

(No Model.)

H. G. FRANCISCO & A. W. NASH.
AUTOMATIC BRAKE.

No. 550,166.

Patented Nov. 19, 1895.

Fig. 1.

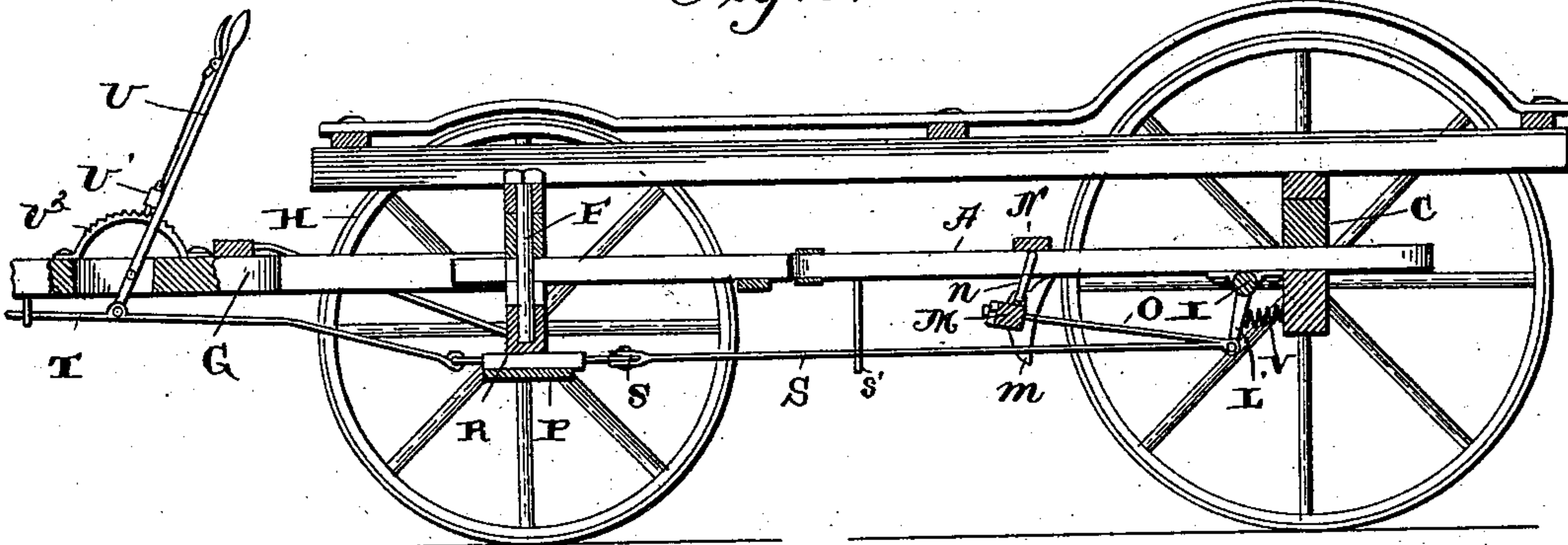


Fig. 2.

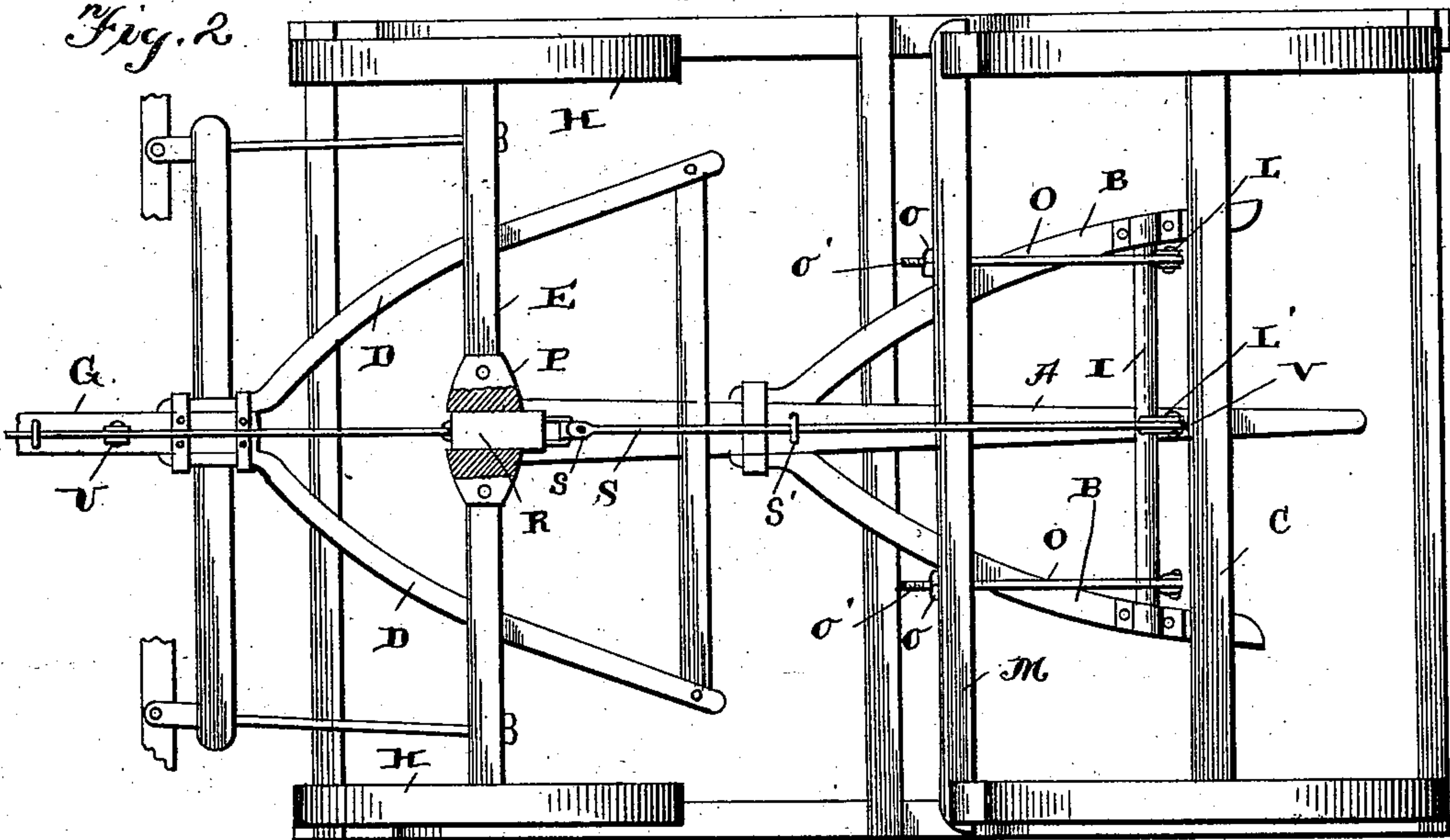
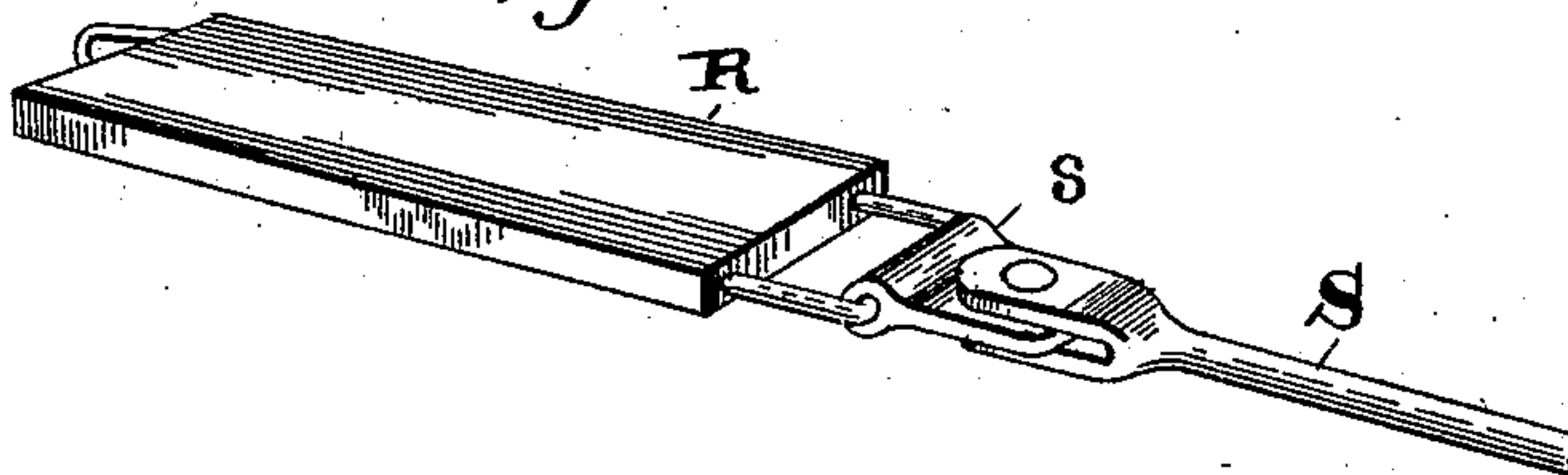


Fig. 3.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC BRAKE.

SPECIFICATION forming part of Letters Patent No. 550,166, dated November 19, 1895.

Application filed May 17, 1895. Serial No. 549,650. (No model.)

To all whom it may concern:

Be it known that we, HARVEY G. FRANCISCO, residing at Flat Rock, and AARON W. NASH, residing at Wood, in the county of Scott and State of Virginia, citizens of the United States, have invented certain new and useful Improvements in Automatic Vehicle-Brakes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in automatic brakes for wagons or any other class of vehicles in which the brake is applied by the action of the team—as, for instance, in holding back when going down hill—and which is also provided with an operating-lever, by means of which the brake mechanism may at all times be thoroughly under the control of the driver.

Our said invention consists in certain novelty in the constructions, arrangement, and combination of the various parts, all of which we will now proceed to point out and describe, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section taken through center of a vehicle equipped with our brake. Fig. 2 is a bottom plan view of the same, and Fig. 3 a detail.

Referring to said drawings, the letter A indicates the wagon-reach; B, the rear hound, and C the rear axle, both being rigidly secured to the reach.

D are the front hounds, and E the front axle, pivotally connected to the forward end of the reach by the king-bolt F.

G is the pole or tongue, rigidly secured to the front hounds, and H are the wheels.

So far as described, the construction is similar to that of the ordinary running-gear now in general use.

I is a rock-shaft, mounted in bearings K, secured to the under side of the rear hounds. Said shaft extends parallel with the rear axle.

L are lever-arms secured to and projecting at right angles to the rock-shaft I and located at the ends of said shaft. L' is a similar lever-arm extending from the center of said rock-shaft.

M is the brake-bar, and *m* the brake-shoes adapted to engage the wheels. Said brake-bar is supported by pivoted links *n*, depending from a cross-bar N, secured to the rear hounds.

O are links or rods pivotally secured at one end to the ends of the lever-arms L and at their other ends adjustably secured to the brake-bar by means of nuts *o* on the screw-threaded ends *o'* of the links or rods. It will thus readily be seen that as the rock-shaft is rocked in one direction the brake-bar is drawn toward the wheels and the brake-shoes forced against said wheels. The degree of pressure of said brake-shoes is regulated by adjusting the nuts on the screw-threaded ends of the connecting links or rods.

P is a transverse horizontal bearing formed on the under side of the front axle, in which is mounted a slide R.

S is a brake-rod extending under the reach and pivotally secured at one end to the end of the lever-arm L' and at its other end to a loop *p* on the slide by a pivoted clip *s*, thus forming a pivotal connection between the slide and brake-bar. Said rod is also provided near its center with a support *s'*, depending from the reach.

T is a draft-rod or extension of the brake-rod, mounted in bearings secured on the under side of the tongue or pole and extending beyond said tongue or pole. Said rod T is pivoted at its rear end to the forward end of the slide R.

U is a brake-lever fulcrumed to the tongue and pivotally connected with the draft-rod and located within convenient reach of the driver. Said lever may be arranged for either a hand or foot lever.

V is a spring interposed between the rear end of the brake-rod and the rear axle, which operates to prevent the brakes from being set too suddenly, and also serves to release the brakes when tension is taken off the brake-rod.

The end of the draft-rod is provided with holdback-chains or other suitable connections connecting the same with the collars or other part of the harness of the team.

The operation of our invention will be readily appreciated. When the vehicle is

going down hill and the team holds back, they draw back on the draft-rod through holdback-chains or other connection and forces the slide back. This in turn force the brake-rod back, 5 rocks the rock-shaft, and sets the brakes. The team thus does its own braking. This feature of our invention is of great advantage and will be appreciated by all practical teamsters. When desired, the brakes can also be 10 set at any time by their brake-lever U, which is provided with a locking-dog U' and toothed sector U². As before stated, the brake-lever may be operated by hand or by foot, and by means of its locking-dog and sector the brakes 15 can be locked when set by the team. It will also be noted that by means of the pivotal connections formed by the slide under the front axle the brake mechanism will operate, no matter in which way the team turns or 20 what position they may assume with relation to the vehicle.

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

25 In an automatic brake for vehicles, the com-

bination of the brake bar, M, supported by depending links from the running gear, the rock-shaft, I, having lever arms, L and L', and the links, O, pivotally connected with the levers, L, and adjustably connected with the 30 brake bar, of the slide, R, mounted in a transverse bearing on the forward pivoted axle, the brake rod, S, pivotally connected to lever arm, L', and at its other end pivotally connected to the slide, R, the spring, V, interposed between 35 the lever arm, L', and rear axle, and the draft rod, T, mounted in bearings on the tongue or pole and pivotally connected to the slide, R, and provided with the brake lever, U, having the locking dog and toothed sector, all con- 40 structed, arranged and operating substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

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AARON W. NASII.

Witnesses:

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