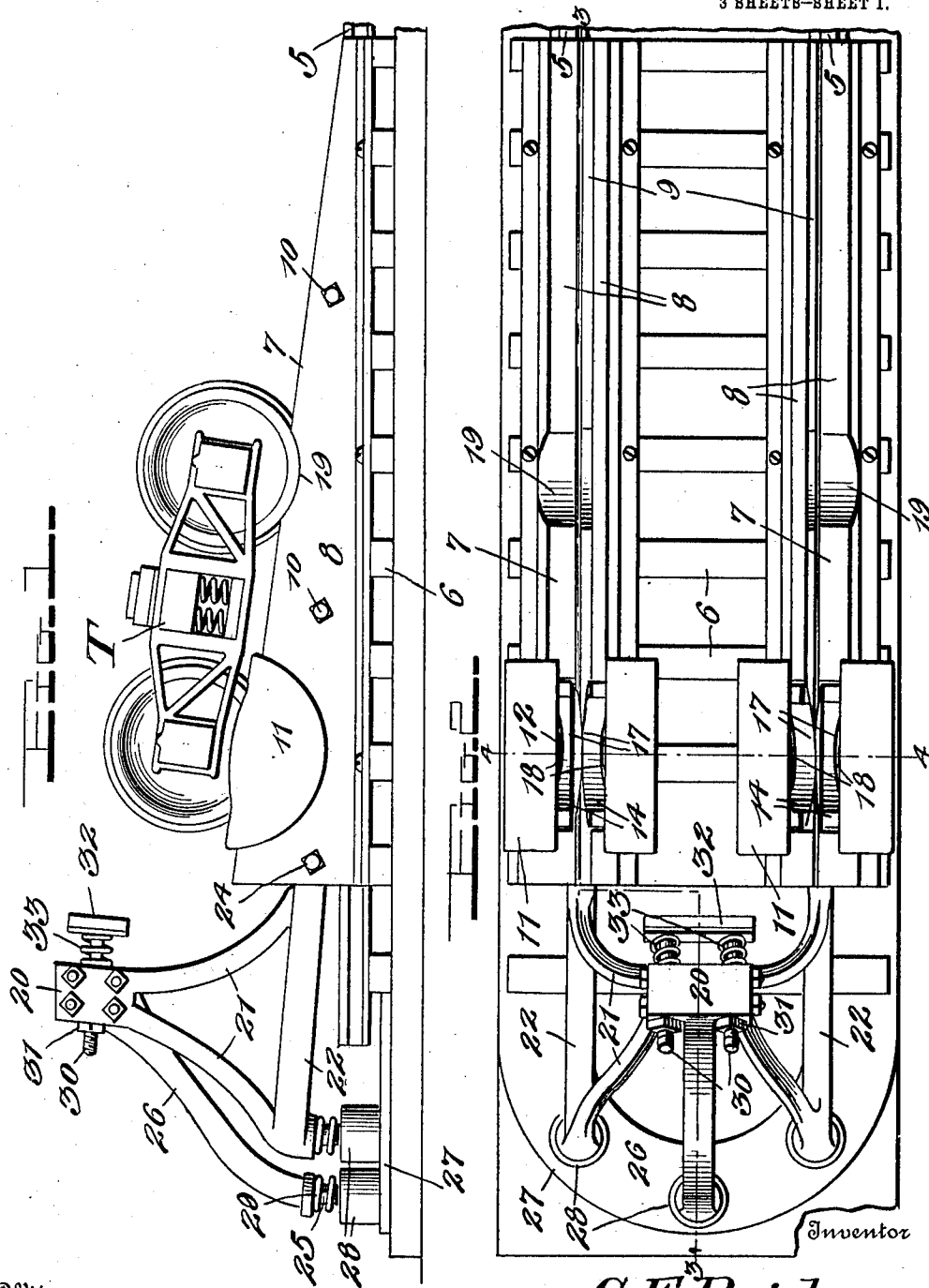


G. E. REID.
 LOCKING DEVICE FOR ENGINE TRUCKS.
 APPLICATION FILED JUNE 17, 1911.

1,026,366.

Patented May 14, 1912.

3 SHEETS-SHEET 1.



Witnesses

Chas. R. Cristafer
 L. H. Ellis.

G. E. Reid,

By

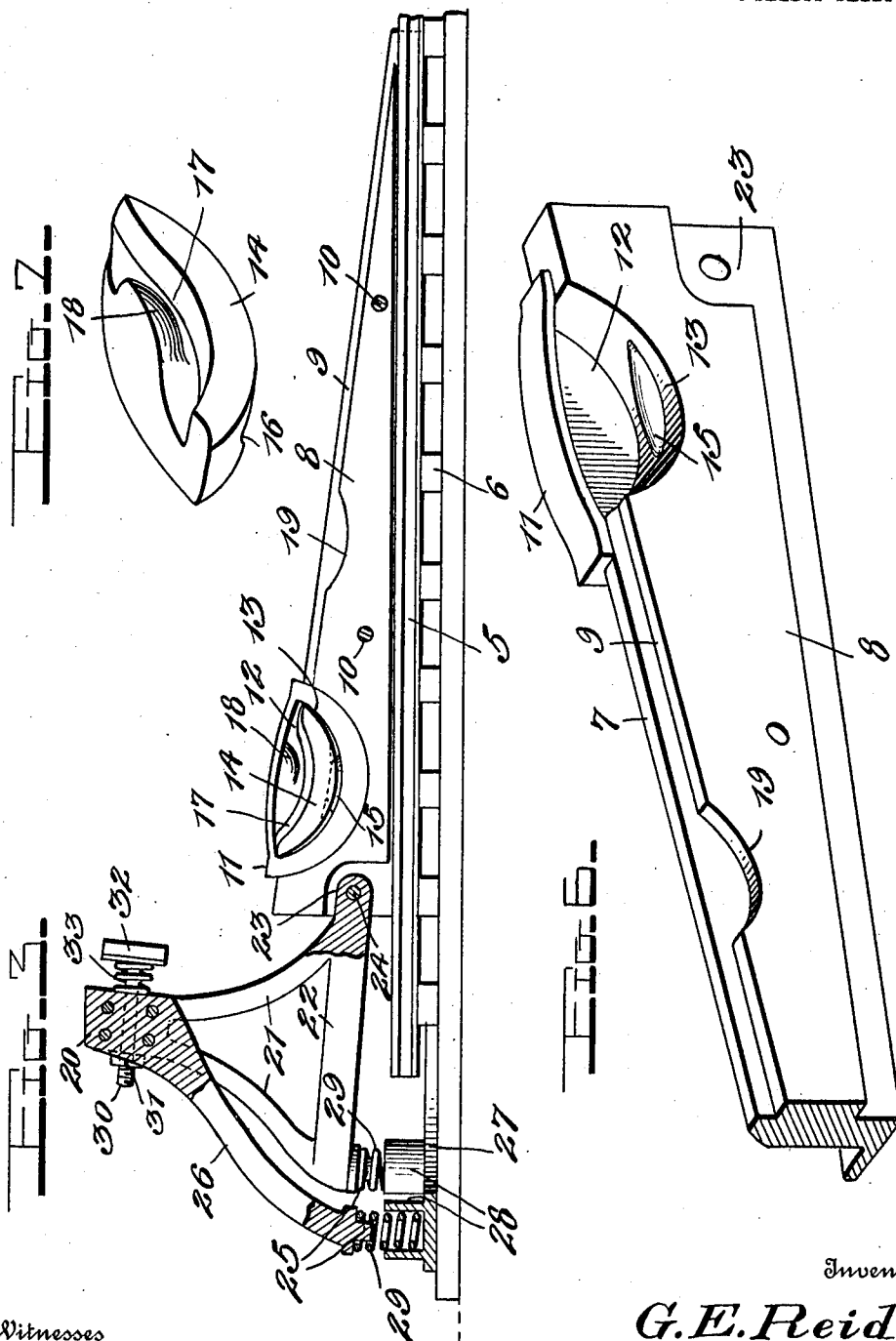
Watson E. Coleman.
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 L. H. Ellis.

Inventor

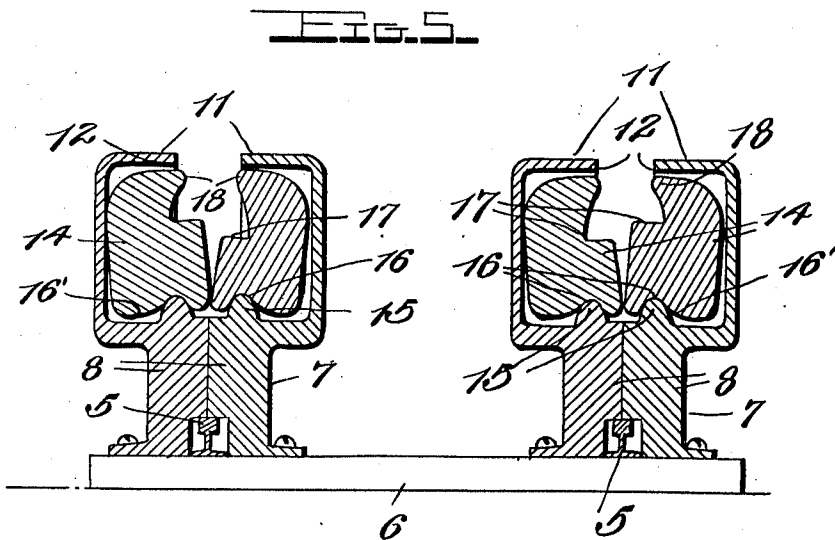
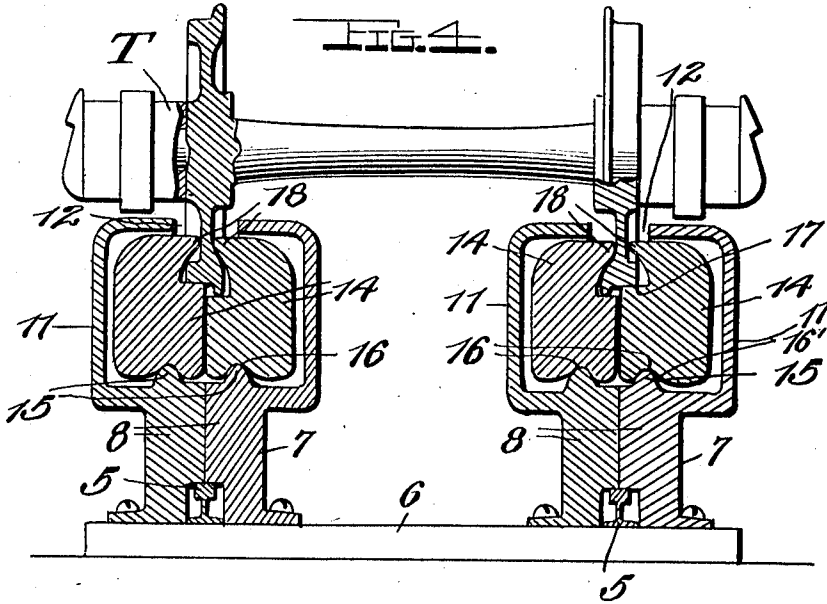
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Inventor

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UNITED STATES PATENT OFFICE.

GEORGE E. REID, OF MERIDIAN, MISSISSIPPI.

LOCKING DEVICE FOR ENGINE-TRUCKS.

1,026,366.

Specification of Letters Patent.

Patented May 14, 1912.

Application filed June 17, 1911. Serial No. 633,644.

To all whom it may concern:

Be it known that I, GEORGE E. REID, a citizen of the United States, residing at Meridian, in the county of Lauderdale and State of Mississippi, have invented certain new and useful Improvements in Locking Devices for Engine-Trucks, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain new and useful improvements in locking devices for engine trucks and has for its object to provide very simple and novel means whereby the engine is securely locked against movement after the same is brought to a standstill in the station.

A further object of the invention is to provide an inclined track-way upon which the forward trucks of the engine are adapted to move, and locking blocks arranged in the upper end of said track-way and automatically moved into locking engagement with the truck wheels under the weight of the engine to overcome the gravity movement of the trucks upon said track-way.

Another object of the invention is to provide a bumper of improved construction, and locking means arranged at the head of the track to receive the forward truck wheels of the engine when the same strikes said bumper, said locking means preventing reverse movement of the engine, by the impact caused by its engagement with the bumper.

35 A still further object of the invention is to provide a mechanism of the above described character which is simple, efficient and durable in construction and which may be manufactured and installed at a comparatively small cost.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of an engine bumper and locking device embodying my invention; Fig. 2 is a top plan view; Fig. 3 is a longitudinal section taken on the line 3—3 of Fig. 2; Fig. 4 is an enlarged detail section taken on the line 4—4 of Fig. 2 illustrating the manner in which the truck wheels are locked; Fig. 5 is a similar view showing the normal positions of the locking blocks; Fig. 6 is a detail perspective view of

one of the inclined track-way sections; and Fig. 7 is a similar view of one of the locking blocks.

Referring in detail to the drawings 5 designates the track rails which are arranged upon the ties 6 and spiked thereto in the usual manner. My improved engine locking means which is arranged at the terminal of the track embodies an inclined track-way 60 7. This track-way includes the sections 8 which are arranged upon opposite sides of the track rails and extend above the same. The inner section of the inclined tracks 8 is provided upon its upper edge with a longitudinal flange-way 9 to receive the flanges of the wheels W of the engine truck T which may be of any ordinary or approved construction. The sections 8 are rigidly secured together above the rails 5 by means of a plurality of transverse connecting bolts 10. 65 70 75

At the head or upper end of each of the inclined track sections 8, a housing 11 is integrally formed. The inner opposed sides of these housings are open as indicated at 12 in Fig. 6, the track section 8 being cut away or provided with a concavity 13 in its edge which is substantially a continuation of the wall of the housing 11. In each of the housings 11, one of the locking blocks 14 shown in detail in Fig. 7 is arranged. These locking blocks are of substantially semi-circular form and are adapted for rocking movement transversely in the housings 11. To this end, a short longitudinal rib 15 is formed in the intermediate portion of the concave edge surface 13 of the sections 8, and said rib is adapted to be received in a longitudinal groove 16 provided in the periphery of the locking block 14. 80 85 90 95

As will be noted from reference to Fig. 4 of the drawings, the outer wall of the groove 16 in the locking block is beveled or inclined as indicated at 16' so as to permit of the transverse rocking movement of the block upon the rib 15. The upper outer surface of the locking block is also rounded or convex and moves freely upon the inner surface of the upper wall of the housing 11. The inner faces of the blocks 14 are further provided with the tread flanges 17 with which the periphery of the truck wheel engages. A projection or protuberance 18 is provided upon the inner face of the locking block at its upper edge and is adapted to frictionally engage upon the face of the truck wheel when the same moves 100 105 110

upon and between the opposed blocks. The track sections 8 are also provided at a point intermediate of their ends and spaced from the housings 11, with the recesses or cavities 19 in their tread surfaces in which the rear wheels of the truck are adapted to move.

Upon the movement of the front truck of the engine on to the inclined track-way 7, the front wheels of the forward truck move between the housings 11 of the inclined track sections 8 and rest upon the opposed locking blocks which are arranged in said housings. The weight of the engine which is partially sustained by said blocks, causes the same to rock upon the ribs 15 so that they move to the position shown in Fig. 4 of the drawings wherein the projections 18 are frictionally engaged with the opposite faces of the truck wheels. The rear wheels of the truck are disposed in the concave tread portions 19 and when the truck is thus disposed, the tendency of the same to gravitate down the inclined track-way is overcome by the frictional locking engagement of the blocks with the front truck wheels. In this manner the engine is held against any movement until the power is applied to overcome the locking action of the blocks and disengage the truck wheels therefrom.

My improved lock is adapted to be used in connection with a bumper of novel construction, said locking device preventing any reverse movement of the engine after the same strikes the bumper. As shown, I provide the head block 20 which has integrally formed therewith at opposite sides a pair of arms 21 which connects said block with the longitudinal bar 22. The opposed faces of the inclined track sections 8 at the heads thereof are recessed as indicated at 23 to receive one of the ends of the arms 22 which is pivotally held therein by means of the bolts 24 which extend transversely through the track sections. The other ends of the longitudinal bar 22 have formed thereon the depending studs 25, and a similar stud is formed on the lower end of a central rearwardly extending arm 26 which is formed upon the head block 20. A base plate 27 is rigidly fixed upon a suitable foundation and on this base plate the tubular bosses 28 are formed. In said bosses coiled springs 29 of the required tension are arranged, the upper ends of which receive the studs 25. In the head block 20 a pair of movable bolts 30 are arranged, suitable nuts 31 being threaded on the bolts to limit their movement in one direction. To the ends of said bolts a bumper plate 32 is suitably secured and between said plates and the head block 20, springs 33 are arranged upon the movable bolts, one of the ends of the springs being seated in recesses provided in the head block. These springs are

adapted to yieldingly hold the bumper plate and the bolts against movement. As the engine ascends the inclined track-way 7, the upper end of the pilot strikes the bumper plate and moves the same against the tension of the springs 33 and at the same time forces the bumper rearwardly, the bars 22 rocking upon their pivots and the springs 29 being placed under compression. The action of the bumper springs tends to force the engine downwardly upon the inclined track-way, which movement is overcome by the locking engagement of the blocks which are mounted in the sections 8, upon the front wheels of the engine truck.

From the foregoing it is believed that the construction, operation and many advantages of my improved track terminal will be readily understood. The locking mechanism is simple and effective in its action, the forward truck of the engine being securely held in its position upon the inclined track rail. It will of course be understood that the track sections 8 may have their upper edge inclined to a greater or less degree than illustrated in the drawings, and that the bumper will be arranged at the proper distance with relation to the locking blocks, in accordance with the location of the truck wheels and the construction of the engine. The device is also extremely positive in its action, consists of very few parts which are of durable construction and may therefore be manufactured at an extremely small cost.

While I have shown and described the preferred construction and arrangement of the various elements, it will be understood that the device is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages of the invention.

Having thus described the invention what is claimed is:—

1. In a device of the character described, the combination with a bumper including a movable spring pressed plate, of an inclined track-way, and means arranged in the upper end of said track-way to engage the truck wheels of an engine and lock the same thereon.

2. In a device of the character described, the combination with a pivotally supported bumper and a plurality of springs yieldingly holding the same against pivotal movement, of an inclined track-way, and means arranged in said track-way at its upper end to engage the truck wheels and lock the same thereon.

3. A device of the character described comprising an inclined track-way, and movable locking elements arranged in the upper end of said track-way for locking engagement with the wheels of an engine truck.

4. A device of the character described

comprising an inclined track-way, and locking elements arranged in the upper end of said track-way and adapted to engage with opposite faces of the truck wheels of an engine.

5. A device of the character described comprising an inclined track-way, and opposed locking elements arranged in the upper end of the track-way and actuated by the weight of an engine to lock the truck wheels thereof.

6. A device of the character described comprising an inclined track-way, and transversely movable locking elements arranged in the upper end of said track-way and having tread surfaces to receive the truck wheels of an engine, said locking elements being moved under the weight of an engine into locking engagement with opposite faces of the truck wheels.

7. A device of the character described comprising an inclined track-way consisting of rails each formed in two sections, said rail sections each having a housing formed thereon at the upper end of the track, and locking elements mounted in said housings for transverse rocking movement adapted to be actuated under the weight of an engine to frictionally engage upon opposite sides of the truck wheels thereof and lock the same upon said track.

8. A device of the character described comprising an inclined track-way, and a locking element arranged in the upper end of each of the rails of said track-way and provided with a tread surface to receive the truck wheels of an engine, said locking elements being moved under the weight of the engine into frictional locking engagement with the truck wheels.

9. A device of the character described comprising an inclined track-way consisting of rails formed in two sections each of said rail sections being provided with a housing at its upper end, the inner opposed sides of said housings being open, and locking blocks adapted to be engaged by the truck wheels of an engine and having transverse rocking movement in the housings under the weight of the engine whereby the same are frictionally engaged with the truck wheels to lock the same upon the truck.

10. A device of the character described comprising an inclined track-way consisting of rails formed in two sections, each of said rail sections having a housing upon its upper end and a concavity in its tread surface forming a continuation of one of the housing walls, locking blocks arranged in the housings, and means whereby a transverse rocking movement of said elements is effected when the same are engaged by the truck wheels of an engine to effect the frictional locking engagement of said elements with the truck wheels.

11. A device of the character described comprising an inclined track-way consisting of rails formed in two sections, each of said rail sections having a housing upon its upper end and a concavity in its tread surface forming a continuation of one of the housing walls, locking blocks arranged in the housings, said blocks being provided with grooves, and longitudinal ribs formed in the concave edge portions of the rail sections to be received in said grooves and support the locking elements for rocking movement in the housings, under the weight of an engine when the truck wheels engage therewith to lock the wheels upon the rails.

12. A device of the character described comprising an inclined track-way consisting of rails each formed in two sections, each of said rail sections having a housing formed on its upper end and a concavity in its tread surface forming a continuation of one of the housing walls, substantially semicircular locking blocks arranged in said housing, means supporting the same for transverse rocking movement, said blocks having tread surfaces to receive the truck wheels of an engine and protuberances formed on the inner faces of said blocks for frictional engagement with the opposite faces of the truck wheels to lock the same upon said track.

13. A device of the character described comprising an inclined track-way consisting of rails each formed in two sections, locking blocks mounted in the upper ends of the rail sections for transverse rocking movement, said blocks having tread surfaces to receive the truck wheels of an engine and protuberances upon the opposed faces of said blocks adapted for frictional engagement with opposite sides of the truck wheels under the weight of the engine to lock said wheels upon the track.

14. A device of the character described comprising an inclined track-way consisting of rails each formed in two sections, opposed locking blocks mounted for transverse rocking movement in the upper end of each of the rails, said blocks having tread surfaces to receive the front truck wheels of an engine, said blocks being adapted to be rocked by the weight of the engine and frictionally engage with the wheels, said rail sections having depressions in their tread surfaces to receive the rear truck wheels.

15. A locking device for engine trucks arranged upon the rails of the track and actuated by the engagement of the truck wheels therewith to lock the engine against retrograde movement.

16. A bumper comprising a head block, parallel longitudinal bars and arms integrally connecting the bars and the head block, said bars being pivoted at one of their

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ends, and springs supporting the other ends of said bars.

17. A bumper comprising a head block, spaced parallel bars integrally connected with said head block and pivotally mounted at one of their ends, a depending arm formed on said head block, a base plate, and springs seated upon said base plate and supporting the other ends of said bars and said arms.

18. A bumper comprising a head block, parallel longitudinal bars integrally connected to said head block and pivotally mounted at one of their ends, a base plate having tubular bosses formed thereon, a downwardly extending arm integrally formed on the head block, and springs arranged in said bosses, said springs receiving studs formed on said arm and the longitudinal bars.

19. A bumper comprising a head block, parallel longitudinal bars integrally con-

nected to said head block, said bars being pivotally mounted at one of their ends and yieldingly supported at their other ends, and a bumper plate mounted on said head block and movable with respect thereto.

20. A bumper comprising a head block, parallel arms integrally connected to the head block and pivotally mounted at one of their ends, means yieldingly supporting said bars at their other ends, a pair of bolts movable through the head block, a bumper plate fixed upon said bolts, and coiled springs arranged between said plate and the head block to yieldingly hold said plate against movement with respect to the block.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GEORGE E. REID.

Witnesses:

M. C. LYDDANE,
EARL REID.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."