

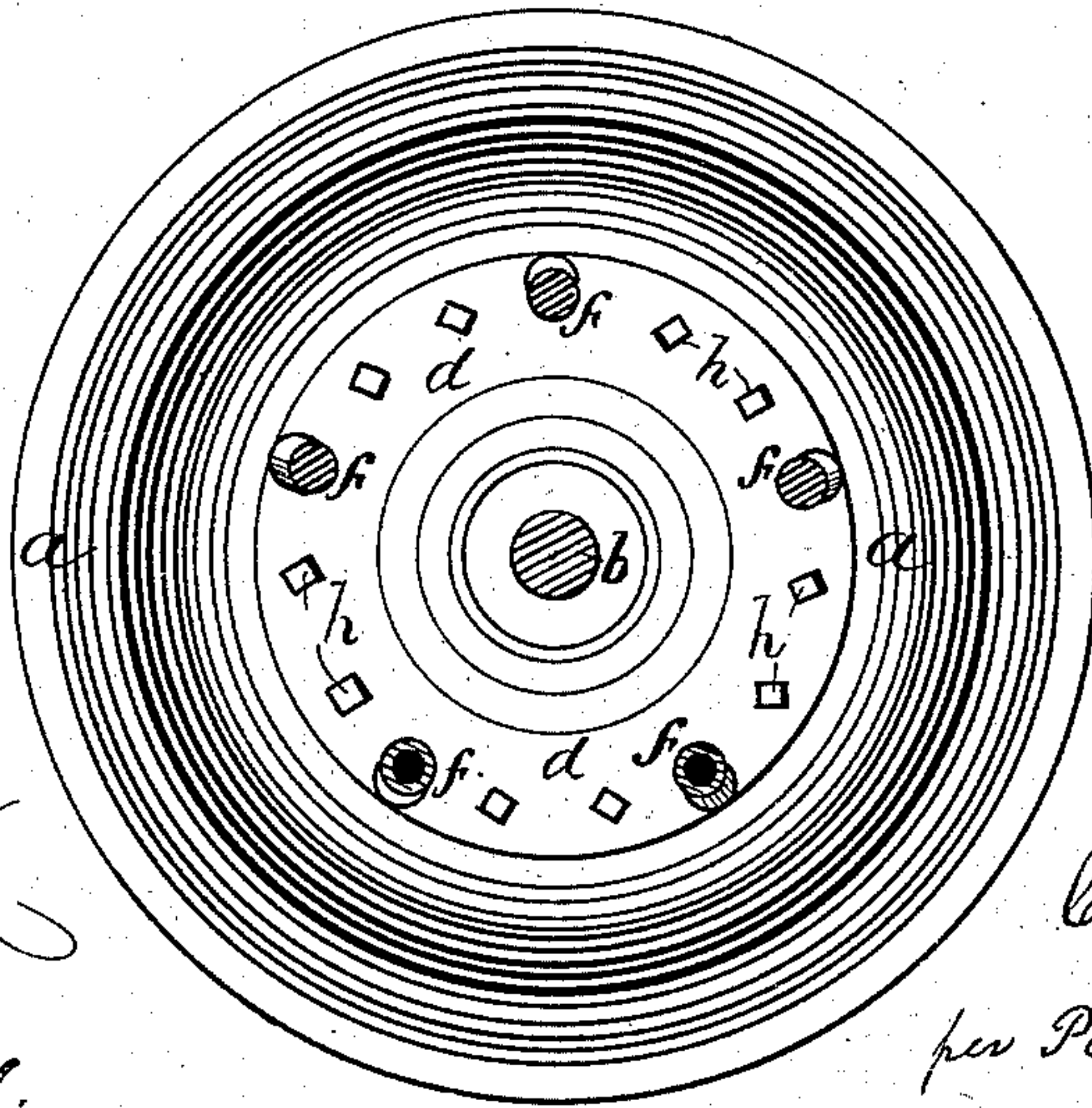
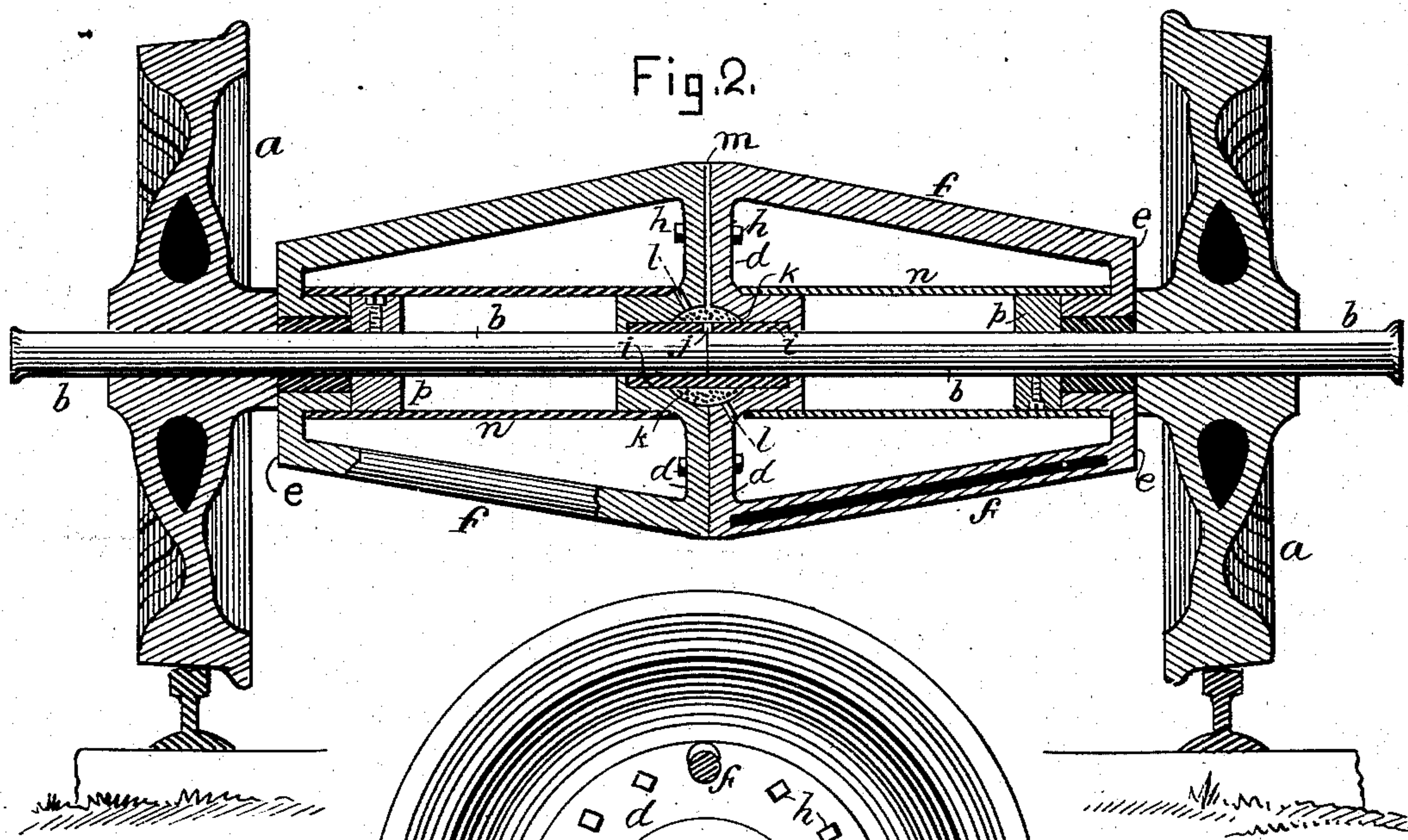
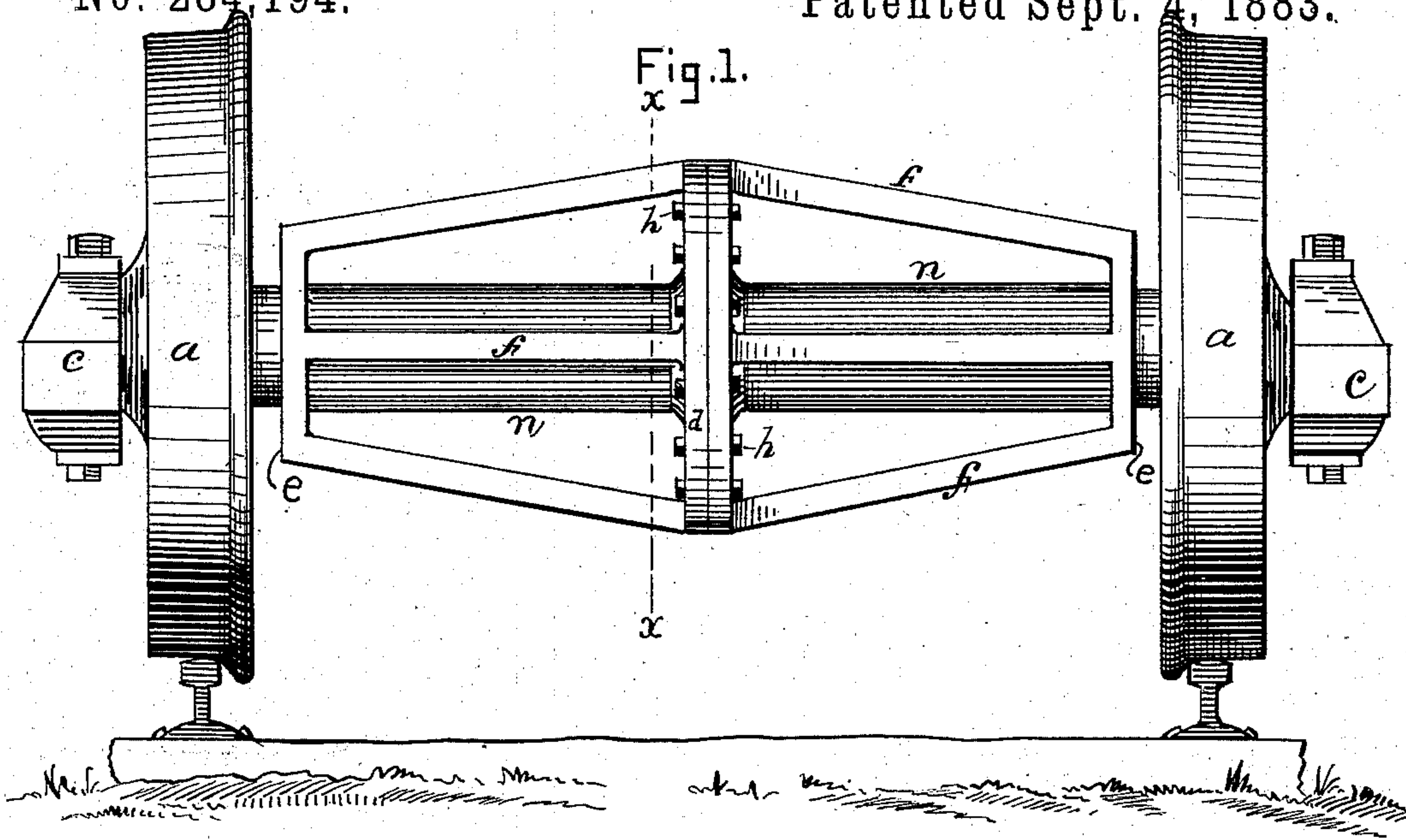
(No Model.)

C. E. EATON.

CAR AXLE.

No. 284,194.

Patented Sept. 4, 1883.



Witnesses:  
H. E. Quirk.  
Chas. S. Gording.

Inventor:  
Charles E. Eaton  
per Porter & Hutchinson  
Attys



# UNITED STATES PATENT OFFICE.

CHARLES E. EATON, OF CHELSEA, MASSACHUSETTS.

## CAR-AXLE.

SPECIFICATION forming part of Letters Patent No. 284,194, dated September 4, 1883.

Application filed March 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. EATON, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful  
5 Improvement in a Bearing-Truss for Divided Car-Axles, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

10 This invention has for its object the providing of a support for the inner or meeting ends of a transversely-divided car-axle; and it consists in a trussed support consisting of a central and end disks, connected by bars and arranged with a bearing in the central disk to  
15 support the meeting ends of the axle, and with bearings in the end disks to furnish supports for the axle near the inner faces of the wheels, which are secured upon the respective halves  
20 of the axle.

In said drawings, Figure 1 is a side elevation, showing my invention as applied to a car-axle, upon which are mounted the wheels. Fig. 2 is a longitudinal vertical section of the  
25 parts shown in Fig. 1. Fig. 3 is a vertical transverse section taken on line *x x*, Fig. 1, and as looking to the right in said figure.

In said views, *a a* represent a pair of car-wheels, in which are respectively secured, in  
30 the usual manner, the axle *b*, which is formed in two equal lengths, as shown in Fig. 2, and which projects from the outer face of the wheels, as shown, to be journaled in the boxes *c*, Fig. 3, in the usual manner, said several parts being  
35 old, common, and well known.

For the purpose of holding the inner ends of the axle in line and furnishing journal-boxes therefor, I provide my bearing-truss, formed, as shown, in two sections or lengths, each section consisting of a larger disk, *d*, and smaller  
40 disk, *e*, the two being united by bars *f*, which are arranged around the periphery of said disks, as shown, said two larger disks being rigidly bolted together, as shown at *h*, so that  
45 the two sections, for all practical purposes, constitute a rigid truss, as if formed entire, instead of in two sections or parts. The bars *f* and disks *d e*, at the respective ends thereof, are preferably formed, as an entirety, of malleable  
50 iron or other suitable metal, and said bars *f* may be formed either solid or hollow, both which forms are shown in the drawings. Said

end disks, *e*, are formed with an inwardly-projecting flange, as shown, in which I secure a sleeve, *g*, of some anti-friction metal, to serve as  
55 bearings for the axle, and the collars *p*, secured on the axle by set-screws, as shown, abut against said sleeves *g* and the flange in which they are secured, and in the central disks, *d*, I secure a sleeve, *i*, of suitable metal, to serve as the bearing  
60 ing of the axle, said sleeve having a series of transverse holes, *j*, through which the oil held by packing *k*, seated in an annular chamber in disks *d*, can pass into said sleeve and lubricate  
65 the axle therein rotating, passages *l* being provided in said flanges, by which packing *k* can be removed, replaced, or increased, and a radial passage, *m*, being also provided for introducing  
oil into said packing. Said passages *l l* and *m* may be closed by screw-plugs or other well-  
70 known means.

By forming the central disks, *d*, of a greater diameter than disks *e*, whereby rods *f* converge toward the latter disks, the strain exerted upon  
75 said rods is to a large degree either tensile or compressive, according as said rods may be above or below the axle, and hence the rods are capable of sustaining a greater strain than if arranged parallel with the axle.

When wheels *a* are rolling upon a straight  
80 track, the truss will revolve with the axle; but when passing around curves each will revolve in accordance with the length of the rail on which it travels, and the respective halves of the axle will revolve coincidently with its wheel,  
85 which is rigidly secured to it, and the disparity in the rotary movements of the sections or halves of the axle will cause a corresponding rotary movement thereof in the bearings in the truss.

For the purpose of protecting the bearings in my truss from grit and dust, I arrange a sleeve, *n*, in two sections, each of which, at its  
90 respective ends, is seated upon the flanges of disks *d e*, as shown, which holds the sleeve centrally in position. Said sleeves are preferably formed of india-rubber or other flexible material.

I am aware that many devices have been invented and patented having for their object  
100 the securing an independent rotary movement of each wheel on the same car-axle, and hence I make no broad claim thereto; and I am also aware of the United States Patents No. 47,015,



granted March 28, 1865, to J. W. Hard, and No. 48,114, granted June 6, 1865, to Tibbetts and Merriell, and I make no claim to what is therein described and shown, my invention being unlike that shown in either of said patents.

I claim as my invention—

1. An axle-supporting truss formed in two sections, united as specified, each section being formed with a larger disk, *d*, and a smaller disk, *e*, united by means of supports *f*, arranged at or near the peripheries of the disks, and constituting therewith an entire and unitary cast-

ing, and provided with axle-bearings, substantially as specified.

2. In combination with divided axle *b* and the bearing - truss, formed substantially as shown, the sleeves *n*, mounted upon and held centrally in position by the projecting concentric flanges of disks *d e*, substantially as specified.

CHARLES E. EATON.

Witnesses:

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