No. 887,262. PATENTED MAY 12, 1908.

W. H. MINER.

ANTIFRICTION CENTER BEARING FOR RAILWAY CARS.

APPLICATION FILED AUG. 3, 1906.

Fig. 1

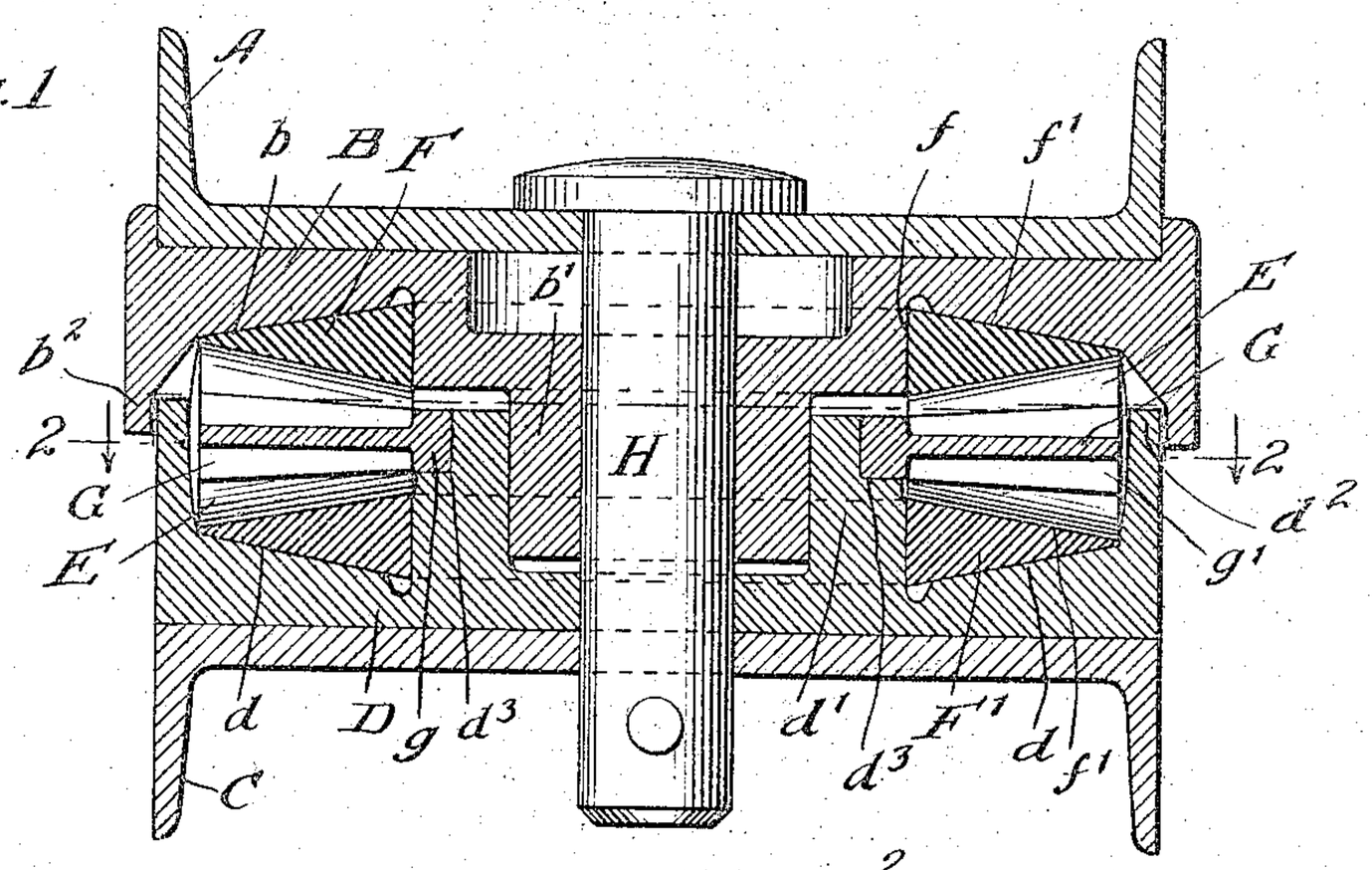


Fig. 2

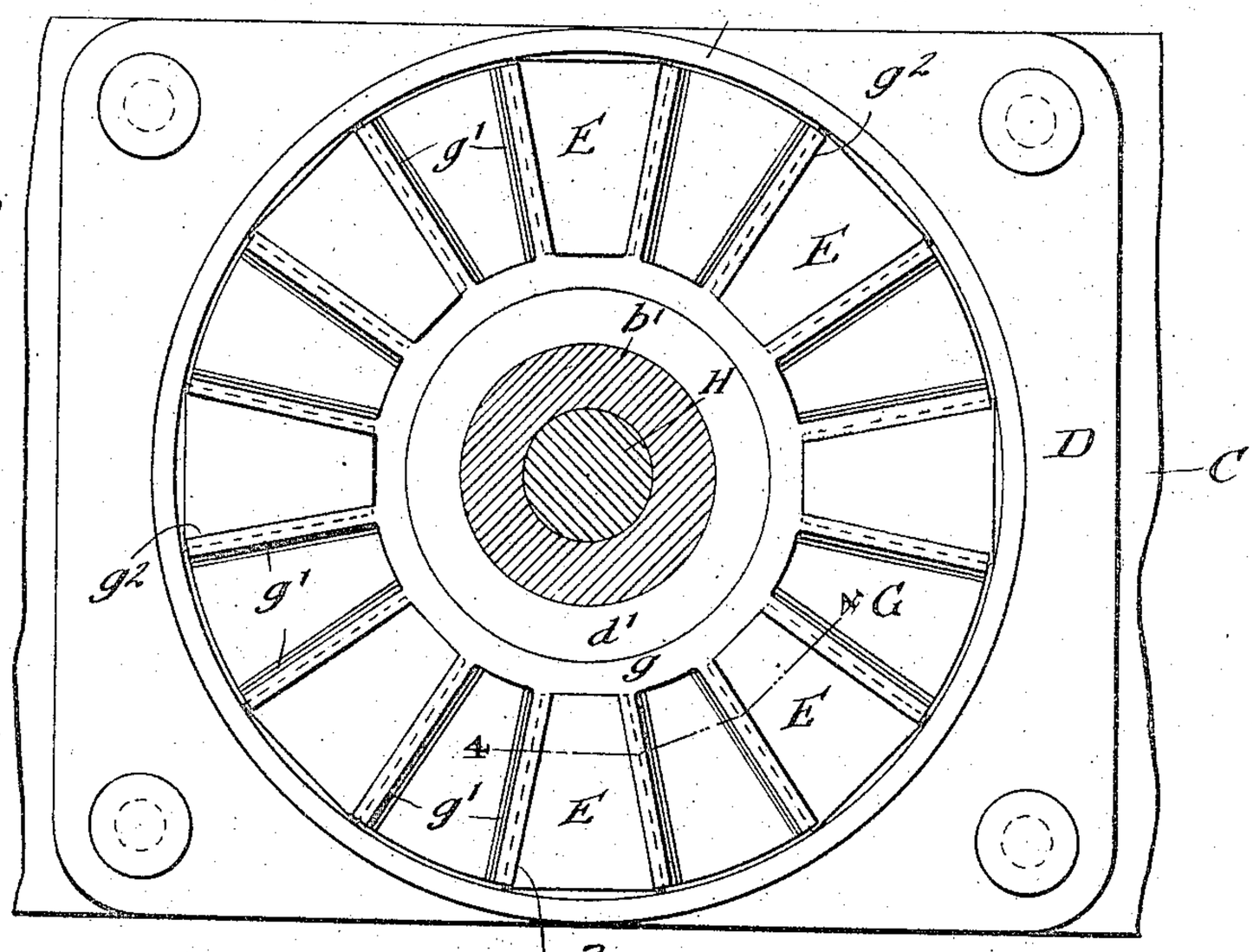


Fig. 4.

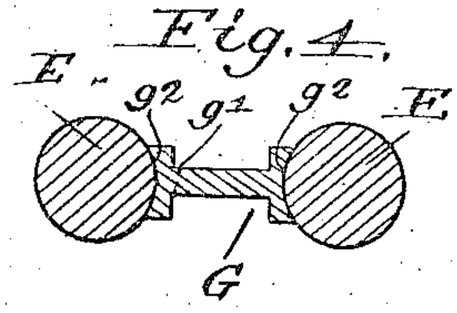
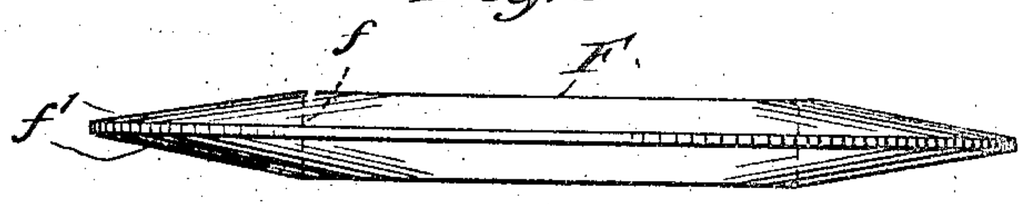


Fig. 3



Witnesses:

Wm. Geiger

W. M. Mundy

Inventor

William H. Miner

By Munday, Evarts, Adcock & Clark.

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. MINER, OF CHICAGO, ILLINOIS, ASSIGNOR TO W. H. MINER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ANTIFRICTION CENTER-BEARING FOR RAILWAY-CARS.

No. 887,262. Specification of Letters Patent. Patented May 12, 1908.

Application filed August 3, 1906. Serial No. 328,988.

To all whom it may concern:

Be it known that I, WILLIAM H. MINER, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Antifriction Center-Bearings for Railway-Cars, of which the following is a specification.

My invention relates to anti-friction center bearings for railway cars.

The object of my invention is to provide an anti-friction center bearing for railway cars or other vehicles of a simple, strong, efficient and durable construction, in which the wearing tread members of the center plates may be removable and reversible so that when the wearing faces or treads become worn, they may be reversed, thus doubling or increasing the life and durability of the center bearing, and so that the wearing tread members may be replaced and renewed when worn out, with new ones, at slight expense, thus very greatly increasing the life and durability of the center plates themselves, the anti-friction devices or rollers and other parts.

My invention consists in the means I employ to practically accomplish this object or result. That is to say, it consists in connection with the body and truck bolsters of the car, and the upper and lower center plates secured thereto, each provided with annular sockets to receive removable and reversible annular treads, of upper and lower removable and reversible double faced annular treads fitting in the sockets of the center plates, anti-friction devices or rollers interposed between the upper and lower annular treads, and a spider or spacing device for spacing the anti-friction devices or rollers.

My invention also consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described.

In the accompanying drawing forming a part of this specification, Figure 1 is a central, vertical section of an anti-friction center bearing embodying my invention. Fig. 2 is a horizontal section on the broken line 2—2 of Fig. 1, showing some of the parts in plan. Fig. 3 is an edge view of one of the treads. And Fig. 4 is a detail vertical section through one of the arms of the spider on the broken line 4—4 of Fig. 2.

In the drawing, A represents the body bolster of a railway car or other vehicle and B the upper center plate secured thereto, C the truck bolster, D the lower center plate secured thereto, E the anti-friction devices, preferably conical rollers radially arranged, and interposed between the upper and lower center plates, F F^1 upper and lower double conical faced removable and reversible annular treads or tread members, fitting in the tread sockets b d of the upper and lower center plates B D, and G the spacing device or spider for spacing the rollers E.

The upper center plate B has a flaring or cone faced annular socket b, to receive the upper separate piece tread F, an annular hub b^1, surrounding the king bolt H, and an annular rim b^2; and the lower center plate D has a similar annular cone faced socket d to receive the lower separate piece tread F^1, and an annular-hub d^1 surrounding and telescoping with the annular hub b^1 of the upper center plate B, and an annular rim d^2 fitting within and telescoping the annular rim b^2 of the upper center plate. The separate piece annular double cone faced treads F F^1 each have a cylindric inner wall f and two similar annular cone faces f^1 f^1 both inclined at the same angle to the cylindric wall f and both adapted to fit the annular cone face of the socket b of the upper plate B or the like cone face of the socket d of the lower plate D, so that these separate piece double cone faced annular treads F F^1 may each be reversed or turned upside down to utilize either of the two cone faces f^1 f^1 as the roller engaging face or tread for the rollers E. The separate piece double cone faced annular treads F F^1 are preferably made of steel and when completely worn on both of their conical faces, they may be removed and replaced with new ones, so long as the center plates B D and other parts are fit for use, thus very greatly increasing the life and durability of the center bearing.

The roller spacing device or spider E has a hub portion g fitting an annular shoulder d^3 on the hub d^1 of the plate D, and a plurality of radial arms g^1 having faces g^2 to engage the rollers.

It will be observed that the rollers E abut at their outer ends against the rims b^2 and d^2 of the upper and lower center plates, and at

their inner ends against the spider hub, and that the spider hub in turn abuts snugly against the hub of the lower center plate. It results from this construction that there is, laterally, no looseness between the parts of the center bearing but that the rollers serve as direct braces between the two center plates to receive the great side thrust of a heavy car taking a curve at high speed. Also the arrangement is such that the rollers, while so taking the side thrust, may still act antifrictionally.

I claim:—

1. In an anti-friction center bearing for railway cars, the combination with a body bolster, of an upper center plate secured thereto, provided with an annular cone faced socket to receive a removable annular tread, a truck bolster, a lower center plate secured thereto, having a cone faced socket to receive a separate piece removable annular tread, upper and lower separate piece double cone faced reversible annular treads fitting in the sockets of the upper and lower center plates, the anti-friction conical rollers interposed between the center plates and their separate piece annular treads, and a roller spacing spider, substantially as specified.

2. In an anti-friction center bearing for cars, the combination with upper and lower center plates furnished with annular conical sockets to receive removable annular conical treads, of upper and lower separate piece double cone faced reversible annular treads fitting in the sockets of the upper and lower center plates and anti-friction conical rollers interposed between said treads, substantially as specified.

3. In an anti-friction center bearing for cars, the combination with upper and lower center plates furnished with annular conical sockets to receive removable annular conical treads, of upper and lower separate piece double cone faced reversible annular treads fitting in the sockets of the upper and lower center plates and anti-friction conical rollers interposed between said treads, and a roller spacing spider, substantially as specified.

4. In an anti-friction center bearing for railway cars the combination with body and truck bolsters, of upper and lower center plates, secured thereto and furnished each with an annular cone faced socket, removable and reversible double cone faced treads fitting in said sockets, conical rollers between said plates and a radial arm spider having a hub fitting a hub on one of said center plates, substantially as specified.

5. In an anti-friction center bearing for railway cars, the combination with body and truck bolsters, of upper and lower center plates secured thereto and furnished each with an annular cone faced socket, removable and reversible double cone faced treads fitting in said sockets, anti-friction conical rollers between said treads, and a roller spacing spider having a hub fitting a hub on one of said center plates and provided with radial arms extending between adjacent rollers, substantially as specified.

6. In an antifriction center bearing, the combination of upper and lower center plates having annular conical treads and telescoping annular hubs and telescoping annular rims, the annular hub of the upper plate fitting within the annular hub of the lower plate and the annular rim of the lower plate fitting within the annular rim of the upper plate, conical rollers between said plates, and a roller spacing spider having a hub and provided with radial arms extending between adjacent rollers, said rollers abutting at their outer ends against said outer annular rims of the said upper and lower center plates and abutting at their inner ends against the outer face of the hub of the spider, the inner face of the spider hub abutting snugly against the hub of the lower center plate, so that the said rollers will serve to brace the center plates against side thrust of the car and also act antifrictionally when under such side thrust, substantially as set forth.

7. In an antifriction center bearing, the combination of upper and lower center plates having annular conical treads, telescoping annular hubs and telescoping annular rims, the annular hubs of the upper plate fitting within the annular hub of the lower plate and the annular rim of the lower plate fitting within the annular rim of the upper plate, antifriction rollers between the said plates, and a roller spacing spider having a hub fitting and snugly abutting on the hub of the lower center plate and having radial outwardly tapering spacing arms extending between and bearing peripherally against adjacent rollers, said rollers abutting at their outer ends against said outer annular rims of the said upper and lower center plates and abutting at their inner ends against the outer face of the hub of the spider, so that the said rollers will serve to brace the center plates against side thrust of the car and also act antifrictionally when under such side thrust, substantially as set forth.

8. In an antifriction center bearing, the combination with upper and lower center plates having telescoping annular hubs and telescoping annular rims, the annular hub of the upper plate fitting within the annular hub of the lower plate and the annular rim of the lower plate fitting within the annular rim of the upper plate, and antifriction rollers between the said plates, of a roller spacing spider having radial arms with curved bearing faces to engage the rollers, and provided with a hub, the said rollers abutting at their outer

ends against said outer annular rims of the upper and lower center plates and abutting at their inner ends against the outer face of the hub of the spider, the inner face of the spider hub abutting snugly against the hub of the lower center plate, so that the rollers will serve to brace the center plates against side thrust of the car and also act antifrictionally when under such side thrust, substantially as set forth.

WILLIAM H. MINER.

Witnesses:
EDMUND ADCOCK,
H. M. MUNDAY.