

Oct. 16, 1923.

1,470,949

A. WEISINGER

TAXIMETER

Filed July 15, 1922

2 Sheets-Sheet 1

Fig. 1.

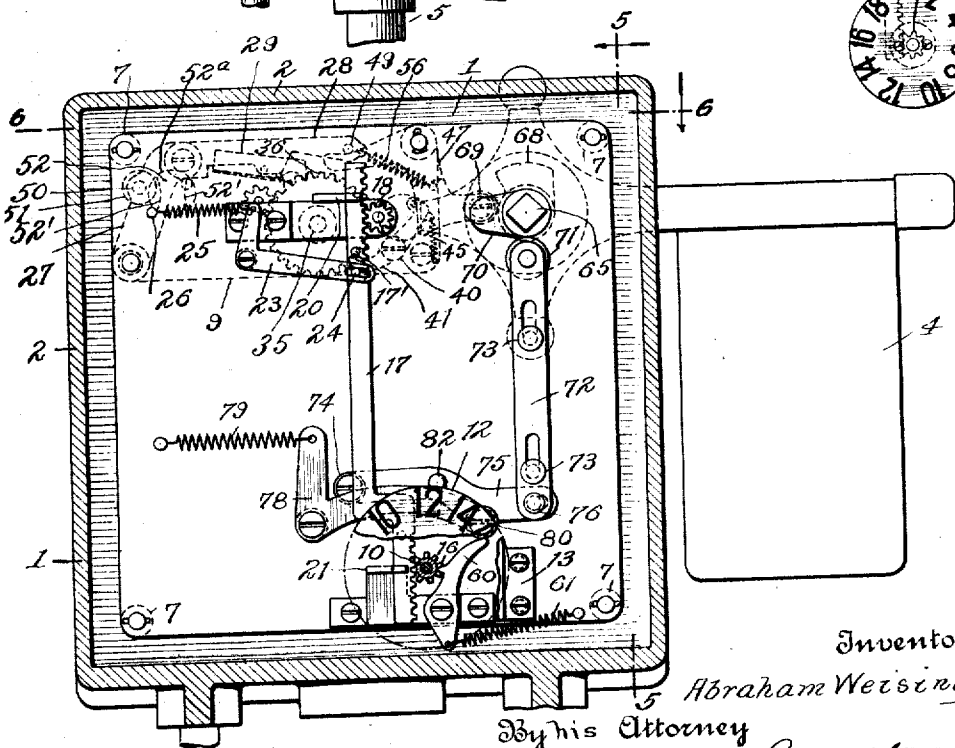
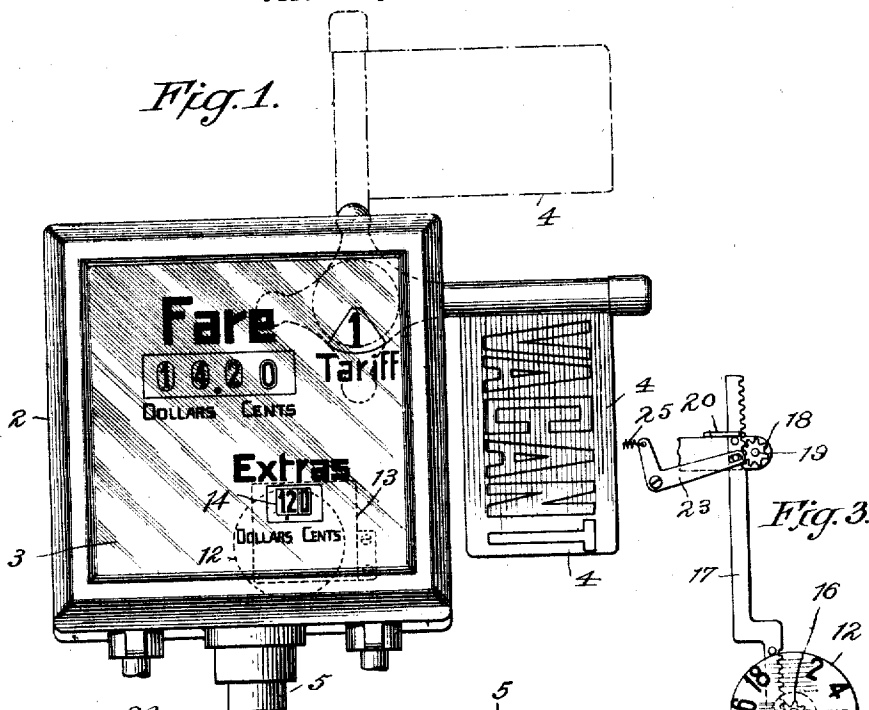


Fig. 2.

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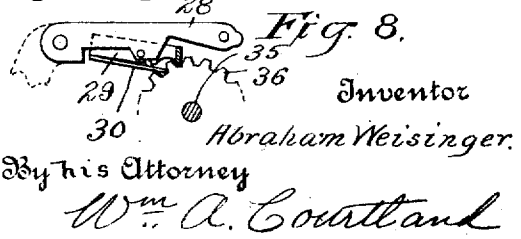
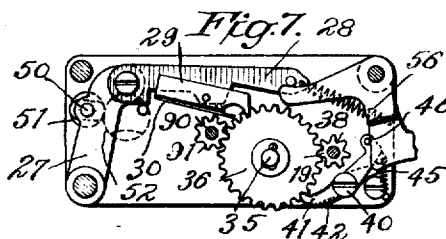
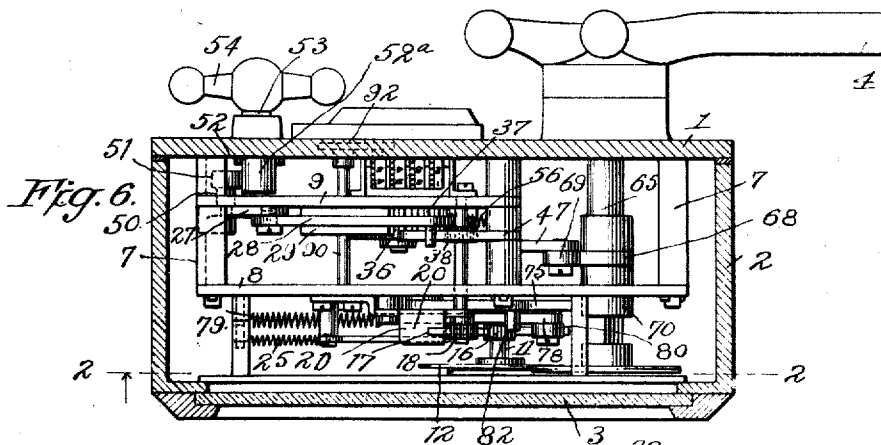
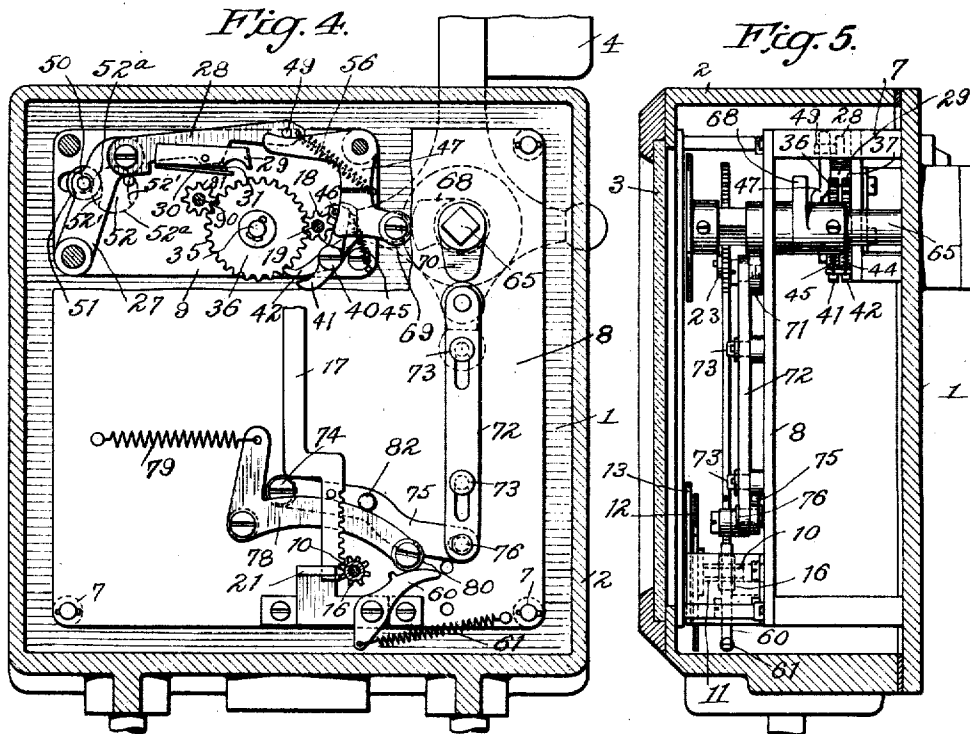
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2 Sheets-Sheet 2



Inventor
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UNITED STATES PATENT OFFICE.

ABRAHAM WEISINGER, OF NEWARK, NEW JERSEY.

TAXIMETER.

Application filed July 15, 1922. Serial No. 575,262.

To all whom it may concern:

Be it known that I, ABRAHAM WEISINGER, a citizen of the United States, residing in Newark, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Taximeters, of which the following is a specification.

My invention relates to improvements in taximeters of the kind now employed on taxicabs and like vehicles.

The primary object of my invention is to more advantageously position the mechanisms for recording "extras" on a taximeter, and to provide simple and positive means for manually operating said mechanisms to indicate the desired charges.

Another object of the invention is to operably connect the recording mechanism of the "extras" to the indicating flag in such manner that when said flag is reset to "Vacant" position the recording mechanism of the "extras" will be reset to initial position.

Other and further objects, including certain features of construction and application, will appear in the specification and be pointed out in the appended claims, reference being had to the accompanying drawings which show the preferred embodiment of my invention.

In the drawings:—

Figure 1 is a front view in elevation of a taximeter.

Figure 2 is a vertical section on the line 2—2, Figure 6.

Figure 3 is a detail view of the record dial operating mechanism in initial position.

Figure 4 is a similar view to Figure 2, with certain parts broken away to further show the operating mechanisms.

Figure 5 is a vertical section on the line 5—5, Figure 2.

Figure 6 is a horizontal section on the line 6—6, Figure 2.

Figure 7 is a detail view of the mechanism for moving the indicating dial.

Figure 8 is a detail sectional view of the operating pawl.

In the preferred embodiment of my invention, 1 is the supporting back plate upon which the several mechanisms of a taximeter are mounted, 2 the casing, 3 the window, 4 the indicating flag and 5 the driving connections from the vehicle to the taximeter.

Attached to the back plate 1 by posts 7,

is a large square plate 8 which serves, in conjunction with the base plate as a means for supporting several of the operating mechanisms. Located back of the plate 8 near the top of the instrument and fastened to the base plate by suitable posts in the same manner as plate 8, is a smaller plate 9 adapted to act as a supporting member for some of the parts hereinafter explained. Fastened near the lower edge of the plate 8 and extending forwardly is a stud 10 upon which is mounted a hub 11 said hub carrying on its forward end a dial 12. Radially disposed on the face of this dial adjacent the peripheral line, are numerals 2, to 18 with a blank space between 2 and 18 which shows when the dial is in initial position. Suitably fastened to the plate 8 and extending forwardly and over the dial 12 is a screen 13 having therein an opening 14 through which the numerals on the dial can be seen. Placed on this screen to the right of the opening 14 is a "0" the purpose of which is to complete the sum of the extra charges, that is so that they will read from 20 to 180. By placing the "0" on the screen I am enabled to enlarge the numerals on the dial so that the extra charges can be more readily observed.

Forming part of the hub 11 is a pinion 16 which meshes with and is driven by a vertical rack bar 17. The top of this rack bar meshes with and is driven by a pinion 18 mounted on a shaft 19 journaled in the plates 8 and 9. The rack bar is held in operative position against the pinion by grooved guide plates 20 and 21 fastened respectively near the top and bottom of plate 8, said rack carrying thereon, near the top, a pin 17' adapted to engage the top guide 20 and act as a stop to limit the upward movement of said rack. Pivotaly mounted on the plate 8 is a lever 23, one end of which is slotted and has riding freely in said slot a pin 24 carried by rack bar 17, the other end of said lever has a spring 25 fastened thereto the opposing end of said spring being fastened to a pin 26 in plate 8. The object of this spring actuated lever is to draw the rack bar back to its initial position after the dial 12 is released, as will hereinafter be more fully explained. Mounted on one of the posts of the plate 9, is a rock arm 27 the free end of which has pivotally connected thereto a horizontal arm

28. To the underside of this arm 28 is pivoted a pawl 29 having, attached to the bottom thereof a spring member 30 which pushes against a boss 31 on horizontal arm 28 thereby holding said pawl in the position shown in Figures 7 and 8. Freely mounted on a fixed stud 35 fastened in the plate 9 are two gear wheels 36 and 37, gear 36 meshing with and driving pinion 38 fixed on shaft 19 and gear 37 operating the totalling mechanism, as hereinafter explained. Fastened to the plate 9 is a stud 40 freely carrying thereon two dogs 41 and 42, dog 41 acting as a detent on gear 36 and pawl 42 acting in a like manner on gear 37. Dog 42 is permanently held in engagement with gear 37 by a spring 44, said spring having one end fastened to the dog and the other end to a pin on the frame 9. In view of the fact that gear 37 always turns in the same direction it is not necessary to remove its dog for reset. A spring 45 also holds dog 41 in engagement with gear 36, while a pin 46 on the top of the dog engages the vertical arm of a bell crank lever 47 by which said dog is moved out of engagement with gear 36. The top arm of the bell crank lever engages a pin 49 in the free end of the horizontal arm 28 for the purpose of lifting said arm to free the pawl 29 from engagement with the gears 36 and 37. Carried by the rock arm 27 is a stud 50 which projects through a slot in the plate 9 and has mounted thereon between the plate 9 and the back plate 1, a roller 51, said roller being adapted to engage a cam 52 mounted on a shaft 53 journaled in the back plate 1. This shaft 53 has attached thereto outside the back plate, a handle 54 for the purpose of turning said shaft and cam to operate the pawl 29. The cam 52 has two cut away portions 52' in one of which the cam roller 51 normally rests after pawl 29 has progressed gears 36 and 37, and two high portions 52" which act to draw the pawl back to position to permit said pawl to progress gears 36 and 37. A spring 56, one end of which is attached to the free end of horizontal arm 28 and the other end to the plate 9, tends to hold said arm, rock arm 27 and pawl 29 in operative position, that is, the position shown in Figure 7.

Pivotally supported on the guide plate 21 is a detent 60 adapted to engage the pinion 16 and hold said pinion in the positions into which it is moved by the rack bar 17. This detent is normally held in engagement with the pinion by a spring 61, said spring being fastened to the detent and the plate 8.

Extending through and journaled in the back plate 1 and the plate 8 is a shaft 65 carrying thereon outside the back plate the signal flag 4, said flag having the same standard form and operation as those now

in common use on vehicles. This shaft 65 carries thereon, between the back plate and the plate 8, a cam 68, which once in every revolution of said shaft engages a cam roller 69 on the lower end of bell crank lever 47, and moves said lever to the position shown in Figure 4, that is, so that the pawl 29 will be disengaged from the gears 36 and 37 and the dog 41 released from the gear 36. Also suitably fastened to this shaft 65, forward of the plate 8, is a cam 70 adapted to engage a cam roller 71 carried on the end of a vertically moving bar 72. This bar is held in desired position by pins 73 fastened in the plate 8 and riding freely in slots in said bar. Pivotally attached to the plate 8 at 74 near the lower end of the rack bar 17 is a lever 75, the free end of which is slotted and fastened to the vertically moving bar by a pivot pin 76. Also pivoted to the plate 8 adjacent the lever 75 is a bell crank lever 78 the upper end of which has attached thereto a spring 79 the other end of said spring being attached to the plate and tends to normally hold said bell crank lever in the position shown in Figure 2. The lower end of this bell crank lever carries thereon a roller 80 which rests against the top of the detent 60. Midway between the ends of the lever 75 is a pin 82 which presses on the top of the lower arm of the bell crank lever 78 and will, when the lever 75 is depressed, force the lower arm of bell crank lever 78 downward causing roller 80 to disengage the detent 60 from pinion 16. The parts just described are operated once for each revolution of the shaft 65 and signal flag 4 and when operated reset the dial indicating "extra" charges, to initial position.

Journaled in the frames 8 and 9 is a shaft 90 on the inner end of which is fastened a pinion 91 which meshes with and is driven by the gear 37 carried on stud 35. Mounted on the rear end of this shaft, within a cut-out portion in the back plate, is a gear 92 which meshes with and drives a gear forming part of a standard device for recording the total extra charge transactions. Each time the pawl 29 moves gear 37 said gear in turn moves pinion 91, shaft 90 and gear 92 and by progressive operations records in total the several amounts shown on the dial 12. In view of the fact that the mechanism for showing the total extra charge transactions forms no part of the present invention, details of the same have not been shown.

The operation of the device, assuming the signal flag to be in the position shown in dotted lines in Figure 1, in which position the taximeter is inoperative, is as follows:—

The signal flag is turned to the position shown in full lines in Figure 1 rendering active the recording mechanisms of the taximeter and permitting the extra charge mechanisms to assume the position shown

in Figures 2, 5 and 7. Presupposing the extra charges to be \$1.20 and the dial 12 in the position shown in Figure 3, that is, so that only "0" shows through opening 14, the vehicle operator turns the handle 54 causing cam roller 51 to ride on one of the high portions of cam 52 thereby moving rock arm 27, in turn pulling arm 28 and drawing pawl 29 backward one tooth on gear wheels 36 and 37. Immediately the cam 52 is turned far enough, the cam roller under the influence of spring 56, will enter one of the cut away portions 52', moving rock arm 27 in the opposite direction to its first movement carrying with it arm 28 thereby causing pawl 29 to advance the gears 36 and 37 one tooth. The advancement of gear 36 will drive pinion 38, shaft 19 and pinion 18, thereby actuating the rack bar 17 causing pinion 16 to advance the dial 12 until the numeral "2" shows through the opening 14. Each half revolution of the shaft 53 will repeat the operations above described causing the dial to advance one numeral until the desired extra charges are recorded, at the same time the total recording device, through gear 37 will register the amount shown on the dial 12 in the manner hereinbefore described. When it is desired to restore the several parts to initial position the flag 4 is turned completely around to the dotted position shown in Figure 1, this will cause cam 70 on shaft 65 to engage cam roller 71, and push the bar 72 downwardly thereby moving lever 75 and causing pin 82 thereon to engage and depress bell crank lever 78, in turn forcing the roller 80 against the top of detent 60 and disengaging said detent from pinion 16 permitting rack 17 to be returned to initial position (Figure 3) by bell crank lever 23, under the influence of spring 25. The upward movement of the rack bar will reverse the movement of the pinion 16 and reset the dial 12 to the position shown in Figure 3. The rack and dial are limited in their movement by the stop pin 17' engaging the guide plate 20. At the same time cam 70 engages bar 72, cam 68 will engage cam roller 69 on bell crank lever 47 rocking said bell crank lever in a manner to cause its lower arm to engage the pin 46 on dog 41 and disengage said dog from gear 36. Rocking the bell crank lever 47 also forces its upper arm against the pin 49 on arm 28, thereby lifting said arm and freeing the pawl 29 from engagement with the gears 36 and 37. Thus it will be seen that dog 41 and detent 60 are simultaneously released to permit the rack bar 17 and dial 12 to return to initial position in which position the dial, rack and several operating parts remain until the flag is again turned to the position shown in full lines in Figures 1 and 2, when the operations above described can be repeated.

Of course it should be understood, that

changes can be made in the construction and application of this device without departing from the spirit of my invention.

I claim:—

1. In a taximeter, means for recording extra charges comprising, an indicating dial, a rack bar for moving said dial, means for driving the rack bar, detents for holding said dial and rack bar driving means in definite positions, means external to the taximeter for manually operating the means for driving said rack bar whereby said dial is given a step by step movement.

2. In a taximeter, means for recording extra charges comprising, an indicating dial, a gear connected to said dial, a rack bar engaging said gear, a toothed wheel, a spring actuated pawl for driving said toothed wheel, a pinion engaged by said toothed wheel, a shaft driven by said pinion, a second pinion driven by said shaft and adapted to engage and drive the rack bar, and manually operated means external to the taximeter for controlling the movement of the spring actuated pawl to give the dial through the medium of the toothed wheel, pinions, rack bar and gear a step by step movement.

3. In a taximeter, means for recording extra charges comprising, an indicating dial located adjacent the bottom of the taximeter, a bar operatively connected to said dial, a pawl, a gear engaged by said pawl both pawl and gear located adjacent the top of said taximeter, means intermediate to the gear and bar for driving said bar, a detent for holding the dial in definite positions, a dog for holding the gear in definite positions, and means external to the taximeter operatively connected to the pawl to give said bar and dial a step by step movement.

4. In a taximeter, means for recording extra charges comprising, an indicating dial, a rack bar operatively connected to said dial, a detent for holding said dial and rack bar in definite positions, a pawl, a gear driven by said pawl, means for operatively connecting said gear to the rack bar, a detent for holding the gear in definite positions, means external to the taximeter for actuating the pawl to give the rack bar its step by step movement, and means for returning the rack bar and dial to initial position after they have been released by the detents.

5. In a taximeter, means for recording extra charges comprising, a signal flag, an indicating dial, a rack bar for moving said dial, a detent for holding said dial and rack bar in definite positions, means for giving the rack bar a step by step movement, a dog for holding the rack bar moving means after each movement, means external to the taximeter for manually controlling the rack

bar moving means, and means controlled by the movement of the signal flag for releasing the detent and dog to permit the rack bar and dial to be restored to initial position.

6. In a taximeter, means for recording extra charges comprising, a signal flag, an indicating dial, a pinion for rotating said dial, a detent engaging said pinion to hold the dial in definite position, a rack bar operatively connected with the dial pinion, means for giving the rack bar a step by step movement, a dog for holding said rack bar moving means in definite positions, a

cam controlled by the movement of the signal flag, means intermediate to the detent and the cam for removing the detent from controlling engagement with the dial, a second cam controlled by the movement of the signal flag, means intermediate to said second cam and the dog for removing said dog from controlling engagement with the means for giving the rack bar a step by step movement, and means for returning said rack bar and dial to initial position when said signal flag is moved to "vacant" position.

ABRAHAM WEISINGER,