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F. GALLEY

2,641,898

UNIVERSAL TIMEKEEPER

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FIG. 1

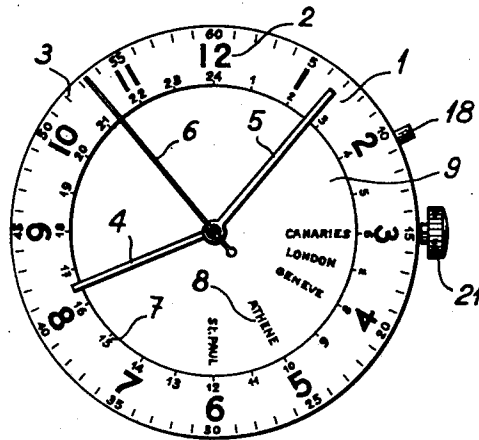


FIG. 2

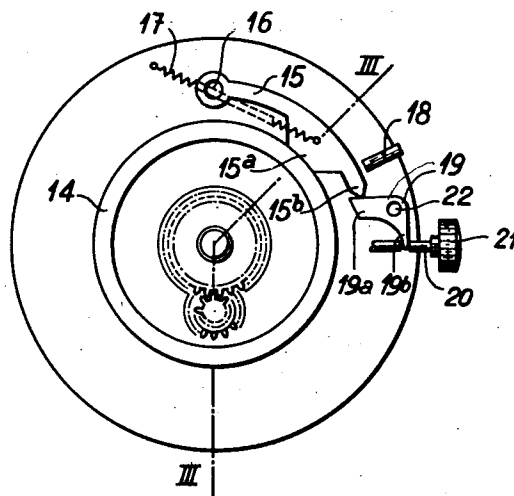
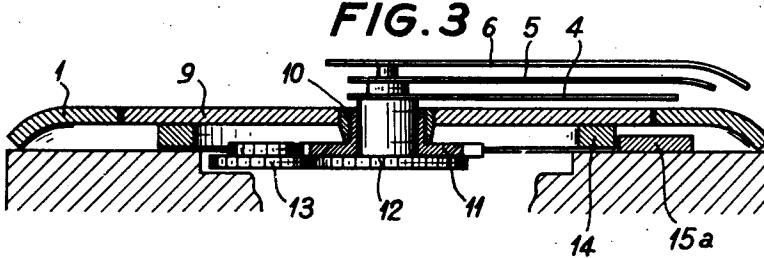


FIG. 3



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UNIVERSAL TIMEKEEPER

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My invention has for its object a universal clockwork including parts adapted to give out the hours and minutes and a further member providing universal time.

This clockwork is characterized by locking means adapted to hold fast the member providing universal time when the watch is being set right.

Accompanying drawings illustrate by way of a mere example a preferred embodiment of my invention. In said drawings:

Fig. 1 is a plan view of the time keeper.

Fig. 2 is a diagrammatic plan view of a portion of its mechanism wherein only the parts required for the understanding of the invention have been shown.

Fig. 3 is a cross-section on an enlarged scale through line III—III of Fig. 2.

The watch illustrated includes a stationary annular dial 1 carrying on its outer periphery a scale 2 of 12 hours and a further scale 3 of 60 minutes or seconds for cooperation with a corresponding hour-hand 4 for the former scale and with a minute-hand 5 and a second-hand 6 for the latter scale. Said dial 1 is also provided along its inner periphery with a scale 7 subdivided into 24 hours in register with which is provided a scale 8 of the time belts carried by an inner rotary dial 9. The rotary dial 9 is fitted over a sleeve 10 driven frictionally by an auxiliary wheel 11 mounted loose on the hour-wheel illustrated at 12 (Fig. 3). An intermediate pinion 13 driven by said hour wheel 12 drives the wheel 11. The gearing ratio is such that the wheel 12 executes one revolution per 24 hours and the wheel 11 one revolution per 24 hours. A ring 14 forming a rim adapted to be engaged by a brake 15a is secured to the rotary dial 9 coaxially therewith. The brake 15a forms part of a lever 15 pivotally secured at 16 to the body of the watch and submitted to the action of a coil spring 17 that urges it to occupy either of two stable positions for one of which the brake 15a is urged against the rim 14 as illustrated in Fig. 2, while it is held away from said rim in the other position for which the lever 15 engages the pusher 18. The lever 15 is provided with a nose 15b adapted to cooperate with the arm 19a of a two-arm lever 19 pivotally secured to the body of the watch at 22 and the second arm of which, shown at 19b, engages a groove in the winding shaft 20. This arrangement has for its result that the brake cannot be brought into its operative position until the winding shaft is drawn out into its time-setting position (Fig. 2), while the return

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of the winding shaft into its normal position constrains the brake to return into its inoperative outer position through the agency of said lever 19.

The operation of this time keeper is as follows:

The brake being located in its normal inoperative position, the dial 9 is frictionally driven by the wheel 11. The time at the point where the wearer of the watch happens to be is indicated by the hands 4 and 5 while universal time is provided by the indication of the time belt scale 8. If the watch stops or if it is necessary to make up for incorrect operation thereof, the watch is set right by acting on the button of the winding shaft designated by the reference 21, without acting on the pusher 18. The hands 4 and 5 and the rotary dial 9 are thus simultaneously set right. In contra-distinction, it is necessary to set only the hands right when travelling between one time belt and another and, in this case, the button 21 on the winding shaft 20 is drawn out so as to bring it into its time-setting position after which the pusher 18 is urged inwardly so as to bring the brake 15a into locking relationship with the movable dial and thereafter the hands 4 and 5 are set right through operation of the button 21. Through the return movement of the winding shaft into its normal position, that is to say its winding position, the brake is shifted, which releases the dial 9 so that it may move again in unison with the hands. No further adjustment of the dial is required as it has not been shifted during the time-setting operation corresponding to a change of time belt.

What I claim is:

1. In a time keeper, the combination of a stationary dial, a rotary dial coaxial therewith, hour and minute hands cooperating with the stationary dial, a scale of time belts and a 24-hour scale provided respectively on the peripheries of the rotary dial and of the stationary dial, a clockwork controlling the hands, a transmission including friction means operatively connecting the clockwork with the movable dial to constrain the latter to move normally in synchronism with the hour hand, a winding shaft controlling the angular setting of the hands and adapted to be shifted radially of the dial between an operative and an inoperative position, a brake pivotally mounted in the clockwork and adapted to be shifted between an operative position for which it holds the movable dial against movement and an inoperative position at a distance from said dial, a pusher member adapted to be shifted ra-

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dially of the stationary dial for urging the brake into its braking position and an auxiliary member controlled by the winding shaft and adapted when the latter is in its operative position, to release the brake and allow its shifting through the pusher member.

2. In a time keeper, the combination of a stationary dial, a rotary dial coaxial therewith, hour and minute hands cooperating with the stationary dial, a scale of time belts and a 24-hour scale provided respectively on the peripheries of the rotary dial and of the stationary dial, a clockwork controlling the hands, a transmission including friction means operatively connecting the clockwork with the movable dial to constrain the latter to move normally in synchronism with the hour hand, a winding shaft controlling the angular setting of the hands and adapted to be shifted radially of the dial between a time setting and a winding position, a brake pivotally mounted in the clockwork and adapted to be shifted between an operative position for which it holds the movable dial against movement and an inoperative position at a distance from said dial, a spring adapted to hold said brake in either of two positions with reference to its pivotal axis for one of which it operatively engages the movable dial and for the other of which it lies at a distance therefrom, a pusher member adapted to be shifted radially of the stationary dial for urging the brake into its braking position and an auxiliary member controlled by the winding shaft and adapted, when the latter is in its time setting position, to release the brake and allow its shifting through the pusher member.

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3. In a time keeper, the combination of a stationary dial, a rotary dial coaxial therewith, hour and minute hands cooperating with the stationary dial, a scale of time belts and a 24-hour scale provided on the respective peripheries of the rotary dial and of the stationary dial, a clockwork controlling the hands, a transmission including friction means to constrain the latter to move normally in synchronism with the hour hand, a winding shaft controlling the angular setting of the hands and adapted to move between two positions to be shifted radially of the dial between a time setting and a winding position, a brake pivotally mounted in the clockwork and adapted to be shifted between an operative position for which it holds the movable dial against movement and an inoperative position at a distance from said dial, a pusher member adapted to be shifted radially of the stationary dial for urging the brake into its braking position and means operatively connecting the winding shaft with the brake and adapted for the winding position of the winding shaft to hold the brake in its inoperative dial releasing position and to release said brake and allow its control by the pusher member when the winding shaft is in its time setting position.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
811,585	Pheils	Feb. 6, 1906

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