

1,193,735.

C. S. SUTTER.
 ROTARY EXHIBITOR.
 APPLICATION FILED MAY 13, 1915.

Patented Aug. 8, 1916.

2 SHEETS—SHEET 1.

Fig. 4.

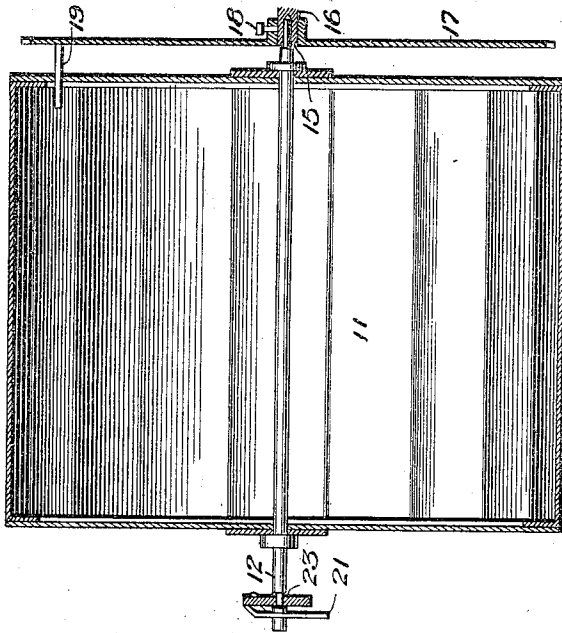
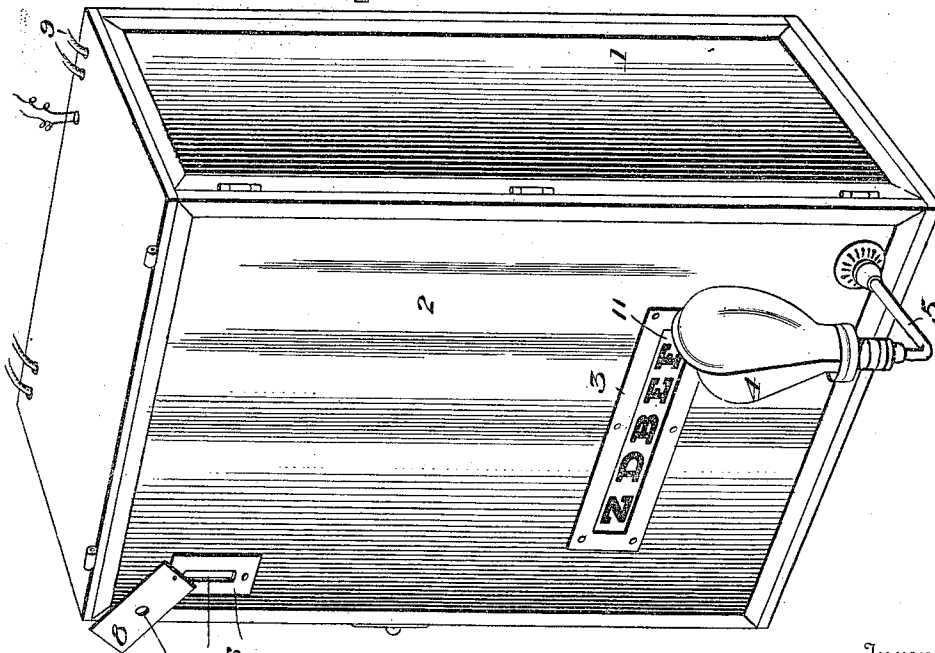
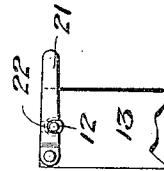


Fig. 5.



Witnesses
Philip E. Barnes
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Fig. 1.

Inventor
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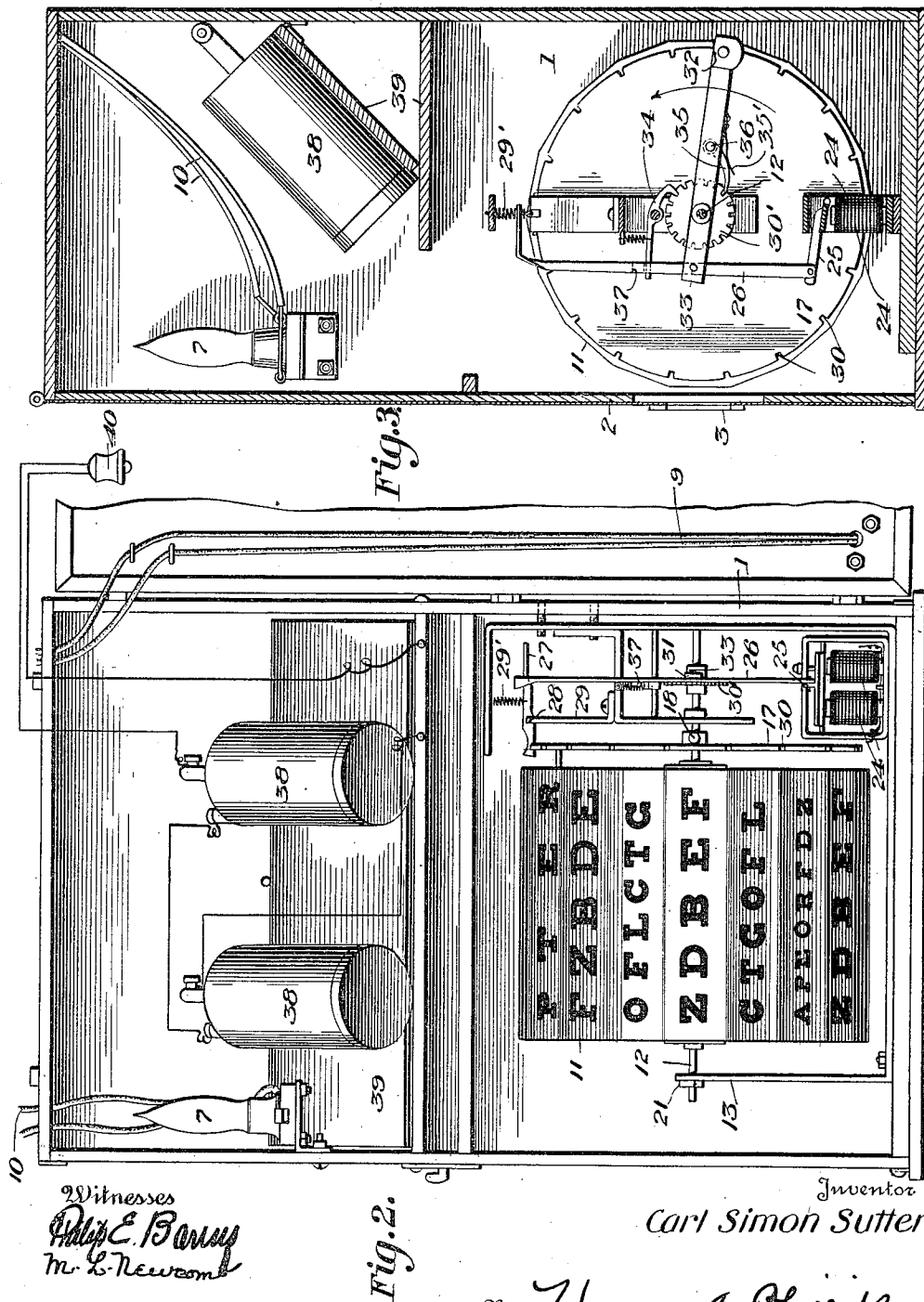
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 2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

CARL SIMON SUTTER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
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ROTARY EXHIBITOR.

1,193,735.

Specification of Letters Patent.

Patented Aug. 8, 1916.

Application filed May 13, 1915. Serial No. 27,837.

To all whom it may concern:

Be it known that I, CARL SIMON SUTTER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Exhibitors, of which the following is a specification.

The present invention relates to improvements in rotary exhibitors for use by oculists in testing eye sight of patients.

The primary object of the invention is the provision of a device of this character which shall be simple in construction and operation, but accurate and efficient in performing its functions. By the utilization of my invention the testing letters of the cabinet are presented to the eye of the patient by the examining oculist, and are at all times under direct control of the oculist, preferably by an electrically connected push button.

The invention consists in certain novel combinations and arrangements of parts whereby a rotary member or drum carrying the testing letters is intermittently rotated to present successive testing letters to the beholder, as will be hereinafter described and claimed.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles of the invention.

Figure 1 is a perspective view showing the cabinet complete. Fig. 2 is a front view of the device, the cabinet door open and exposing the interior construction of the device. Fig. 3 is a sectional view of the cabinet on line 3—3 of Fig. 2. Fig. 4 is an enlarged vertical sectional view of the rotary member or drum carrying the testing letters, and its operating disk. Fig. 5 is a detail view showing the retaining latch for the purpose of holding the drum shaft in one of its bearings.

In the preferred embodiment of my invention I employ a cabinet 1 of suitable size and material, provided with a hinged door 2 which forms the front of the cabinet. The door is slotted and provided with a front plate 3 through which the testing letters are visible, and an incandescent lamp 4 supported on the bracket 5 attached to the door, illuminates the letters. In the upper left

hand corner of the door a slotted plate 6 exposes, through an opening in the door, an incandescent lamp 7 which is used for testing certain muscles of the eyes, and this slotted plate may be closed by a shutter 8 when the muscle testing lamp is not in use. This shutter is perforated at 8' and is for the purpose of changing a candle light formed by the opening 6' in plate 6, to a disk light.

Preferably the two lamps 4 and 7 are in circuit with suitable line wires, the connecting wires for the lamp 4 being indicated by the numeral 9, and the wires for the lamp 7 by the wires 10.

In the lower portion of the cabinet and arranged in proper position with relation to the opening in the door thereof, the rotary member or drum 11 is supported. The drum is made of suitable material and of proper size and is provided with a central shaft 12 passing therethrough and rigid therewith which is journaled in a bracket 13 secured to the bottom of the cabinet and at one side of the drum. At its other side the drum is supported by the end 14 of the shaft 12 which end is seated in a socket 15 in the end of the drive shaft 16. The drum is provided with a multiplicity of faces each bearing letters thereon, and it will be noted that the arrangement of letters varies on each face, and that the size of letters on successive faces decreases or increases so that the patient whose eyes are being examined will not be able to guess or expect the nature or character of the succeeding letters as they are successively exposed to his vision.

The drum is coupled with the driving shaft through the medium of a disk 17 fixed on the shaft 16 by means of a set screw 18, and the disk is provided with a coupling pin 19 which projects into an opening 20 in the end of the drum. By means of a pivoted latch 21 carried by the upright bracket 13 the shaft 12 and the drum are prevented from lateral movement, as the latch is provided with a notch 22 that engages in a groove 23 of the shaft 12 and locks the shaft against longitudinal movement as will be understood.

The operating disk 17 is intermittently rotated by a magnet 24 whose armature 25 has pivoted thereto an arm 26 which is bent at its upper end and in position to bear upon the free end of a latch 27 which is pivoted at 28 in the frame 29. As best seen in Fig. 2 the latch is held by a spring 29' in engage-

ment with one of the notches 30 arranged in series at regular intervals about the periphery of the disk 17, and this latch when so engaged, holds the drum against rotation. 5 When the magnet is energized however, the latch is withdrawn against the spring 29' from its notch and the drum is then free to turn.

The drum is directly rotated through an 10 escapement device comprising a ratchet wheel 30' on the shaft 16, a weighted lever arm 31 and weight 32 the former loose on the shaft 16 and pivoted at 33 on the latch arm 26, and a pair of pawls 34 and 35, the 15 former pivoted in the frame 29 and acting as a spring detent to engage the ratchet wheel, and the other pivoted at 36 on the weighted arm 31. The pawl 35 is held in mesh with the latch wheel 30' by a wire 20 spring 35'. A lug 37 on the latch arm 26 bears upon the free end of the detent 34 to release it from the ratchet wheel when the latch 27 is released. The magnet is supplied with energy from cells 38, 38 supported 25 upon a shelf 39 in the cabinet, and a push button 40 controls the magnet.

When manipulating the device, the push button is held by the examiner or oculist, and the cabinet is positioned at the proper 30 distance from the patient with the letters visible through the slotted door as in Fig. 1. By pressing upon the contact button the magnet is energized, the armature draws on the latch arm to free the latch from the 35 driving disk 17, the detent 34 is released by contact from the lug 37, and the weight arm is swung on its pivotal shaft. The pawl 35 which is carried by the weighted arm, is engaged in the ratchet wheel 30' and as the arm 40 swings on its shaft 16 the pawl through the ratchet revolves the shaft 16 and the drum one step. When the magnet is deenergized by releasing the button the weight 32 returns the parts to normal position, and each

time the button is pressed in contact the 45 drum is revolved one step in the direction of the arrow in Fig. 3 thus presenting a new set of letters to the eye of the beholder.

What I claim is:—

1. The combination in an opthalmic cabi- 50 net with a poly-sided drum and its shaft supported at one end, of a driving shaft and disk thereon, the other end of said drum shaft being detachably supported in the driving shaft, a coupling device between the 55 driving disk and rotary drum, means normally holding the disk inoperative, and means for releasing and rotating the disk.

2. The combination with an intermittently rotatable drum and its shaft supported at 60 one end and a driving shaft adapted to support the other end of the drum shaft, of a driving disk connected to the drum and carried by the driving shaft, said driving shaft having an end socket to receive the end of 65 the drum shaft, and a releasable latch for holding said disk in normal position.

3. The combination with an intermittently rotatable drum and its shaft supported at 70 one end and a driving shaft formed with a socket adapted to loosely support the other end of the drum shaft, of a driving disk coupled to the drum and provided with peripheral notches and carried by the driving 75 shaft, and a latch engaging one of said notches to hold the disk in normal position.

4. The combination in an opthalmic cabinet with a poly-sided intermittently rotatable drum, of a driving disk formed with a 80 notched edge and having a coupling pin engaging an opening in the end wall of the drum, a driving shaft for the disk, a latch engaging the notched disk to hold it in normal position, and means for releasing 85 said latch and rotating the driving disk.

In testimony whereof I affix my signature.

CARL SIMON SUTTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."