I. GREENWALD.

CLOCK.

APPLICATION FILED JAN. 20, 1912.

1,036,485.

Patented Aug. 20, 1912.

2 SHEETS—SHEET 1.

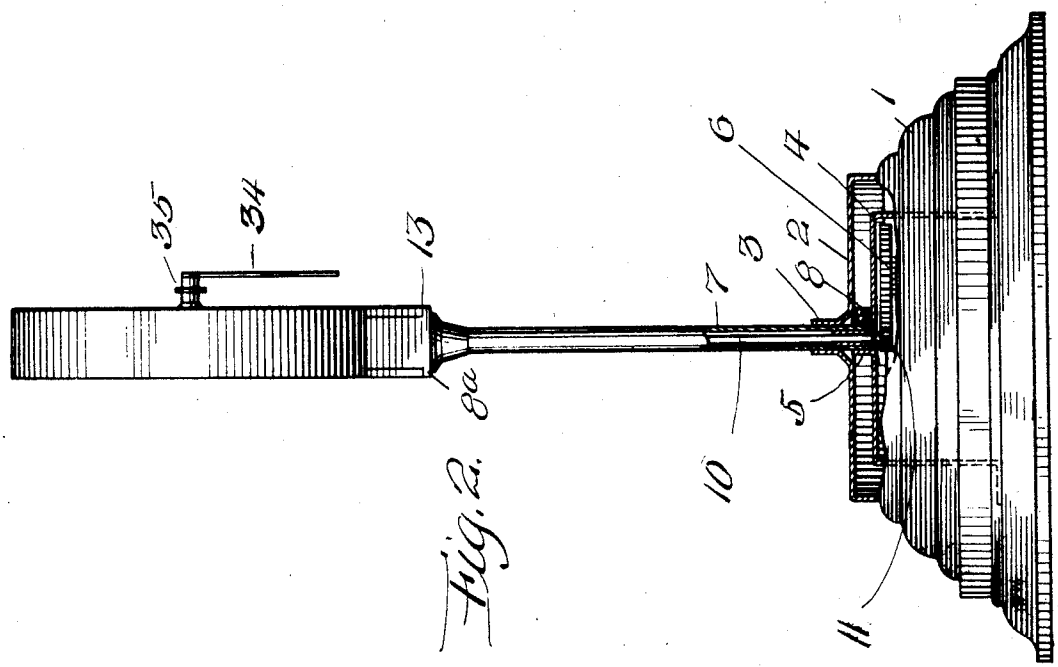

Fig. 2.

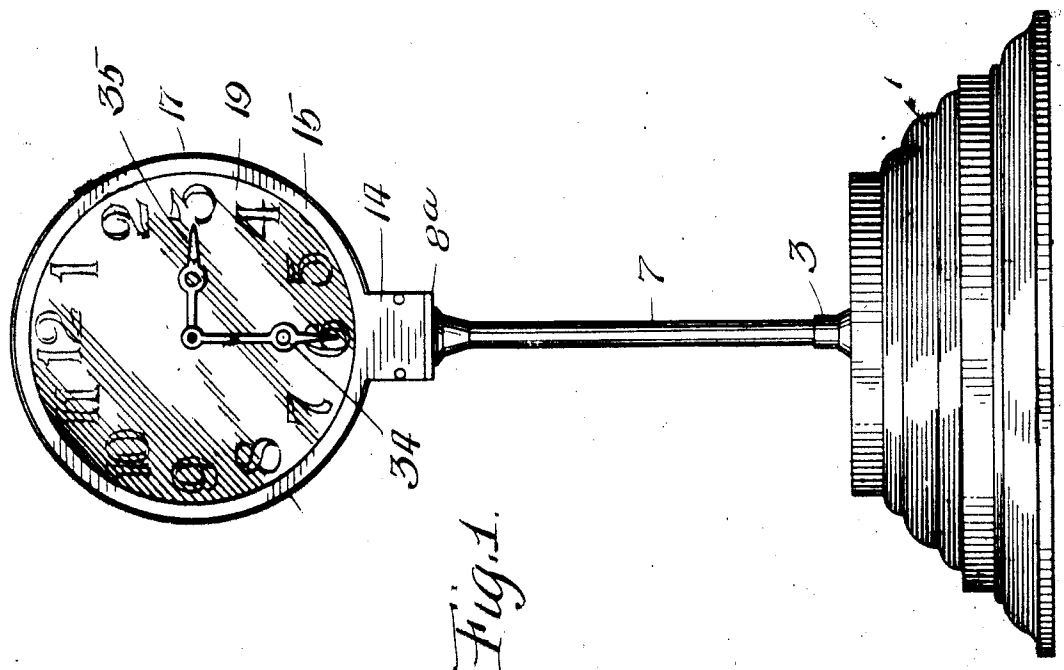

Fig. 1.

WITNESSES

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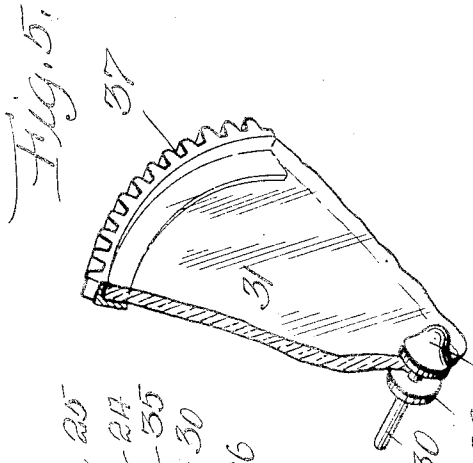

Fig. 5.

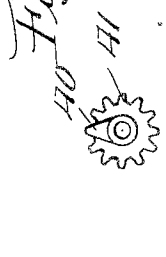

Fig. 6.

Fig. 7.

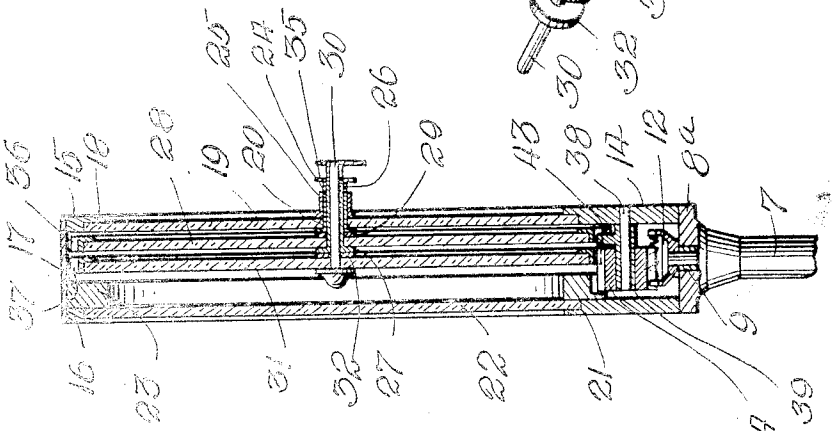

Fig. 4.

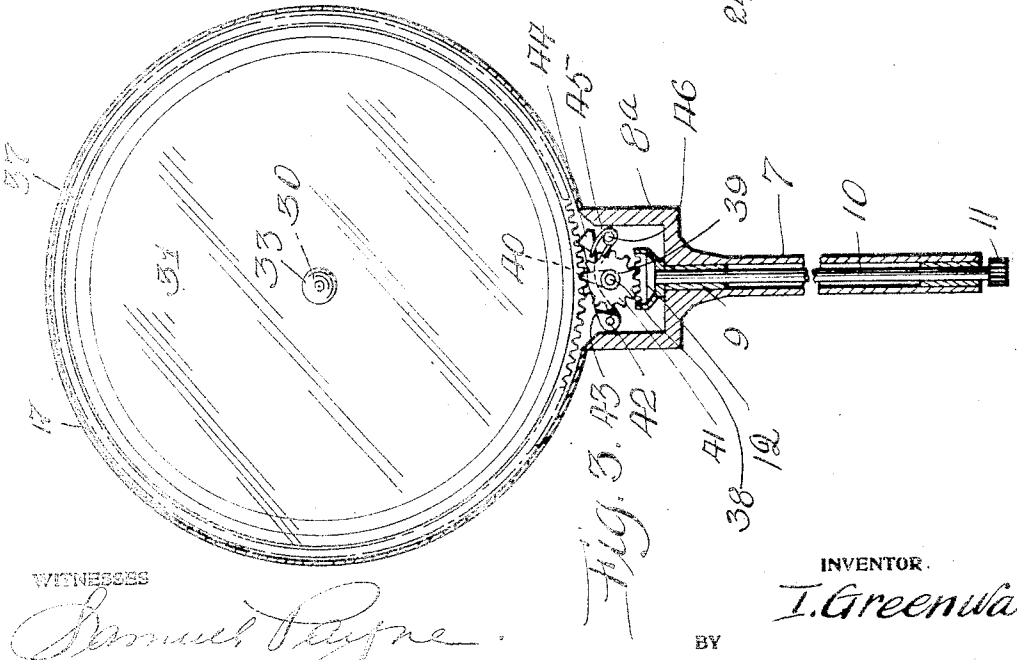

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

ISADORE GREENWALD, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO LANDAU BROTHERS, OF PITTSBURGH, PENNSYLVANIA, A COPARTNERSHIP.

CLOCK.

1,036,485. Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed January 20, 1912. Serial No. 672,266.

To all whom it may concern:

Be it known that I, ISADORE GREENWALD, a subject of the King of Hungary, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Clocks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to clocks, and other time pieces, and the primary object of my invention is to provide a clock having a transmission mechanism in connection with the hands of the clock that produce an illusionary effect as though the hands moved without any actuating means, thereby mystifying an observer of the clock to that extent as to cause a greater observation and in all probability an examination of the clock to determine the *modus operandi*.

Another object of this invention is to provide a clock with transparent faces, one of which serves functionally as a dial, and to conceal the hand transmission mechanism between the faces in such a manner that the hands will have the appearance of moving free of any actuating mechanism.

A further object of this invention is to provide a pedestal clock with a transparent body and dial and with an operating mechanism that is concealed within the base of the pedestal and faces of the clock for moving the hands in front of the dial.

A still further object of this invention is to accomplish the above results by a simple, durable and inexpensive clock mechanism that can be easily assembled in various forms calculated to produce a mystery as to the exact operation of the mechanism.

With the above and other objects in view the invention resides in a novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings, wherein like numerals denote corresponding parts throughout the several views in which:—

Figure 1 is a front elevation of the clock. Fig. 2 is a side elevation of the same, partly broken away and partly in section. Fig. 3 is an enlarged transverse section of a portion of the clock. Fig. 4 is a vertical sectional view of a portion of the clock. Fig. 5 is a perspective view of a portion of one of the transparent transmission wheels or disks. Fig. 6 is an elevation of a detached gear wheel adapted to form part of the escapement of the clock and Fig. 7 is an elevation of a detached check pawl of the escapement.

A clock in accordance with this invention comprises a hollow ornamental base 1 having a top plate 2 thereof provided with a central sleeve or socket 3. Located within the base 1, is a housing 4 provided with a central sleeve 5. This housing contains a conventional form of clock mechanism or train, including springs, wheels, and elements common to an ordinary clock. The bottom of the base 1 and the bottom of the housing 4 are open, whereby easy access can be had to the clock mechanism for winding purposes. Mounted in the sleeve 5 is the lower end of a tubular hollow pedestal 7 retained within the sleeve 5 by a set screw 8. The upper end of the pedestal 7 is flared and provided with a U-shaped frame 8^a. In the pedestal 7 there are located bushings 9 for a vertical revoluble shaft 10 that has the lower end provided with a pinion 11 meshing with one of the large gears of the clock mechanism 6. The upper end of the shaft 10 has a horizontal cup shaped gear 12 for a purpose that will presently appear. The frame 8^a presents longitudinal shoulders 13, and mounted upon these shoulders against the end walls of the frame are the depending portions 14 of circular face plates 15 and 16. These face plates are arranged in parallelism and are connected by a strap 17 having ends terminating at the frame 8^a. The strap 17 can be soldered or otherwise connected to the face plates 15 and 16. The face plate 15 has the inner side thereof provided with an annular seat 18 for a transparent dial 19 having a central opening 20. The inner side of the face plate 16 has an annular seat 21 for a transparent back plate 22. The back plate 22 is retained upon the seat 21 by a ring 23 arranged against the face plate 16, said ring having the lower edge thereof cut away, as at 24 contiguous to the frame 8^a. Mounted in the central opening 20 of the dial 19 is a tubular bearing 24 which is retained within the opening by a sleeve 25. Journaled in the tubular bearing

24 is a sleeve 26 having the end thereof flanged, as at 27. The sleeve 26 extends through a central opening provided therefor in a transparent hour disk 28 and this hour disk is retained in engagement with the flange 27 by a washer 29 encircling the sleeve 26, between the hour disk and the inner end of the bearing 24. Journaled in the sleeve 26 is a shaft 30 and mounted upon the inner end of the shaft is a transparent minute disk 31. This disk corresponds in diameter to the disk 28 and said disk is retained upon the shaft 30 by a washer 32 and a head 33. The head 33 is carried by the inner end of the shaft 30 and the washer 32 encircles the shaft 30 between the disk 31 and the flange 27 of the sleeve 26. The outer end of the shaft 30 is provided with a minute hand 34 and the outer end of the sleeve 26 is provided with an hour hand 35. Mounted upon the peripheral edges of the disks 28 and 31 are racks 36 and 37 respectively. Mounted in the depending portion 14 of the face plate 15 is a stud shaft 38 that extends into the frame 8ᵉ. Revolubly mounted upon the inner end of the shaft is a sleeve 39 provided with a tooth 40 adapted to engage the rack 36 of the hour disk 28. Mounted upon the sleeve 39 is a pinion or gear 41 meshing with the rack 37 of the minute disk 31 and pivotally connected to the depending portion 14 of the face plate 15 by a pin 42 is a check pawl 43. This pawl is located between the tooth 40 and the depending portion 14 of the face plate 15. The pawl 43 has a tooth 44 normally retained in engagement with the rack 36 by the end of a spring 45 mounted upon a pin 46, carried by the depending portion 14 of the face plate 15.

In operation, a rotary movement imparted to the shaft 10 by the clock mechanism 6, causes the gear 12 to revolve the pinion 41 and minute disk 35. Each revolution of the pinion 41 causes the tooth 40 to move the hour disk 28, consequently the hour and minute hands will be moved similar to the hands of an ordinary clock. The check pawl 43 holds the hour disk 28 while the minute disk is actuated, and as the disks 28 and 31 are transparent and the edges of the disks concealed by the face plates 15 and 16, it will be almost impossible, when looking squarely at the clock, to determine the actuating means of the hour and minute hands.

What I claim is:—

A clock comprising a pair of rotatable transparent disks having their edges toothed, hands exteriorly of said disks, means connected to the disks for supporting the operating hands independently of each other, a revoluble shaft, a cup-shaped gear carried by said shaft, a rotatable sleeve provided at one end with a tooth, and a pinion fixed to said sleeve and engaging one of said disks for rotating it, said tooth adapted to engage the other of said disks for shifting it at every revolution of said pinion, said pinion engaged and operated by said gear.

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

ISADORE GREENWALD.

Witnesses:

MAX H. SROLOVITZ,

S. J. LANDAU.