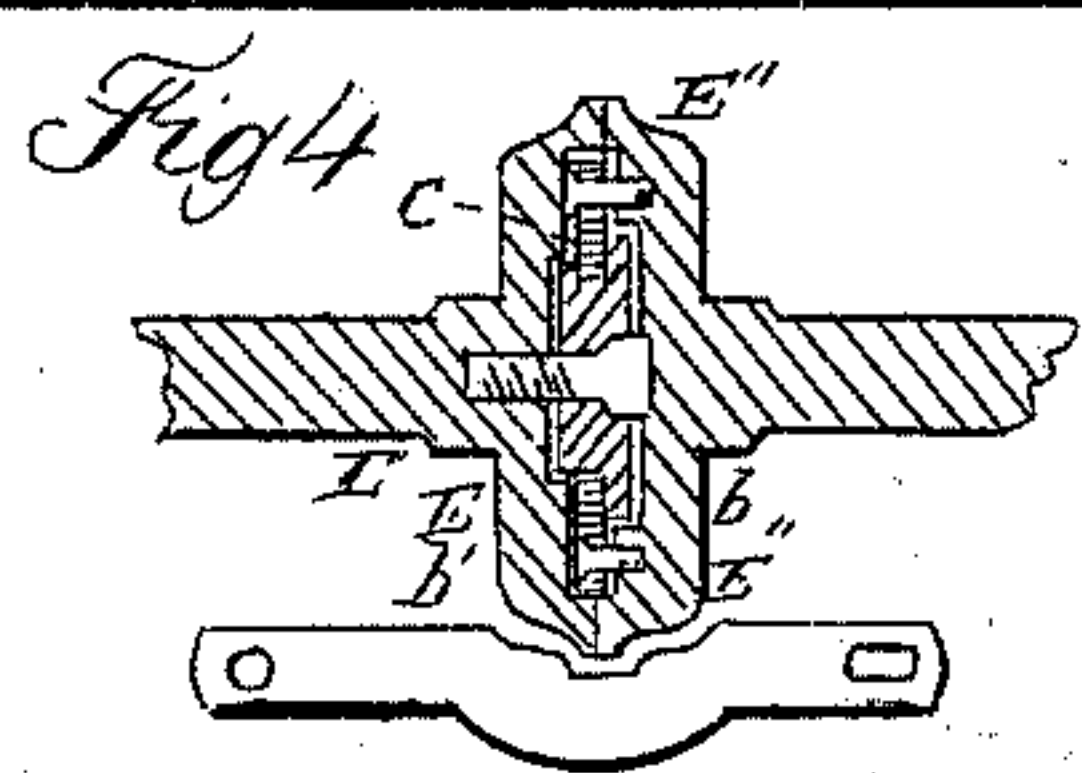
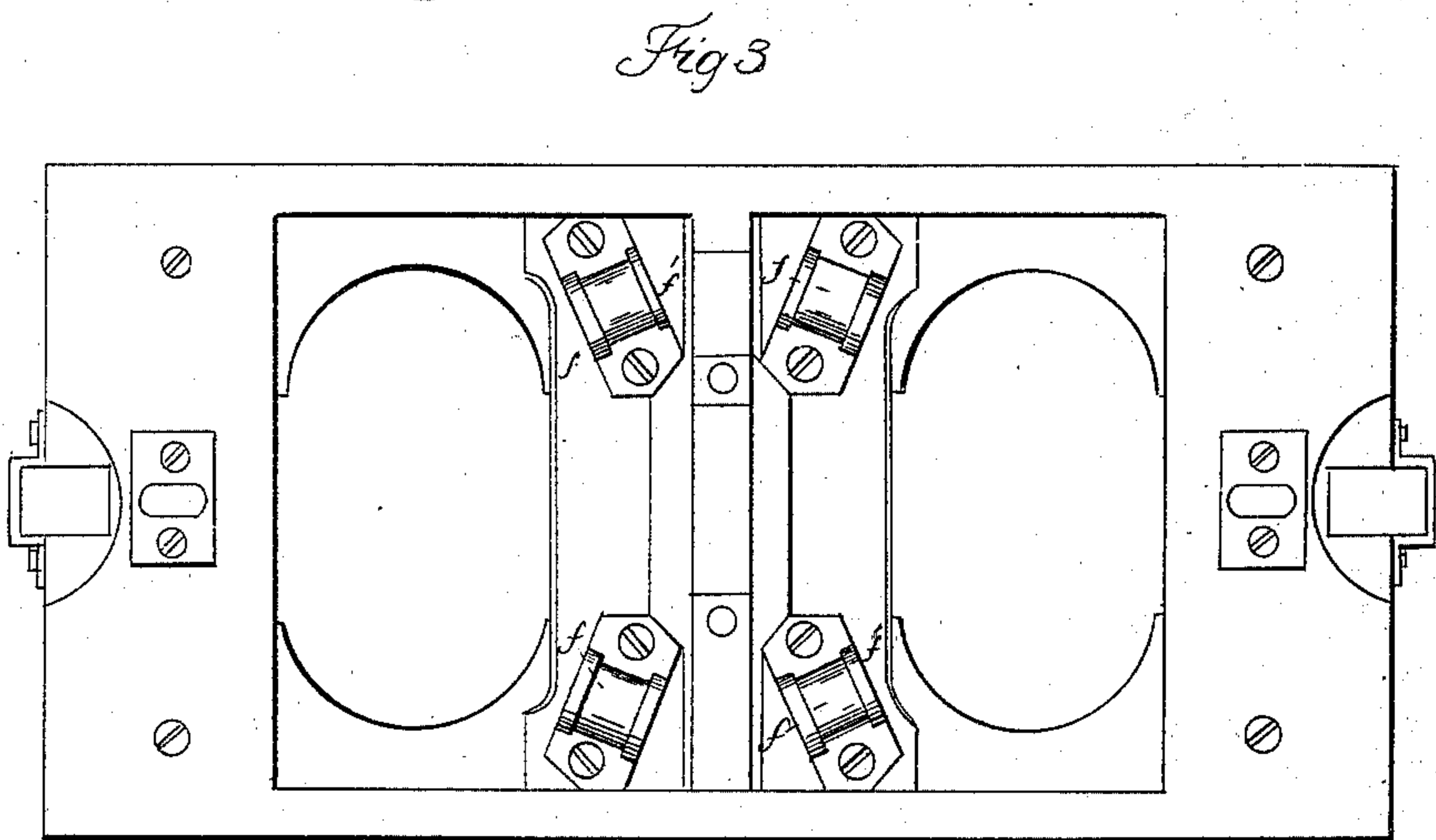
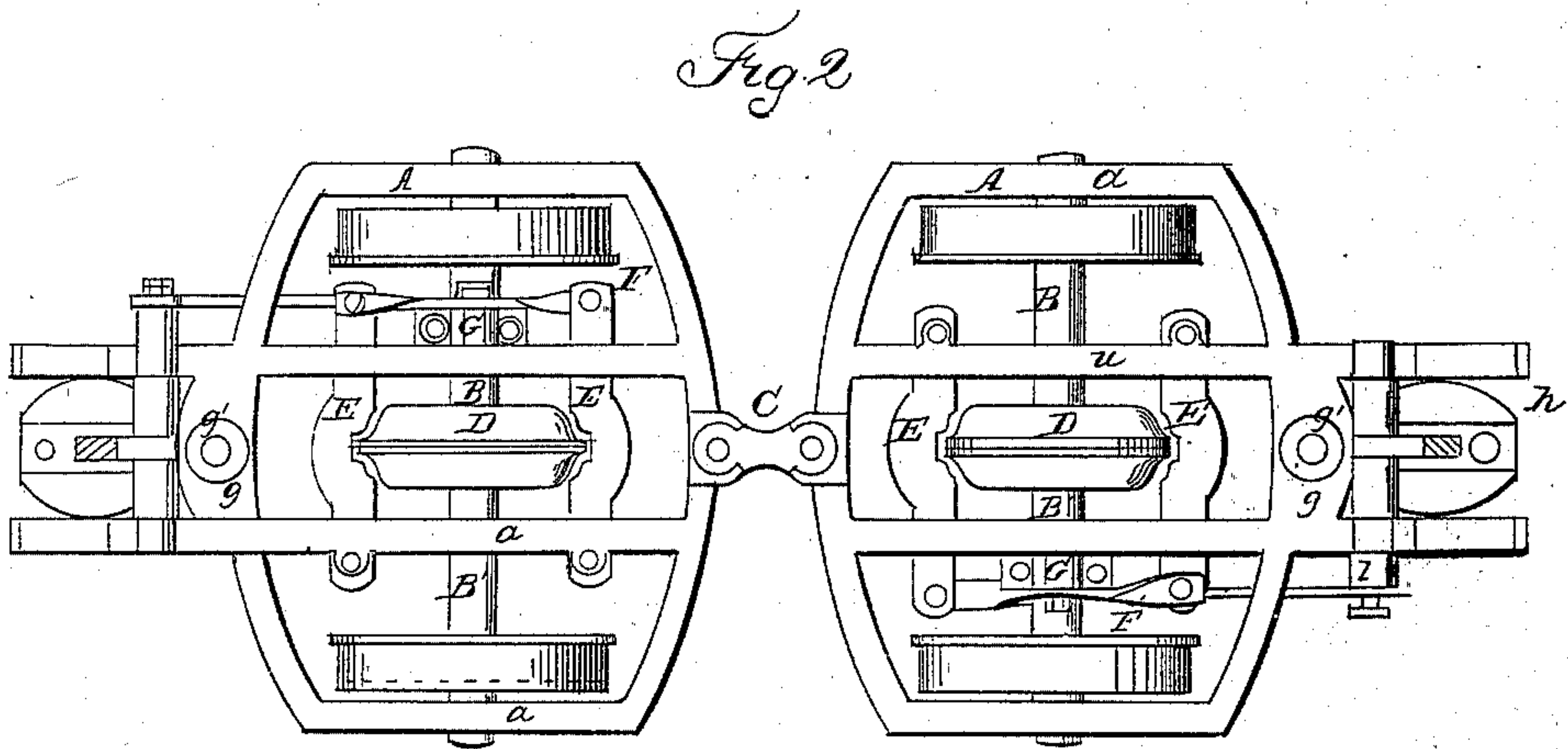
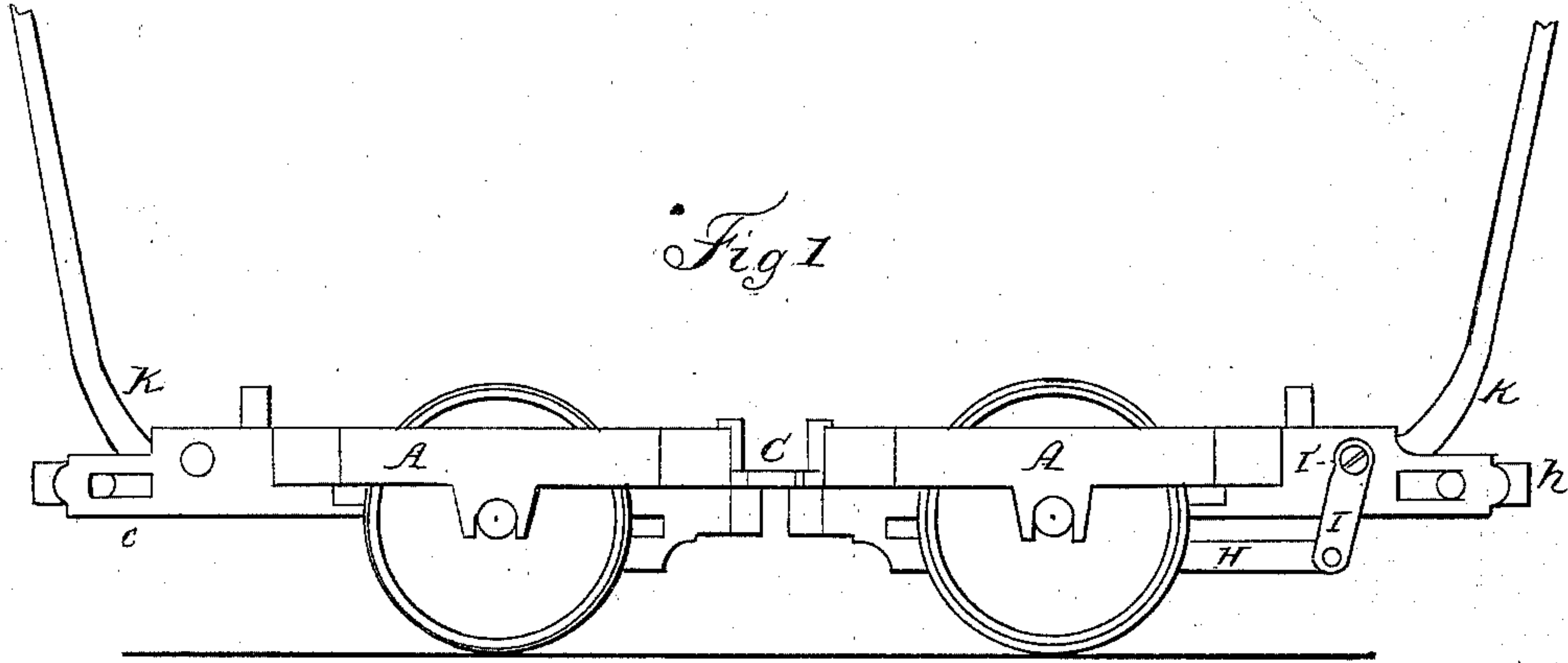


A. GREGG.
Railway Car.

No. 62,127.

Patented Feb. 19, 1867.



WITNESSES:
C. W. Smith
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United States Patent Office.

ABRAHAM GREGG, OF FOREST CITY, CALIFORNIA.

Letters Patent No. 62,127, dated February 19, 1867.

IMPROVED RAILWAY CAR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ABRAHAM GREGG, of Forest City, county of Sierra, State of California, have invented certain new and useful improvements in "Railway Cars," more especially adapted to omnibus cars of street railways, although the same improvement may be used in part or in full on other cars propelled by steam; and I hereby declare the following description and accompanying drawings are sufficient to enable any person, skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements without further invention or experiments.

It is a well-known fact that a car constructed with its axles permanently parallel to each other, and its wheels fixed stationary upon the axles, must necessarily be attended with great friction, and consequent wear and tear of wheels, track, rails, and motive power, besides the constant liability of running from the track, especially in turning short curves, but by dividing the axle into two sections and connecting them together by a coupling, so that one wheel will describe the greater curve while the other performs the lesser segment of the circle, it is intended that the binding of the wheels will be prevented, and this is one of the principal objects of my invention. Referring to the drawings—

Figure 1 represents a side elevation of the running portion of the car below the platform.

Figure 2 plan of the same.

Figure 3, bottom view of car-frame, friction-rollers, and pivot-boxes.

Figure 4, section of swivel-coupling and plan of brakes.

Figure 5 shows a section of connection of brake to the axle.

In this improvement it is necessary to have two trucks *A A* to each car; these trucks, with all of their appendages, are exactly similar to each other, and are held together by a connecting-link, *C*, allowing them to swing to and fro. The axles *B* and *B'*, to which the running-wheels are attached, pass through each truck and are cut in two in the centre, each portion having two bearings, *a a*, upon the truck-frame. The inner ends of these axles are held together by means of a coupling-box, *D*, consisting of two pieces of metal in the form of disks *b b'*, each portion being keyed or bolted to its respective axle in any manner to produce sufficient strength, and when joined together forms a wheel divided through its centre with flange around its whole circumference, the inward connection is formed by two separate pieces of metal, shaped and fitted to the surfaces of the disks, consisting of a ring, *e*, through which a centre head-piece, *E*, passes, kept in place by bolt *E'* passing through it and the axle longitudinally. The ring in which the head of the centre-piece operates is attached to the opposite disk by bolts, *E''*, introduced through a hole in the disk to which the centre head-piece is attached; the whole, when so formed, operating together in a manner similar to that of the swivel of a chain, and forming outwardly a wheel in the centre of the axle with flange entirely around it, to which a double-acting brake, *E E*, is applied, (figs. 2 and 4.) The brakes are of double construction, and are connected by rods, *F F*, to collars, *G G*, around the axle; these collars operate in a sleeve, and are loosely geared to the axle with a bar, *H*, beneath which they are attached to an arm, *I*, of a rock-shaft, *I'*, resting across the forward portion of the truck-frame. An upright bar, *K*, is attached to the centre of the rock-shaft, extending up through the platform within easy reach of the driver or brakeman.

The operation of this brake is as follows, to wit: The shoes being constructed so as to fit the edges and flange of the coupling-box, the brake-bar attached to the sweep is pulled toward the brakeman, which grasps the coupling-box at opposite sides after the manner of a vise, balancing the pressure of the brakes upon the wheel or box entirely, and precisely the same effect is had at the rear portion of the car, the trucks and wheels and coupling-box being an exact counterpart of the forward trucks and brake. The platform has friction-rollers attached to the under sill, shown at *f f f f*, fig. 3, to prevent friction when the inner ends of the trucks swing back and forth. These friction-rollers have springs, *f'*, placed between them and the platform so as to prevent any rocking of the car in case of unevenness of track. There are likewise springs, *g'*, placed around the king-bolts, (represented at *g g*, figs. 1 and 2,) so that the carriage rests on springs. The wheels in passing curves on street railroads are controlled by an extra rail being placed near the inside rail, so that the flanges of the wheels may pass between them and not by the outside rail as on common railroads; so when the inside wheel strikes this curved extra rail, it is necessarily trigged a little, and the outside wheel moving independent of its mate, by

means of the coupling will then move forward so as to keep the axle at right angles with the track, and when the forward truck swings either way it controls the other so that the wheels will follow in the same tracks. This arrangement, in connection with the forward end of the tongue being always kept near the centre of the track by the horses, will hold the axles in their desired relative positions. The tongue *h* is constructed with a cross, placed in parallel slots *ii*, in the forward ends of the tracks, by means of arms running from said trucks so that when the forward end of the tongue is kept in the centre of the truck by the horses, on a curve, the inner end of the cross will move back in the slot, which brings the draught on the outer end of the cross; by this means the axles are not turned too much, as would be the case if the tongue was fastened stiff to the truck, neither too little, as would be the case if it turned on a pivot; and by this means the car is also kept steady on a straight track, as well as when passing down an incline where it is necessary to hold back by the horses; also, in case of one wheel being trigged a little by something upon the track, it brings the draught nearest the trigged-wheel and prevents the jostling of the truck.

Having thus described my improved railway car, what I claim, and desire to secure by Letters Patent, is—

1. The method of attachment of the extreme ends of the trucks to the car by king-bolts *g'*, so that the brakes can be worked in the centre of each shaft; also, the combination and arrangement of the box-coupling *D* to the centre of the axle, so as to insure the twofold purpose of a brake-wheel and coupling.

2. The combination and arrangement of the double-acting brake *EE*, with springs *F*, and levers *I*, *H*, and *K*, so that it will clasp both sides of the wheel at the same time with equal pressure.

3. The two bearings *aa*, to each section of the axle, to prevent binding in the coupling-box; likewise, placing the springs *ff* between the trucks and platform and carriage, so that each shaft will have bearings near its centre.

4. The cross-tongue *h*, attached to street cars, when operating in parallel slots *ii*, so that when the car passes a curve the outer end of the cross will move back in the slot, bringing the draught on the outer end of said cross or tongue, substantially as described and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal.

ABRAHAM GREGG. [I. S.]

Witnesses:

C. W. M. SMITH,

BEN. E. HARRIS.