

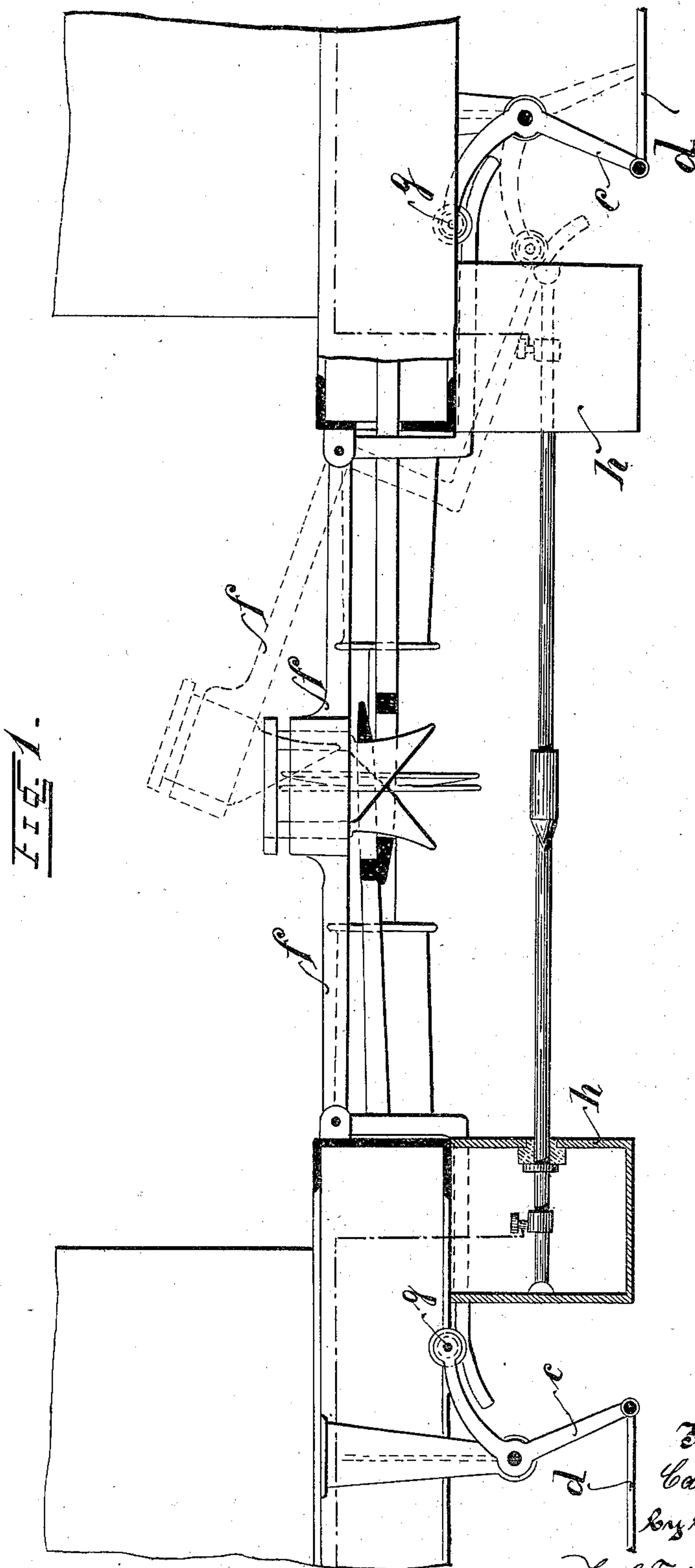
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5 Sheets—Sheet 1.

C. MORADELLI.
CAR COUPLING.

No. 556,018.

Patented Mar. 10, 1896.



Witnesses
H. Schlosf
G. Schenck

Inventor
Carl Moradelli
by his Attorneys
Joh. Fried. Wallmann

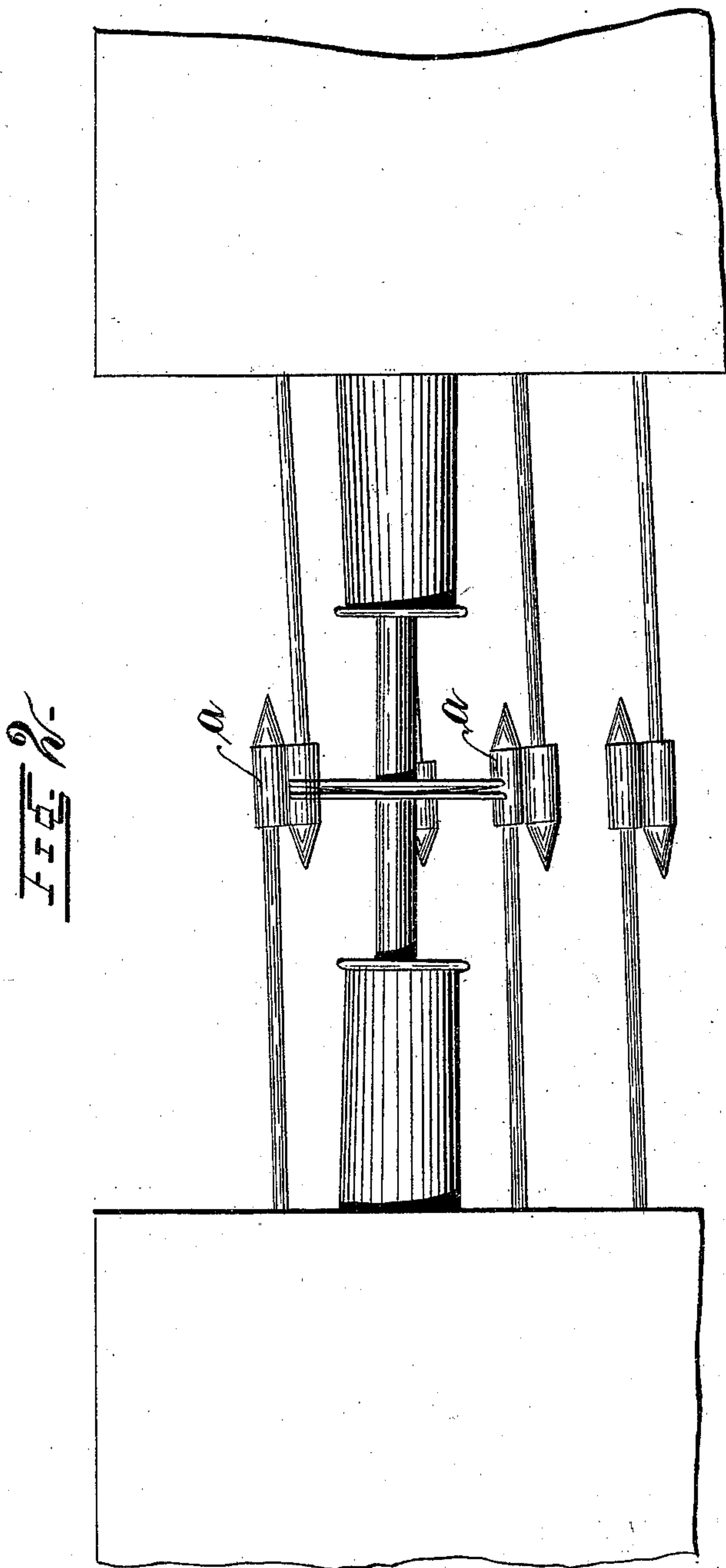
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CAR COUPLING.

No. 556,018.

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Witnesses
H. Schlarf
G. Schlarf

Inventor
Carl Moradelli
by his Attorneys
Joh. Friedr. Wallmann & Co.

(No Model.)

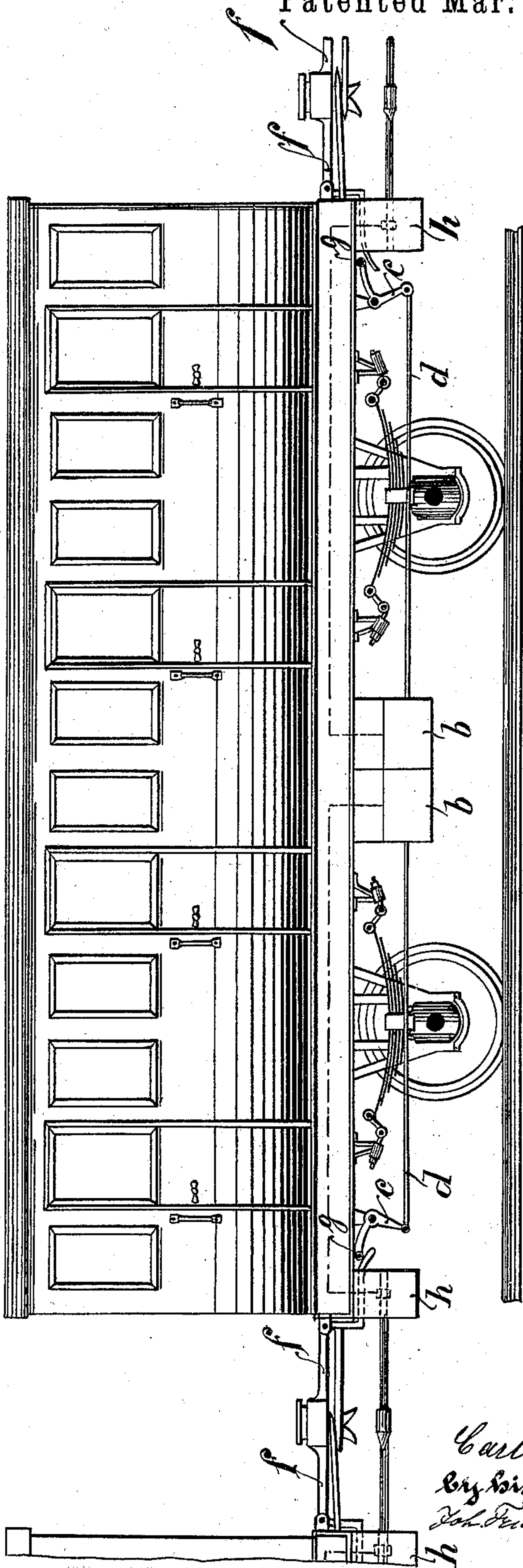
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Fig. 3.



Witnesses
H. L. Lutz
G. Lutz

Inventor
Carl Moradelli
By his Attorneys
John F. W. W. W. W.

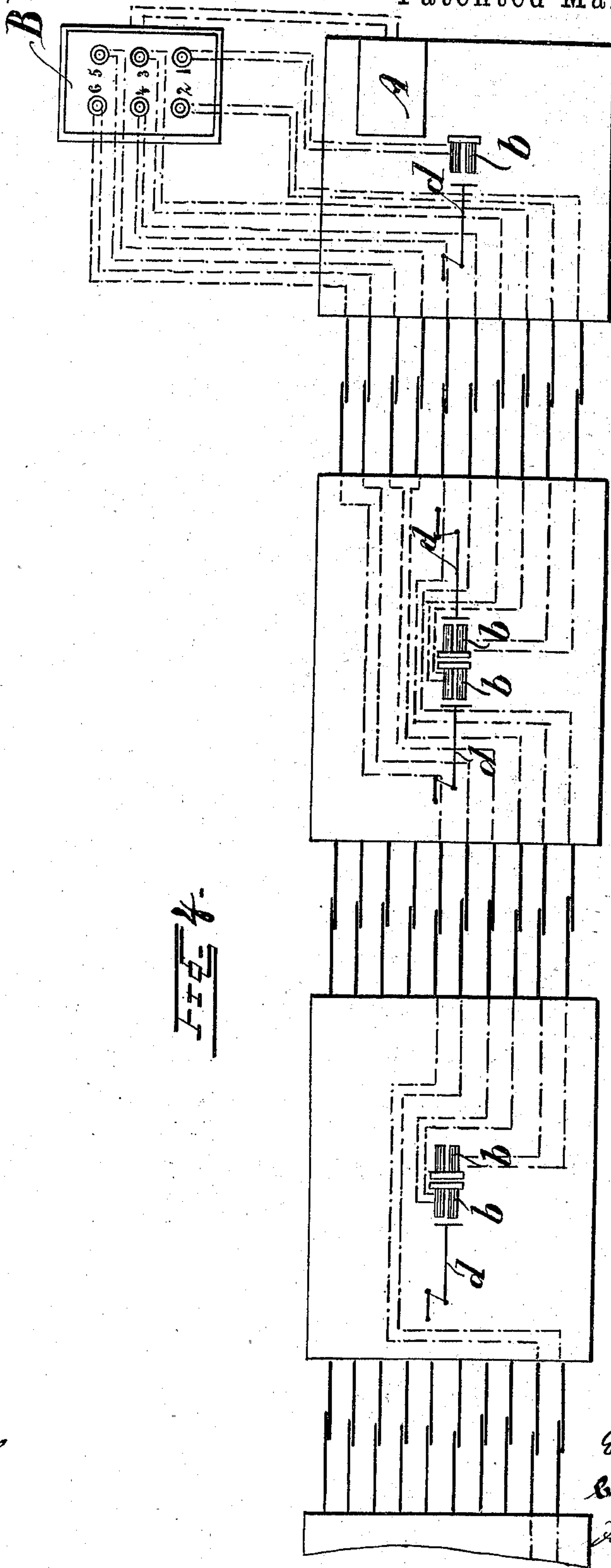
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CAR COUPLING.

No. 556,018.

Patented Mar. 10, 1896.



Witnesses
H. Schloof
G. Schloof

Inventor
Carl Moradelli
By his Attorneys
J. F. & W. C. Williams & Co.

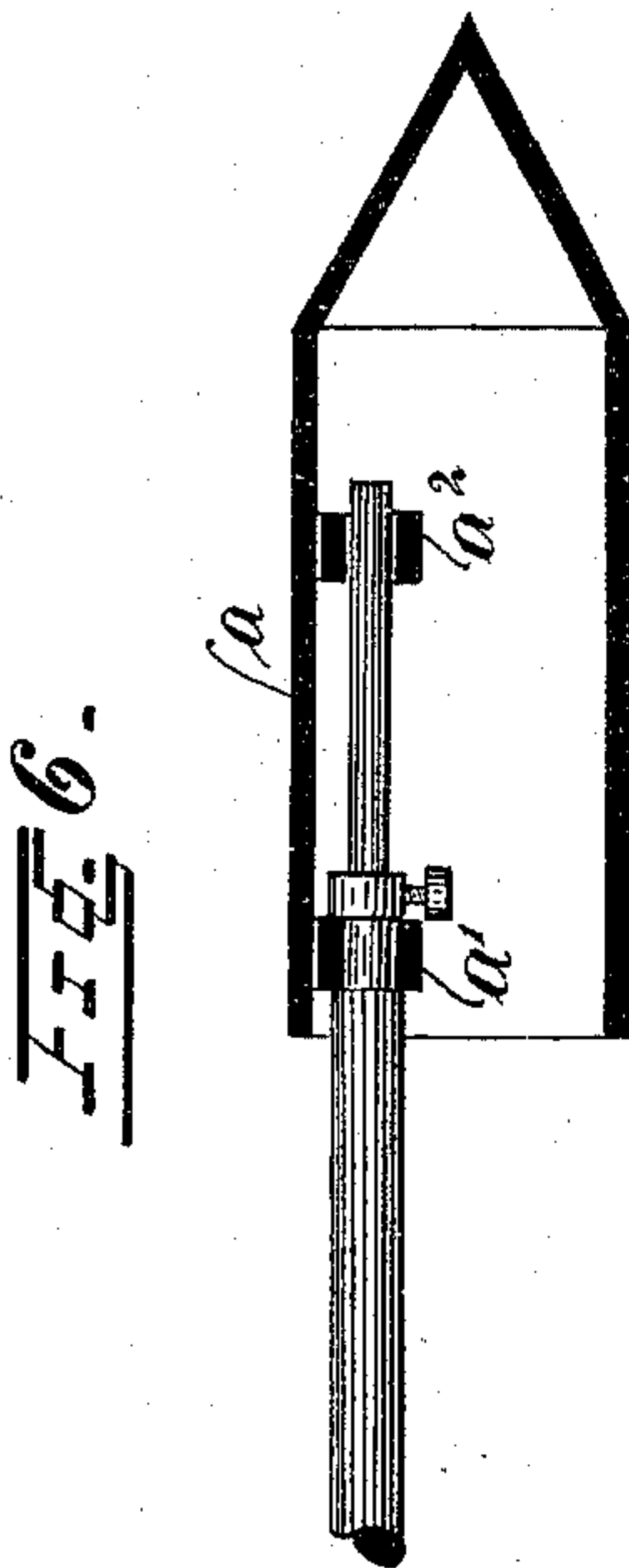
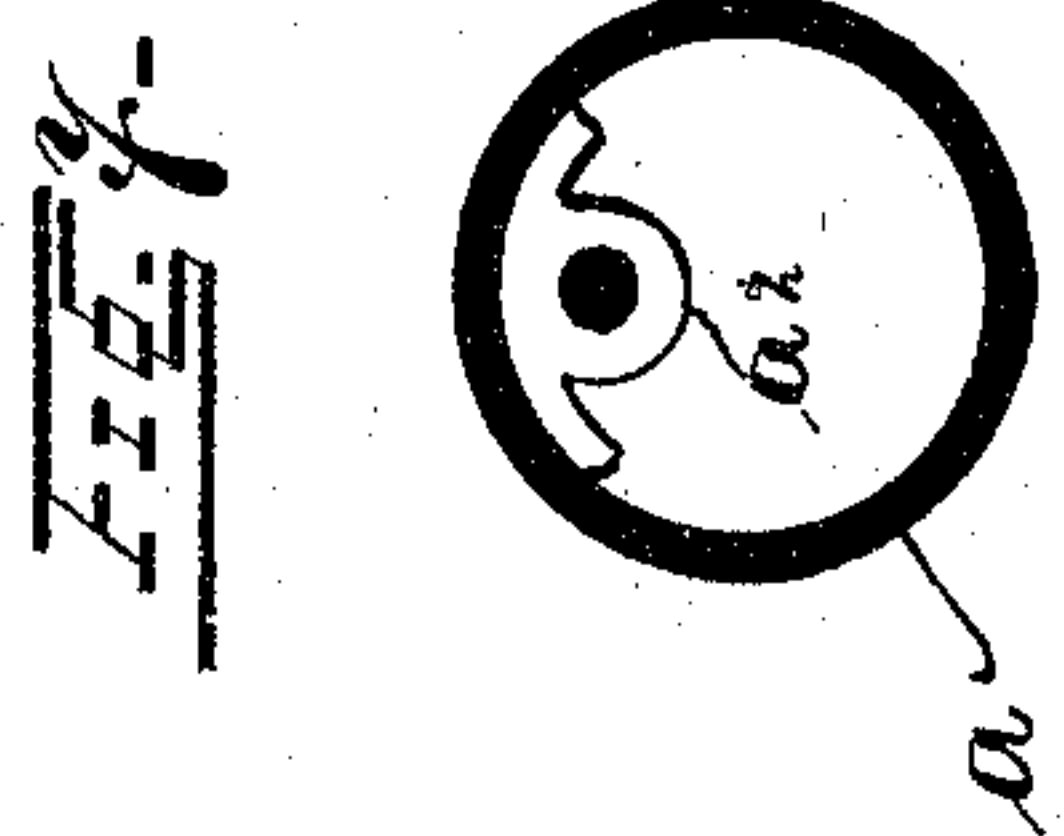
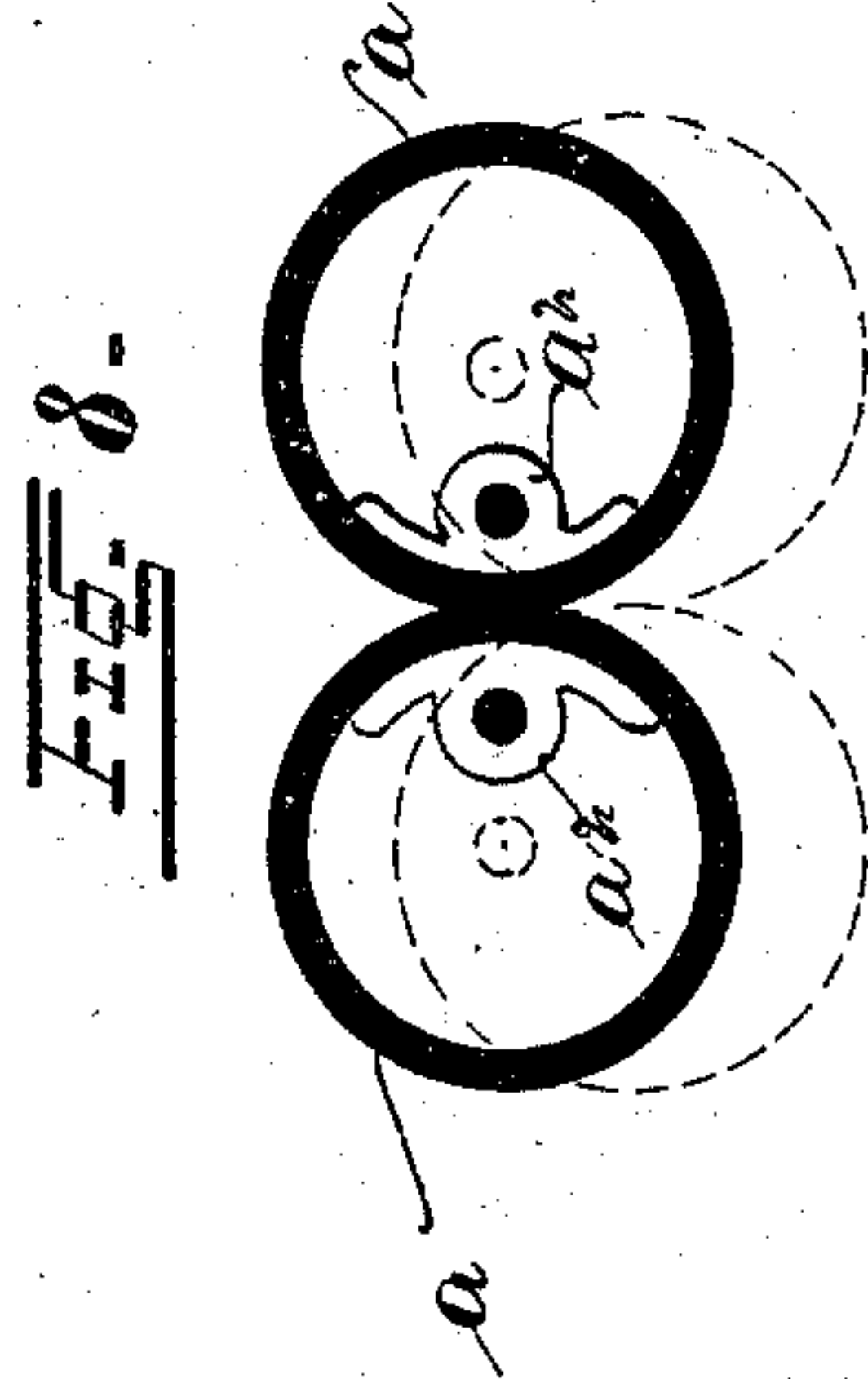
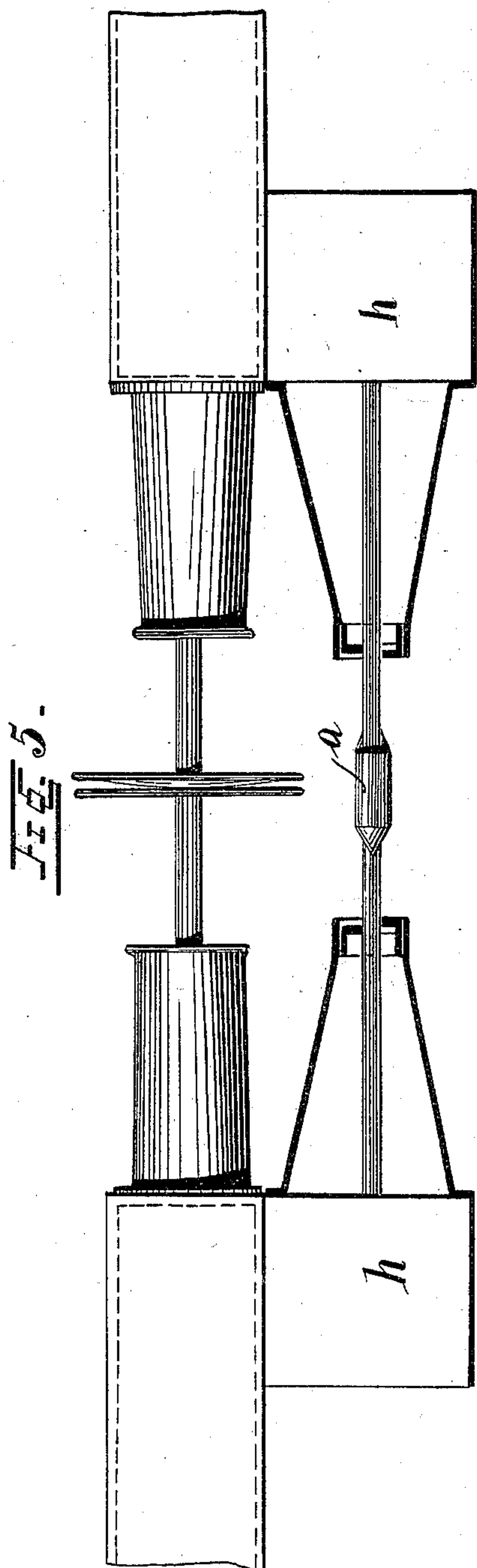
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C. MORADELLI.
CAR COUPLING.

No. 556,018.

Patented Mar. 10, 1896.



Witnesses
H. Schloss
G. Humber

Inventor
Carl Moradelli
By his Attorneys
Friedrich Wallmann

UNITED STATES PATENT OFFICE.

CARL MORADELLI, OF MUNICH, GERMANY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 556,018, dated March 10, 1896.

Application filed January 16, 1895. Serial No. 535,145. (No model.)

To all whom it may concern:

Be it known that I, CARL MORADELLI, a subject of the King of Bavaria, and a resident of Munich, in the Kingdom of Bavaria, German Empire, have invented a certain new and useful Device for Disconnecting Railway-Cars, of which the following is a full, clear, and exact description.

The present invention consists of a device for disconnecting a train at any point, by means of electricity, from the locomotive; and in order to make the present specification more easily intelligible reference is had to the accompanying drawings, in which similar letters and figures denote similar parts throughout the several views.

Figure 1 is a side elevation of a coupling, showing the connection of the coupling-hook with an angle-lever worked by the armature of an electromagnet; Fig. 2, a plan of two car ends, showing the conductors arranged between the same. Fig. 3 is a general arrangement showing a car coupled at both ends. Fig. 4 is a diagrammatic arrangement of three cars and their electric connections to the switchboard and the dynamo-machine. Fig. 5 shows the arrangement of conductors having movable contact-heads, the bearing-sleeve being in longitudinal section. Figs. 6 and 7 are longitudinal and cross sections, respectively, of a contact-head drawn to a larger scale. Fig. 8 shows a cross-section through two contacting heads.

The coupling-hooks f are pivoted to the ends of the cars at f' and provided with rearwardly-extending arms f^2 , with which a roll g at the end of an angle-lever c , pivoted at c' underneath the car, engages. The lower arm of the said lever is connected by means of a rod d to the armature of an electromagnet b arranged, as shown at Fig. 4, underneath the car. Obviously if the electromagnet b is excited it will attract the armature and turn the angle-lever c on its pivot, thus depressing by means of the roll g the arm f^2 of the coupling-hook f , and if the corresponding magnets of two coupled cars are excited simultaneously both the hooks will be raised simultaneously from their connecting-links f^3 , and the two cars will be uncoupled. In order to effect such uncoupling from the locomotive or any other part of the train, the conductors

connecting up all the magnets individually with the dynamo and with a suitably-arranged switchboard are provided, as shown diagrammatically at Fig. 4.

Each car must be provided with twice as many conductors as there are cars in the train. Thus, as shown clearly at Fig. 4, the conductors of the last electromagnet will pass along all the cars without interfering with the conductors of the other cars leading to the switchboard B , which may be of any suitable construction and situated on the locomotive or at any other desired point of the train. Suitable connections are provided from the switchboard to the dynamo A , which is advantageously mounted on the engine.

1, 2, 3, 4, 5 and 6 represent the switches.

The operation of the device will be evident from Fig. 4 of the drawings. Supposing switches 1 and 2 are operated, they will excite the magnets b of the contacting ends of the first and second cars from the locomotive. The hooks connecting these cars will be thrown up and the train disconnected at this point. By means of the other switches the train may be disconnected at other points.

I will now proceed to describe the way in which the conductors keep contact between the cars. The conductors consist of steel or iron rods extending underneath the cars and having their ends loosely mounted in suitable casing h at the car ends. The rods are insulated and provided at their ends with enlarged cylindrical contact-heads a , having advantageously - pointed heads, as shown at Fig. 6. These heads are of such diameter that when the cars are run together they will contact with the corresponding heads of the opposite car whatever the variation in the height of the two cars, due to varying loads, may be. Being elastically mounted they will push by one another and contact gently, lying side by side. The ends of the conductors may, however, be rigidly mounted in the car ends or casings h and the contact-heads be made to swing on said conductor ends, as shown in Figs. 7 and 8. In this case the head a is provided with interior bearings a' a^2 , through which the end of the conductor-rod extends, Fig. 6, on which the said head is free to rotate. As the bearings are eccentrically arranged, the heads will always fall into the po-

sition shown at Fig. 7 when free to rotate. Thus, as shown in Fig. 8, when two cars are run together they will contact by means of their own weight, either as shown at Fig. 8 or
5 as shown in dotted lines in this figure, when the rods happen to be somewhat farther apart.

I claim as my invention—

1. The combination of electromagnets *b b* arranged underneath each car, separate con-
10 ductors from the magnets of each car to the locomotive or other part of the train, a dynamo and means for connecting same to any one of said car-magnets, armatures to said magnets and means in connection with same
15 to operate car-hooks when the magnets are excited, free-lying conductor ends at the end of each car, elastically mounted and having cylindrical contact-heads *h* with conically-pointed ends in the manner and for the pur-
20 pose substantially as described.

2. In a railway-train the combination of

magnets arranged underneath the cars, means for connecting said magnets to the coupling-hooks by armatures and lever connections, to raise said coupling-hooks when the magnet 25 is excited, means for exciting each magnet separately from a given point of the train, and free-lying insulated conductors extending underneath the cars, and having at their free ends cylindrical contacting heads, ec- 30 centrically mounted to rotate on said conductor ends, and having pointed front ends in the manner and for the purpose substantially as described and shown.

In testimony whereof I have signed this 35 specification in the presence of two subscribing witnesses.

CARL MORADELLI.

Witnesses:

U. H. NERMBERG,
JOHN B. JACKSON.