

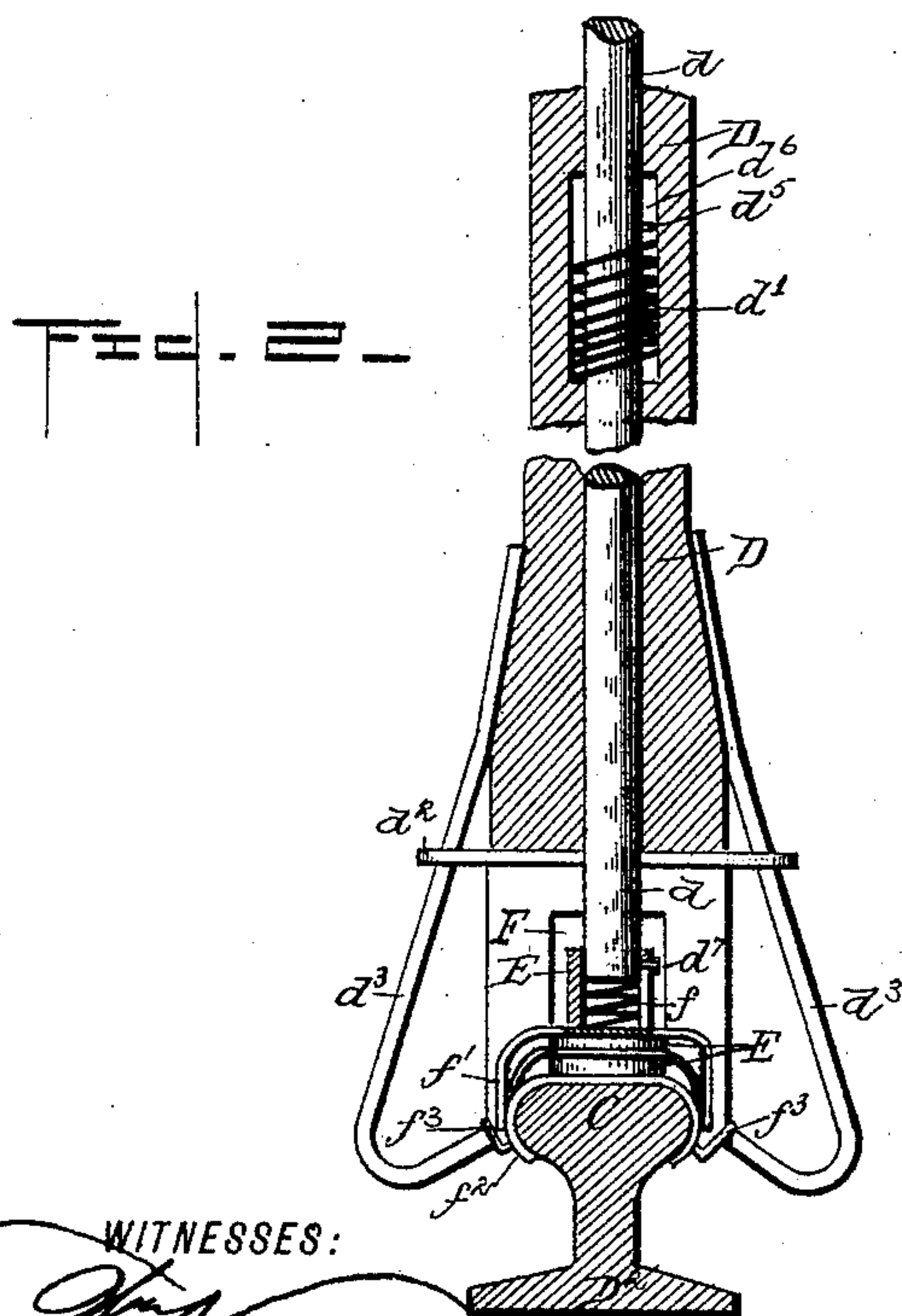
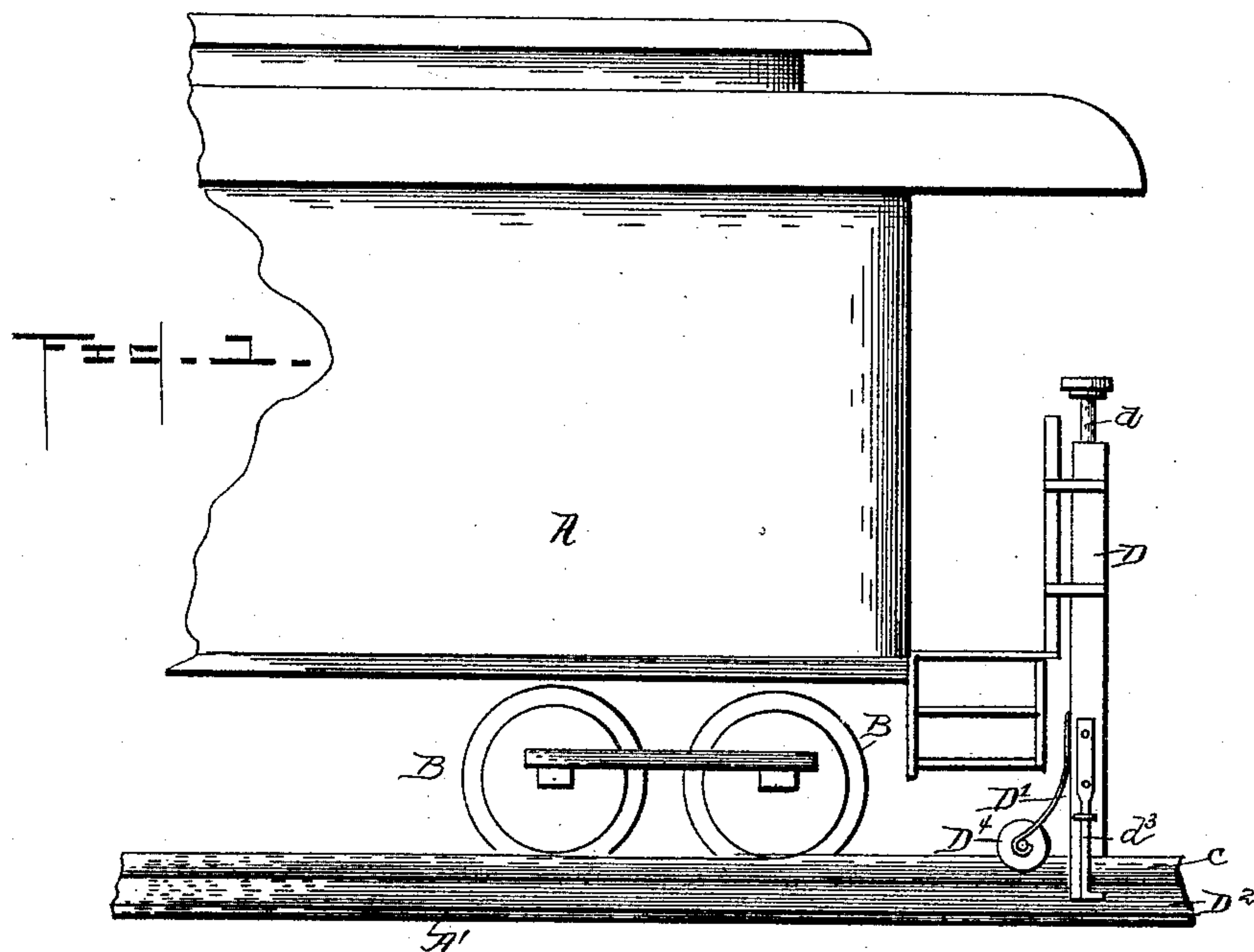
(No Model.)

C. BUDDÉ & D. C. McCALIP.

DEVICE FOR SETTING CARTRIDGES ON RAILWAY TRACKS.

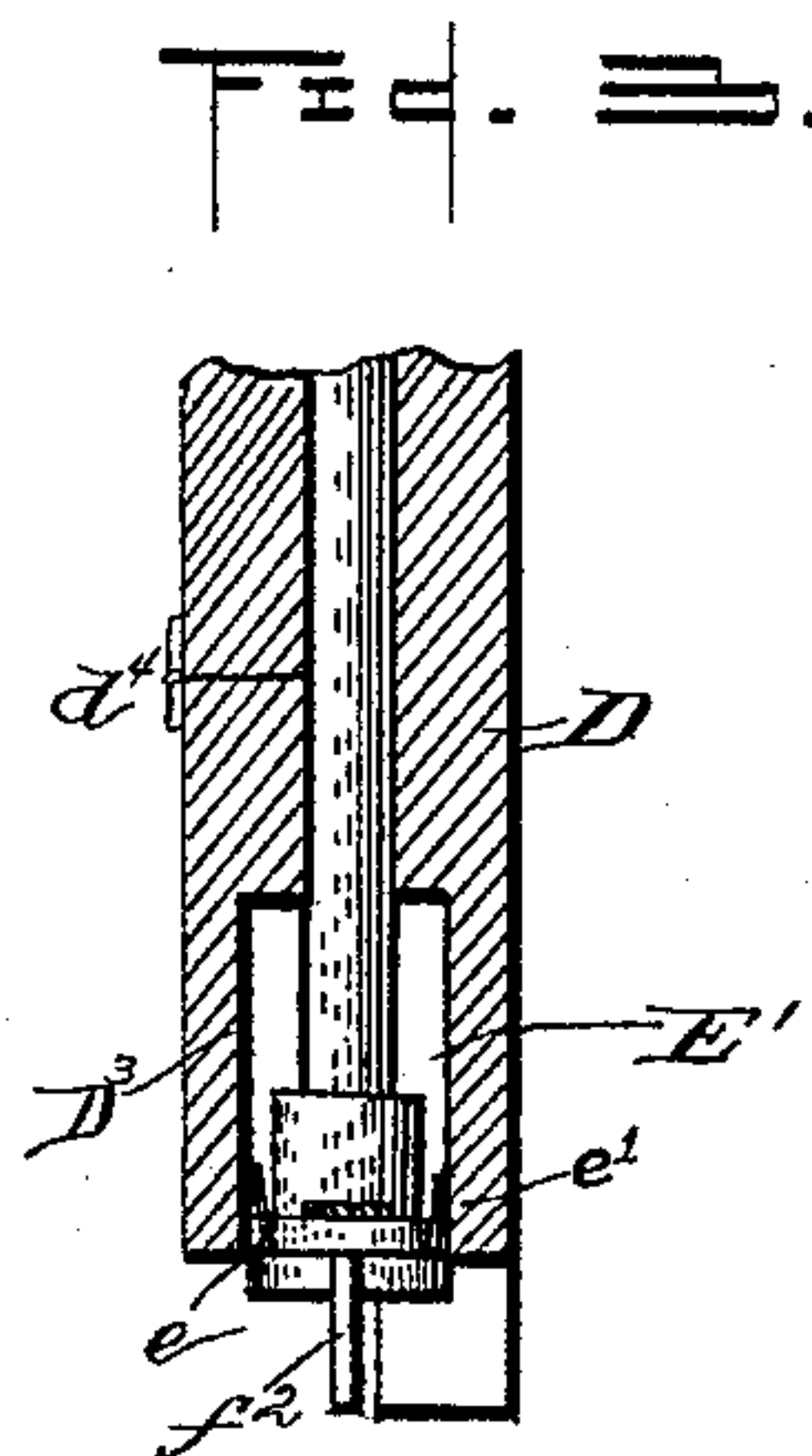
No. 437,283.

Patented Sept. 30, 1890.



WITNESSES:

WITNESSES:
[Signature]
 R. H. Bishop



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CONRAD BUDDE AND DANIEL C. McCALIP, OF MANSFIELD VALLEY,
PENNSYLVANIA.

DEVICE FOR SETTING CARTRIDGES ON RAILWAY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 437,283, dated September 30, 1890.

Application filed February 28, 1890. Serial No. 342,826. (No model.)

To all whom it may concern:

Be it known that we, CONRAD BUDDE and DANIEL C. McCALIP, of Mansfield Valley, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Devices for Setting Cartridges on Railway-Tracks, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

Similar letters of reference indicate corresponding parts.

The object of our invention is a device or tool for setting dynamite cartridges on the rails of railroads while the train is in motion.

In the accompanying drawings, Figure 1 is a car, the side view being shown, and shows our device. Fig. 2 is a longitudinal section of the tool, and Fig. 3 is a sectional view in detail.

A represents the body of a car. B B are wheels of the same.

A' is the body of the rail; D², the web, and c the tread, of the same.

D is the handle of the tool. d is an actuating-lever running through the center of the handle D.

D' is a spring.

D⁴ is a guide-wheel, spool-shaped, with flanges to overreach the flange or tread c of the rail.

D³ is a hinged-jaw.

d⁴ is a hinge.

d³ d³ are two wire rods, actuated by the cross-bar d², for setting or clamping the cartridge to the rail. These rods d³ d³ have metallic tips f³ at the striking ends thereof.

E represents a dynamite cartridge having the strips or fasteners f².

At the lower end of the rod d we place two guide-arms f'. These arms f' are fixed to the ferrule E'.

f is a wire coil-spring inside the ferrules E'.

e and e' are cartridge-retaining springs, the spring e being fixed to the hinged port D³ and the spring e' to the opposite side. These springs are made of thin strips of steel.

F is the chamber in which the cartridges are set. We prefer to arrange for setting two cartridges at a time, as it is a rule to place at least two of them, and these not far apart, for a warning to the following train. One of

these cartridges will be set at a time, and while one is being thus set by the springs e and e' the other one will be held back ready to be ejected by the rod d when a sufficient stroke is given thereto. d' is also a coil-spring placed within the chamber d⁶. This spring is to aid in the recoil of the rod d after the cartridge is set. We think, after actual experimenting, that it will be necessary to have the springs f and d' both for said purpose. The spring d' will be actuated by the rod d, the same as the spring f. The former will contact with the stud d⁵ on the rod d and the latter with pin d' on the lower end of the rod d, there being a slot in the ferrule E' for this movement.

In the drawings, Fig. 1 is properly a diagrammatic view to show the position of the device upon the car. It will be understood of course that in practice the cartridge-setting device will be attached to the car so as to be capable of moving vertically, and thus permit the device to clear frogs and switches. It will be observed that the lower ends of the springs e e' terminate at a distance from the rail about equal to the thickness of one cartridge, and consequently as the car moves along said springs will just clear the cartridge that has been placed on the track and thereby carry the next cartridge farther along.

In the operation of our device or tool for setting railroad-cartridges we place two of them in the chamber F, the strips f² being placed downward. These strips or fasteners are made of lead, and hence are quite pliable and will remain in any shape, there being no spring to the same. The tool may be fixed to the rear of the car, as seen in Fig. 1, and directly over the rail on which the cartridge is to be placed. The guide-wheel D⁴ will serve to steady the tool. When it is desired to set a cartridge, a sufficient stroke is given to the rod d. This pushes the cartridge against the rail. As the rod d descends it carries the cross-bar d² downward, drawing in on the rods d³. This forces the tips f³ against the lead strips f² of the cartridge, driving the same beneath the tread of the rail c, as seen in Fig. 2. The movement of setting the cartridge is necessarily a quick one, as the car will be in motion; but as soon as the first cartridge is

pushed out of the chamber F the other one will be held back by the springs *e* and *e'*, ready for the next stroke on the rod *d*.

The cross-bar *d*² is rigidly fixed to the rod *d*, and the ends thereof are slotted to receive arms *d*³. It will be seen that as the rod *d* is moved downward to expel the cartridge these arms *d*³ simultaneously move to strike the lead strips of the cartridge, while the two guide-arms *f'* push the strips *f*² closely against the rail.

When the strips *f*² of the lower cartridge are pressed against the rail, the strips of the upper cartridge will be also bent slightly; but inasmuch as the springs *e e'* retard the upper cartridge there will be a space between the upper and lower strips, and consequently the upper strips will not be bent close against the rail, or the upper strips and the upper cartridge will be carried farther along by the tool.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the handle D, the rod *d*, fitted in the handle and carrying the ferrule E', the spring *f* within the ferrule, and the arms *f'*, depending from the ferrule, as set forth.

2. The combination of the handle, the rod *d*, fitted in the handle, the arms *d*³, secured to the handle, and the cross-bar *d*², secured to the rod *d* and engaging the arms *d*³, as set forth.

3. The combination of the handle having the chambers *d*⁶ and F, the rod *d* in the handle, having the ferrule E', springs *d'* and *f*, arms *f'* and *d*³, and the cross-bar *d*², all arranged and operating substantially as shown and described.

In testimony that we claim the foregoing as our invention we hereto set our hands in presence of two witnesses.

CONRAD BUDDE.
DANIEL C. MCCALIP.

Witnesses:

JOHN H. CRATTY,
H. STEVENSON.