(No Model.)

A. F. GUE & G. F. FIELD.

Car Brake.

No. 233,850. **Patented Nov. 2, 1880.**

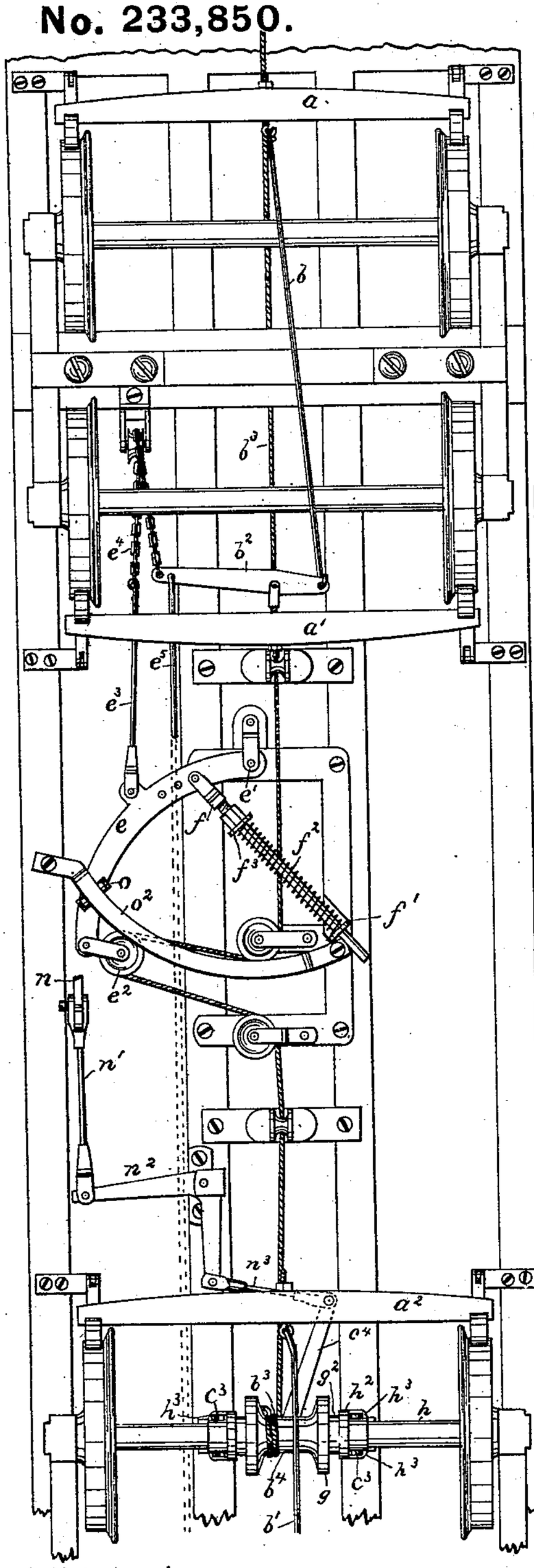


Fig: 1.

Fig: 4.

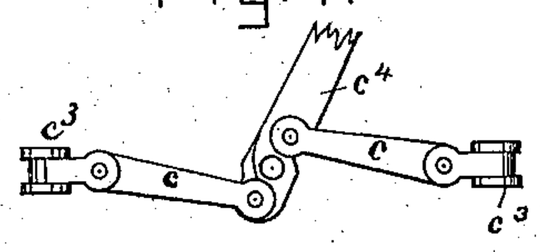


Fig: 2.

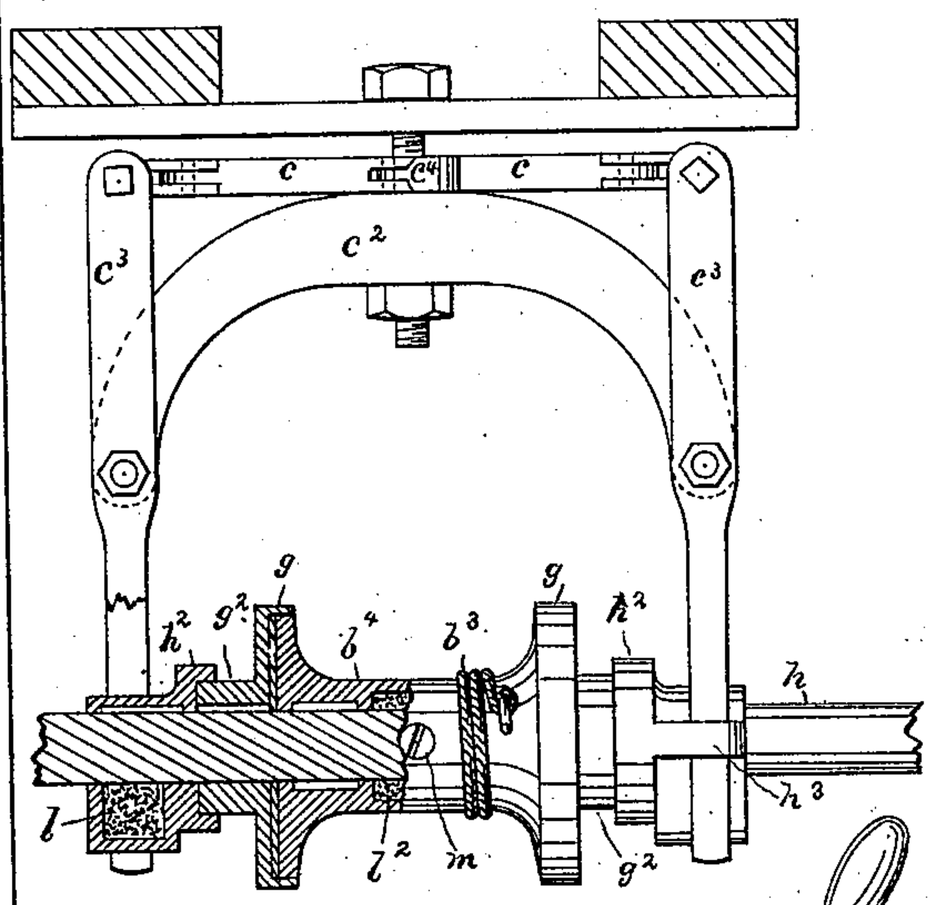
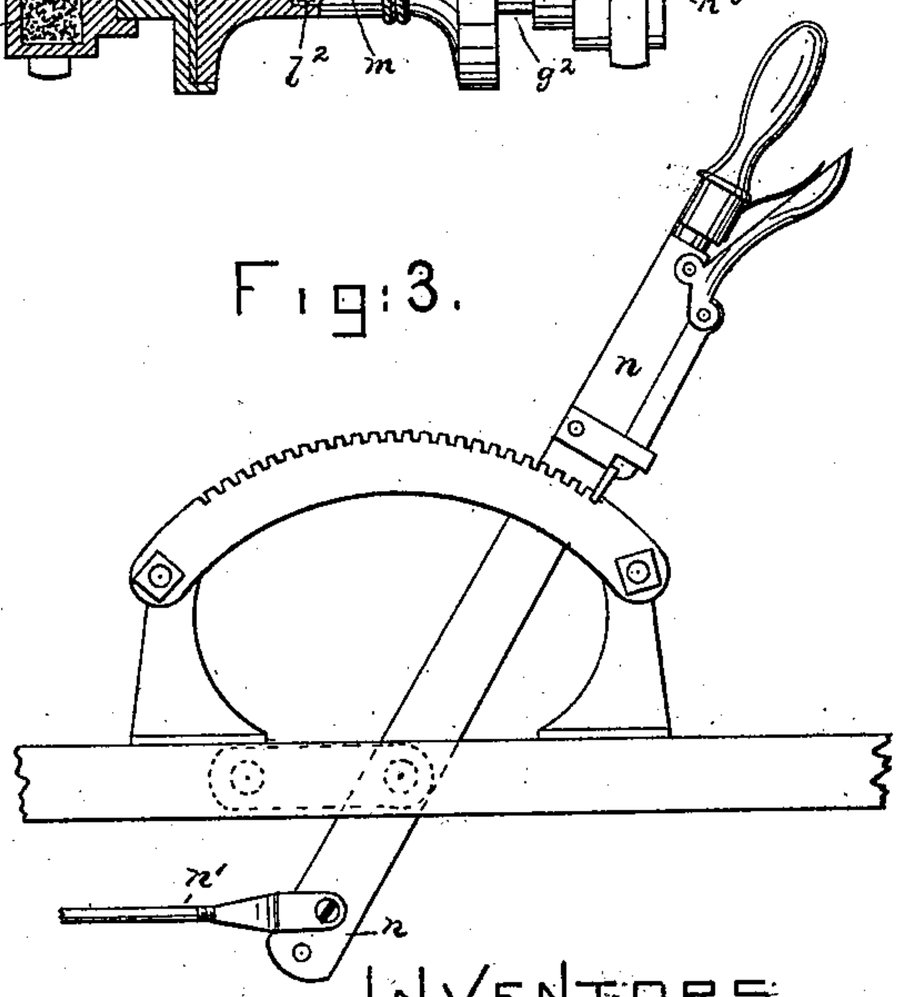


Fig: 3.



WITNESSES -

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UNITED STATES PATENT OFFICE.

ALBERT F. GUE AND GEORGE F. FIELD, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO THE AMERICAN STANDARD BRAKE COMPANY, OF CONCORD, NEW HAMPSHIRE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 233,850, dated November 2, 1880.

Application filed June 30, 1880. (No model.)

To all whom it may concern:

Be it known that we, ALBERT F. GUE and GEORGE F. FIELD, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Car-Brakes, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to car-brakes, and is an improvement on patent of the United States No. 199,286, heretofore granted to us, to which reference may be had.

In this our present invention we have changed the form of the auxiliary brake-lever, which is operated by the wire rope, have adapted it to turn horizontally, and have applied to the said lever mechanism to push it backward, so as to quickly release the hold of the usual brakes upon the wheels, the said mechanism being adjustable as to its strength or power.

In this invention the clutch to engage and rotate the chain drum or spool is forced in contact with the drum by means of collars recessed to fit the hubs of the clutches, the collars being crowded against the said clutches by means of forked clutch-levers connected with toggle-levers, substantially as usual in our patented brake.

By the employment of the collars we are enabled to dispense with the small anti-friction rollers employed on the clutch-levers of the patent, making the apparatus stronger and more certain in its operation, and we have provided means for lubricating the said collars.

Figure 1 represents an under-side view of a caboose-car provided with the improvements the subject of this application; Fig. 2, an enlarged detail of the clutches, and drum, collars, and their actuating devices, partially in section; Fig. 3, a detail of the hand-lever for operating the collars and clutches to cause the wire rope to be wound on the drum, and Fig. 4 is a detail, showing the toggle-levers and their connection with the lever that moves them.

The brake-levers and shoes for the trucks at both ends of the car are alike, so part of one end of the car is omitted to save space on the drawings.

The car-trucks, axles, and wheels, brake-beams a a' a^2, their connected shoes to bear upon the wheels, the links b b', short lever b^2, wire rope b^3, spool b^4, toggle-lever c, connected with the clutch-levers c^3, the yoke c^2, and clutch g are all substantially as common either in ordinary freight-cars or in our patent referred to.

The auxiliary brake-lever e has a vertical pivot, e', so that the lever is permitted to turn horizontally when acted upon by the wire rope over the pulley e^2. This lever e, by the rod e^3 and chain e^4, operates the usual lever b^2, the latter lever being connected, in the usual manner, by rod e^5 with a like lever (not shown) at the opposite end of the car.

The lever e has connected with it pushing mechanism to push it back and take up the slack in the wire rope. This pushing mechanism is composed of a rod, f, connected with the lever and extended through an ear, f', a spring, f^2, on the said rod being made adjustable as to its force by means of an adjusting-nut, f^3.

The clutches g, that act upon the end of the loose drum or spool v^4, are keyed to slide on and rotate with the axle h. These clutches, made as flanged disks, are forced against the ends of the drum b^4 by the collars h^2, placed loosely on the shaft h, the collars being recessed at their faces to fit the hubs g^2 of the clutches.

The collars have loops h^3 at each side to receive the forked lower ends of the clutch-levers c^3. These collars have hubs recessed, as shown at l, Fig. 2, to receive packing and oil, and the drum b^4 has packing l^2, oil being applied to it by removing the screw or plug m.

These collars are a great improvement upon the rollers employed in our former patent to crowd and hold the clutches closely to the drum, are stronger and more durable and positive. The rollers frequently become injured by blows against them and from various other causes.

The collars are moved by the clutch-levers through the toggle-levers and lever c^4, the latter lever being actuated, as herein shown, from the hand-lever n and its connected parts n' n^2 n^3.

The lever *e* has upon it an anti-friction roller, *o*, arranged to run on the curved supporting-bar o^2, thus keeping the lever *e* firmly up near the bottom of the car, where it is out of the way and less liable to be injured than when made as an elbow-lever on a horizontal pivot, as in the patent.

We employ wire rope, as it is preferred, but other rope of proper strength would answer instead.

Washers of leather or other substance are placed between the clutches and drum-heads.

We claim—

1. In a car-brake, the horizontally-vibrating lever *e*, pivoted at one end, the pulley or sheave e^2 for the wire rope at its other end, and the brake-moving link e^3, connected with the said lever between its ends, combined with the wire rope, brakes, and connections, substantially as described, between the link e^3 and brakes, as and for the purpose set forth.

2. The horizontally-vibrating auxiliary brake-lever *e*, and its roller *o*. combined with the curved support o^2, and with the pulley e^2, and wire rope to move the lever, substantially as described.

3. In a car-brake, the horizontally-vibrating brake-lever *e*, and the wire rope to move it in one direction, combined with the adjustable pushing mechanism to push the said lever backward when the rope is released, all substantially as described.

4. In a car-brake-operating mechanism, a system of operating-levers, a drum on the axle, clutches *g* to engage such drum, and collars h^2, sliding on the axle, and having lubricant-recesses *l*, for oiling the same, and connected with the operating-levers and the clutches, all constructed and arranged to operate as shown.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALBERT F. GUE.
GEORGE F. FIELD.

Witnesses:
JOS. P. LIVERMORE,
N. E. C. WHITNEY.