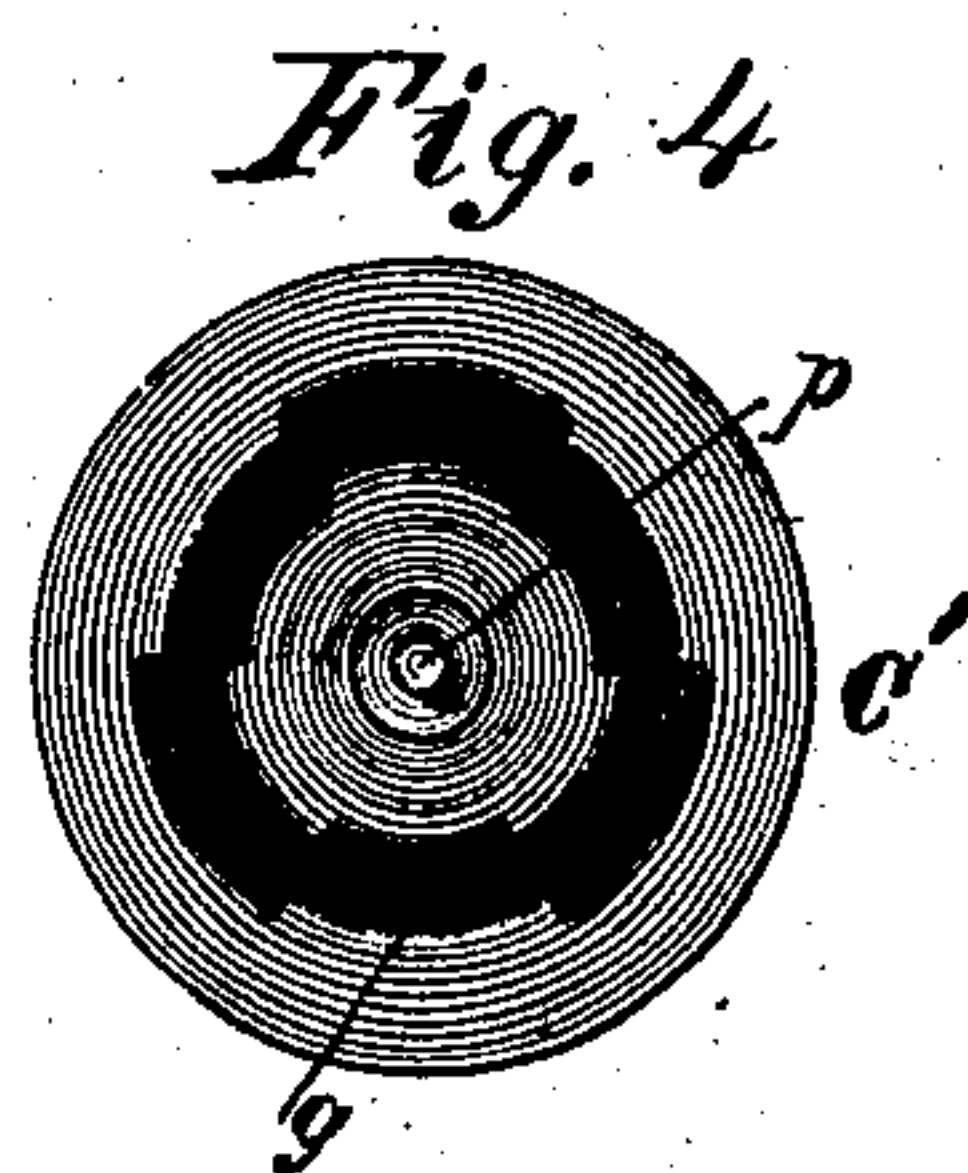
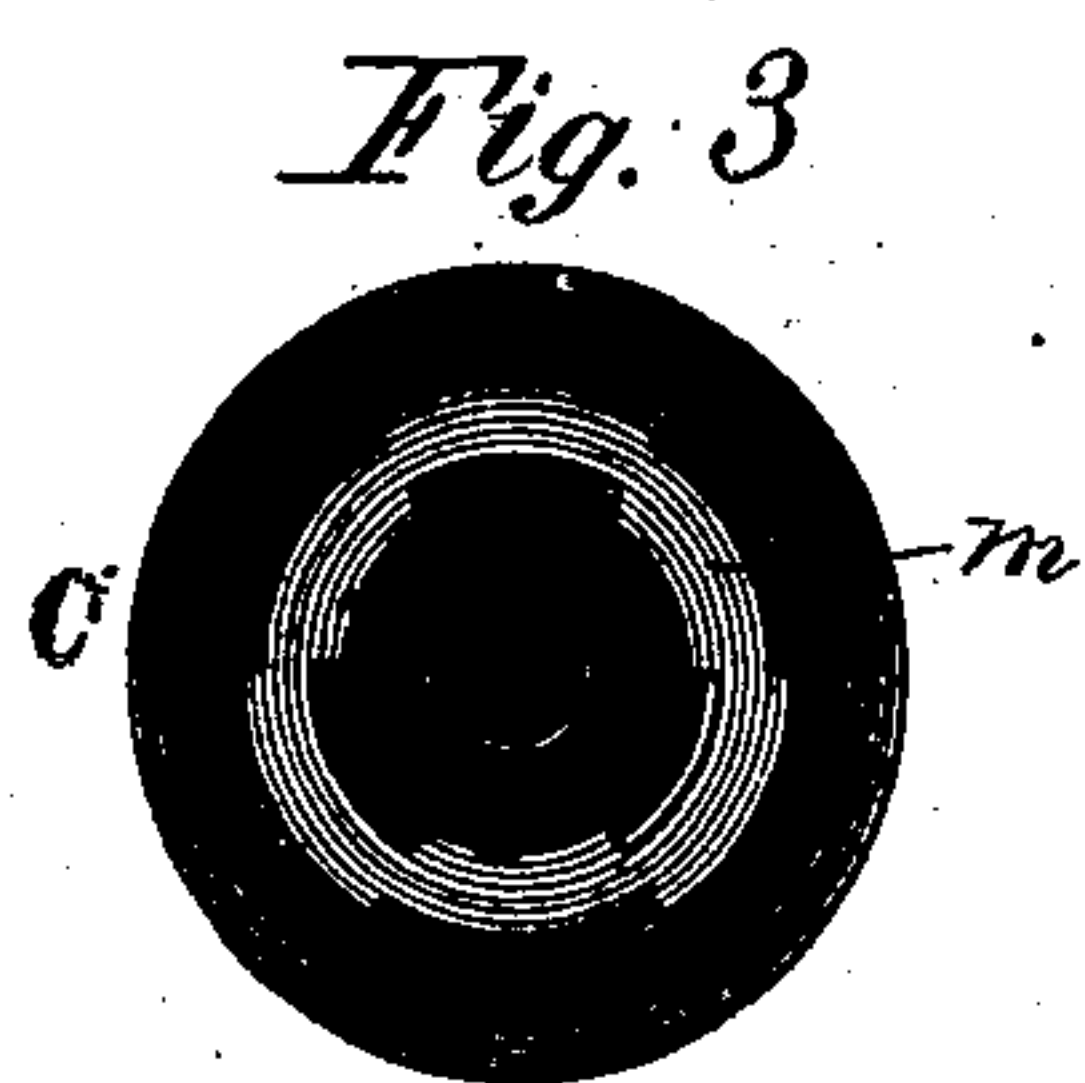
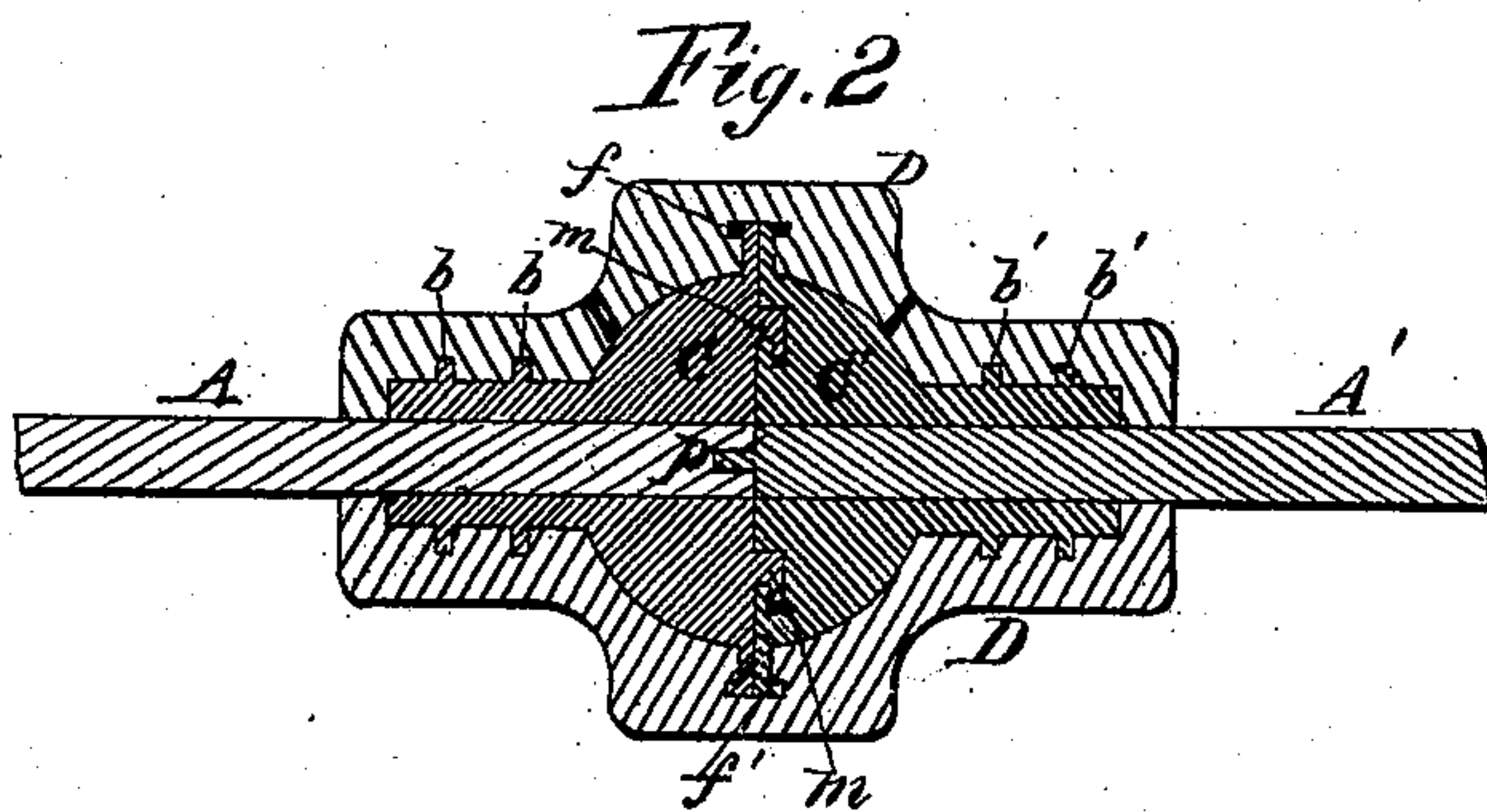
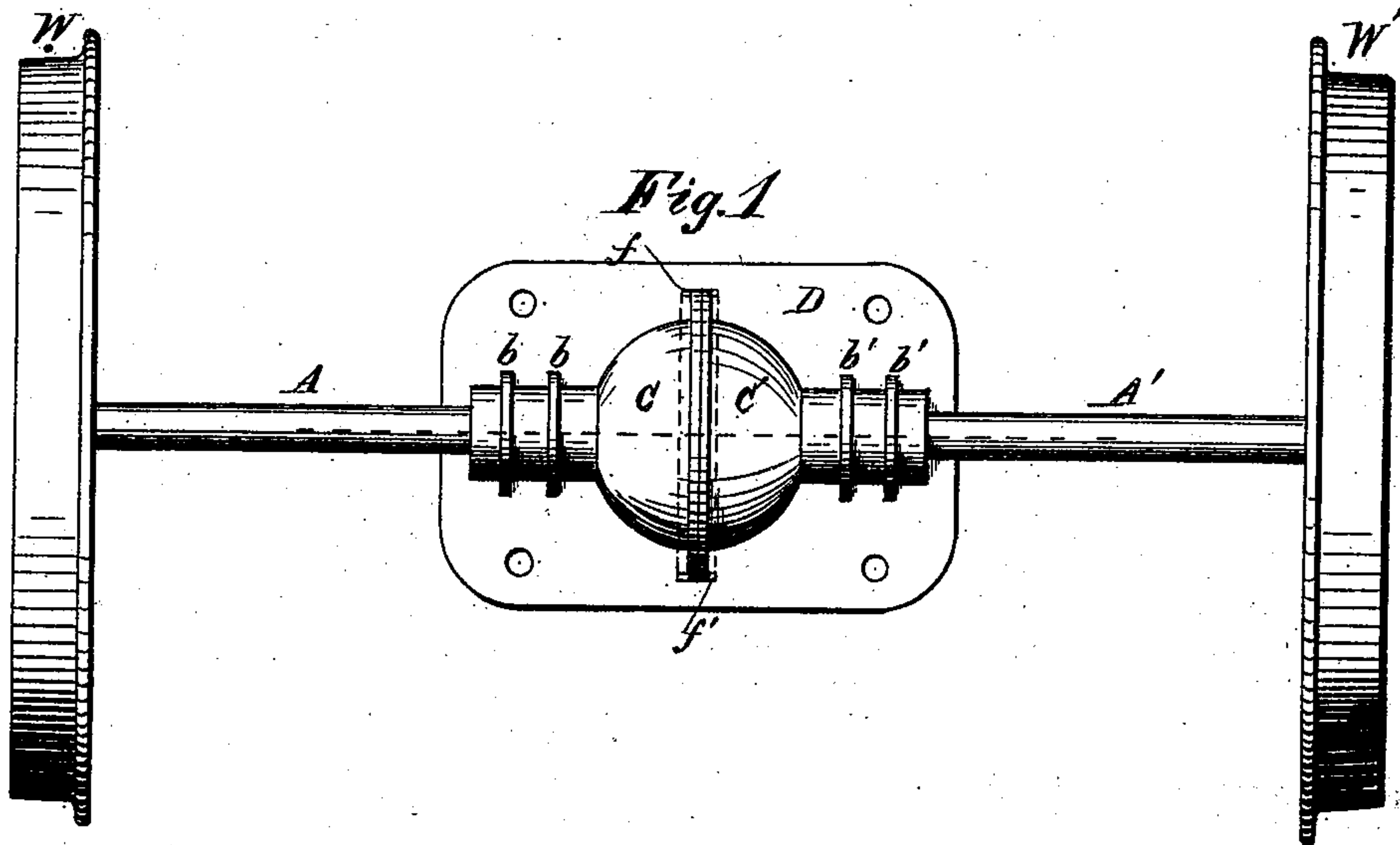


I. C. PLANT.  
DIVIDED CAR-AXLE.

No. 173,056.

Patented Feb. 1, 1876.



WITNESSES  
Gerrville Lewis  
McHenry

By

INVENTOR  
Increase C. Plant,  
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# UNITED STATES PATENT OFFICE.

INCREASE C. PLANT, OF MACON, GEORGIA.

## IMPROVEMENT IN DIVIDED CAR-AXLES.

Specification forming part of Letters Patent No. **173,056**, dated February 1, 1876; application filed July 31, 1875.

*To all whom it may concern:*

Be it known that I, I. C. PLANT, of Macon, in the State of Georgia, have invented certain new and useful Improvements in Divided Car-Axles; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of the wheels and divided axle, one-half of the cap being removed. Fig. 2 is a vertical section through the cap and axle. Fig. 3 is a face view of one jaw of the clutch, and Fig. 4 a similar view of the opposite jaw of the clutch.

The same part is indicated by the same letter of reference wherever it occurs.

The object of the invention is to avoid the torsional strain which occurs in turning curves, when both car-wheels are rigidly attached to an axle constructed of one piece of metal, from the slip of the wheel traversing the inner arc while the other wheel is traversing the larger arc. To effect this object it is necessary to divide the axle, so as to provide for the independent rotation of each wheel.

The nature of my invention consists in the peculiar devices by which I unite and securely lock together the inner ends of the divided axle while allowing free and independent rotation to the wheels, all as hereinafter more fully set forth.

In the drawings, W W' mark the wheels, which are of the ordinary kind. A A' are the axles attached, respectively, to the wheels W W'. To the inner ends of these axles are fixed the jaws C C' of a large disk-faced clutch, one jaw being fixed to each axle. They may be cast with the axle, if preferred. A central pin, *p*, in the face of jaw C' is received into a hole in the center of jaw C, as shown in Fig. 2, and a circular groove, *g*, in the face of jaw C' receives an annular projection, *m*, on the face of jaw C, corresponding in shape with the groove which it enters. The groove *g* is undercut on both sides, and the projection *m*

has lips, which are received by, and pass under, the undercut portion of groove *g*, so as to lock the two faces of the jaws securely together, and yet permit them free rotation. The outer surfaces of the clutch-jaws are provided with the beads *b b' b'*, and with the double tapering undercut flanges *f f'*, constructed as shown in the drawing. The whole clutch is received and covered by a double cap, D, whose interior configuration corresponds with the exterior form of the clutch. The beads *b b'* enter grooves of coincident shape and size, and the double tapered and undercut flanges *f f'*, being locked together, as before described, pass into an undercut circular groove or recess adapted to receive them and conformed to their shape, and which securely holds their perimeters in contact with each other. Thus the clutch-faces are securely held together, both at center and circumference, without interfering with the free and independent rotation of the wheels. The halves of the cap D are secured together when in position by bolts or screws.

I claim—

1. In combination with a divided axle for cars; a clutch consisting of the jaws C C', provided with the projection *m*, groove *g*, flanges *f f'*, and beads *b b'*, all constructed and operating substantially as described.

2. In combination with the clutch consisting of the jaws C C', having on their external surface the beads *b b'* and flanges *f f'*, the cap D, provided with the undercut groove for the reception of the flanges *f f'*, and with grooves for the reception of the beads *b b'*, and otherwise conformed to the external configuration of the clutch, as described.

The above specification of my said invention signed and witnessed at Washington this 28th day of July, A. D. 1875.

INCREASE C. PLANT.

Witnesses:

JOS. T. K. PLANT,  
CHAS. F. STANSBURY.