

2 Sheets—Sheet 1.

Patented March 1, 1881.

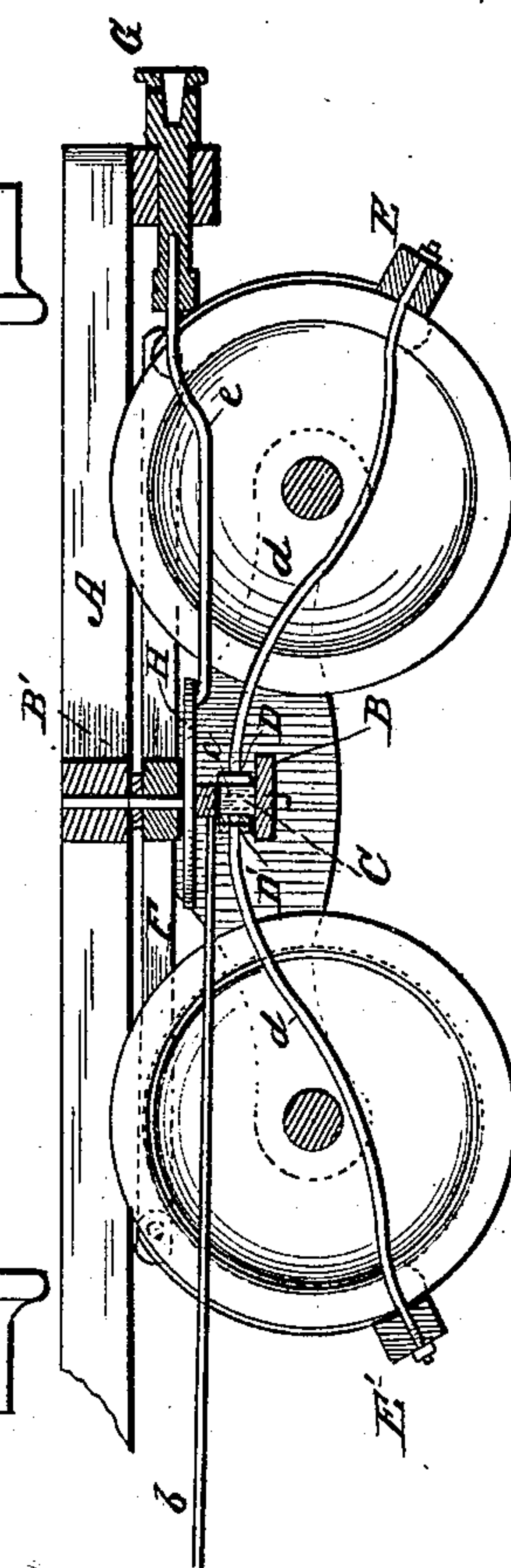


Fig 2.

Fig. 3.

WITNESSES:

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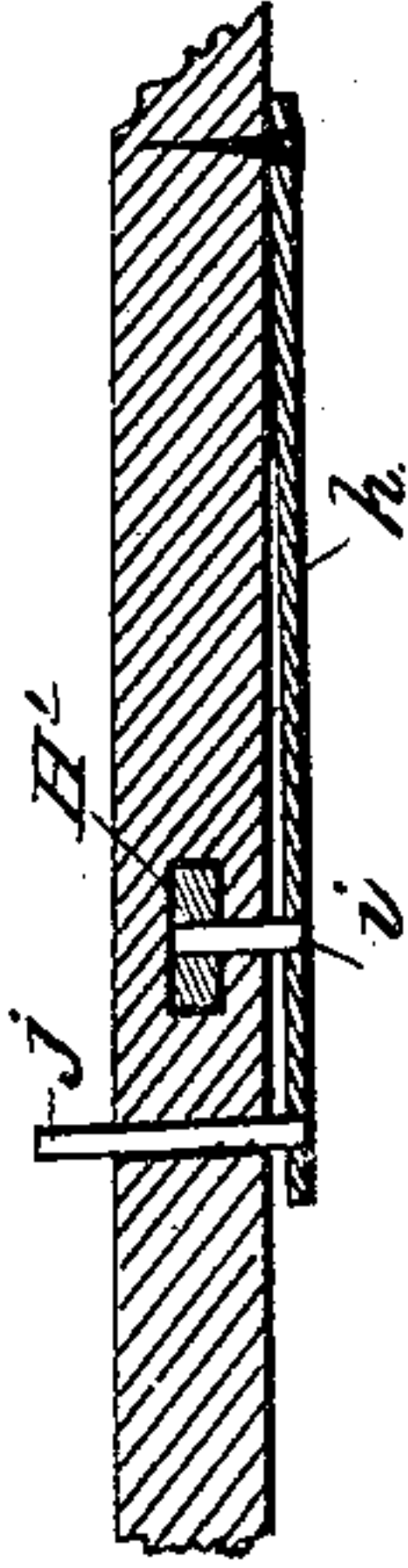
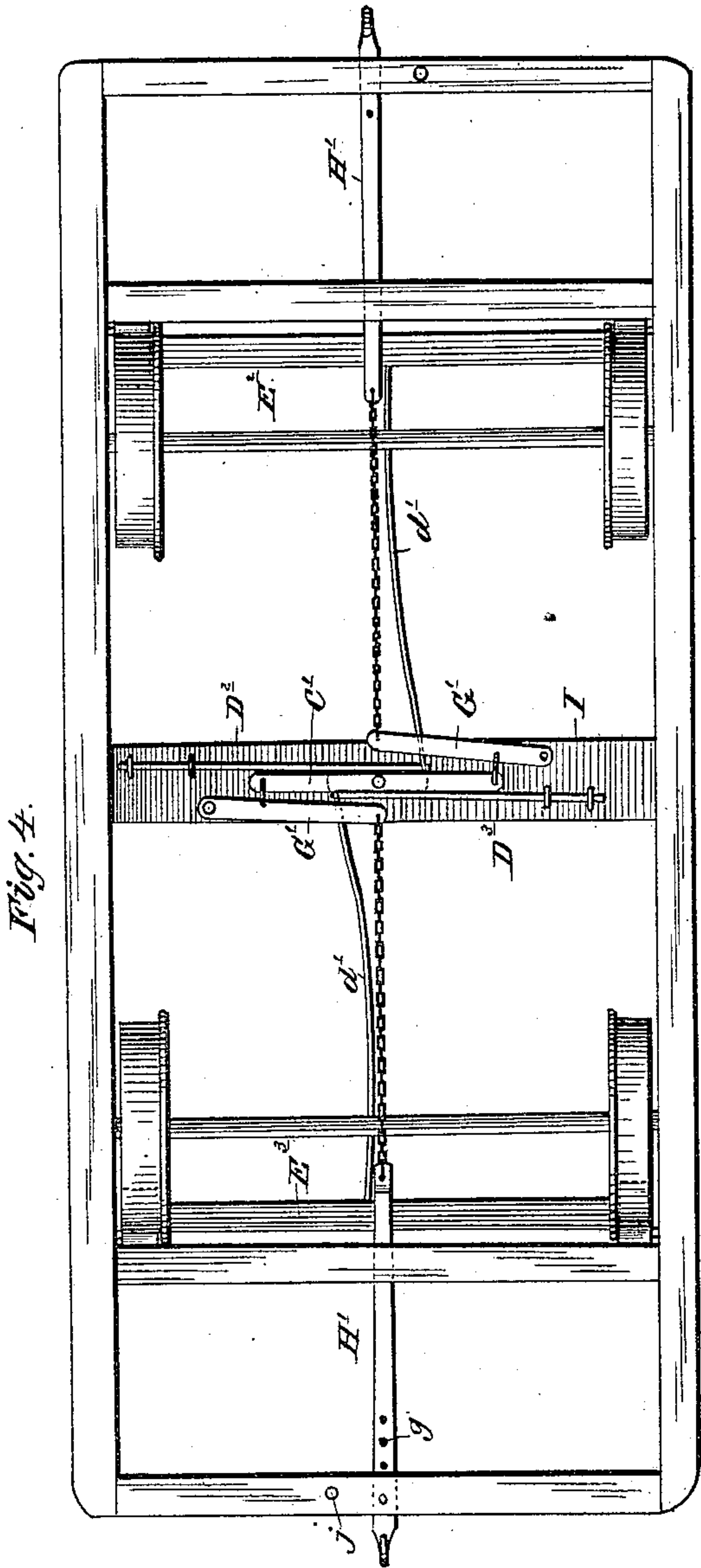
(No Model.)

2 Sheets—Sheet 2.

H. GALLAGER.
Car Brake.

No. 238,379.

Patented March 1, 1881.



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UNITED STATES PATENT OFFICE.

HENRY GALLAGER, OF SAVANNAH, GEORGIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 238,379, dated March 1, 1881.

Application filed January 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY GALLAGER, of Savannah, in the county of Chatham and State of Georgia, have invented a new and Improved Car-Brake; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view with one end of the floor-timbers and the upper cross-bar of the truck broken away. Fig. 2 is a section through the line *xx*, Fig. 1. Fig. 3 is a section through the line *yy*, Fig. 1. Fig. 4 is a plan view of a modification. Fig. 5 is a sectional detail relating thereto.

My invention relates to certain improvements in car-brakes of that type which automatically apply the brakes through the movement of the draw-bar.

My improvements contemplate the constant pressure of the brakes upon the wheels whenever the draw-bar is in its normal position of rest, and which brakes are released or withdrawn from the wheels whenever the draft-strain pulls the draw-bar out, or whenever the draw-bars are driven in by backing, so that whenever the locomotive approaches a condition of rest, whether in moving forward or backward, the brakes commence to be applied automatically, but are not applied when the power of the locomotive is being transmitted to the cars for the transportation of the same.

My invention consists in the peculiar means for accomplishing these results in a practical way, which means are applicable alike to either steam or street cars, as will be hereinafter more fully described.

In the drawings, A represents the floor-timbers of a car, beneath which, at each end, are arranged the trucks, as usual. Each truck being exactly alike, a description of one will suffice for both. The side frames of each truck, which carry the bearings of the wheels, are connected by two cross-bars, B B', whose ends are separated by blocks *a a'*, Fig. 2, so as to hold these cross-bars vertically one above the other, with a space between them, in which space are located the devices for applying the brakes. Longitudinally in this space and crosswise of the car is arranged a deflector-

lever, C, whose ends are connected, by rods *bb*, to the ends of a corresponding lever on the other truck similarly equipped. This deflector-lever is fulcrumed on a vertical bolt in the middle of the cross-bars, and has upon its under side an elongated lug, *c*, extending on both sides of its fulcrum. Within the space between the two bars B B', and bearing flatly against the opposite sides of the elongated lug, are two bar-springs, D D', stiffly connected at their outer ends to one of the bars B B'. The inner ends of these stiff springs are jointed to the rods *d d'*, which extend longitudinally with the car to the two brake-bars E E' of each truck. Now, whenever the deflector-lever C rests at right angles to the longitudinal axis of the car the ends of the springs D D' approach each other as closely as the flat sides of the lug *c* will permit, and these springs consequently draw the rods *d d'* to the center and apply the brake-bars to the wheels. When, however, the deflector-lever C is thrown into an oblique position, the ends of the springs D D' are forced apart by the lug *c*, and the brake-bars E E' with their shoes are thrown away from the wheels. As shown, these brake-bars have their shoes jointed at the top to the ends of longitudinal bars F F, resting above the end frames of the trucks, just outside of the wheels; but they may be supported by chains, or in any other suitable way.

For causing the deflector-lever C to control the brakes automatically through the draw-bar, I attach to the draw-bar G a link-rod, *e*, connecting with a lever, H, resting in the space between cross-bars B B', just above the deflector-lever. The outer end of this lever H is fulcrumed to the outer ends of these cross-bars. At its middle it is jointed to the end of the deflector-lever C, and at its other end, where it connects with the draw-bar, it is provided with a curved slot, *b*, through which passes the fulcrum-bolt of the deflector-lever to limit the movement of this lever H. Now, it will be seen that in the normal position of rest of the draw-bar the brakes are applied by the springs D D'. When, however, a draft is applied to start the car, the draw-bar pulls against the tension of the springs, through the levers H and C, and the brake-bars are pro-

jected away from the wheels, remaining so until the draft is relieved. On the other hand, when the draw-bar is driven in by the backing of the cars, the lever C is deflected in the opposite direction, and the brakes released from the wheels and held apart from the same so long as the compressing strain exists. With this construction it will be seen that the same mechanism supplies means for automatically applying and removing the brake, no matter whether going backward or forward, and, besides, the spring serves the additional function of rendering the draw-bars yielding.

In modifying my invention for use on street-cars, I locate (see Fig. 4) the springs $D^2 D^3$ on a cross-bar, I, on the bottom of the car-frame, between the wheels, and arrange the same deflector-lever C' upon a center bolt with its lug depending between the lapping inner ends of the springs, and the ends of the lever C' I connect to the independent levers G', corresponding to H in Fig. 1, and which levers are connected, by chains, to the draw-bars H', the ends of these springs being connected, by rods $d' d'$, to the brake-bars $E^2 E^3$. The action of these devices is substantially the same as that before described, except that no provision is made for backing, none being required. To put the brakes, however, in this case under the control of the driver, so as to permit him

to hold them away from the wheels without regard to the draft, as in going down grade, I perforate the draw-bar at g , and provide beneath the platform a depressible spring, h , Fig. 5, bearing a locking-stud, i , that passes through the holes on the draw-bar to hold it in any given position, this stud being removed from the holes at the will of the driver by a stud, j , rising through the platform, which may be depressed by the driver's foot.

Having thus described my invention, what I claim as new is—

1. The deflector-lever C, fulcrumed in its middle transversely to the car, and provided with lug c , combined with the springs $D D'$, bearing on opposite sides of this lug a set of rods connecting with the brake-bars, and a lever connecting with the draw-bars, substantially as and for the purpose described.

2. The draw-bar of a street-car, perforated and combined with a spring bearing a locking-stud, i , and a depressible stem, j , and with a set of brakes arranged, as described, to be applied when the draw-bar is in the normal position of rest.

HENRY GALLAGER.

Witnesses:

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