Cutting & Butterfield.
Car Coupling.

No. 4,802. Patented Oct. 7, 1846.

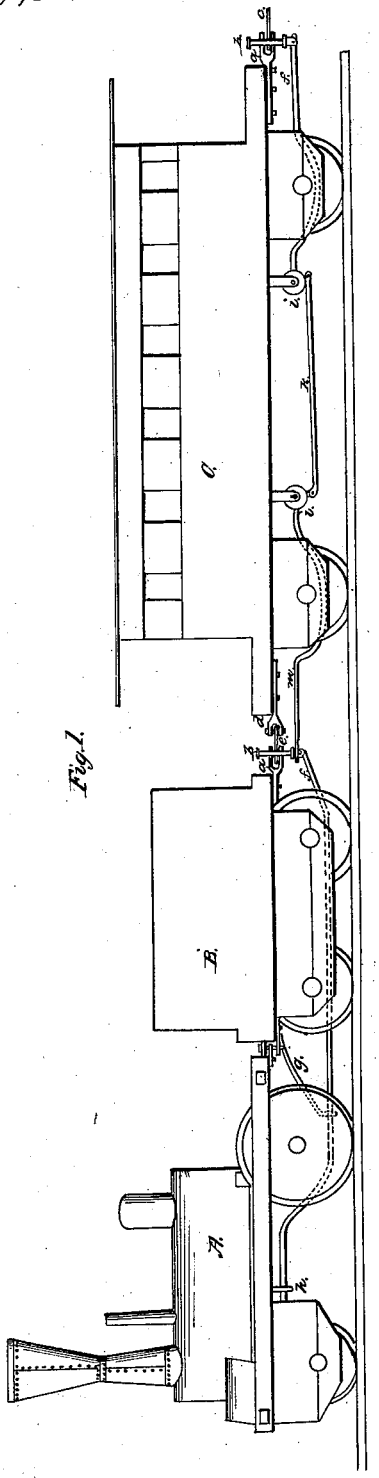

Fig. 1.

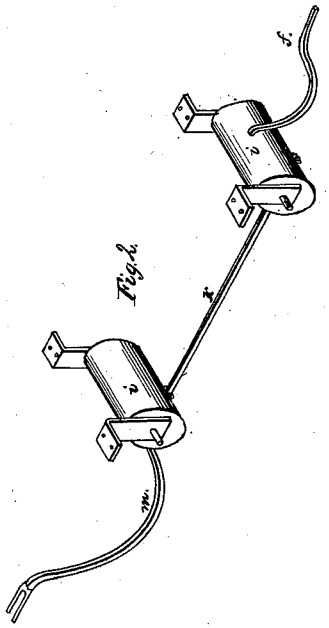

Fig. 2.

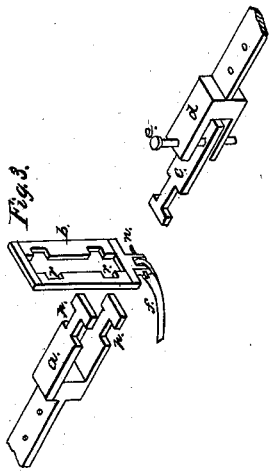

Fig. 3.

UNITED STATES PATENT OFFICE.

JAS. A. CUTTING AND GEO. BUTTERFIELD, OF BOSTON, MASSACHUSETTS.

COUPLING FOR RAILROAD-CARS.

Specification of Letters Patent No. 4,802, dated October 7, 1846.

To all whom it may concern:

Be it known that we, JAMES A. CUTTING and GEORGE BUTTERFIELD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Apparatus for Coupling Railroad Cars to Locomotives and Tenders and also of Connecting Cars to Each Other; and we do hereby declare that the following is a full and exact description of the construction and operation thereof, reference being had to the accompanying drawings, making part of this specification.

The nature of our invention consists in connecting the cars to the locomotive and tender, and to each other, in such manner, as that the elevation or depression of the locomotive above or below the line of the rails, will disconnect the locomotive and tender from the cars attached to them, and, at the same time disconnect the cars from each other.

In the accompanying drawings Figure 1 is an elevation of a locomotive and tender with a car attached to them. Figs. 2 and 3 are perspective views of the several parts of our coupling apparatus.

In each of these figures where the same parts occur they are designated by the same letters of reference.

The locomotive A and tender B are connected together in the usual manner. The car C is connected to the tender by our improved apparatus as follows: To the rear end of the tender the jaws *a* are secured; these jaws have recesses *p p* cut out of each side, forming T heads on each portion of the jaws. To the front end of the car C the jaws *d* are secured in a position opposite to the jaws *a* on the tender. In the jaws *d* the connecting tongue *c* is secured by the bolt *e;* the projecting T head of the tongue *c* is secured within the jaws *a* by the sliding gate *b* in the following manner: The gate *b* is fitted into, and slides freely up and down in, the recesses formed in each side of the jaws *a;* at the upper and lower ends of the sliding gate there are lateral recesses or enlargements *r*, *r*, in the inner sides of the same for the reception of the T head of the tongue; by elevating or depressing the gate so as to bring these enlargements *r*, *r*, opposite to the opening of the jaws *a*, the T head of the tongue *c* is passed in between the jaws through one of the apertures *r*, *r*, and is secured between them by changing the position of the sliding gate so as to bring the jaws near the central portion of the same. The gate *b* is secured by a hinge joint to the end of a lever *f*, which preserves it in its proper position; the lever *f*, is secured by a fulcrum joint to the arm *g*, descending from the front of the tender, in which it freely works; the front end of the lever is held in a stirrup *h* descending from the bottom of the locomotive which retains said lever in a horizontal position. The stirrup *h* should be constructed of sufficient width to allow free play to the front end of the lever *f*, in passing curves of the road. An elevation of the locomotive sufficient to raise the flanges of the wheels on to the rails and allow them to run off the track, will raise the front end of the lever *f*, and depress the sliding gate *b*, at the rear end of the tender so as to allow the tongue *c*, to escape from the jaws *a*, and disconnect the locomotive and tender from the front car C; and should the elevation of the locomotive in raising up on to the track of rails fail to disconnect the cars from the tender, the descending of the locomotive in passing from the rails will depress the front end of the lever *f*, and elevate the gate *b*, and allow the connecting tongue *c*, to escape from the jaws *a*, through the enlargement *r*, at the lower end of the gate, and thus disconnect the front car from the tender.

We connect all the cars of a train to each other by our coupling apparatus, all communicating with each other and with the apparatus connecting the tender with the front car, in such manner as that they are all acted upon by the locomotive, and are all disconnected from each other and from the tender at the same moment as follows: To the bottom of each car at each end, are attached two roller shafts *i*, *i*, connected by a connecting rod *k*, hinged to the bottom of each, which communicates motion from one to the other; to the front side of the front roller shaft there is secured a bent lever *m*, having a fork at its front end which is connected to the sliding gate of the coupling apparatus of the car next in front by passing each side of the hinge at the bottom of the sliding gate *b*, when the cars are secured together, and resting upon the hinge pin *n;* to the rear side of the after roller shaft *i*, a lever *f*, is secured which is connected to the sliding gate of the car-coupling as herein set forth.

When the sliding gate of the coupling ap-

paratus between the tender and the front car, is operated upon by the locomotive, it imparts motion to the sliding gate of the coupling apparatus between the front and second car through the medium of the lever *m*, roller shafts *i i* and lever *f*, and so on from one car to the other through the whole train. It is our intention to connect brakes or rubbers to the roller shafts *i*, *i*, or connecting bars *k*, in such a manner as to operate on the wheels of the cars by the same movement that detaches the locomotive from the cars and from each other.

What we claim as our invention and desire to secure by Letters Patent, is—

1. The manner in which we connect and disconnect a car to and from the tender of a locomotive, by means of the jaws *a* and *d*, the connecting tongue *c*, the sliding gate *b*, the lever *f*, and fulcrum arm *g*, combined and operating substantially as herein set forth.

2. We also claim the manner in which we connect the sliding gate *b*, of the coupling apparatus between the tender and the foremost car, to the sliding gate of the coupling apparatus between the remaining cars of a train, by means of the lever *m*, the roller shafts *i i*, the connecting rod *k* and lever *f*, combined and operating substantially as herein described and represented.

JAMES A. CUTTING.
GEORGE BUTTERFIELD.

Witnesses:
JEREMIAH ELKINS,
TIMO. D. SORNES.