

2 Sheets—Sheet 1.

No. 303,791.

Patented Aug. 19, 1884.



**WITNESSES:**

A. C. Eader.  
Jno. E. Morris.

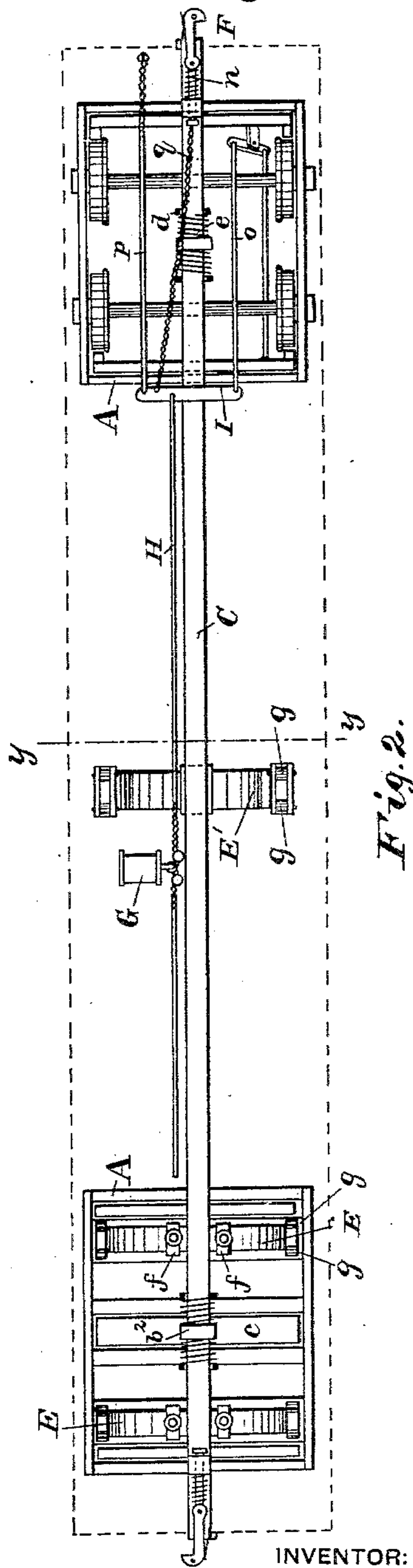


Fig. 2.

INVENTOR:

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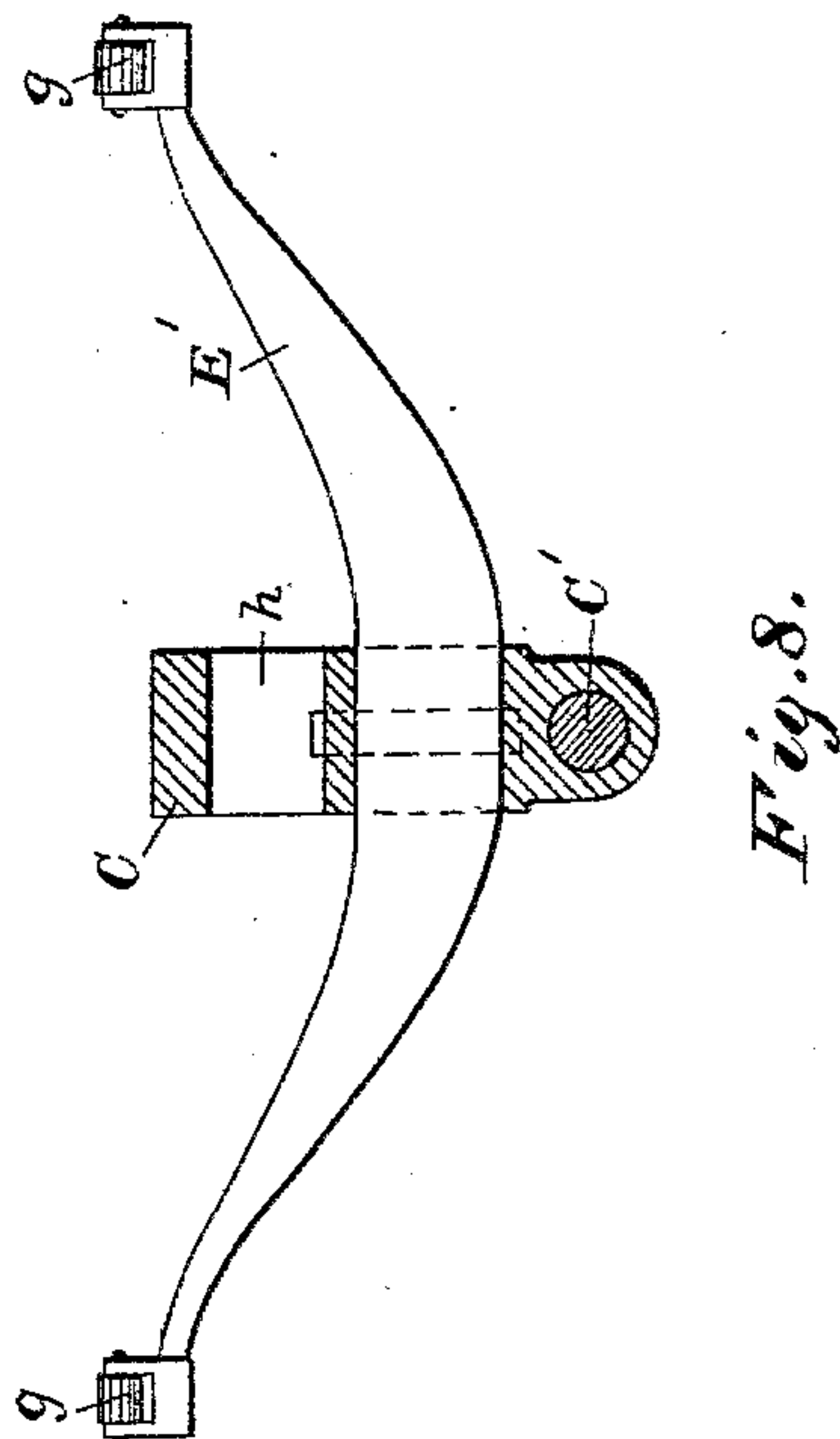
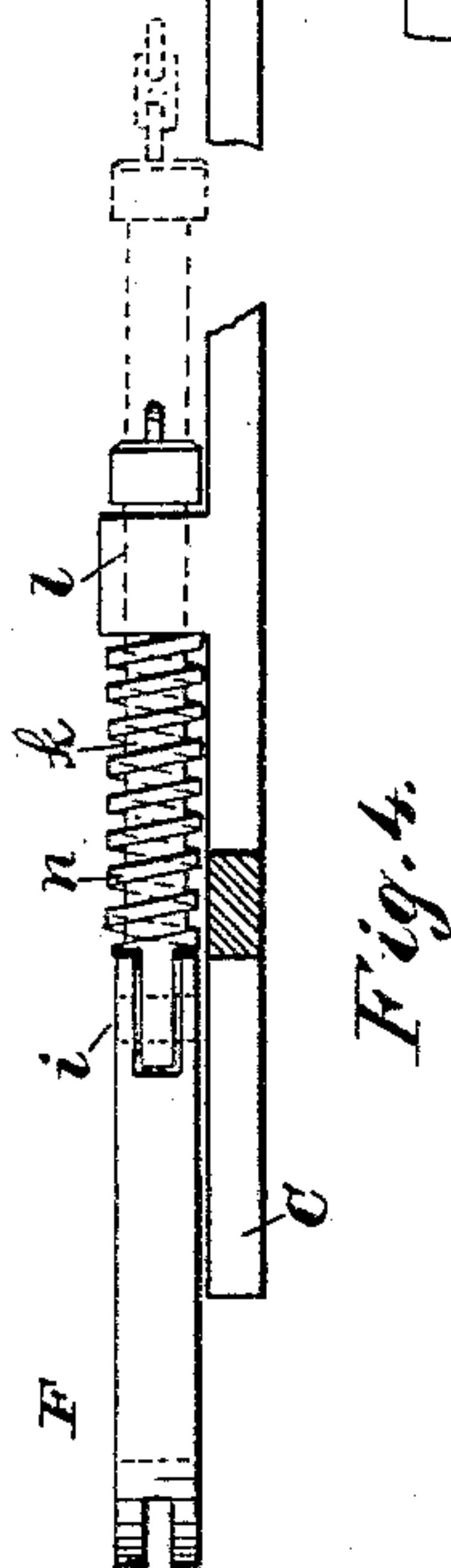
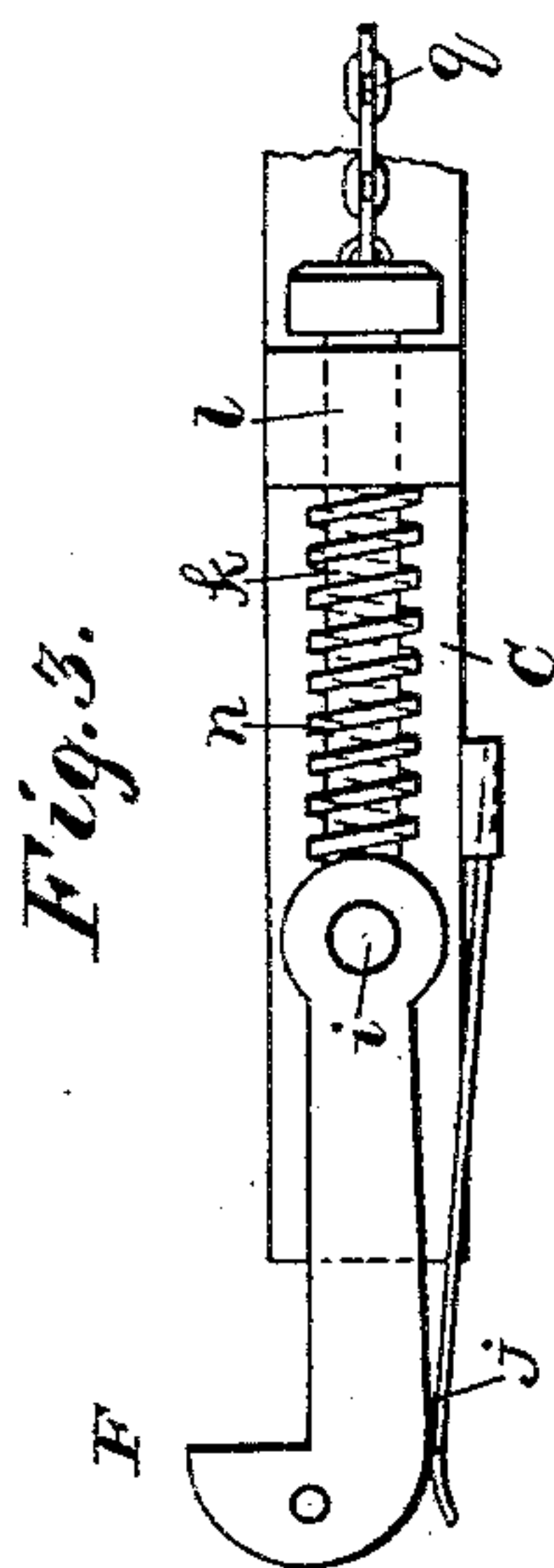
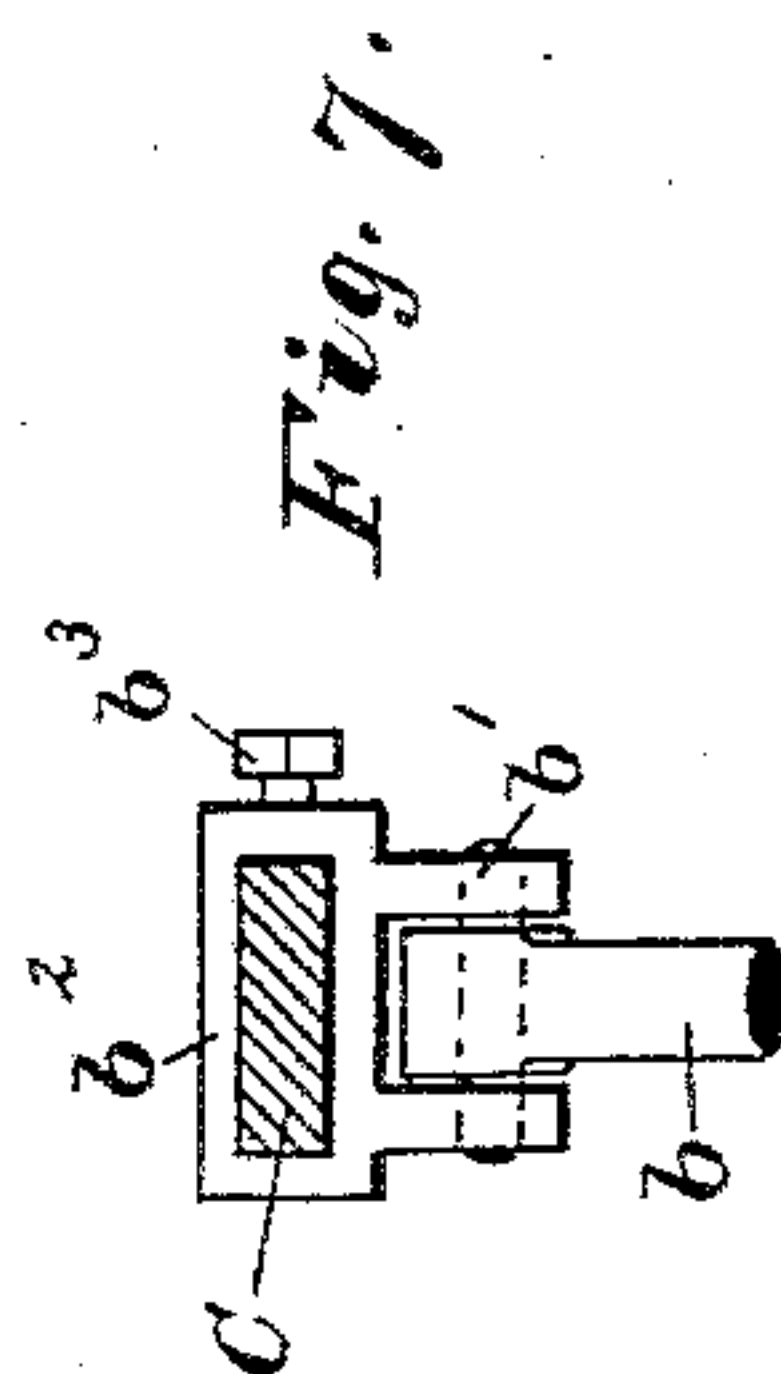
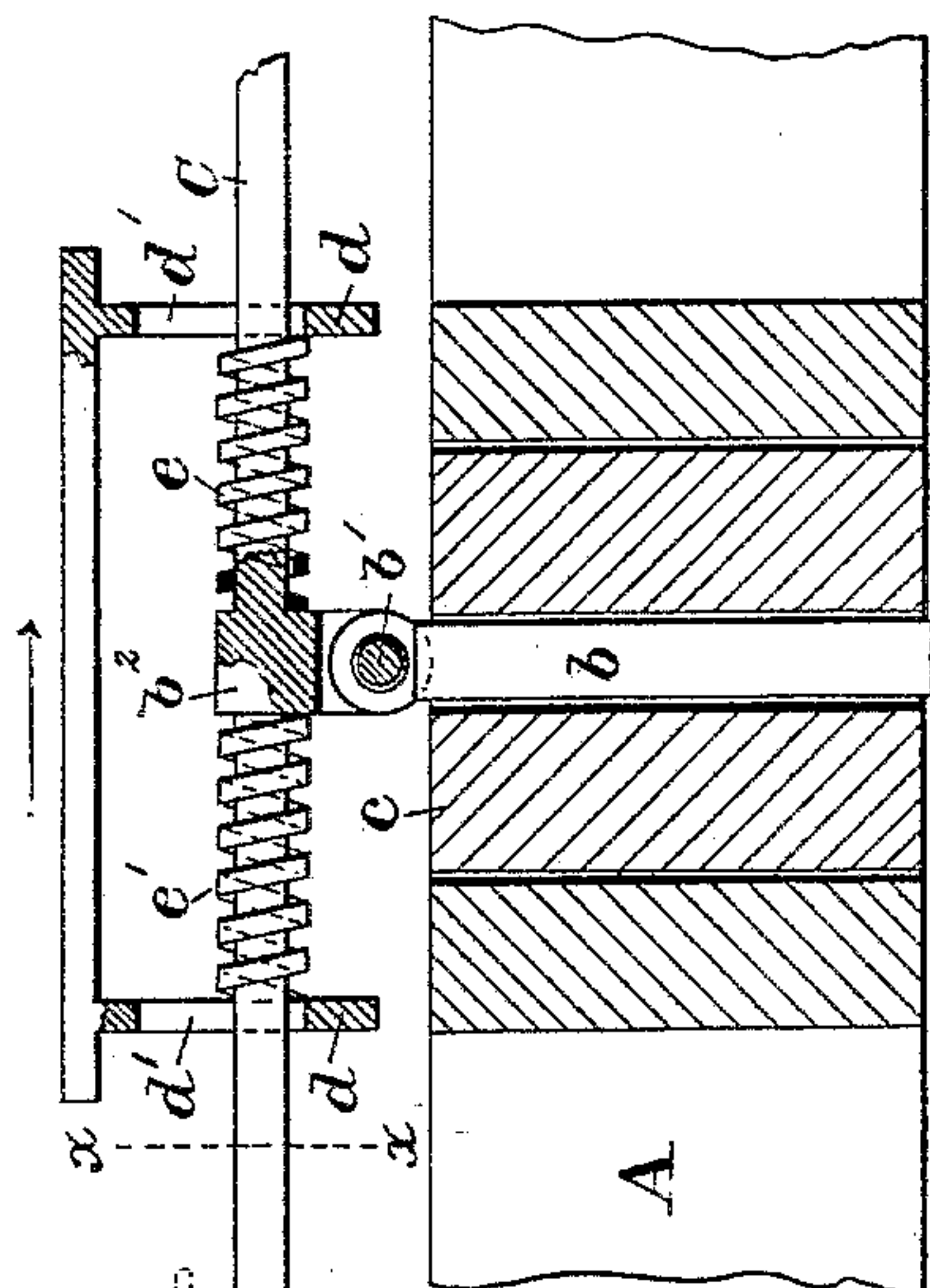
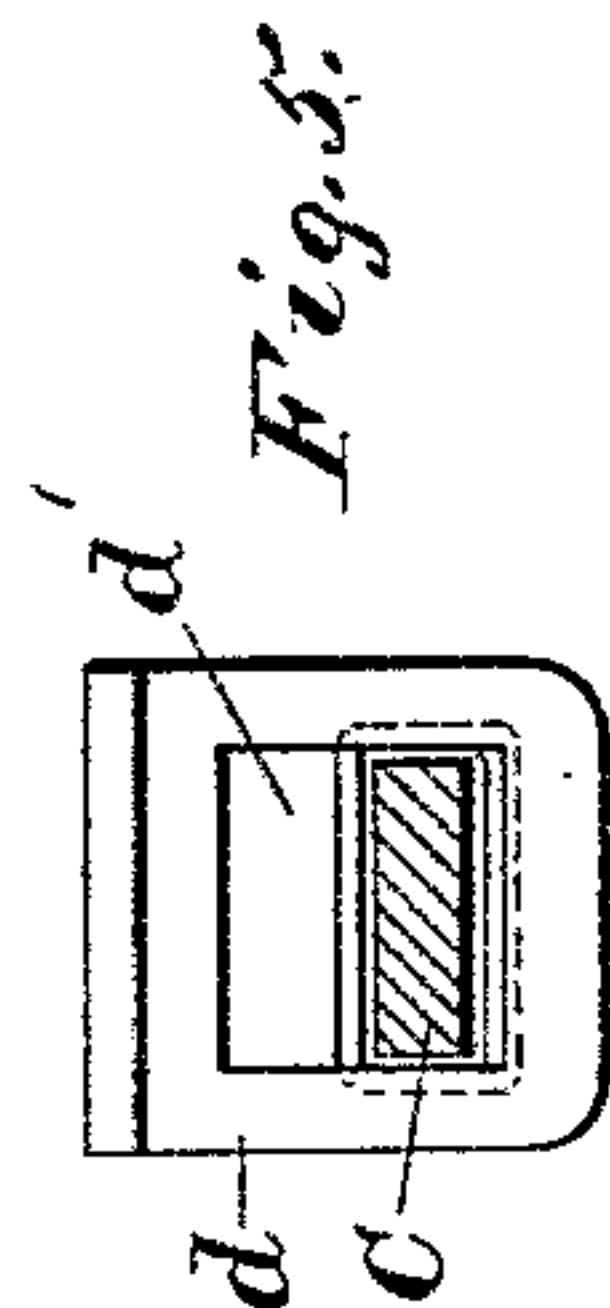
(No Model.)

2 Sheets—Sheet 2.

J. F. BATCHELOR.  
RAILROAD CAR.

No. 303,791.

Patented Aug. 19, 1884.



WITNESSES:

A. C. Eader  
Jno. E. Morris.

INVENTOR:

Jos. F. Batchelor  
By Chas B. Mann  
Attorney.



# UNITED STATES PATENT OFFICE.

JOSEPH F. BATCHELOR, OF BALTIMORE, MARYLAND.

## RAILROAD-CAR.

SPECIFICATION forming part of Letters Patent No. 303,791, dated August 19, 1884.

Application filed May 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH F. BATCHELOR, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Railroad-Cars, of which the following is a specification.

My invention relates to improvements in railroad-cars; and it consists in certain features of construction and combination of parts, hereinafter described and claimed.

In the drawings hereto annexed, Figure 1 is a side view of a car embodying the invention. Fig. 2 is a plan view of the trucks and connecting draw-bar. Figs. 3 and 4 are views of the coupler. Fig. 5 is a cross-section of the draw-bar on line *x x*, Fig. 6. Fig. 6 is a side view showing the king-bolt and its connections. Fig. 7 is a view of a modification of king-bolt head. Fig. 8 is a cross-section of the draw-bar on the line *y y*, Fig. 2, and showing also the center spring.

Two trucks, A, of ordinary or any suitable kind, are employed. A car, B, of usual construction, may be used; but as I design making a very long car, I truss the sides of the car by providing arched braces. (Indicated in Fig. 1.) The ends of these braces have their seat near each end of the car, and the highest part of the arch or curve which they form is at the center of the car—that is, midway between the ends of the car. They will thus operate as a truss to assist in sustaining a long car at the center. Ordinary cushions or spring buffer-heads, *a*, are at each end of the car. A draw-bar, C, connects the two trucks, and is continuous below the car-body from end to end. A king-bolt, *b*, is hinged or jointed at *b'* to a head, *b''*, integral with the draw-bar. The head of the king-bolt, however, may be separate to slide on the draw-bar, as seen in Fig. 7, and set by a screw, *b'''*. The king-bolt enters a bolster, *c*, or cross-beam on the truck, and the hinge or joint *b'*, at the head of the king-bolt, allows the truck to oscillate slightly in the direction of a line extending lengthwise of the car. A guard-plate, *d*, having a slot, *d'*, through which the draw-bar C passes, is secured at the bottom of the car a short distance from each side of the king-bolt head *b''*. Two spiral springs, *e e'*, are about the draw-bar—one at each side of

the king-bolt head, and interposed between it and the guard-plate *d*. The continuous draw-bar C is stationary, and the slot *d'*, in the guard-plate, through which the draw-bar passes, allows the car-body to rise or lower as the springs react or yield under a varying load; and the car-body is so mounted that it may move endwise over the trucks, being limited in such movement by the spiral springs and guard-plates. This endwise movement of the car-body independent of the trucks is to ease the said body from jerks when a train is being stopped by the application of a brake, and when a car is bumped, as in coupling up. When the brakes are applied to the wheels the forward momentum of the car-body will be expended by compressing the rear spring, *e'*; and in coupling up, if an engine or train backs against the standing car the front spring, *e*, will be compressed.

Springs E, of half-elliptic shape, are secured (see Fig. 2) by clips *f* or other means to the truck, and the upward-curved ends of the springs are provided with rollers *g*, which are in contact with the bottom of the car-body. These rollers are more plainly shown in Fig. 7. The car-body, when moved endwise, slides over these rollers. Springs of any shape may be used if they are so arranged with respect to the car-body that the latter may have endwise movement over them, as described.

The continuous draw-bar is trussed to prevent its depression at the center by rod C', suspended below it. The ends of this rod are attached to the draw-bar near each truck, and at the center, or midway between the trucks, it sags down, as seen in Fig. 1, where it is connected with the draw-bar above by an iron post, *h*. A half-elliptic spring, E', passes through an opening in the iron post, and is suitably secured. (See Fig. 7.) The ends of this spring have rollers *g*, as before described, and this spring, resting on the continuous draw-bar, sustains the car at the center.

At each end of the continuous draw-bar C a coupler, F, is attached by a pivot, *i*, which permits it to have a side movement like other hook-couplers. A spring, *j*, bears on the side of the coupler and keeps it normally to one side. The coupler is pivoted to a rod, *k*, which is adapted for endwise movement through a loop, *l*, on the continuous draw-bar. A spiral



spring, *n*, about the rod, between the pivoted end of the coupler and the said loop, serves to keep the coupler projected, as seen in Fig. 3, but permits it to be retracted, as indicated by broken lines in Fig. 4. The coupler is connected to the brake mechanism as follows: *G* designates the air-brake cylinder; *H*, the rod; *I*, the brake-lever; *O*, the rod, which connects one end of the brake-lever with the bars which carry the brake-shoes, and *p* the rod and chain which connect the said brake-lever to the upright brake-shaft, usually turned by hand. All these parts of the brake are of the ordinary construction. A chain, *q*, connects the movable rod *k*, to which the coupler is attached, to the brake-lever *I*. By the described connection of the coupler to the brake-lever it follows that when the brakes are applied the first effect is to retract the couplers—that is, to draw them in by compressing the spring *n*. This is done by the piston in the brake-cylinder drawing rod *H*, which draws the brake-lever *I*, and, through the medium of the chain *q*, drawing the coupler back. The couplers being thus retracted or drawn back at the time the brakes are applied results in the ends of the cars being brought close together, whereby when a train comes to a stop by the action of the brakes the cars are in contact just as they would be if the locomotive were to back the train. When the brakes are released, the spring *n*, back of each coupler, forces the couplers out, thereby producing a slack connection between each pair of couplers. The advantage of having the cars in this position when the train stops is that upon starting, the locomotive can start easier, because at first it starts the first car only, then the second car, and so on; but I do not herein claim the feature just described, whereby the coupler is connected to the brake mechanism, as on the first day of July, 1884, I filed a separate application for Letters Patent for improvements in car-couplings wherein the said feature is made the subject of claims.

Having described my invention, I claim and

desire to secure by Letters Patent of the United States—

1. In a car, the combination of the trucks, a continuous draw-bar connecting the trucks, and a car-body mounted on the trucks and adapted to move back and forth endwise over the trucks, as set forth. 50

2. In a car, the combination of the trucks, a continuous draw-bar connecting the trucks, and a car-body adapted to move endwise over the trucks and provided at a point above each truck with a guard-plate, *d*, having a vertical slot, *d'*, through which the continuous draw-bar passes, as set forth. 60

3. In a car, the combination of a king-bolt, a slotted guard-plate, *d*, secured to the bottom of the car each side of the king-bolt, a bar passed through said slotted plates and attached to the king-bolt, and a spiral spring, *e'*, about the bar at each side of the king-bolt, as set forth. 65

4. In a car, the combination of the trucks, a continuous draw-bar connecting the trucks, springs, a car-body supported by the springs and adapted to move back and forth endwise, and a connection, substantially as described, attaching the car-body to the continuous draw-bar, as set forth. 70

5. In a car, the combination of the trucks, a continuous draw-bar connecting the trucks, a rod, *C'*, attached to the said draw-bar, and adapted to truss or support it at the center, a car-body, and means on the said draw-bar to support the car-body at the center, as set forth. 80

6. In a car, the combination of the trucks, a continuous draw-bar connecting the trucks, a car-body, and a spring secured on the draw-bar midway between the trucks to support the car-body at the center, as set forth. 85

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

JOSEPH F. BATCHELOR.

Witnesses:

THOS. KELL BRADFORD,  
BERNARD A. ROGGE.