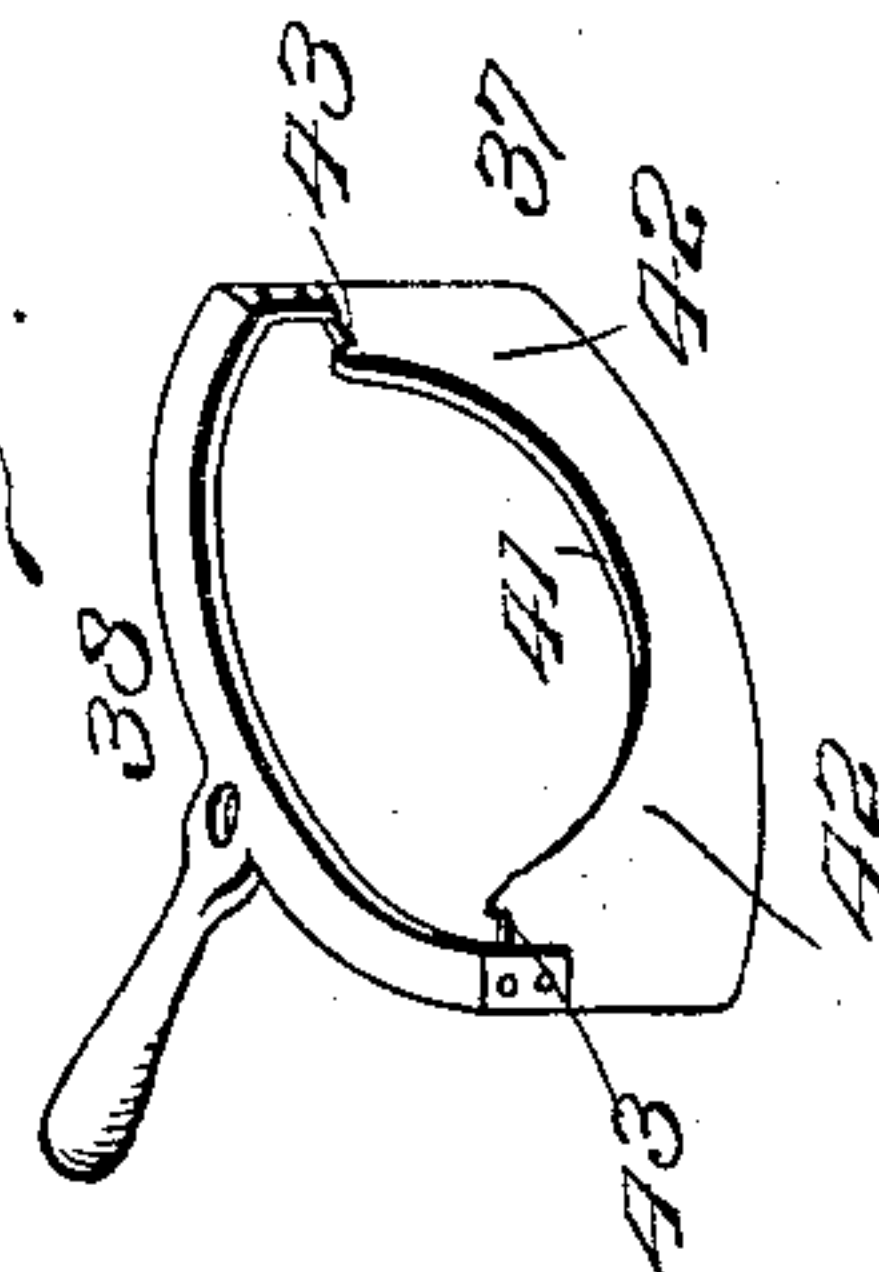
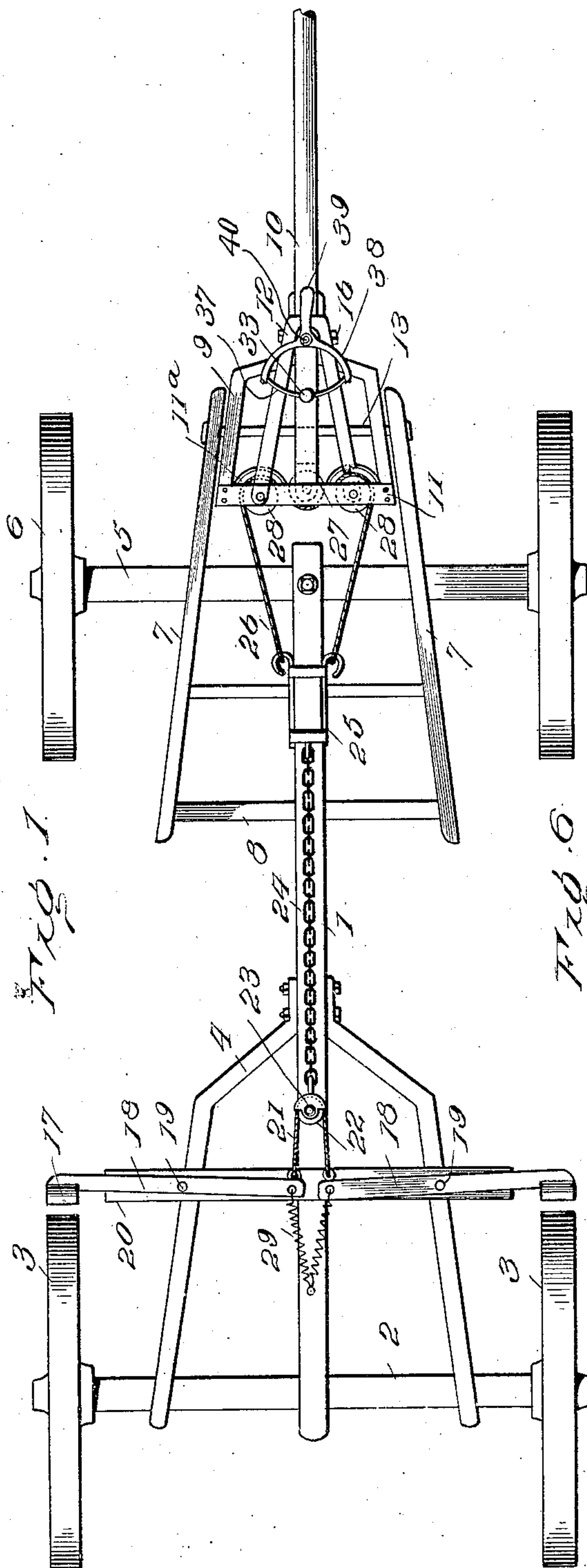


No. 845,412.

PATENTED FEB. 26, 1907.

J. W. GURNSEY.
AUTOMATIC BRAKE.
APPLICATION FILED JULY 25, 1906.

2 SHEETS--SHEET 1.



Witnesses

L. D. Langworthy

By

Watson E. Coleman
Attorney

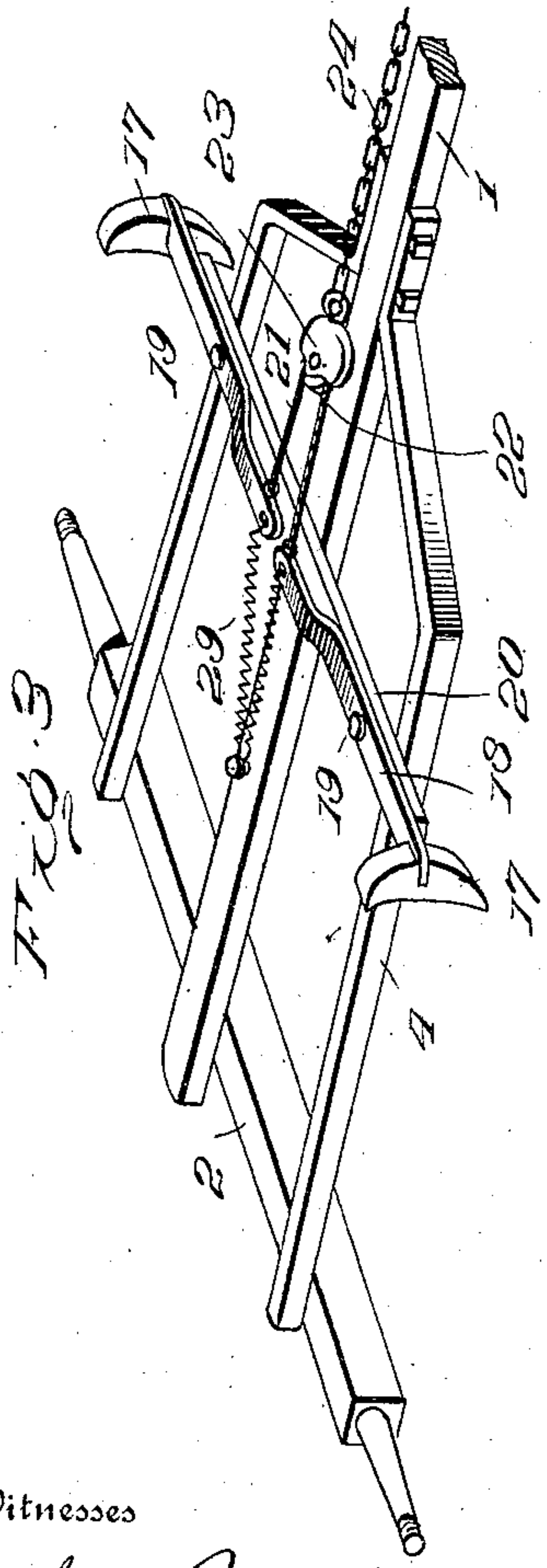
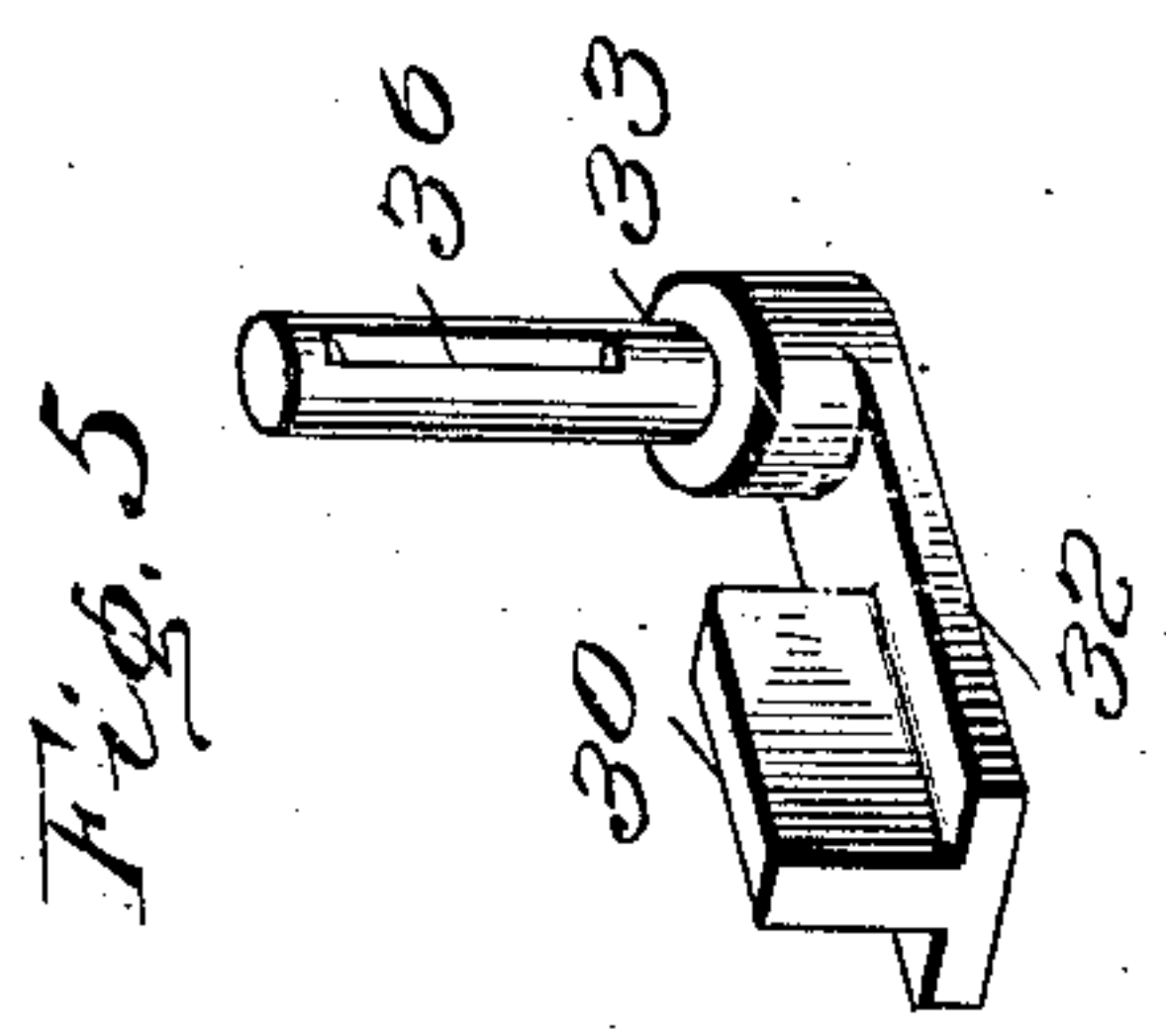
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2 SHEETS—SHEET 2.



Witnesses

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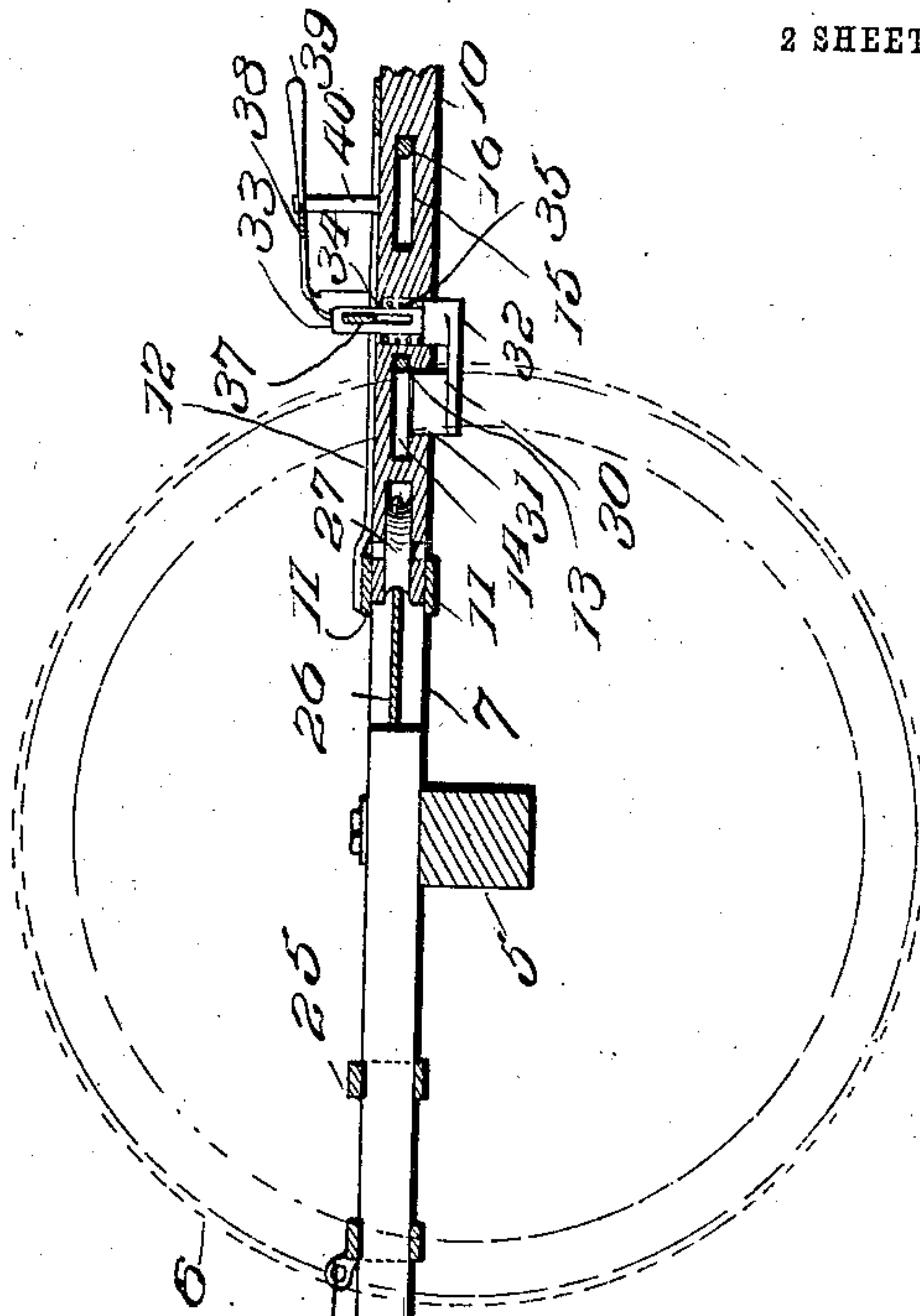


FIG. 2

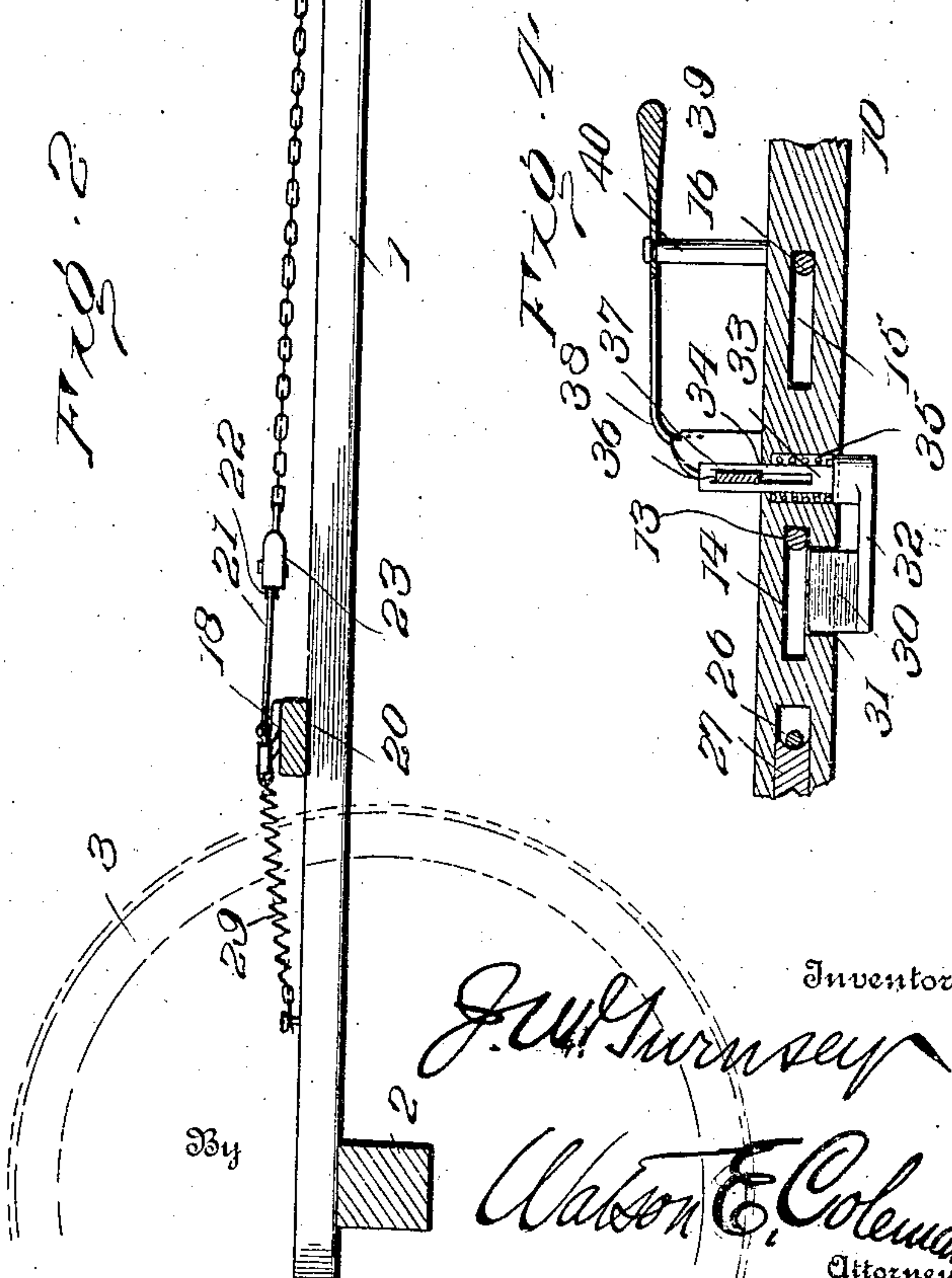
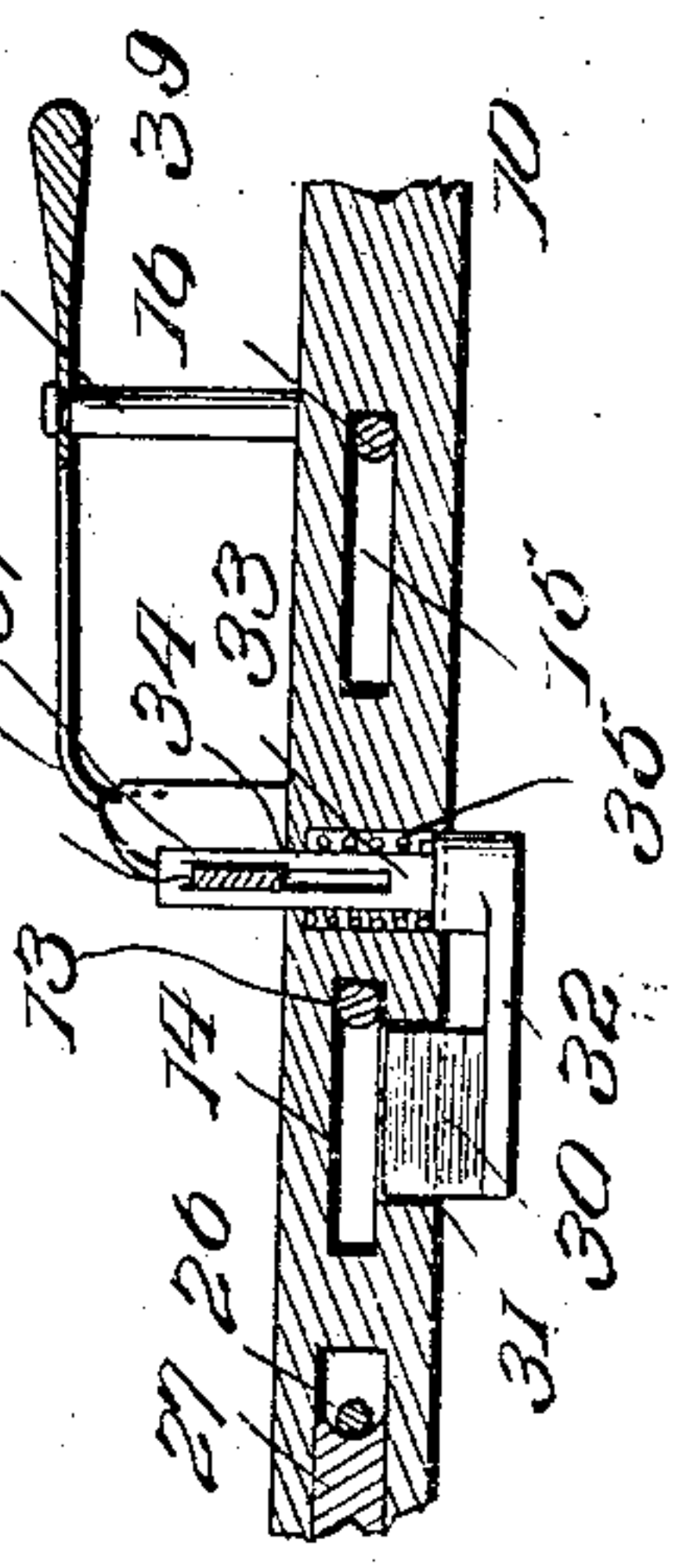


FIG. 4



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UNITED STATES PATENT OFFICE.

JAMES W. GURNSEY, OF LIBERTY, PENNSYLVANIA.

AUTOMATIC BRAKE.

No. 845,412.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed July 25, 1906. Serial No. 327,695.

To all whom it may concern:

Be it known that I, JAMES W. GURNSEY, a citizen of the United States, residing at Liberty, in the county of Tioga and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Brakes for Wagons, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to improvements in automatic brakes for wagons and other vehicles; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

15 One object of the invention is to provide a device of this character which will be simple, inexpensive, strong, and durable in construction and quick and effective in operation.

20 Another object of the invention is to provide a brake device of this character with means whereby it may be held in either its applied or released position.

25 Further objects and advantages of the invention, as well as the structural features by means of which they are attained, will be made clear by an examination of the following specification, taken in connection with the accompanying drawings, in which the same reference-numerals indicate corresponding portions throughout, and in which—

30 Figure 1 is a top plan view of a vehicle running-gear having the improved automatic brake applied thereto. Fig. 2 is a central vertical longitudinal section through the same. Fig. 3 is a perspective view of the rear end of the tongue, its hounds, and the attached parts. Fig. 4 is a detail section, on an enlarged scale, showing the controlling or locking device for the brake. Fig. 5 is a perspective view of the brake controller or lock; and Fig. 6 is a similar view of the operating-lever for the brake controller or lock.

35 The invention is shown applied to a wagon running-gear comprising a reach 1; a rear axle 2, carrying rear wheels 3; rear hounds 4, connecting said reach and axle; a pivoted front axle 5, carrying front wheels 6, and front hounds 7, secured upon the axle 5 and connected at their rear ends by cross-bars 8. 40 The front ends of the front axle-hounds 7 are connected to the rear ends of tongue-hounds 9, which latter have a tongue 10 slidably mounted between their front ends. The tongue-hounds 9 are connected by up-

per and lower transversely-extending metal plates 11 and by a substantially U-shaped metal strap 12. The hounds 9 are secured between the hounds 7 by a main draw-bolt 13, which extends transversely through alining openings in said hounds and also through a horizontal longitudinally-extending slot 14, formed in the rear portion of the tongue. The latter is also formed with a similar slot 15, through which extends a smaller transverse draw-bolt 16, which connects the front ends of the hounds 9. These slots 14 15 permit the tongue to have a longitudinal sliding movement independent of the hounds, so that when the draft-animals hitched to the tongue hold back in descending a hill or the like the brake will be automatically operated.

70 The brake comprises shoes 17, adapted to engage the rear wheels 3 and carried by the outer ends of brake beams or levers 18, which are pivoted at 19 upon a cross-bar 20, connecting the hounds 4 and the reach 1. The inner ends of the brake-levers 18 are provided with eyebolts, to which are connected the ends of a cable, chain, or the like 21, passed around a pulley 22, mounted in a block or casing 23. The latter is adapted to lie upon the top of the reach 1 and is connected by a chain or the like 24 to a slide 25, provided upon the reach. Said slide is adapted to have a free longitudinal sliding movement upon the front portion of the reach and is preferably composed of two side plates connected by top and bottom cross-plates, and having at their forward ends hooks or eyes, to which are attached the ends of a chain, cable or other flexible element 26. Said chain 26 passes around a wheel 27, journaled in the bifurcated rear end of the tongue 10, and also around wheels 28 28, journaled between the plates 11 upon opposite sides of the tongue, as clearly shown in Figs. 1 and 3. 90 While the wheels 27 28 28 are shown as plain pulleys to receive the chain 26, it will be understood that sprocket-wheels and a sprocket-chain may be substituted for said parts and that any other suitable means may be employed for imparting the movement of the tongue 10 to the slide 25. Curved guard-plates 11^a hold the chain upon said wheels. Coil-springs 29, connected to the rear portion of the reach 1 and to the inner ends of the levers 18, serve to hold the brake-shoes normally out of contact with the wheels 3. Said 105

shoes are forced against said wheels whenever the tongue 10 slides rearwardly and causes the pulley 27 to draw the chain 26 over the pulleys 28 28, and thereby move the slide 25 forwardly, as will be readily understood.

In order to hold the brake applied or to hold it released while the wagon is being backed, a controller or lock 30 is provided in the form of a block adapted to be moved vertically into the slot 14 in the tongue 10 either in front or in rear of the main draw-bolt 13 for the purpose of preventing the sliding movement of said tongue on said bolt. The block 30 operates in a vertical slot 31, formed in the bottom of the tongue and communicating with the slot 14 for the bolt 13, as clearly shown in Fig. 4. Said block is carried by an arm 32 upon the lower end of a bolt or rod 33, which extends vertically through an opening 34, formed in the tongue. A coil-spring 35, surrounding the lower portion of the rod 33 and arranged in the opening 34, forces said rod downwardly and holds the locking-block 30 normally in the slot 31 and out of the path of the main draw-bolt 13. The upper end of the rod 33 projects above the top of the tongue and is formed with a vertical slot 26, through which works a longitudinally-curved wedge plate 37, having its ends connected to the forked portion 38 of an operating-lever 39, the latter being pivoted upon a bolt 40, provided upon the tongue. The upper edge of the plate 37 is curved or cut away, as clearly shown in Fig. 6, in order to provide a narrow central portion 41 and broad end portions 42, in which latter are formed seats 43. It will be seen that when the narrow central portion 41 of the double cam or wedge plate is disposed in the slot 36 in the rod 33 the spring 35 will hold the block 30 lowered in the slot 31 and that when said lever 39 is moved to cause either of the broad end portions 42 of said sliding plate to enter the slot 36 the inclined or cam-shaped upper edge of said portion will elevate the rod 33, and thereby elevate the block 30 into the slot 14 either in front or in rear of the bolt 13, according to whether the brake is applied or released. When one of the seats or notches 43 engages the rod 33, the plate 37 will be held against casual displacement, but may be readily moved when sufficient force is applied to the lever 39.

The construction, operation, and advantages of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings, and a further explanation is therefore deemed unnecessary.

While the preferred embodiment of the invention is shown and described, it will be understood that I do not wish to be limited to the precise showing set forth, since various changes in the form, proportion, and the minor details of construction may be made

without departing from the spirit or sacrificing any of the advantages of the invention as defined by the appended claims.

Having thus described my said invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a vehicle-brake, a running-gear, a tongue slidably mounted thereon, a pair of brake-levers having wheel-engaging shoes at their outer ends, springs connected to their inner ends, a flexible element connected to the inner ends of said levers, a pulley engaged with said element, a slide, a connection between said slide and said pulley, and means for imparting the sliding movement of said tongue to said slide.

2. In a vehicle-brake, a running-gear, a tongue slidably mounted thereon, a pair of brake-levers having wheel-engaging shoes at their outer ends, springs connected to their inner ends, a flexible element connected to the inner ends of said levers, a pulley engaged with said element, a slide, a connection between said slide and said pulley, guide-wheels upon said running-gear, an intermediate guide-wheel upon said tongue, and a flexible element engaged with said guide-wheels, substantially as shown and connected to said slide.

3. In a vehicle-brake, a running-gear, a tongue slidably mounted thereon, a pair of brake-levers having wheel-engaging shoes at their outer ends, springs connected to their inner ends, a flexible element connected to the inner ends of said levers, a pulley engaged with said element, a slide, a connection between said slide and said pulley, guide-wheels upon said running-gear, an intermediate guide-wheel upon said tongue, a flexible element engaged with said guide-wheels substantially as shown and connected to said slide, and means for preventing the sliding movement of said tongue.

4. In a vehicle-brake, a running-gear, a slotted tongue, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by the sliding movement of said tongue, a rod vertically slidable in said tongue and carrying a lock-block to enter said slot, and a cam or wedge slidable in a slot in said rod, substantially as shown and for the purpose set forth.

5. In a vehicle-brake, a running-gear, a slotted tongue, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by the sliding movement of said tongue, a rod vertically slidable in said tongue and carrying a lock-block to enter said slot, a lever pivoted upon said tongue and having a double cam or wedge plate to work in a slot in said rod to move the latter in one direction, and a spring for moving said rod in the opposite direction, substantially as shown and for the purpose set forth.

6. In a vehicle-brake, a running-gear, a slidably-mounted tongue, a brake mechanism actuated by said tongue, a stop for limiting the sliding movement of said tongue, a locking element mounted for transverse sliding movement upon said tongue and movable into and out of engagement with said stop, a slotted rod carried by said element and slidably mounted upon said tongue, a double cam or wedge-shaped plate to work in the slot in said rod and formed with seats, said plate being adapted to move said rod in one direction, and a spring for moving said rod in the opposite direction.

7. In a vehicle-brake, a running-gear, a slidably-mounted tongue, a brake mechanism actuated by said tongue, a stop for limiting the sliding movement of said tongue, a locking element mounted for transverse sliding movement upon said tongue and movable into and out of engagement with said stop, a lever pivotally mounted upon said tongue and carrying a cam or wedge plate to work in the slot in said rod to move the latter in one direction, said cam or wedge plate having a seat for the purpose set forth, and a spring for moving said rod in the opposite direction.

8. In a vehicle-brake, a running-gear, a slidably-mounted tongue having a longitudi-

nal slot, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by said tongue, a lock-block mounted for transverse sliding movement in said tongue and movable into and out of said slot, a slotted rod carried by said lock-block and mounted for sliding movement upon said tongue, and a lever pivotally mounted upon said tongue and carrying a cam or wedge plate to work in the slot in said rod.

9. In a vehicle-brake, a running-gear, a slidably-mounted tongue having a longitudinal slot, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by said tongue, a lock-block mounted for transverse sliding movement in said tongue and movable into and out of said slot, a slotted rod carried by said lock-block and mounted for sliding movement upon said tongue, a spring for projecting said rod in one direction, and a cam or wedge to work in the slot in said rod and move the latter in the opposite direction.

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

JAMES W. GURNSEY.

Witnesses:

M. M. WERLINE,
C. F. COHICK.