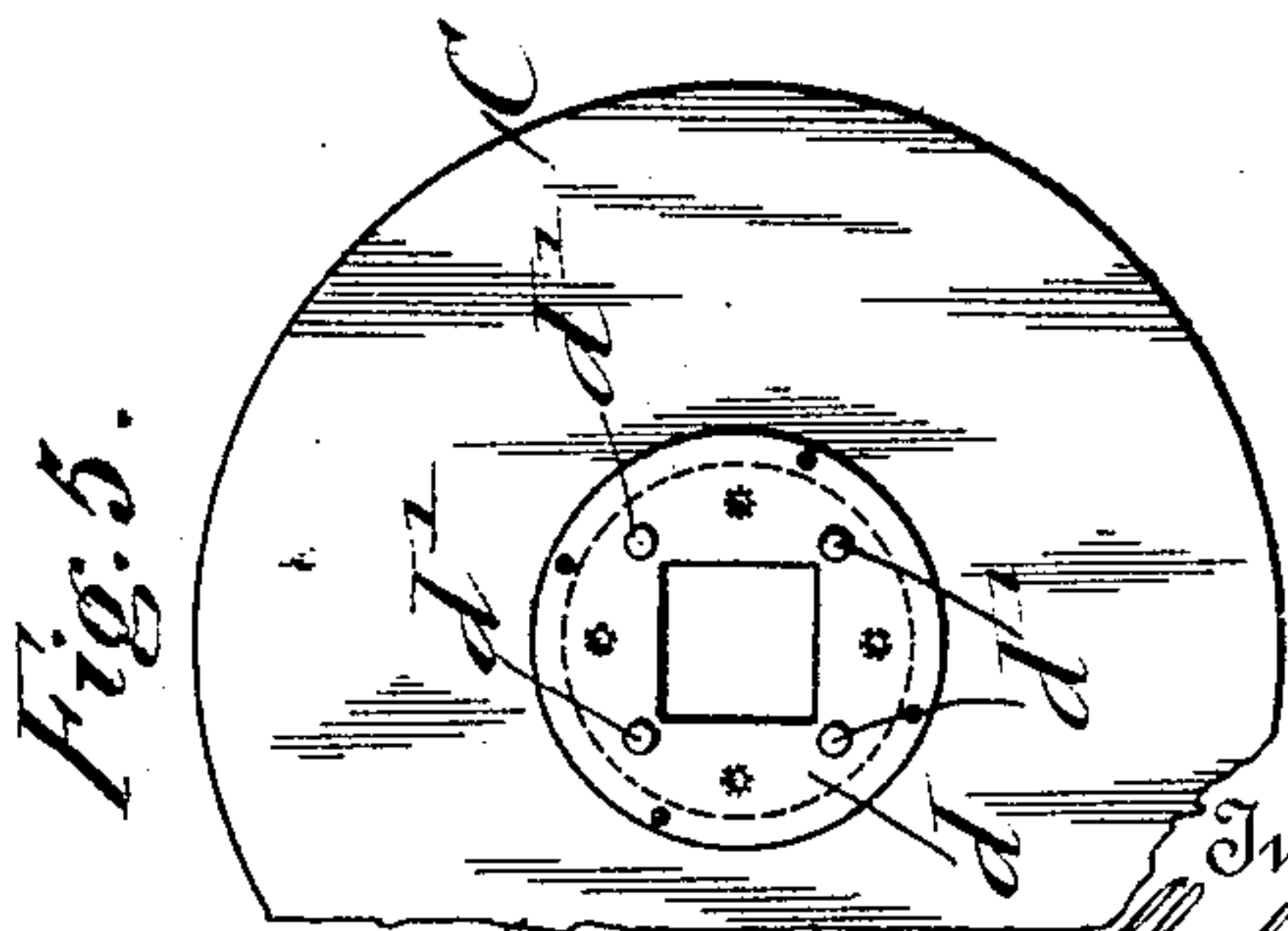
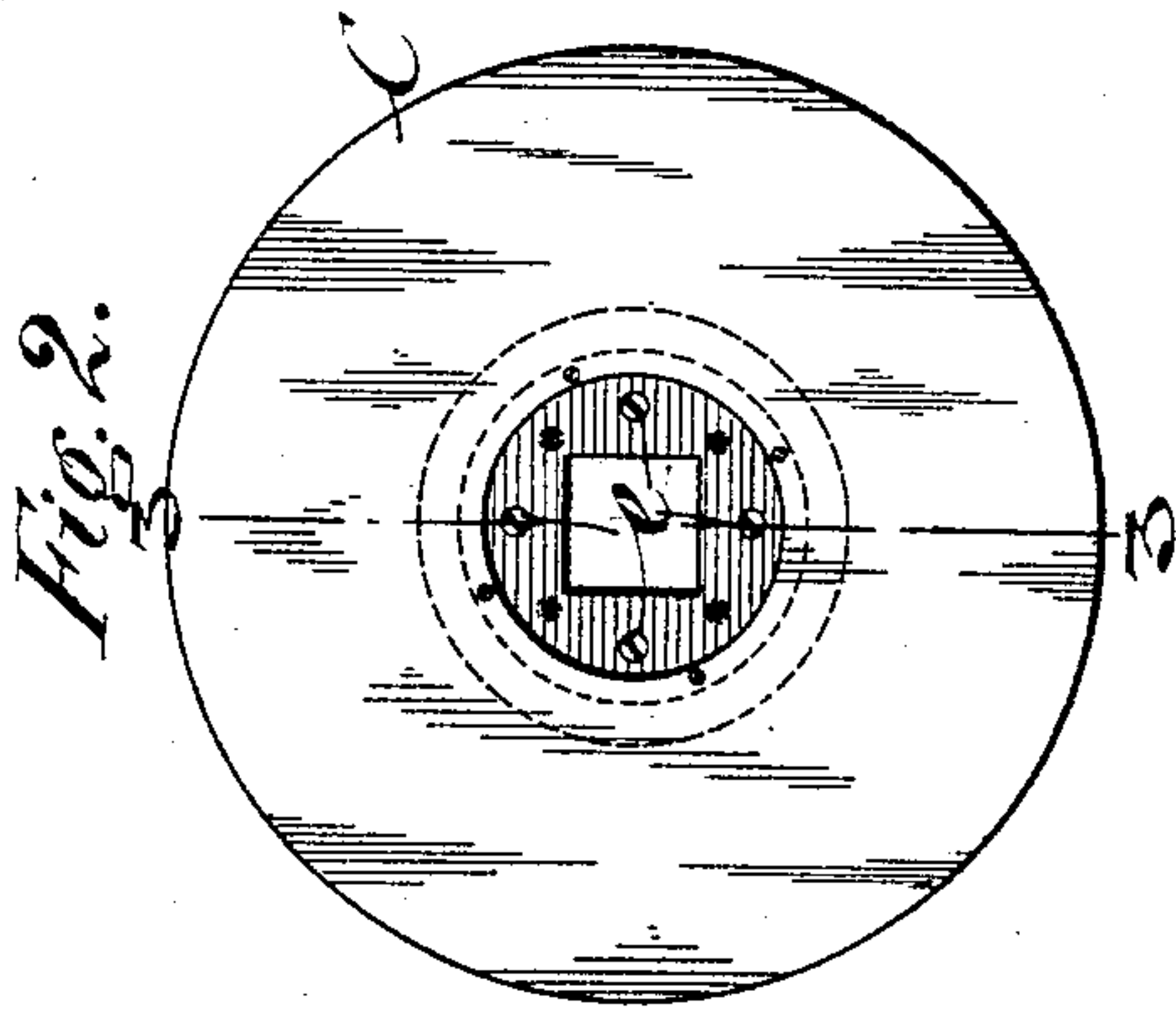
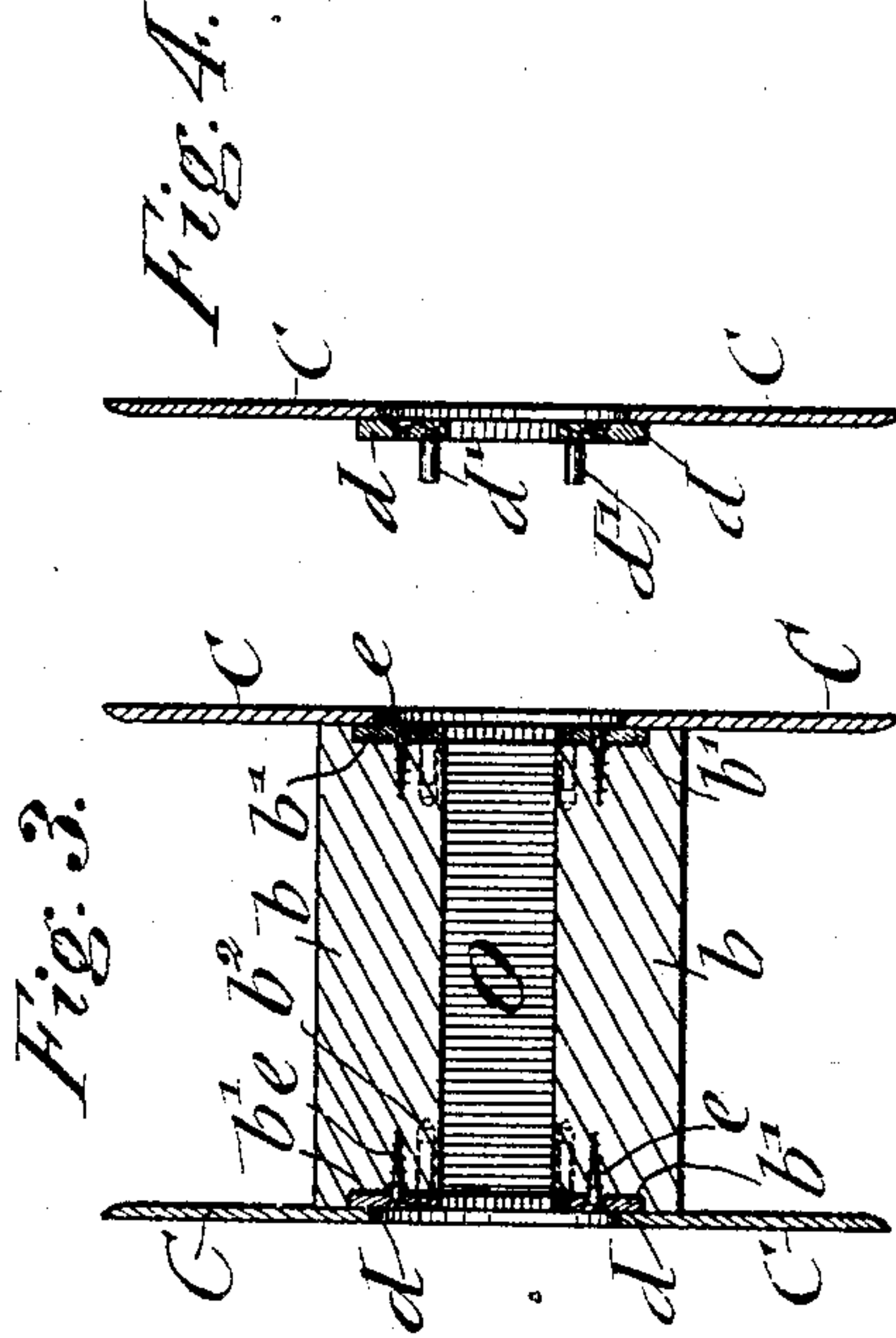
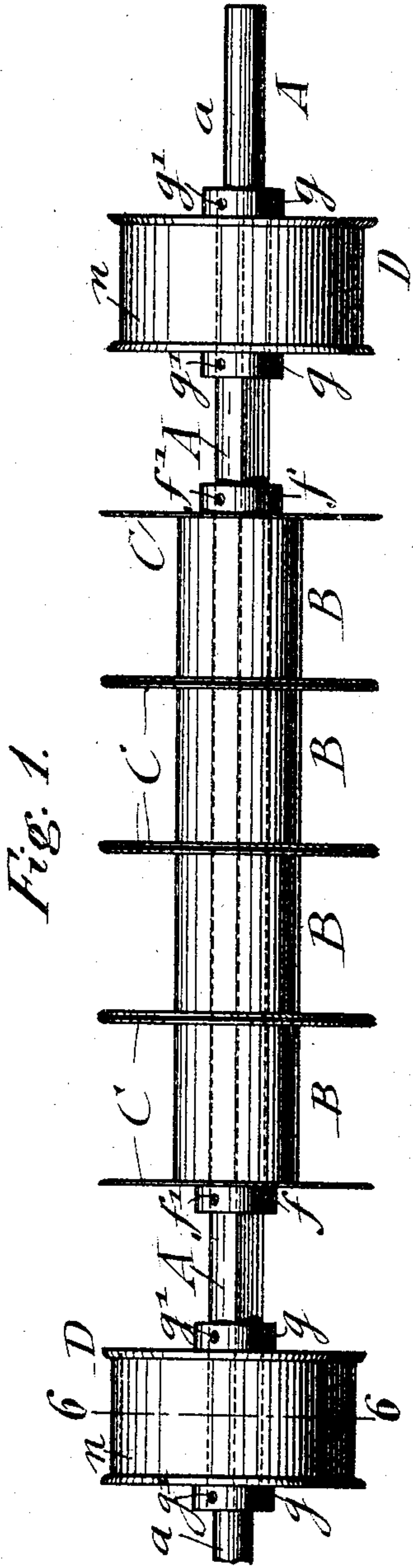


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C. TAUBERT.  
WARP BEAM.

APPLICATION FILED JUNE 18, 1904.



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# UNITED STATES PATENT OFFICE.

CHARLES TAUBERT, OF NEW YORK, N. Y.

## WARP-BEAM.

SPECIFICATION forming part of Letters Patent No. 782,709, dated February 14, 1905.

Application filed June 18, 1904. Serial No. 213,166.

*To all whom it may concern:*

Be it known that I, CHARLES TAUBERT, a citizen of the United States, residing in New York, borough of Queens, in the State of New York, have invented certain new and useful Improvements in Warp-Beams, of which the following is a specification.

This invention relates to warp-beams for looms, and more especially to warp-beams for making broad silk warps directly on the beam; and the invention consists of a warp-beam for looms comprising a shaft of square cross-section, beam-sections provided with square openings fitting on said shaft, each beam-section being provided at both ends with thin disk-shaped flanges having beveled circumferences and provided with central recesses in register with said square openings in the beam-sections, a shoulder on each of said flanges fitting in a recess in the adjacent beam-section, and pins on said shoulder fitting in suitable sockets in the adjacent beam-section, all of said beam-sections being held together by means of collars placed on the shaft.

The invention consists, further, of a warp-beam comprising a shaft provided with a number of detachable beam-sections and tension-rolls secured by collars to each end of said shaft, said tension-rolls being formed of a core covered by flanged metal rings; and the invention consists, lastly, of certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of my warp-beam for looms. Fig. 2 is a side elevation of one of the spools or beam-sections shown as detached from the supporting-shaft of the beam. Fig. 3 is a vertical central section on line 3 3, Fig. 2. Fig. 4 is a vertical transverse section of one of the disk-shaped flanges of the beam-sections shown as detached from the same. Fig. 5 is an inside elevation of the flange shown in Fig. 4; and Fig. 6 is a vertical section of one of the tension-rolls, taken on line 6 6, Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A indicates the

shaft of my improved warp-beam for silk and other looms. The shaft A is made of square cross-section throughout the greater part of its length, the ends *a* of the same being made round, so as to support it in suitable journal-bearings arranged in the frame of the loom. On the square portion of the shaft A is arranged the warp-beam proper, which consists of a plurality of individual spools or beam-sections B, each of which is composed of a cylindrical portion *b* of wood or like material, which is provided with a square center opening O, so as to fit accurately on the square portion of the shaft A. Each end of the wooden beam-section *b* is provided at its end with a circular recess *b'*, extending around the square center opening and with a number of socket-holes *b<sup>2</sup>*, which are arranged, preferably, adjacent to the corners of the square center recess of the beam-section. The circular recess *b'* and the socket-holes *b<sup>2</sup>* serve for receiving a disk-shaped flange C, which is provided with a circular shoulder *d*, that fits into the recess *b'* of the wooden beam-section, the shoulder being further provided with holes for fastening-screws *e*; said holes being located intermediately between pins *d'* on the shoulder *d*, so that the disk-shaped flanges can be readily attached to the ends of the beam-section *b* by first inserting the pins *d'* into the sockets *b<sup>2</sup>* and then inserting the fastening-screws *e*. The shoulder *d* is either riveted to the disk-shaped flange C or made integral with the same by being stamped up from the center portion or web of the disk-shaped flange by means of suitable dies, the flange C and raised shoulder *d* being preferably made of very thin sheet-steel.

The circumference of each disk-shaped flange C is beveled or rounded off from the inside toward the outside, as shown clearly in Fig. 3, so that when two beam-sections are placed side by side no appreciable space is left between the warp-threads wound up on the different beam-sections B, so that the two adjacent flanges do not interfere with the warp-threads when the loom is operated for weaving.

The number of beam-sections which are required for the beam depends on the width of



the broad silk fabric to be woven in the loom. The width of an individual beam-section may be eight inches, more or less, so that any number of warp-threads up to twelve hundred for a length up to a thousand yards can readily be warped on each beam-section, when the individual beam-sections are warped on the well-known steam-driven warping-machines in general use in silk-factories and are then placed end to end for the required width of the broad silk fabric required, on the square portion of the shaft A and secured in position adjacent to each other by means of collars *f*, which are secured to the shaft by means of screws *f'*. The number of beam-sections employed are placed exactly in the center of the shaft A and are prevented from shifting thereon after the collars are attached thereto by the screws *f'*. After the beam-sections are placed in position on the shaft a tension-roll D is placed on each end of the shaft and secured in position thereon by collars *g* and screws *g'*, one on each side of the tension-roll D, as shown in Fig. 1. The entire beam is then ready for being placed in the loom. The rolls D are made of wooden cores *m*, provided with square center recesses and with covering sleeves or thimbles *n*. Each sleeve or thimble *n* is provided with circumferential flanges at both sides and serves for the purpose of taking up the weighted cords, by means of which the required tension is exerted on the warps of the beam during the operation of the loom and during the gradual supply of the warp-threads during the weaving of the broad silk fabrics. The iron or steel sleeve or thimble *n* serves to take up the strain of the tension-cords and for resisting the abrading wear of the same. When the entire length of warp-threads is woven into broad silk cloth, the beam-sections can be replaced by new sections by removing the collars *f* and *g*, it being necessary to remove one of the tension-rolls, as is obvious.

When placing the beam-sections in the warping-machines, a disk that is arranged for taking along the beam-sections is placed on the disk-shaped flange of the same and placed in the warping-machine, so as to warp the required number and length of silk warps on the same in the well-known manner.

My improved warp-beam is more especially designed for weaving braid silk fabrics; but

it can also be used for weaving cotton and other fabrics. The improved warp-beam has the advantage that any desired width of broad silk fabric can be woven in the loom by regulating the number of beam-sections according to the width of the fabric. It permits the making of a broad silk warp for any width of fabric directly on the beam, which heretofore has not been considered possible in broad silk warping.

I am aware that warping-beams consisting of a number of beam sections or spools located adjacent to each other on a shaft and provided at both ends with grooved tension-rolls have been used heretofore for weaving carpets and the like, and I do not claim this feature broadly.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A warp-beam for looms, comprising a shaft having a main portion of square cross-section, a plurality of beam-sections on said shaft, each of which is composed of a roll provided with a central square opening fitting on said main portion and with a recess in either end thereof, each roll being provided with sockets communicating with said recesses, disk-shaped flanges having square center openings registering with the openings of the roll and shoulders engaging the said recesses, pins on said shoulders extending in the direction of the shaft and engaging said sockets, and means for locking said beam-sections on said shaft.

2. A beam-section for warp-beams, comprising a cylindrical roll provided with a square opening or bore and a circular recess at each end concentric with said bore, spaced sockets communicating with each of said recesses, disk-shaped flanges at the ends of said roll and provided with shoulders engaging said recesses, pins extending outwardly from said shoulders at right angles from the outer faces thereof and each engaging one of said sockets, and means for attaching said disk-shaped flanges to the ends of said roll.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHARLES TAUBERT.

Witnesses:

PAUL GOEPEL,  
HENRY J. SUHRBIER.