(No Model.)

B. C. ROWELL.

DEVICE FOR AUTOMATICALLY OPERATING POWER CAR BRAKES.

No. 475,893. Patented May 31, 1892.

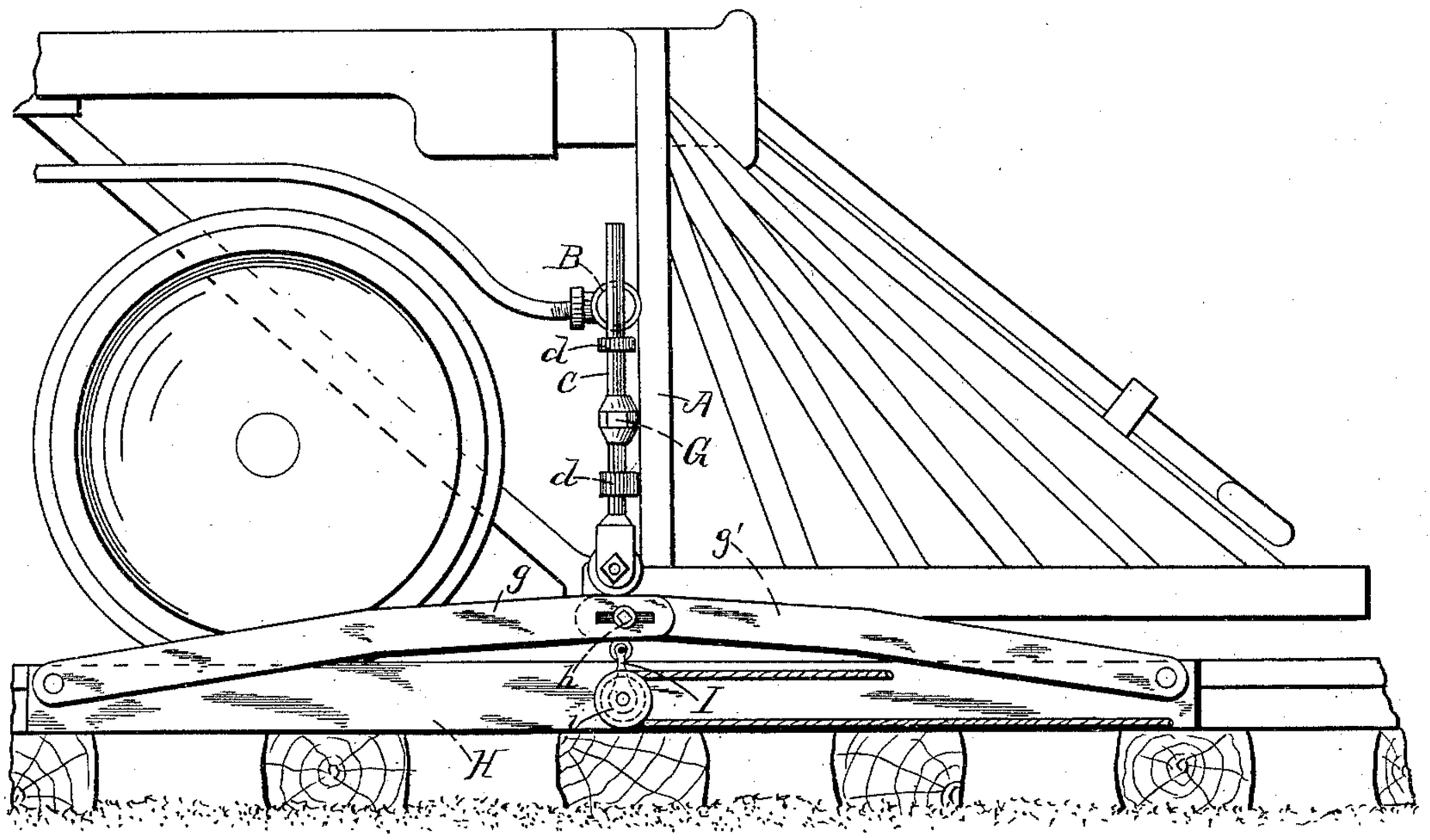

Fig. 1.

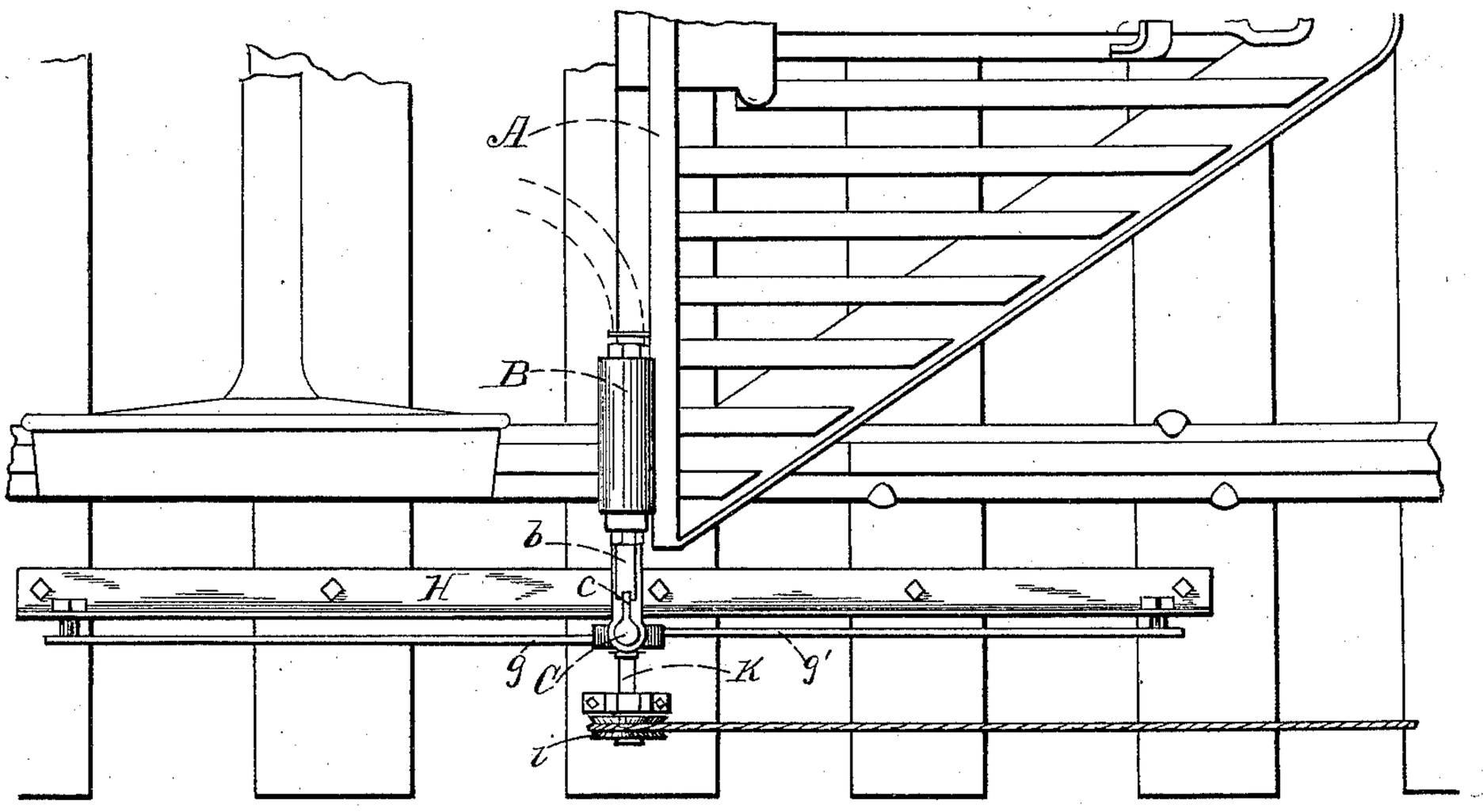

Fig. 2.

WITNESSES

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BENTON C. ROWELL, OF BOSTON, MASSACHUSETTS.

DEVICE FOR AUTOMATICALLY OPERATING POWER CAR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 475,893, dated May 31, 1892.

Application filed February 16, 1891. Serial No. 381,720. (No model.)

To all whom it may concern:

Be it known that I, BENTON C. ROWELL, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Devices for Automatically Operating Power Car-Brakes, of which the following is a specification.

My present invention relates to improvements in devices for automatically operating power car-brakes; and it consists in constructing the cam-plate, which is placed beside the rail and which forces the sliding valve-operating bar upward when the train passes, in the form of a toggle-lever, the arms of which are joined together at their contiguous ends and respectively pivoted at their other ends to bearings upon the cross-ties or other fixed support.

In the drawings forming a part of this specification, Figure 1 is a side elevation of a locomotive-pilot with the valve and sliding bar attached and the toggle-levers beside the rail which are thrown up at their jointed ends through intermediate connection with a switch or signal target to form the cam or inclined surface to operate the sliding bar when the locomotive passes. Fig. 2 is a plan view of the several parts shown in Fig. 1.

In the drawings similar letters indicate the same device or part of a device.

A is the pilot-frame of the locomotive; B, the steam or air valve attached to the frame; *b*, the projecting valve-stem; C, the sliding bar which operates the brake-valve, having the cam projection *c* and supported in guides *d d*, also attached to the pilot-frame. It will be found advantageous to have the projecting end of the valve-stem run through a guide-block E, and a series of notches may be made upon this projecting end of the stem, with which a spring-controlled pawl *e*, pivoted to the block E, should be arranged to engage, or other well-known form of clutch may be employed which will allow the valve-stem to move freely in one direction but hold it from movement in the other, so that when the valve is opened by the action of the cam projection *c* the pawl or clutch will hold the valve in position until it is released by the engineer or other person.

The inclined surface or cam-plate beside the rail, by which the sliding rod C is operated, is what may be termed a "toggle-lever," consisting of two arms or levers *g g'*, pivoted to a fixed support H at their outer ends and at their inner or contiguous ends joined together by a bolt *h*, which is held fast in one arm and works in a slot in the other in order to allow the inner ends of the levers to be raised and lowered. This is accomplished by means of an arm or crank-lever I, which is fixed upon a shaft K in a position directly beneath the inner ends of the levers *g g'*. The shaft K is supported in suitable bearings attached for convenience to a cross-tie and has a grooved pulley *i* upon it, around which a chain or rope passes and extends therefrom to a switch or signal target, and is so arranged that when the switch is opened or the target set to indicate "danger" the arm I will be thrown up and raise the inner ends of the levers *g g'* into a position to operate the sliding-bar C, as shown in Fig. 1.

I claim—

In combination with a sliding rod supported upon the frame of a locomotive or car truck for operating the valve of a power car-brake, a pair of levers placed parallel to and beside the rail, each pivoted at its outer end to a fixed support and respectively provided at their inner or contiguous ends one with a slot and the other with an engaging pin, and a crank-lever beneath the contiguous ends adapted to raise them to a position to act upon the said sliding rod and thereby apply the brakes when the switch or signal target is set to indicate "danger," substantially as described.

BENTON C. ROWELL.

Witnesses:
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