H. C. SIDES.

Car Brake.

No. 3,171. Patented July 12, 1843.

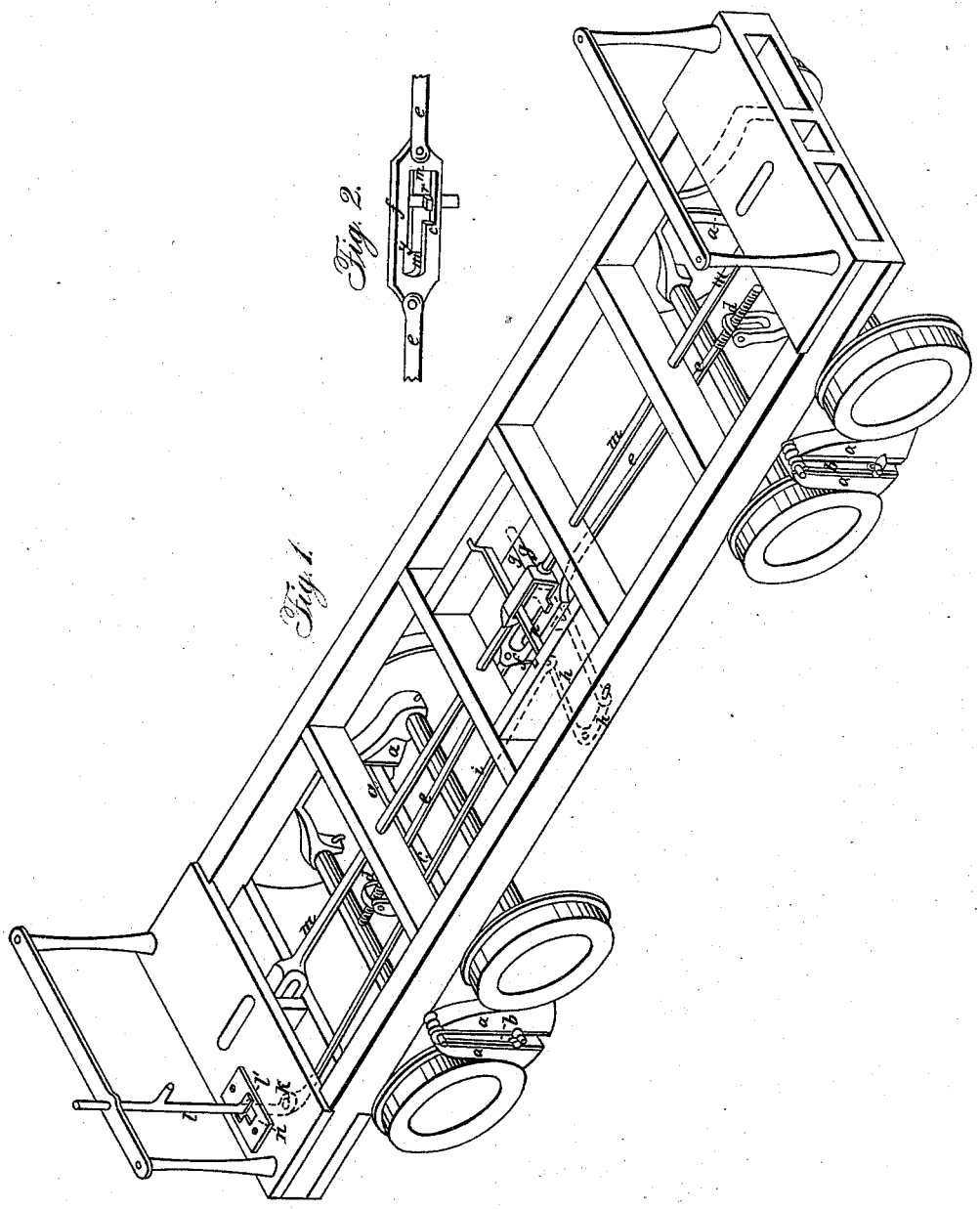

Fig. 2.

UNITED STATES PATENT OFFICE.

HENRY C. SIDES, OF BALTIMORE, MARYLAND.

BRAKE FOR RAILROAD-CARS, &c.

Specification of Letters Patent No. 3,171, dated July 12, 1843.

To all whom it may concern:

Be it known that I, HENRY C. SIDES, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Self-Operating Brakes for Railroad-Cars, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification; Figure 1, an isometrical view; Fig. 2, parts detached.

The nature of my invention consists in arranging brakes, so that when the rod by which the car is drawn is checked back, the break will act; the arrangement being such as to shift, and act, when the car is going in either direction; the method of pressing the break against the wheels being so arranged as to admit of the most powerful action. The running gear is constructed similar to that in common use; between each pair of wheels before and behind, two vertical brakes (*a*,) are suspended on a pin projecting from the frame of the car, the curved sides nearly touching the wheel; outside these brakes a rod (*b*) attached by the upper end to the same pin as the brakes, supports one end of a shaft (*c*), which runs through between the brakes from side to side, where there is a small cam attached to it; in the center of shaft (*c*,) a forked arm is affixed, which rises perpendicularly at its center and serves to hold an eye (*d*,) through which a rod (*e*), coming from the center of the car body passes; on each side of the eye (*d*,) are spiral springs around the rod (*e*), for relieving the breaks from any sudden shock; the two rods (*e*) one from each end of the car, are jointed to an oblong piece (*f*) at the center (this piece is more clearly shown detached Fig. 2). It has a slot in it running nearly its whole length, on one side of which extending from near the middle to one end, there is a notch (*e'*), and at the other end, on the other side, is a similar notch; this piece (*f*) rests on, and is held in place, and guided by a transverse bar (*g g*), which can slide endwise in staples by which it is attached to the frame, said bar having two projections on its upper side between which (*f*) lays; to one end of this bar is jointed one end of a bent lever (*h*), (shown in drawing by dotted lines) the arms of which are at right angles to each other; to the transverse arm a connecting rod (*i*) is fastened and couples it with a crank (*k*) shown by dotted lines on the lower end of an upright shaft (*l*), at one end of the car, and which can be turned by a man on the platform thereof; on this shaft just above the platform there is a stud (*l'*), which fits into either one of three different stops around the shafts, in the platform marked (*n*), which indicate the position the crank below is in. Through the middle of the framing of the bottom of the car, a draw rod (*m*) passes longitudinally; this rod is forked at each end to receive the bar by which the cars are connected, and through it the connecting bolt passes, the rod has a sliding motion, and at its center it has an enlargement through which there is a horizontal slot (*o*), through which a stout spring (*p*) passes, the ends of which are attached to the frame, and by which the car is drawn; the rod (*m*) bears against either side of this spring according to the direction the cars are traveling, and moves the length of the slot when the direction of the cars are reversed; on the under side of the rod is a stud (*r*) Fig. 2, which plays in the slot in piece (*f*), below it. When the cars are traveling in one direction, and the brakes required to act if anything impedes their progress, the piece (*f*) is shifted to one side by means of the crank (*k*) rod (*i*) lever (*h*) and bar (*g*) moved by lever (*l*) so that the stud (*r*) on rod (*m*) shall be in the notch (*e'*) nearest the forward end; in this position, while the cars are drawn forward by their springs (*p*), the brakes remain inactive; but if the locomotion is checked, it forces back the rod (*m*) and with it rods (*e*); these cause the brakes to act on the wheels and check the speed as desired; if the brakes are not to be put in action the shaft (*i*) is turned one quarter around, and moves the stud on rod (*m*) so as to clear both notches; if it is to act in the other direction the shaft is turned a quarter further, and the stud catches in the other notch, at the opposite end of the slot in piece (*f*).

What I claim as my invention and desire to secure by Letters Patent is—

1. The manner of combining the draw rod (*m*) with the brakes, for the purpose herein described, by means of the stud (*r*) and notches (*e'*) in the slot in piece (*f*).

2. I claim the employment of a draw rod (*m*) having a long slot in the center which

embraces spring (*p*) so as to allow it a longitudinal motion independent of the spring for the purpose set forth.

3. I claim the shifting apparatus for causing the brakes to act when the cars run either way, that is to say, the piece (*f*) and the lever, rod and shaft by which it is moved, combined and arranged substantially in the manner herein specified.

HENRY C. SIDES.

Witnesses:
JOHN HITE,
J. J. GREENOUGH.