

(No Model.)

F. FREAR.
CAR COUPLING.

No. 244,880.

Patented July 26, 1881.

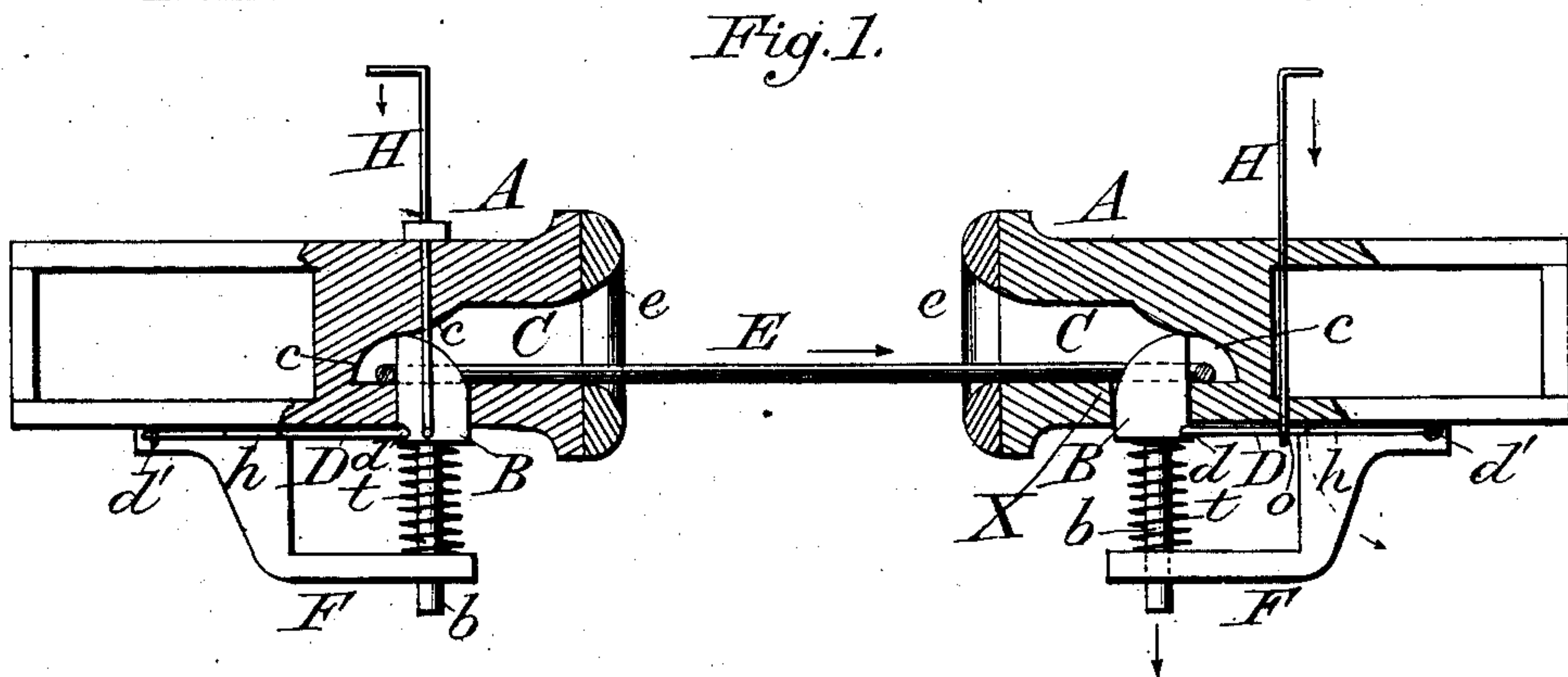
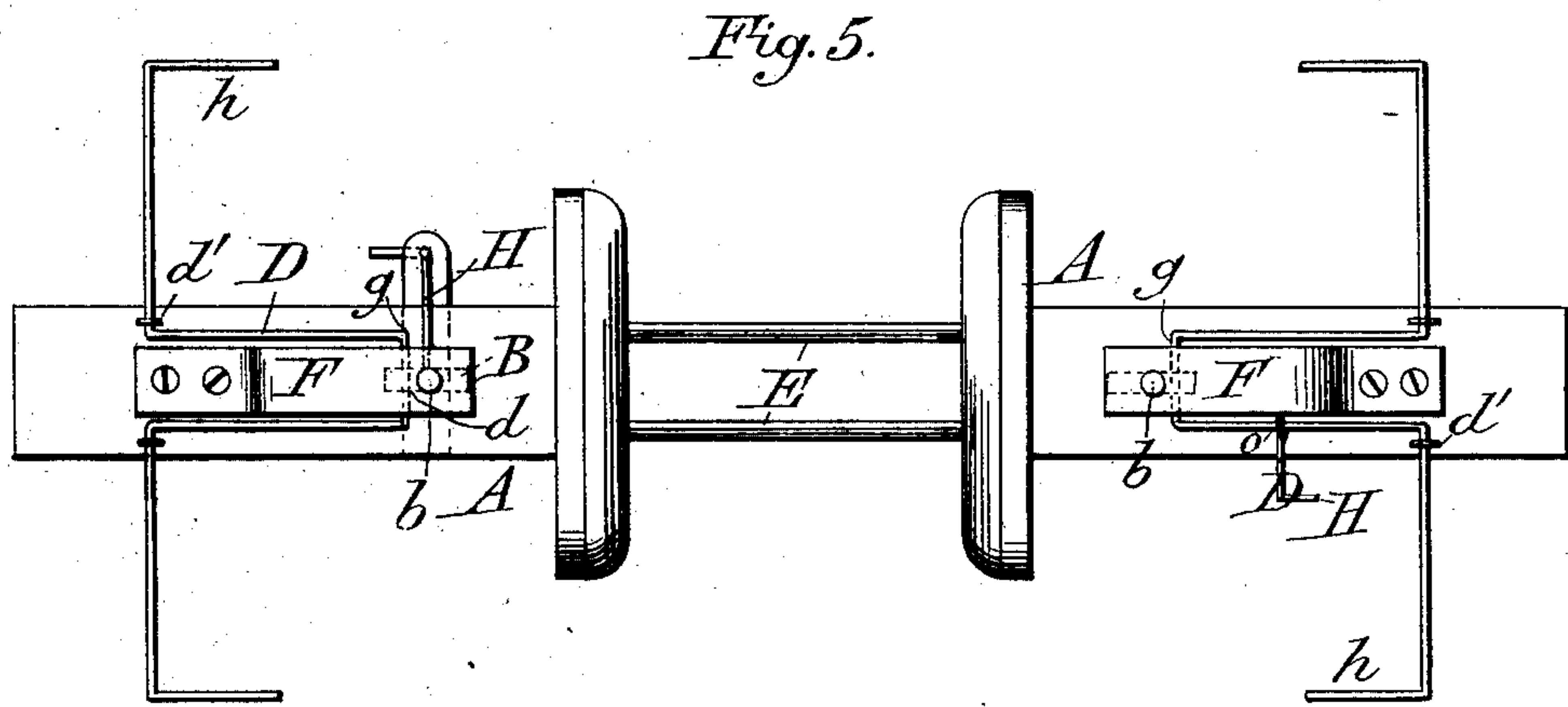
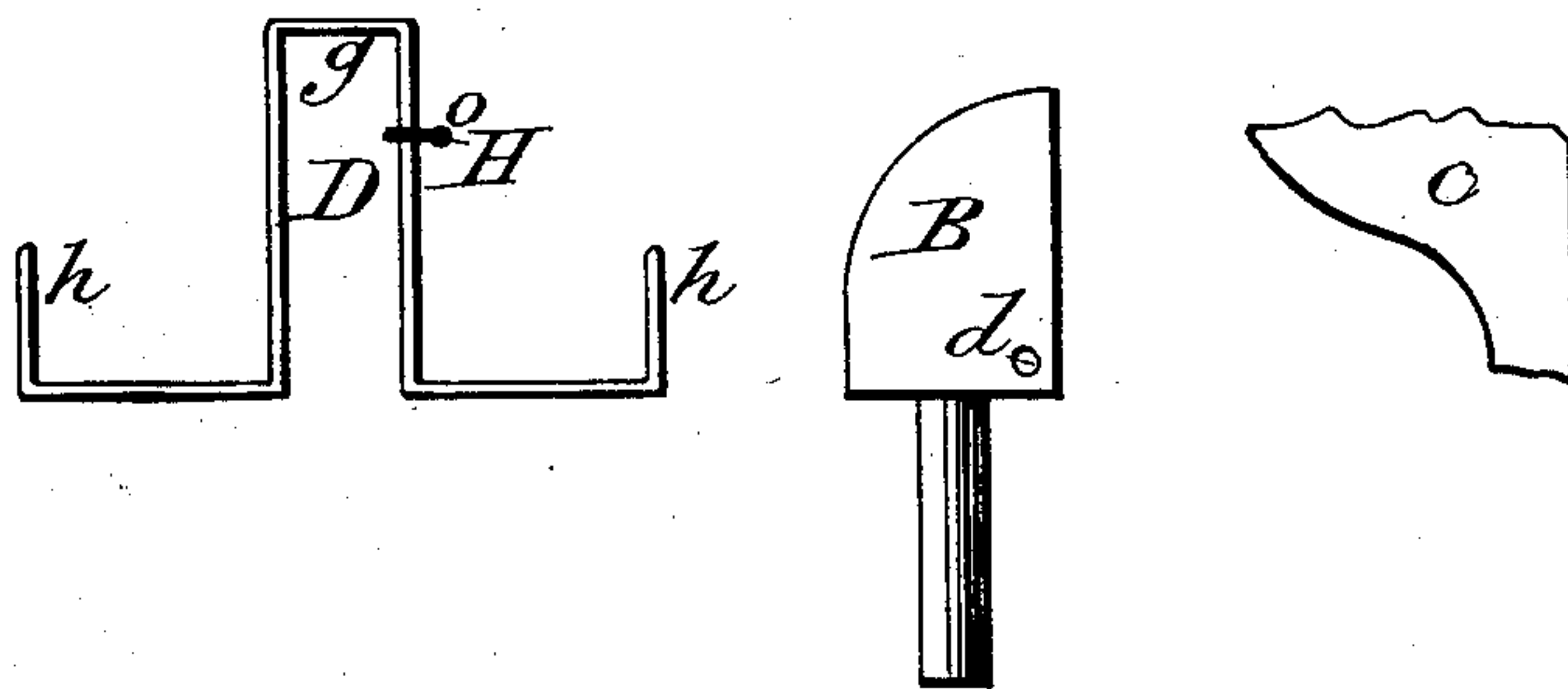


Fig. 4.

Fig. 3.

Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

FRANK FREAR, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO HENRY H. ALVORD, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 244,880, dated July 26, 1881.

Application filed November 20, 1880. (No model.)

To all whom it may concern:

Be it known that I, FRANK FREAR, of Chicago, Cook county, Illinois, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to improvements in automatic couplings for railroad-cars; and it consists in the construction, arrangement, and combination of parts, as hereinafter described and set forth.

15 The objects of my improvements are, first, to provide a cheap, durable, efficient, and safe self-coupler; and, second, to provide a coupler whereby cars may be disconnected conveniently without the necessity of going between the same. I attain these objects by the mechanism illustrated in the accompanying drawings, in which similar letters indicate like parts.

20 Figure 1 represents a longitudinal sectional view of my coupler. Fig. 2 is a detached view, showing the shape of the rear wall of the link-chamber. Fig. 3 is a view showing the construction and shape of the bolt B. Fig. 4 is a view showing the lever. Fig. 5 is an inverted plan view.

30 A is the draw-head or bunter, which may be connected to the car in any suitable manner, and which, in exterior form, usually presents no material difference from other draw-heads which are in general use, except in such special features as are hereinafter mentioned.

35 C is the link-chamber, into which the link E passes to be coupled, with its rear wall, *c*, and having the usually outwardly-flaring mouth *e*.

40 B is a spring-bolt, constructed in the shape as shown in Fig. 3, and works through the floor X of the draw-head A and through the chamber C, and is the means employed for locking or coupling the link E, the outer face of the head of the bolt being beveled.

45 F is an arm, which projects from the under surface of the draw-head A and operates as a bearing for the shank *b* of the bolt B, and the spring *t* that surrounds said shank.

D is a cranked releasing-lever, which is pivoted to the draw-head A at or about *d'* for its fulcrum, its transverse portion *g* being connected with the bolt B at or about *d*, and provided with arms *h h*, and may have an arm, H, connected with the longitudinal portion of the lever D at or about *o*, or other appropriate point, for the purpose desired.

50 *c* is the rear wall of the chamber C, and inclines downward and backward from its point of connection with the upper wall of said chamber to the floor of the same at a point in the rear of the bolt B sufficiently far to allow the passage of the link E over and beyond the bolt to its resting-place, and holds the link in a horizontal or nearly horizontal position while 55 connected, the inclination of the wall *c* being shown in Fig. 2.

60 *t* is an ordinary helical spring, which works around the shank *b* of the bolt B, and having the bearing as shown or any other suitable bearing, and keeps the bolt and releasing-lever in proper place.

E represents an ordinary link for coupling cars.

The manner in which my coupler operates 75 is as follows: The link E in the act of coupling passes through the mouth of the chamber C, as indicated by the horizontal arrow, Fig. 1, and comes in contact with the bolt B, which, by reason of its beveled head, is forced downward, allowing the link to pass to the wall *c*, which, being inclined as shown, deflects the link to its proper position. The bolt B being forced by the spring *t* through the link E, rests against the wall *c*, thus securely and safely effecting an automatic coupling. 85

To uncouple the car, the lever D may be operated by the arm *h* from the side of the car, or by the arm H from the top or platform of the car, as may be desired and convenient. The action of the lever D, when operated either by the arm *h* or H, withdraws the bolt B from the link E, thereby uncoupling the car. 90

The arm H may be connected directly to the bolt B, instead of the lever D, as shown, whereby, if the lever D should fail from any cause, the arm H will operate independently and produce the result desired in uncoupling. 95

My coupler is so constructed that it may be applied and successfully used on freight and passenger cars alike.

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

The combination of the draw-head A, having chamber C, provided with double-inclined rear wall, *c*, arm F, beveled bolt or pin B, hav-

ing shank *b* and coiled spring *t*, double-cranked releasing-lever D, and link E, all constructed and arranged substantially as and for the purpose specified. 10

FRANK FREAR.

In presence of—

G. W. LEVIN,
HARRY HARRISON.