

(No Model.)

2 Sheets—Sheet 1.

J. C. HENRY.
ELECTRIC LOCOMOTIVE.

No. 562,398.

Patented June 23, 1896.

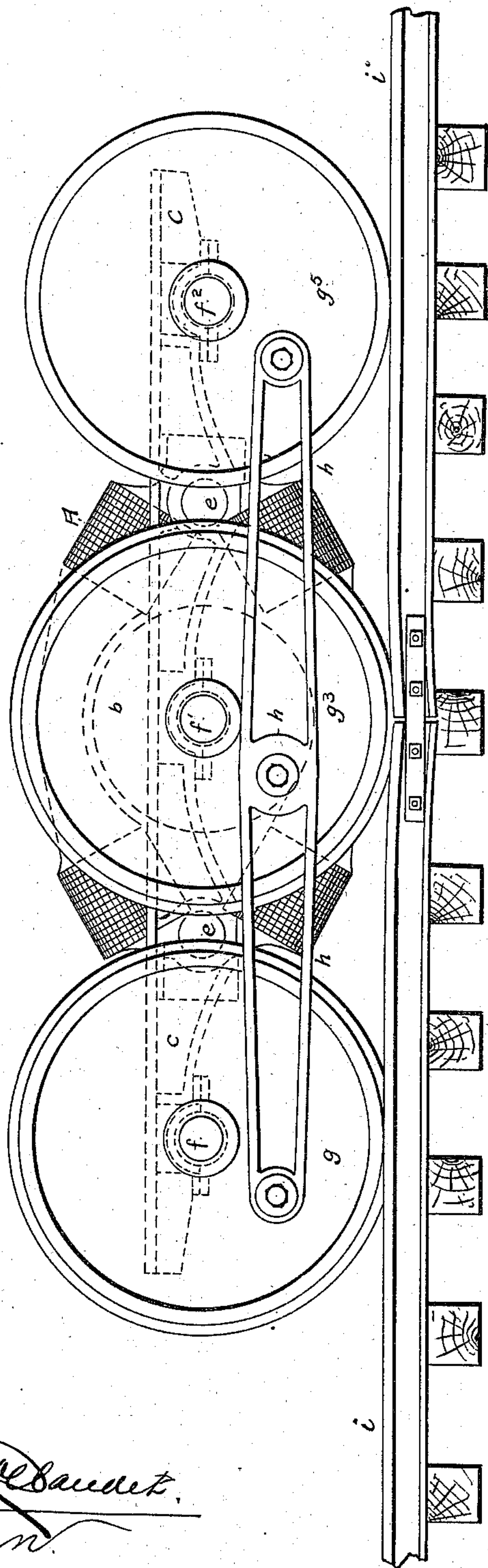


FIG. 1.

WITNESSES:

J. J. Delaney
G. E. McBurn

INVENTOR

John C. Henry

(No Model.)

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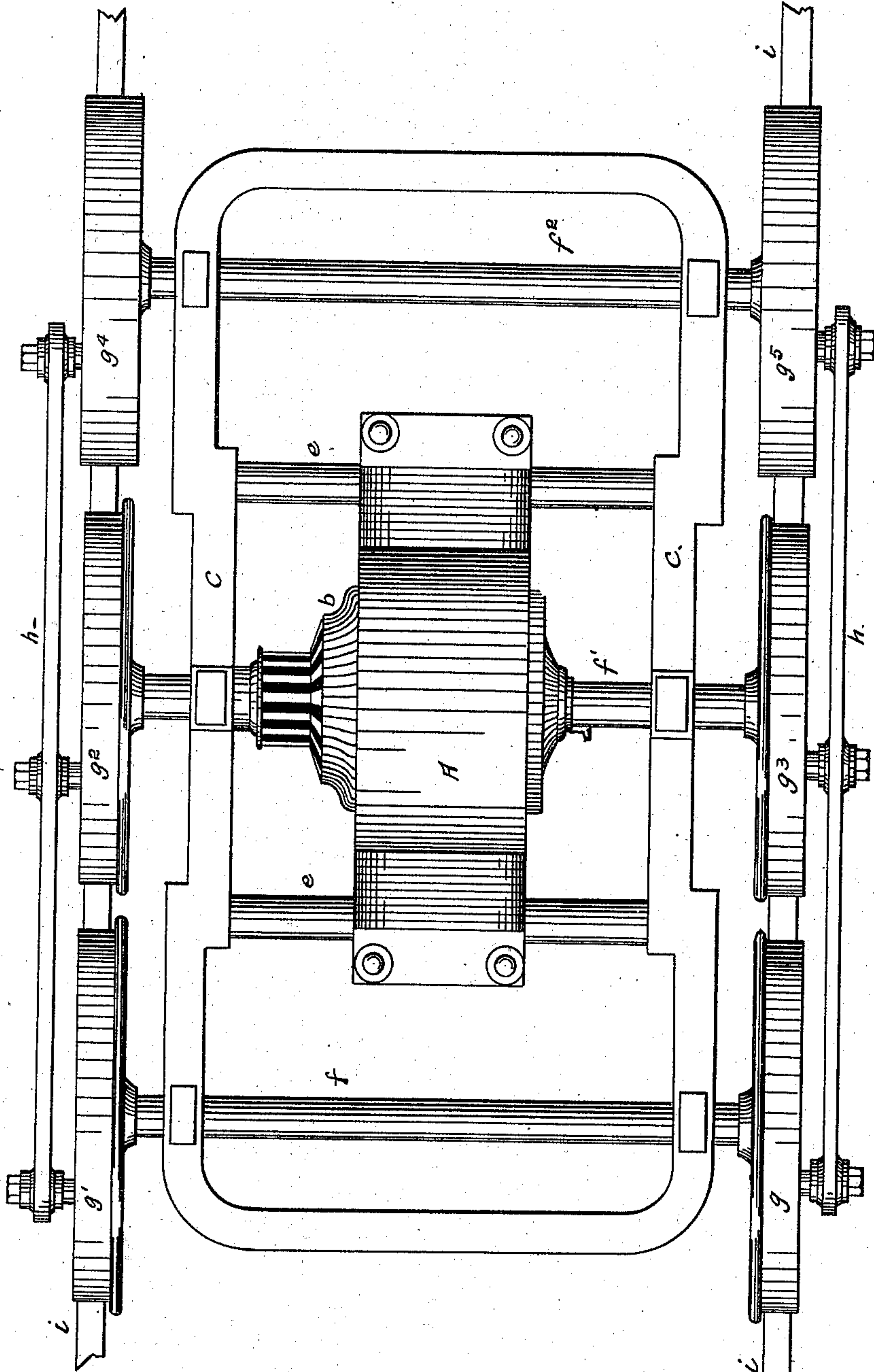


FIG. 2.

WITNESSES:

C. J. Deland.
C. E. McCarroll

INVENTOR

John C. Henry

UNITED STATES PATENT OFFICE.

JOHN C. HENRY, OF WESTFIELD, NEW JERSEY.

ELECTRIC LOCOMOTIVE.

SPECIFICATION forming part of Letters Patent No. 562,398, dated June 23, 1896.

Application filed April 22, 1895. Serial No. 546,799. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. HENRY, a citizen of the United States, residing in Westfield, county of Union, State of New Jersey, have invented certain new and useful Improvements in Electric Locomotives, of which the following is a specification.

This invention relates to improvements in electric locomotives.

The main objects aimed at in the construction are to reduce the number of parts, improve the adhesion, and so assemble the motor that it cannot be injured by shocks in passing over defective rail-joints. In the ordinary motor-truck the wheels follow defective track, and strike the low joints with a blow. In the invention hereinafter described it will be observed that the wheels are held in the position the track should be, and one after the other will pass over low joints without ever touching them. It will be evident there is no shock to the motor, and consequently there is no occasion of cushioning it with springs, as is the common practice.

The invention further relates to improved means of obtaining adhesion, so that a single motor may be connected to three or more pairs of axles by a single or double member.

In the drawings, Figure 1 represents in side elevation my improved electric locomotive as its outlines would appear when passing over a low track-joint. Fig. 2 represents a plan of same.

A represents the field-magnets of the motor, which is supported by the truck-frame *c* through the intermediate shafts *e e*. *b* represents the armature, which is secured by key or otherwise to the axle *f'*. The axles *f, f'*, and *f''* have bearings in the rigid frame *c*. The wheels are all linked together by the rigid connecting-rod *h* and *h*. Those rods are driven from their center by the armature *b*. To enable the truck to describe short curves, I prefer to have one of the pair of wheels without flanges, as shown at *g¹* and *g²*. To avoid danger of those wheels leaving the track when rounding curves, I prefer to make their tread wider than the others. Pairs of connecting-rods may be used on each side; but I prefer the single rod, such

as shown, as it reduces the number of wearing parts and cannot cramp in crossing the center, as divided connecting-rods are liable to do when their bearings become worn. In the plan view I have shown connecting-rods on both sides of the truck. This, however, is not essential. A single rigid rod on but one side will operate all of the wheels. I prefer, however, to have them on both sides, as shown, so that in the event of one of them breaking or having hot bearings, it may be removed or the bearings loosened up without disablement. In locomotives the universal practice is to set the connecting-rods quartering, that is, the driving-pin on one side is placed one-quarter of the circumference ahead of the one on the opposite side. The result is they cannot be balanced as a whole by counterweights. In consequence of this the locomotive has an unsteady movement. In the locomotive herein described the rods are set in approximately the same position on both sides, thus enabling the whole structure to be put in perfect running balance by the use of the ordinary counterweights. The same general plan may be used where five or more pairs of axles are required.

What I claim as new, and desire to secure by Letters Patent, is—

1. An electric-motor truck having a rigid frame, two or more wheeled axles extending across and journaled in the sides of said frame, a motor mounted in the frame having an armature-shaft centrally located therein and extending laterally through bearings in said frame and a track-wheel on each end of said central or third shaft, substantially as described.

2. An electric-motor truck having a rigid frame, two or more wheeled axles extending across said frame and journaled in the sides thereof, a motor mounted on the frame and having its armature-shaft extended laterally through bearings in the sides of said frame, a track-wheel on each end of said shaft, a crank-pin on each of the track-wheels, and side rods connecting said crank-pins on each side, said rods being approximately in the same position on both sides of the truck, substantially as described.

3. A six-wheel truck for electric cars, hav-

ing a rigid frame, end axles journaled in fixed
bearings in said frame, flanged wheels on
one of said end axles, wide-tread flangeless
wheels on the other end axle, a motor mounted
5 on the frame, having its armature-shaft ex-
tended laterally through bearings in said
frame, flanged track-wheels on the end of said
shaft, and rigid side rods connecting the three
wheels on each side, the rods being in approxi-

mately the same position on both sides of the 10
truck, substantially as described.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses.

JOHN C. HENRY.

Witnesses:

VALLA KILTON,

MARY HAMPTON LLOYD.