Nov. 27, 1951 A. HOLZNER 2,576,119

WALL AND DESK CYCLOMETER CLOCK

Filed May 28, 1945 2 SHEETS—SHEET 1

Fig. 1

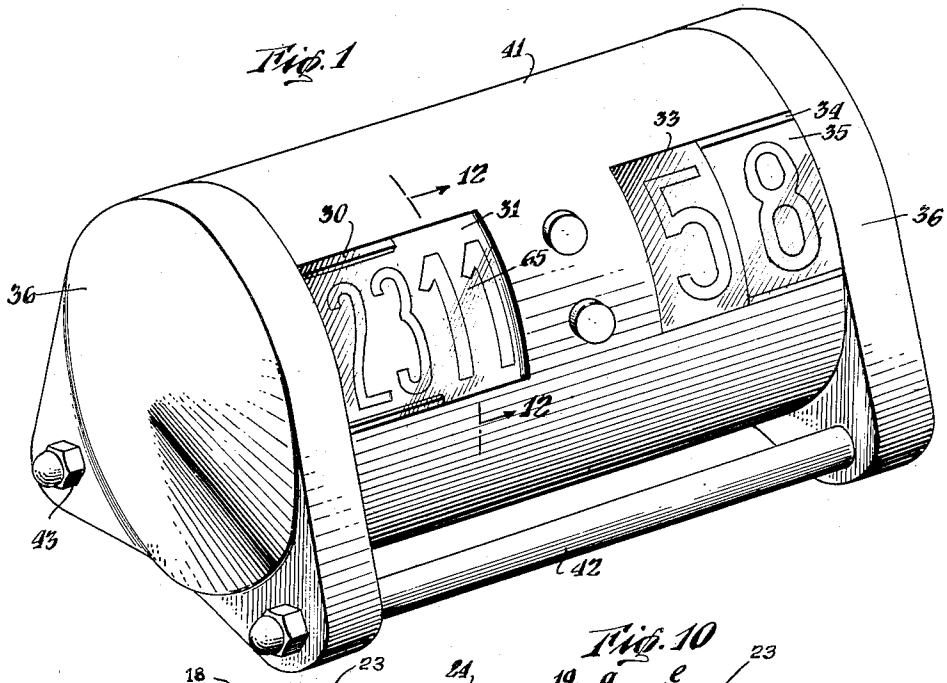


Fig. 10

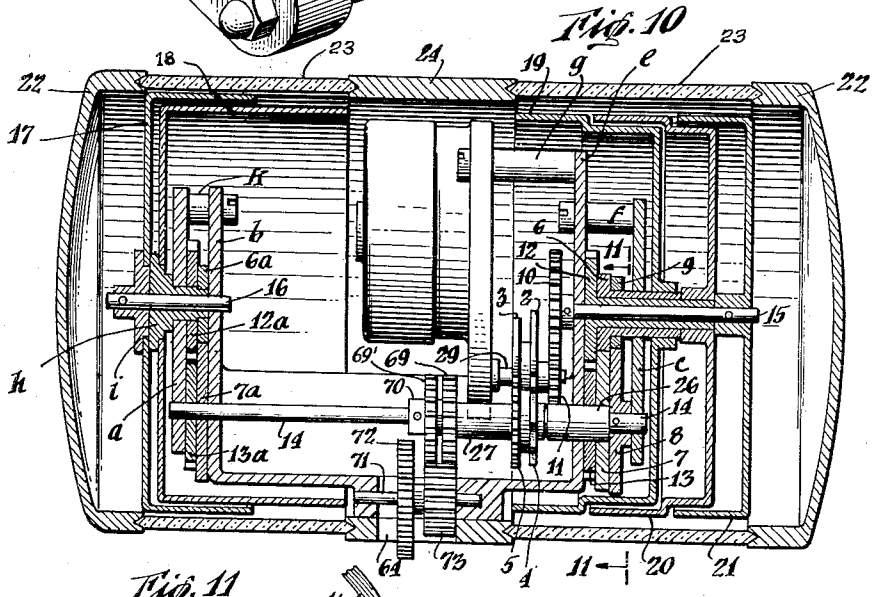


Fig. 11

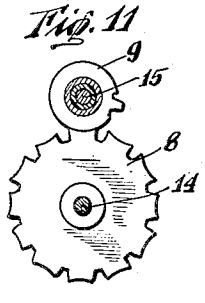
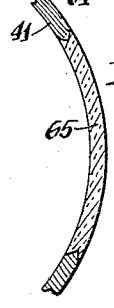


Fig. 12



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WALL AND DESK CYCLOMETER CLOCK

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Fig. 2

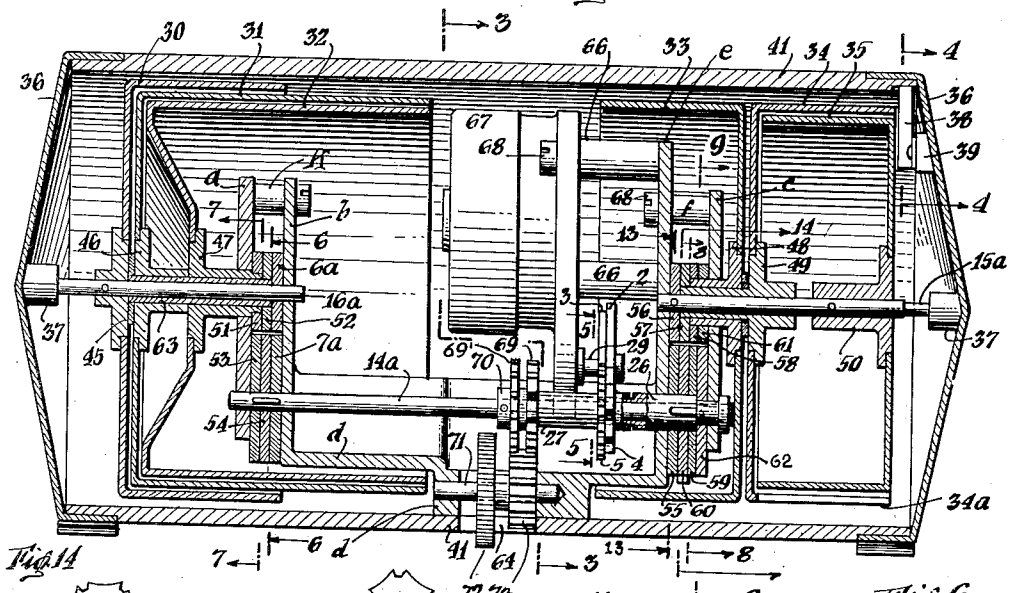


Fig. 11

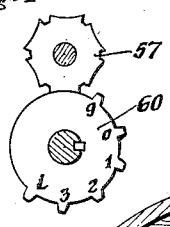


Fig. 13

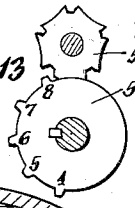


Fig. 5

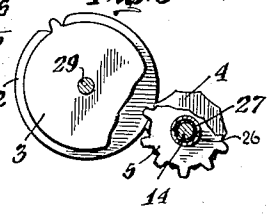


Fig. 6

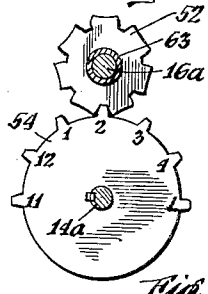


Fig. 3

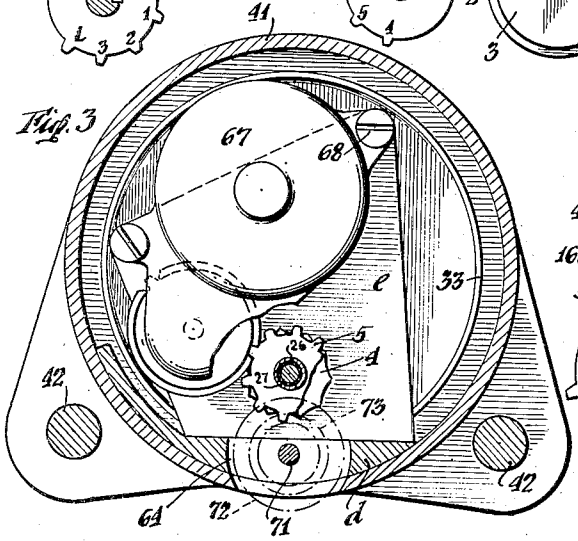


Fig. 7

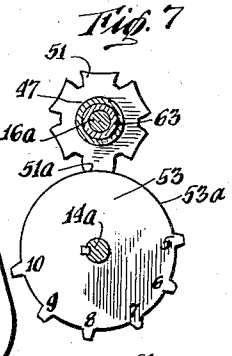


Fig. 8

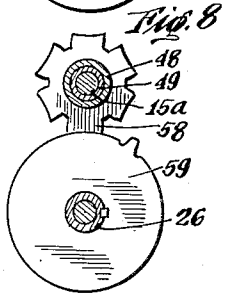


Fig. 4

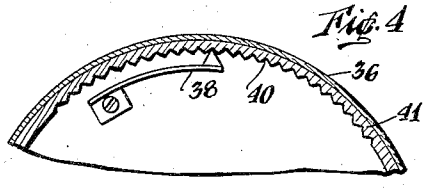
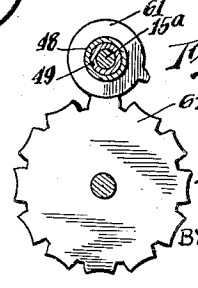


Fig. 9



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2,576,119

UNITED STATES PATENT OFFICE

2,576,119

WALL AND DESK CYCLOMETER CLOCK

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Application May 28, 1945, Serial No. 596,301

8 Claims. (Cl. 58—56)

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This invention relates to an improved cyclometer clock. It is one of the objects to provide an improved housing or casing for a cyclometer clock as for instance a clock of the type disclosed in my Patent 2,351,814. It is a major object of the present invention to provide a cyclometer clock which is universal as to mounting position, being adapted to be placed upon a horizontal surface such as a table or desk or shelf, whether in a low position or at a high elevation in the room, or to be fastened to the wall.

In accordance with the present invention the clock mechanism as a whole is suspended in a base or frame in such a way that it may be angularly adjusted to a position to be viewed readily from a viewpoint substantially level with the surface on which it rests, or above or below the level of the horizontal surface, or to a position attached to the wall to be viewed from various points in the room.

It is a further object to produce a very compactly arranged mechanism wherein the clock may readily be adjusted to the desired viewing angle. In fulfilling this object, there is provided a bracket having a radius shaped base which is attached to a tubing, the motor is placed between the hour and minute mechanisms, and the carriers are secured to a completely assembled inner clock mechanism. The minute indicating carriers are mounted on one side and the hour indicating carriers on the other side, which is similar to my Patent 2,117,168 as to separate operating mechanisms, however in that patent the number carriers are attached on one side only whereas in the present application they are attached on both opposite sides.

A further object of the invention is the combination of a twelve and twenty-four hour reading as in my Patent 2,351,814. Provision is being made in this application to combine the twelve and twenty-four hour reading to read off an hour between 13 and 24 (or 13 and 00) and besides showing the time in the twelve hour reading which would be p. m. this would be helpful for an onlooker who is not familiar with such a reading and will be very important for the U. S. Army and Navy training in time reading. In connection therewith a shutter is provided for covering the numerals 13 to 24 (or 13 to 00) while the numerals from 1 to 12 are displayed. The shutter can either be left blank or if desired can be provided with zeros as in applicant's Patent 2,180,590.

Another object is the construction of my novel clock housing which allows the creation of all kinds of designs, as for example, the tube holding

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mechanism may be made out of transparent material and serves then also as a window where the time reading takes place while the other surface of the tube can be painted in any desirable color. The tubing can also be made in any plastic color. Openings are provided in walls which slide in concave windows producing a very pleasant effect. The windows have the same radius as the tube. The shutter may be made of transparent material.

These and other objects and advantages of my invention will become more fully known as the description thereof proceeds and will then be more specifically defined in the appended claim.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of the clock;

Fig. 2 is a longitudinal sectional view of the clock of Fig. 1;

Fig. 3 is a cross sectional view of the clock, taken on line 3—3 of Fig. 2;

Fig. 4 is a partial cross sectional view taken along the line 4—4 of Fig. 2;

Fig. 5 is a drive for the clock identical to the one in my Patent 2,351,814;

Figs. 6, 7, 8 and 9 are detail views of the gearing of the clock of Fig. 2;

Fig. 10 is another clock with a large second wheel;

Fig. 11 is a detail view of Fig. 10;

Fig. 12 illustrates a method to attach windows to the tube of Fig. 1.

Figs. 13 and 14 are sectional views taken on lines 13—13 and 14—14, respectively in Fig. 2, showing details of the gearing.

Referring to Fig. 2, a frame *d* has a circular surface and is secured in a tube 41. The frame or bracket *d* comprises an upright plate *b* at the left of the hour mechanism of Fig. 2 and another upright plate *e* at the right of the minute mechanism. Two posts 66 are secured to plate *e* and the synchronous motor 67 is held thereon with screws 68. On the spindle 29 of the motor a finger disc 3 and a locking disc 2 are secured thereto. A bushing 27 has a gear 5, a locking cam 4 and another gear 69 fastened thereon, said bushing 27 is free to rotate on an extension of bushing 26 and to said extension of bushing 26 also a gear 69' is secured thereon. This gear 69' is right beside the collar 70 which is secured to shaft 14*a*. A shaft 71 is located in the bracket *d* and a tumble 72 made of aluminum is very freely rotating on shaft 71. Said tumble 72 has a gear 73 secured thereon, and the gear 73 is in steady mesh with gears 69 and 69' of bushings 27 and 26 and serves therefor as a gear coupling means.

Gear 73 is slightly wider than both gears 69 and 69' and whenever bushing 27 is rotated bushing 26 participates, and such is the case while the clock is in operation. However, for resetting of the clock gear 73 is pushed towards the left and by pushing the tumble 72 gear 73 will get out of mesh with gear 69 of bushing 27 but will still be in mesh with gear 69' on bushing 26 and therefore bushing 26 can be rotated for the desired time reading while the motor can still rotate and its finger disc 3 and locking disc 2, called the driver, can remain in alignment with gear 5 and locking cam 4 and engage the same without any interference with the manual reset. To set the clock in operation, tumble 72 is returned to its right-hand position, so that gear 73 is again in mesh with gear 69 and 69' on bushing 27 and the two gears 69 are again coupled. As is obvious, a lightweight coil spring may be provided on the shaft 71 normally lightly urging gear 73 to remain engaged with gear 69.

The motor makes one revolution a minute and the finger disc 3 engages the 10-toothed gear 5 and rotates it a tenth of a revolution every minute, and the locking disc 2 will engage one of the 10 cam surfaces of locking cam 4 and thereby provide a steady locked and unlocked drive as required for the clock. Bushing 26 which is freely located on shaft 14*a* is taken along by the gear meshes 69 to 73 and 73 to 69'. As said before, said bushing 26 has mutilated gears 55, 60 and 59 secured thereon and the engagement with their respective gears 56, 57 and 58 as will be explained in the following: Mutilated gear 55 is made of a 10-toothed gear of which 5 teeth are cut away (Fig. 13), so it has 5 teeth numbered 4, 5, 6, 7 and 8. It is periodically engaged with a gear 56 having 5 teeth. Mutilated gear 60 is made of a gear with 10 teeth of which 4 teeth are cut away so it has 6 teeth and its remaining teeth are numbered 9, 0, 1, 2, 3, and L, as per Fig. 14. It is periodically engaged with a gear 57 which has 6 teeth, furthermore, a mutilated gear or a finger disc 59 is made of a gear with ten teeth (of which 9 teeth are cut away) and engages periodically with gear 58 which has 6 teeth, the same as gear 57. Every one-tenth revolution of bushing 26 the aforesaid mutilated gears periodically engage their respective gears, starting with gear 55 which engages the teeth of gear 56 and causes the rotation of the number carrier 35 which will then show the numbers 4, 5, 6, 7, 8 on its circumference while the number carrier 35 is nested in the number carrier 34, carrier 34 being provided with an opening 34*a* and being positioned with this opening in register with the window, whereby the numbers on carrier 35 are exposed to view. Everytime one tooth of gear 55 comes in mesh with gear 56 it will cause another number to show on carrier 35 in accordance with the respective teeth of gear 55 relating thereto. Number carrier 35 is secured to a hub 50 and hub 50 is secured to the shaft 15*a* (which freely rotates in the plate *e* and in bearing 37 of the cover plate 36), and gear 56 is secured to shaft 15*a* therefor, so that every time gear 56 rotates carrier 35 has to participate. After the period of display of the final numeral of carrier 35, the outer carrier 34 will rotate to cover carrier 35 and display its own numerals 9, 0, 1, 2, 3, the teeth of gear 60 engaging gear 57 and rotating gear 57 and thereby causing carrier 34 to rotate because gear 57 is secured to the extension of hub 49 (which freely rotates on shaft 15*a*). As carrier 34 is also secured to hub 49, the carrier 34 will display the numerals

9, 0, 1, 2, 3, just as the respective references on gear 60 read, however tooth L of gear 60 advances carrier 34 to the position of registry of opening 34*a* directly adjacent the minutes window, and in the same moment the inner carrier 35 will rotate and display the numeral 4 through that opening 34*a*. Therefore the gear 60 and gear 55 are set so that tooth L of gear 60 and tooth 4 of gear 55 are in alignment.

Furthermore, there is provided a tens of minutes reading carrier 33 which has the numerals 0 to 5 inclusive distributed on its circumference. Number carrier 33 is actuated to advance its numerals displayed every time the numeral 0 appears on the carrier 34. Carrier 33 is secured to hub 48 and on hub 48 is secured a gear 58 and a finger disc 61, the latter being as shown in Fig. 9. A finger disc 59 on bushing 26 is aligned with the tooth 0 of gear 60 and said finger disc 59 will engage the teeth of gear 58 as shown in Fig. 8, and cause the carrier 33 to display its numerals. Thus carrier 33 will display the numerals 1, 2, 3, 4, 5. When it displays its 0, a transfer takes place to the hour carrier as will hereafter be described.

As said before, finger disc 61 is secured to hub 48 which is freely turning on the extension of hub 49 and is also freely turning in the end plate *c*. Finger disc 61 is so timed that when the number 0 of carrier 33 appears, it will engage in gear 62. Gear 62 is secured to the shaft 14*a*, so that shaft 14*a* transfers the angular movements to the mechanism for the hour carrier side.

Shaft 14*a* has its bearing in the plate *b* and in end plate *a* and also in end plate *c* of the minute carrier side. Said end plate *c* is held to the bracket plate *e* by a stud or post *f* which is secured to plate *e* and held to plate *e* by a screw 68. Every time gear 62 (which has twelve teeth), Fig. 9, rotates, mutilated gears 7*a*, 54 and 53 participate because these three gears are also secured to shaft 14*a*. At the plate *b*, a shaft 16*a* has its bearing, and extends to another bearing 37 of cover plate 36. A hub 45 is secured to shaft 16*a*. Also a shutter 30 which has three equally divided openings is attached to said hub 45; and on the other side of shaft 16*a* gear 6*a* is secured to said shaft 16*a*.

A bushing 63 is freely rotating on shaft 16*a*. A gear 52 is secured to said bushing on one end, and on the other end a hub 46 is fastened thereto, and carrier 31 is secured to said hub. Furthermore, a hub 47 is freely rotating on bushing 63 and also freely supported in a bearing in end plate *a* which is held to plate *b* by a post K. On hub 47 a carrier 32 is attached and a gear 51 is also fastened thereto. The actuating of the number carriers and the shutter will be explained in the following:

As said before, mutilated gears 53, 54 and 7*a* are rigid on shaft 14*a*. Gear 53, being basically a 12 toothed gear from which 6 teeth are cut away leaving 6 consecutive teeth numbered 5, 6, 7, 8, 9, 10 (Fig. 7), is periodically engaged with gear 51 with 6 teeth. Mutilated gear 54 is made out of a gear with 12 teeth and has 5 teeth cut away so it has 7 teeth, the remaining teeth are numbered 11, 12, 1, 2, 3, 4 and L, Fig. 6. Gear 54 is periodically engaged with a gear 52 which has 7 teeth. Finger disc 7*a* has one tooth remaining of a 12-toothed gear similar to gear 59, Fig. 8 and engages periodically in gear 6*a* which is similar to gear 51.

Every $\frac{1}{12}$ of a revolution of shaft 14*a* the aforesaid mutilated gears 53, 54 and 7*a* periodically engage their respective gears starting with gear

53, it engages the teeth of gear 51 and in turn serves to rotate the carrier 32 which will display the successive numerals 5, 6, 7, 8, 9, 10 and beside these numerals for the twelve hour reading are the numerals for the twenty-four hour reading so that reading from the 1 right to the left, beside 5 is 17, beside 6 is 18, beside 7 is 19, beside 8 is 20, beside 9 is 21, and beside 10 is 22.

The carrier 32 being nested in carrier 31, (as in the minute reading, carrier 35 is nested in carrier 34 which has an opening 34*a*), an opening is also provided in carrier 31.

Every time one tooth of gear 53 comes in mesh with gear 51, it will cause to show another numeral on carrier 32 in accordance with the respective reference teeth numerals of gear 53. Following the inner carrier 32, the outer carrier 31 will be actuated to cover up the surface of carrier 32 and display the numerals 11, 12, 1, 2, 3, 4 and besides these numerals for the twelve hour reading are the numerals for the twenty-four hour reading so that we find right beside 11 is 23, beside 12 is 00, beside 1 is 13, beside 2 is 14, beside 3 is 15, and beside 4 is 16. To cause the display of the successive numerals on carrier 31, gear 54 engages gear 52 and rotates in accordance with the respective reference teeth on gear 54 to bring in turn the same numerals on carrier 31 into reading position.

However, tooth L of gear 54 has to be in alignment with tooth 5 of gear 53 because at the moment the 5 appears on the inner carrier 32, the outer carrier has to bring the opening 31*a* into position to allow the reading of the numerals of the carrier 32.

Now the purpose of the shutter 30, which as said before has three openings equally distributed around its circumference will be explained as follows: The shutter 30 covers the numerals from 13 to 00 while the time is displayed from 1 to 12 which is a. m. on the two carriers 31 and 32. However, when the time is displayed from 1 to 12 p. m., one of the openings of the shutter appears and the numerals from 13 to 00 will be visible through one of said openings. So the shutter 30 is actuated and so timed that every time the 1 appears on carrier 31, finger disc 7*a* (which is similar to finger disc 59) is aligned with the tooth 1 of gear 54, and the actuating will occur at the same moment in which finger disc 7*a* engages gear 6*a* and tooth 1 of gear 54 engages gear 52 and in turn rotate their respective carriers 31 and shutter 30. At the next appearance of the 1 on carrier 31, the finger disc 7*a* will again engage gear 6*a* and this time the shutter 30 is moved to cover the numerals from 13 to 00 again and the aforesaid cycle is repeated.

Referring to Fig. 10, which is a clock making use of the single type of wheels in which the numerals cannot be presented as large as in Fig. 1 it has however also a compact movement, including number carriers as follows: A shutter 17, the same as shutter 39 from Fig. 1, except with a smaller opening, because the numerals are not as large as in Fig. 1, while all the numerals 1 to 12 are distributed on carrier 18, and beside respective ones of these numerals are located the numerals 13 to 00 for the twenty-four hour reading, so that it reads as follows: beside 1 is 13, beside 2 is 14, beside 3 is 15, beside 4 is 16, beside 5 is 17, beside 6 is 18, beside 7 is 19, beside 8 is 20, beside 9 is 21, beside 10 is 22, beside 11 is 23, and beside 12 is 00.

The next carrier 19, which is for the tens of minutes indication, has the numerals 1, 2, 3, 4, 5

and 0 distributed around its surface, and the minute carrier 20 has the numerals 0 to 9 inclusive distributed around its surface. The next carrier 21 is for the indication of the seconds. It has 60 indicating lines and every fifth second a number is placed thereon, for instance 5, 10, 15, 20 and so on up to 55 and then 00. Further explanation is not required in view of the similarity of this clock to the clock of Figs. 1 and 2, that any one should be quite familiar with its further operation as explained in the following:

The frame *d*, the motor drive and driven members, and its endplates *a* and *c*, are identical with the corresponding parts in the illustration of Fig. 2.

On bushing 26 is secured a gear 13 and a finger disc 7 and at every 1/10 of a revolution of bushing 26, number carrier 20 is advanced to show its successive numerals, because gear 13 is in mesh with gear 12 and both gears are of a ratio 1:1 and on an extension of gear 12 the number carrier 20 is secured. The finger disc 7 which is the same as finger disc 59, Fig. 8, is timed so that every time when the 0 appears on carrier 20, finger disc 7 engages gear 6 which is the same as gear 58, carrier 19 is advanced to show another numeral because gear 6 has an extension and carrier 19 is secured thereto.

Furthermore at the moment when the number 0 appears on carrier 19 a transfer takes place to the hour side, the same as explained for Fig. 2. A finger disc 9, Fig. 11, is secured to gear 6 and engages gear 8 which is secured to spindle 14 and at the left in the hour side a gear 13*a* and a finger disc 7*a* are secured to spindle 14 and every time finger disc 9 engages gear 8, it is rotated for 1/12 of a revolution and so is carrier 18, because gear 13*a* is in mesh with gear 12*a* and both gears are of a ratio 1:1, gear 12*a* is secured to a hub *h* and carrier 18 is also fastened thereon, so carrier 18 displays its 1 to 12 hour, and every time the hour 1 is rotated into its reading position, gear 6*a* which is the same as gear 51, is rotated by the engagement of finger disc 7*a*, and the shutter 17 operates exactly as described for Fig. 2. Gear 6*a* is secured to shaft 16 and so is hub 1. Shutter 17 is also fastened to hub 1 so the display of the hour is: Starting, the shutter covers the numerals from 13 to 00, all the successive numerals 1 to 12 a. m. are displayed and at the appearing of the 1 which is then p. m., the shutter uncovers the other side of carrier 18 and the 13 can be seen: On the motor shaft 29 a gear 11 is secured which is in mesh with gear 10 and both are of a ratio 1:1 and while motorshaft 29 rotates one revolution a minute, and as gear 10 is secured to shaft 15 to which carrier 21 is also secured (which is for the seconds indication), carrier 21 has to participate in the movement of the motor, and displays its seconds indication.

The clock mechanism of Fig. 2 is secured to the tube 41 Figs. 1 and 2 and has on each end end-covers 36 (which has a bearing 37 in the center where the shafts 15*a* and 16*a* are located), each pushed on a recess of tube 41, both end covers 36 being held together by rods 42 in the front and rear of the housing, or when the clock is on the wall, one rod is underneath and one above. Said rods 42 have threaded ends and nuts 43 hold the whole assemblage together. By the same method end covers 22 of the housing in Fig. 10 are held together, but with this housing the clock mechanism is secured to a tube 24 made of plastic or any similar material, or metal, aluminum, copper or the like: and for the minute and hour

side the transparent tubings 23 are painted and only the desired opening where the time reading takes place is left blank so as to serve as a window. In Fig. 1 the tubing 41 has openings where the concaved window with its dovetailed ends are sliding in said opening as Fig. 12 clearly shows.

Furthermore, for the sake of a good locking action of the mechanism the gears are provided with a curved cam surface so for instance in Fig. 7, gear 51 has on the top of its teeth a cam surface 51a in which the locking surface 53a of gear 53 slides until the teeth of gear 53 engage again the teeth of gear 51.

Now, for use of the clock when it is desired to hang it on the wall or stand it on a desk, one end cover 36 is provided with a spring 38 (Figs. 2 and 4) secured to a little block 39 which is attached to end cover 36, said spring 38 engaging notches 40 in tube 41 and serving as means to hold the tube fixed in position, once the clock has been adjusted for a desired angular setting.

Where the casing is made up as indicated in Fig. 10, the mechanism including the middle section 24 and the transparent tubings 23 and all of the elements supported rigidly from section 24 is turned relative to the end covers 22 which, as aforesaid, are clamped together in the same way as end covers 36 of Fig. 1. In this manner, the transparent windows of the tubings 23 (the unpainted areas thereof) are angularly positioned along with the numeral carriers, the desired relationships among the visible numeral progressions being thus maintained regardless of the angular setting.

It is obvious that various changes may be made in my invention by variations in the details of construction without departing from the spirit of the invention, as illustrated by the following examples: The numerals from 1 to 24 or 1 to 00 can be distributed on three carriers. A shutter can cover the numerals of 1 to 12 while the reading from 13 to 00 takes place. Also the shutter can be eliminated and the two carriers 31 and 32 have the numerals 1 to 12 only distributed on their surface. The end covers 36 need not necessarily be connected with a rod, as long as they are tight fitting in tube 41 as the two end covers 36 could then be moved independently and aligned by standing or hanging on a flat surface.

No provision is being made for hanging the clock on the wall, but it is understood that any means can be applied to the clock base to serve that purpose.

Rods 42 can have any suitable shape. Also any desired known operating means can be applied as a driver for my clock, so for instance a spring clock which is wound up by a solenoid as for use in automobiles where there is no alternating current available.

The frame is illustrated as an open or skeletonized housing with end plates 36 and tie rods 42 therebetween. It will of course be realized that the frame or housing may, if desired, be arranged to enclose fully or partially an appreciable sector of the tube 41, and if the rod portions 42 illustrated as simple round stock are formed to provide such semi-enclosure, the tube 41 may be made as a complete cylinder or as a major part of a cylinder, sufficient along with the base or frame structure to keep the mechanism fully enclosed.

Having thus described my invention, what I claim is:

1. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable clock dials driven thereby, a tubular casing enclosing the clock mechanism and having window portions through which the time is displayed by means of said clock dials, closure members at the opposite ends respectively of said casing, base structure associated with said closure members for mounting the clock in operative position, and means for adjusting the clock to a desired reading-angle setting comprising complementary bearing portions on said end closure members and the ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinal axis of the casing.

2. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable clock dials driven thereby, a tubular casing enclosing the clock mechanism and having window portions through which the time is displayed by means of said clock dials, closure members at the opposite ends respectively of said casing, base structure associated with said closure members for mounting the clock in operative position, means for adjusting the clock to a desired reading-angle setting comprising complementary bearing portions on said end closure members and the ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinal axis of the casing, and means for holding the casing in its adjusted reading-angle setting.

3. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable clock dials driven thereby, a tubular casing enclosing the clock mechanism and having window portions through which the time is displayed by means of said clock dials, closure members having peripheral flanged portions engaging the opposite ends respectively of said casing, base structure associated with said closure members for mounting the clock in operative position, and means for adjusting the clock to a desired reading-angle setting comprising complementary bearing surfaces on the flanged portions of said end closure members and on the ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinal axis of the casing.

4. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable cylindrical clock dials driven thereby, a cylindrical casing enclosing the clock mechanism and having curved window portions through which the time is displayed by means of said clock dials, closure members having circular flanged portions engaging the opposite ends respectively of said cylindrical casing and having base structure extending therefrom for mounting the clock in operative position, and means for adjusting the clock to a desired reading-angle setting comprising complementary bearing surfaces on said circular flanged portions of the end closure members and on the circular ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinal axis of the casing.

5. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable clock dials driven thereby and shaft members for rotatably mounting the clock dials, a tubular casing enclosing the clock mechanism and having window portions through which the time is dis-

played by means of said clock dials, closure members having flanged portions engaging the opposite ends respectively of said casing, base structure associated with said closure members for mounting the clock in operative position, the inner faces of said closure members having bearing structures for supporting said shaft members on which the clock dials are mounted, and means for adjusting the clock to a desired reading-angle setting comprising complementary bearing portions on said end closure members and the ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinal axis of the casing.

6. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable cylindrical clock dials driven thereby, a cylindrical casing enclosing the clock mechanism and having apertured window portions through which the time is displayed by means of said clock dials, transparent curved window panes positioned in said apertured portions and each having the same radius as that of the cylindrical casing, closure members engaging the opposite ends respectively of said casing and having base structure extending therefrom for mounting the clock in operative position, and means for adjusting the clock to a desired reading-angle setting comprising complementary bearing portions on said end closure members and the ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinal axis of the casing.

7. A cyclometer clock comprising a clock mechanism having a driving motor and rotatable clock dials driven thereby, a tubular casing enclosing the clock mechanism and having a plurality of transparent tubular wall sections therein through which the time is displayed by means of said clock dials, means for masking the transparent wall sections to define windows for the clock dials, closure members engaging the opposite ends respectively of said casing and having base structure extending therefrom for mounting the clock in operative position, and means for adjusting the clock to a desired reading-angle setting comprising complementary bearing portions on said end closure members and the ends of said casing for rotatably supporting the casing whereby the casing and clock mechanism as a unit are manually rotatable through any desired angle about the longitudinl axis of the casing.

8. A cyclometer clock comprising a base structure having a pair of ends spaced an appreciable distance apart, a cyclometer clock mechanism including a driving motor and rotatable clock dials driven thereby, and a shell portion having viewing window means therein through which the time is displayed by said dials, said shell portion and said cyclometer clock mechanism including the driving motor and the clock dials being rotatably supported in said base structure between bearings in said ends and being angularly adjustable about an axis between said end bearings for variation of the reading-angle setting, said base structure and said shell portion having conformal curved surfaces and together providing an enclosure of said cyclometer clock mechanism.

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