EDWARD D. MEIER.

Improvement in Railway Car Couplings.

No. 115,627. Patented June 6, 1871.

E. D. Meier.
Inventor.

H. G. Tidemann.
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Witnesses.

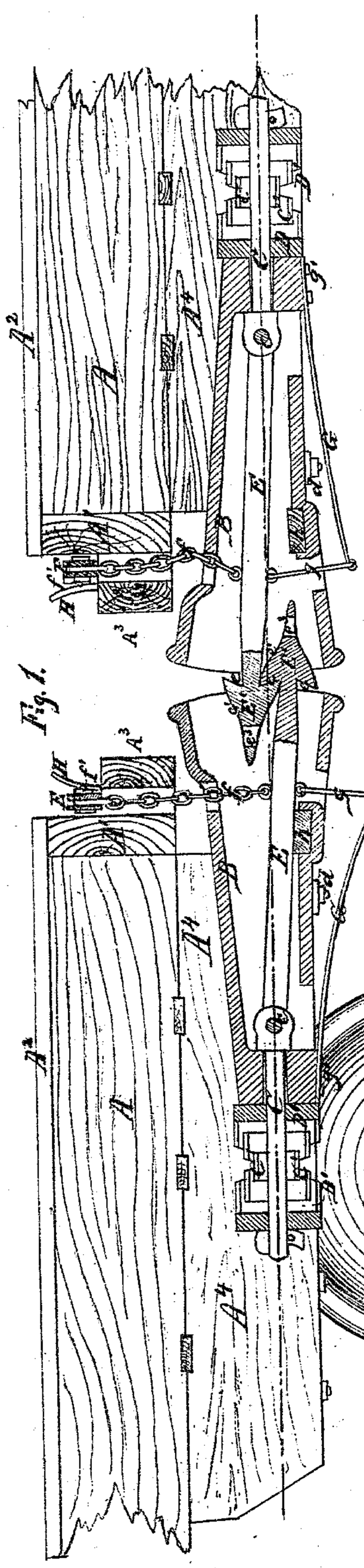

Fig. 1.

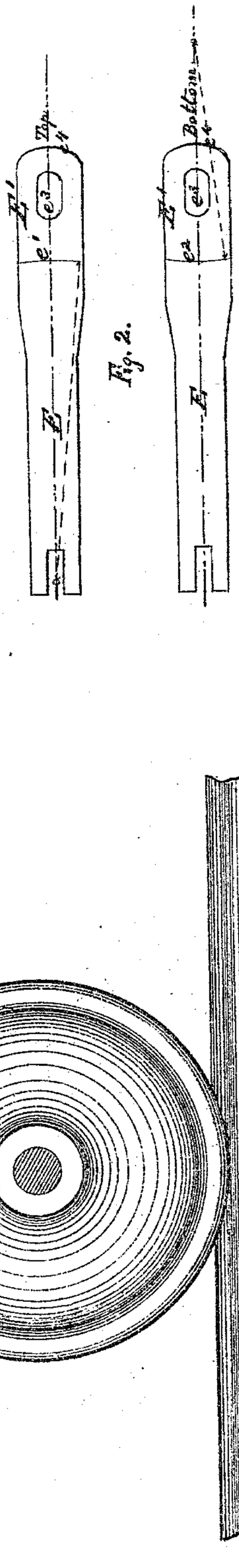

Fig. 2.

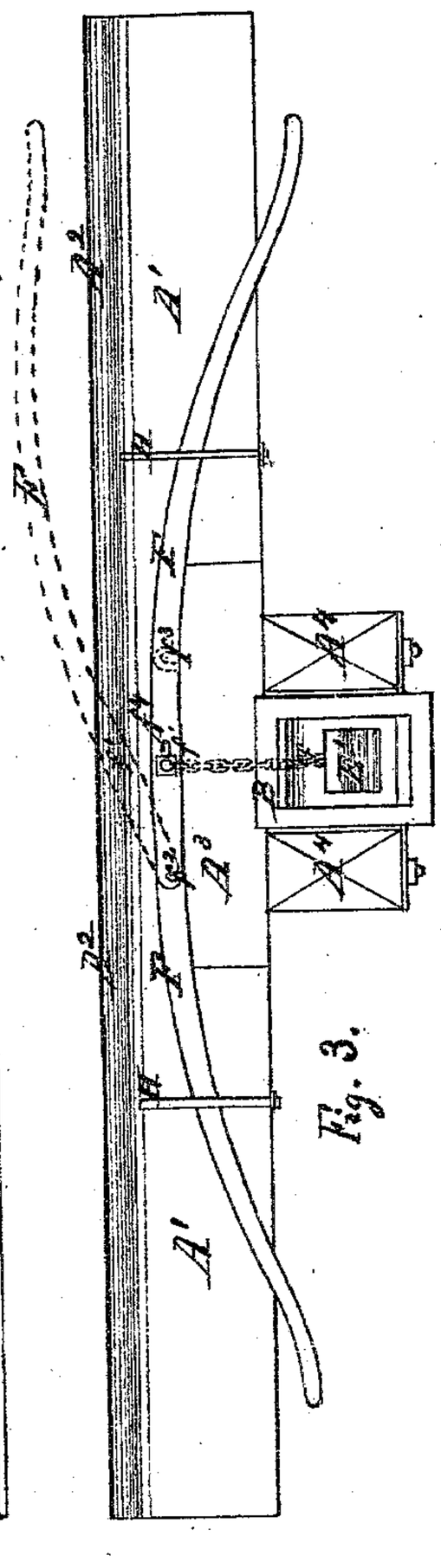

Fig. 3.

115,627

UNITED STATES PATENT OFFICE.

EDWARD D. MEIER, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RAILWAY CAR-COUPLINGS.

Specification forming part of Letters Patent No. 115,627, dated June 6, 1871.

To all whom it may concern:

Be it known that I, EDWARD D. MEIER, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The object of this invention is chiefly to form a safe and efficient self-connecting car-coupler, specially adapted for freight, stock, or passenger cars, besides being generally adapted to couple cars where the usual coupling-pin and ordinary draw-head are used, and which shall also, in its use and application, guard against the inconveniences, difficulties, and accidents known to result from the ordinary method of coupling cars. To achieve said objects, the nature of my invention consists in the combination of a hooked coupling with an ordinary draw-head or bumper of a railroad car, substantially as hereinafter described.

To enable those herein skilled to make and use my said invention, I will now more fully describe the same, referring to the accompanying—

Figure 1 as a longitudinal sectional elevation, showing my improved couplers locked; to Fig. 2 as detail top and bottom plans, respectively, of the coupling hooks or bars; to Fig. 3 as a front or end elevation.

Same letters of reference indicate same parts in the different figures of the drawing.

In the drawing, A represents the sills, A^1 the end sills, A^2 the floors, A^3 the dead wood, and A^4 the draw-head timbers, of a railroad car. B are the draw-heads or bumpers, of wrought or cast iron, supported by the draw-pins C carrying the springs C′, held by followers D, working and secured in guides D′; otherwise said draw-heads B rest on yokes or straps *d*, secured properly to the draw-timbers A^4. The draw or coupling bars E are coupled to the draw-pins C by a pin, *c*, passing through the draw-head and draw-bars, so as to allow said draw-bars to have perfect freedom of action in their vertical movements. At their forward ends the draw-bars E have arrow-heads E′, with their shoulders *e* inclined at an angle less than a right angle, as clearly shown in Fig. 1, thus insuring at all times a return to the locked position even, if it at first is but imperfectly locked, and also preventing uncoupling while the cars are in motion, unless a slack between the cars is first produced. Also, the heads E′ of said bars have their upper shoulders e^1 formed concave, while their lower shoulders e^2 are formed convex-like, as clearly shown in Fig. 2. This insures a bearing at the center of the head E′, and in curving prevents lateral strains on the pins *c*. In order to couple with ordinary draw-heads the heads E′ of the draw-bars are furthermore flattened out or deflected, and have elongated holes e^3 to receive the usual coupling-pin, as shown in Fig. 1. Lastly, said draw-heads E′ are rounded, as shown at e^4, Fig. 2, so as to find a full bearing in the draw-heads B when the cars are backed up or kept in pushing contact with each other. Thus it will be perceived that said draw-bars E are applicable for coupling, as shown in Fig. 1, as well as to couple with the coupling-pin and draw-heads as ordinarily used.

In order to operate the draw-bars E, I connect the same on top (near its forward end) by chain-attachment, *f*, to a pin, f^1, which serves also to connect the curved extension levers F, pivoted respectively at f^2 and f^3 to the end sills A^1, as shown in Figs. 1 and 3. A slot, f^4, in each lever allows for the required lifting movements of the pin f^1. At the bottom I connect said draw-bars E, by a link, *g*, to a suitable spring, G, pivoted or bolted at *g′* to the rear end of the draw-heads. The spring G, by its tension, and the link attachments, by their weight, serve to assist the draw-bars E in dropping down into lock or rest. The draw-heads being set on the line of draft, as usual, the middle of the upper shoulder of each draw-bar a trifle lower than said line, they will readily lock as the cars come in contact with each other; the draw-head, which, by reason of difference in level of track or the road-bed, or in load, or in strength of springs of the car, being higher, sliding up and over the other draw-head and locking, as shown in Fig. 1. As soon as the cars have somewhat slacked their draft, the operator, in order to uncouple, raises the levers F of the higher draw-bar, which, by means of the chains *f*, raises the draw-bar E to a suf-

ficient height to enable the remaining or under bar to be withdrawn. The guides H, secured to the end sills A^1, serve to steady the levers F while the cars are in motion, and also to insure their return to the proper positions after uncoupling. The cushions *h*, of wood, rubber, or any elastic substance, are firmly secured in suitable recesses in the draw-heads B in order to break the effect of sudden jars or concussions, and to catch the draw-bars E as they drop after uncoupling. To uncouple from a box or stock car, a third lever may be placed on top of the car, connecting by a chain with either of the levers F′ shown, or directly to the chain attachment *f*, thus in all cases enabling the brakemen to uncouple from the car or from the ground without stepping between the cars. For a passenger-car an angle-lever is used, working from the platform.

Having thus fully described my said invention, what I claim, and desire to secure by Letters Patent, is—

In combination with the ordinary draw-head or bumper B, the draw-bars E, spring G, link *g*, chain *f*, and levers F, constructed and arranged substantially as and for the purpose set forth.

In testimony of said invention I have hereunto set my hand.

E. D. MEIER.

Witnesses:
WILLIAM H. HERTHEL,
ROBERT BURNS.