July 13, 1926. 1,592,568

W. G. ORTH

FIGURE WHEEL

Filed March 19, 1923 2 Sheets-Sheet 1

Fig. 1.

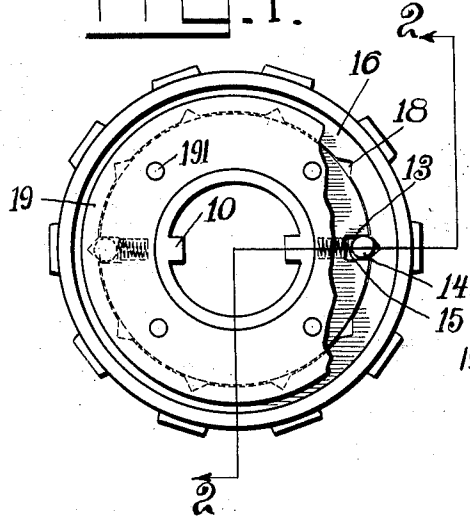


Fig. 2.

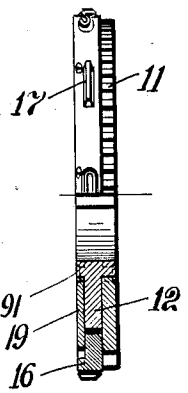


Fig. 3.

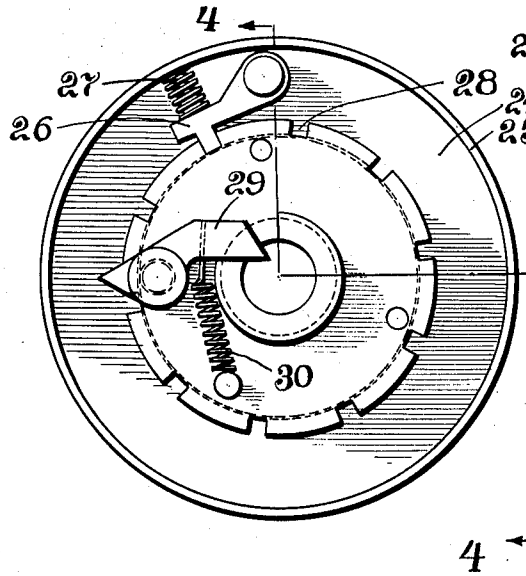
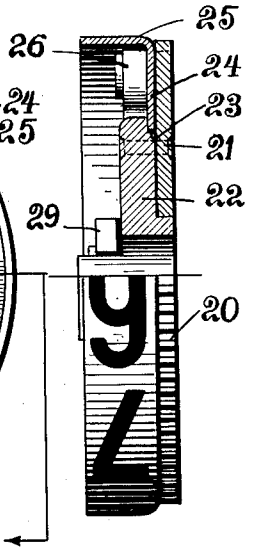


Fig. 4.



Inventor

William G. Orth.

Attorney

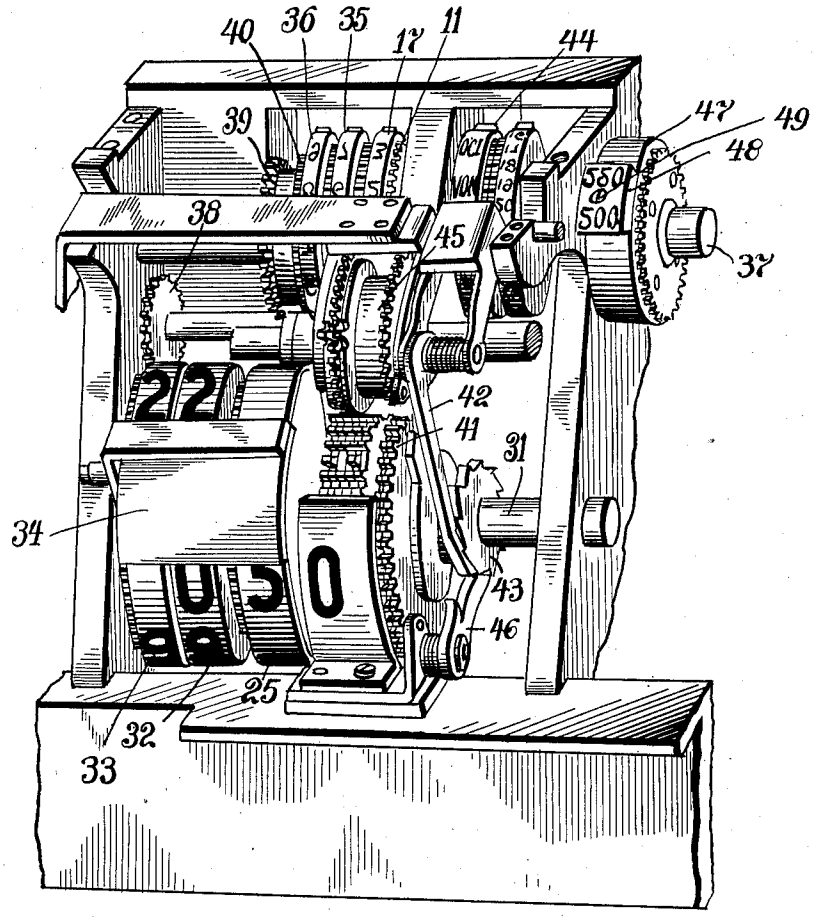
July 13, 1926. 1,592,568

W. G. ORTH

FIGURE WHEEL

Filed March 19, 1923 2 Sheets-Sheet 2

Fig. 5.



Inventor

William G. Orth

Attorney

Patented July 13, 1926. 1,592,568

UNITED STATES PATENT OFFICE.

WILLIAM G. ORTH, OF DAYTON, OHIO, ASSIGNOR TO OHMER FARE REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF NEW YORK.

FIGURE WHEEL.

Application filed March 19, 1923. Serial No. 626,235.

This invention relates to the construction of a wheel, such wheel being especially adapted for use in the totalizer of a register or a calculating machine. It is common practice to provide such totalizer wheels, on or adjacent their periphery, with digits or other characters, and to provide the machine with means for directing attention to one character of such wheel. The characters on the wheels may be adapted to print on a record or ticket, or to be observed through a suitable sight opening in the machine case. Such wheels are ordinarily driven by means associated with their hubs and are periodically reset to an initial position in order to begin a new computation or series of registrations. In computing machines ordinarily, this initial position is the position in which the zero of such wheel is adjacent the sight opening or the printing point; but in such registering devices as charge indicating gas or electric meters, or meters for use on taxicabs, the initial position may be that in which a minimum charge or fare is indicated rather than a zero position. Referring particularly to taximeters, it is frequently desirable, on account of changes in municipal regulations or changes in the business policy of a company, to alter the initial fare, and to this end it becomes desirable to provide one or more wheels of the totalizer with means whereby the character bearing parts are adjustable with respect to the driving and resetting means, so that the indication furnished by such wheels, when reset to initial position, may be readily varied. Again, for similar reasons, the so called "Extras" counter of the taximeter may require to be changed to register in different units.

The object of this invention is to provide a character wheel in which the character bearing parts are adjustable with respect to the driving means, or to the body part of the wheel.

A further object of the invention is to provide a character wheel in which the character bearing parts are adjustable with respect to the resetting means to as many positions as there are characters upon the wheel.

A further object of the invention is to provide a character bearing wheel comprising removable character bearing sections.

A further object of the invention is to provide a taximeter with register wheels which comprise means by which the indication furnished thereby when in initial or reset position may be varied.

In the drawings—

Figure 1 represents a side elevation of a form of the invention adapted to be used for a printing wheel.

Figure 2 is a front elevation of said wheel partly in section, said section being taken on the lines 2—2 of Figure 1.

Figure 3 is a side elevation of a form of the invention adapted to an indicating wheel, which wheel is reset by the rotation of the shaft on which it is carried.

Figure 4 is a front elevation, partly in section, of the same modification, the section being taken on the lines 4—4 of Figure 3.

Figure 5 is a perspective of so much of a taximeter as is necessary to show the application of my invention thereto.

Referring to Figures 1 and 2, the wheel is arranged to be driven by the engagement of lugs 10 with a sleeve (not shown), which sleeve also serves to reset the wheel to initial position. The lugs 10 form a part of the hub of a gear 11 by which motion is transmitted either to or from this particular wheel, it being contemplated that two or three registers will be driven and reset by the same means, as indicated in Figure 5. Such a group of registers, comprising two sets of printing wheels and a set of indicating wheels, together with means for driving the same from a ground wheel of the vehicle or from a clock, printing mechanism, and the other details of a taximeter are fully illustrated and described in the patent to Ohmer et al., 1,136,164, April 20, 1915. The character wheels of this invention are especially adapted for use in the machine described in said patent but its use is not limited to this machine. Rigid with gear 11 is a disc 12 in the periphery of which are formed one or more recesses 13, in which are carried rollers 14 spring pressed outwardly by means of springs 15. Loosely mounted on the periphery of disc 12 is a ring 16 bearing on its outer circumference printing characters 17. On the inner circumference of ring 16 which rests upon the disc 12 are formed a series of notches 18

adapted to receive the spring pressed rollers 14. A disc 19 held by rivets 191, serves to retain the parts of the wheel in the position shown. There is one notch 18 for each of the characters 17, so that the character bearing ring may be locked in as many positions relative to its driving and resetting means as there are different characters upon the same. The springs 15 are of sufficient stiffness so that in the normal operation of the machine, the ring 16 will not be displaced relative to the driving means 12, but can be readily adjusted when force is applied with this end in view.

The wheel illustrated in Figs. 3 and 4 is driven by means of a gear 20 which is fastened by rivets 21, to a disc hub 22. A shoulder 23 on disc 22 supports the web 24 of a drum 25 bearing digits upon its periphery. The adjustment of drum 25 with respect to hub 22 is effected by means of a pawl 26 mounted on the web 24 and pressed by a spring 27 into engagement with one of a series of notches 28 in the circumference of disc 22. The edge of pawl 26 adjacent its pivot is formed with an inclination to about 5°, while the opposite edge is raidal to the disc, and the notches 28 are similarly inclined. When force is applied to the drum 25 in one direction, the pawl 26 will be displaced and slide over the periphery of disc 22 to the adjacent notch, but when force is applied to drum 25 in the reverse direction, pawl 26 in engagement with its notch 28 forms a positive stop. This stop prevents accidental displacement of drum 25 at the termination of the resetting operation, but permits the adjustment of drum 25 with respect to its driving means to any desired position. This wheel is designed to be reset by the engagement of pawl 29 with a notch in the resetting shaft 31 (Fig. 5), upon which the wheel is mounted, said pawl being pressed into said notch by spring 30.

In Figure 5 I have illustrated the application of my invention to a taximeter of the type fully described in the patent to Ohmer et al. above cited. The reading furnished by the indicating wheel 25, 32 and 33 is obscured by blind 34 when the machine is not "In hire." The ticket is printed from the bank of printing wheels 17, 35 and 36. A second bank of printing wheels (not shown) is provided for printing the record. Ordinarily it is necessary to apply my invention to only one wheel of each bank; these wheels being shown as wheels 25 and 17. The three groups of registering wheels are caused to move in unison by gearing, a part of which is shown as gears 11, 38, 39, 40 and 41. The pawl 42, acting on ratchet 43, serves as a common actuating device, and the pawls 29 serve as common resetting devices for all the fare registers. The other details shown in this figure, such as date printing wheels 44, transfer mechanism 45, overthrow preventing pawl 46, etc., form no part of the present invention.

The ticket printing wheels are loosely mounted on shaft 37. Also carried by this shaft is a wheel 47 for printing the amount of "Extras" charges, this wheel being moved in unison with a wheel which indicates the "Extras" charges as fully described in the patent to Ohmer et al. For the purpose of conveniently varying the units in which "Extras" are charged, the character bearing part of the wheel 47 is formed in arcuate sections 48, each of which is fastened by screw 49 which enters a suitable tapped opening in the body of the wheel 47. Thus when it is necessary to change the rate at which "Extras" are charged, one set of sections 48 is removed and replaced by another set bearing the desired characters.

For effecting such changes in rates as have been discussed, it was formerly necessary to dismantle a considerable part of the machine, thus the application of my invention to the taximeter effects a very considerable saving of labor.

The invention is not to be considered limited to any of the specific embodiments shown in the drawings and described in detail, but is to be construed as covering all equivalent devices falling within the scope of the appendant claims.

I claim:—

1. A wheel comprising a driving gear, a disc fixed thereto, a character bearing ring fitted about and supported from the periphery of said disc, and means for retaining said character bearing ring and said disc in a plurality of relative positions.

2. A wheel comprising a gear having a circular disc fixed thereto, an annular digit bearing member adapted to fit about the periphery of said disc, notches in the interior periphery of said annular member and a spring pressed device associated with said disc for yieldingly retaining said annular member and said gear in any one of a plurality of different relative positions.

3. A wheel comprising a gear having a circular disc fixed thereto, an annular digit bearing member adapted to fit about the periphery of said disc, notches in the interior periphery of said annular member, a recess in the periphery of said disc, a spring roller in said recess adapted to retain said digit bearing member and said gear in a plurality of different relative positions, a hub portion of reduced diameter on said disc, and a washer fitting over said hub portion adapted to hold said gear and said digit bearing portion against relative longitudinal displacement.

4. A taximeter comprising a fare counter, driving means for said counter, a device for

resetting said fare counter to indicate an initial fare, and means other than said driving and resetting means for varying the indication to which said counter is reset by said resetting means.

5. A taximeter comprising a plurality of counters, a common actuating device for said counters, a common resetting device for restoring said counters to initial position, and means individual to said counters for varying the indications furnished by said counters when in the position to which they are reset by said resetting device.

6. In a taximeter, in combination, a counter comprising a wheel having a character bearing rim, means for resetting said wheel to an initial position, and means for adjusting said character bearing rim relatively to the wheel proper.

7. A taximeter comprising a set of counter wheels, actuating and resetting means therefor, and means associated with certain of said wheels for changing the indication furnished thereby when in reset position.

8. A taximeter comprising a plurality of sets of counter wheels, actuating and resetting means therefor, and means associated with certain wheels of each of said sets of wheels effective to change the indication which will be furnished thereby after a predetermined number of actuations by said actuating means.

WILLIAM G. ORTH.