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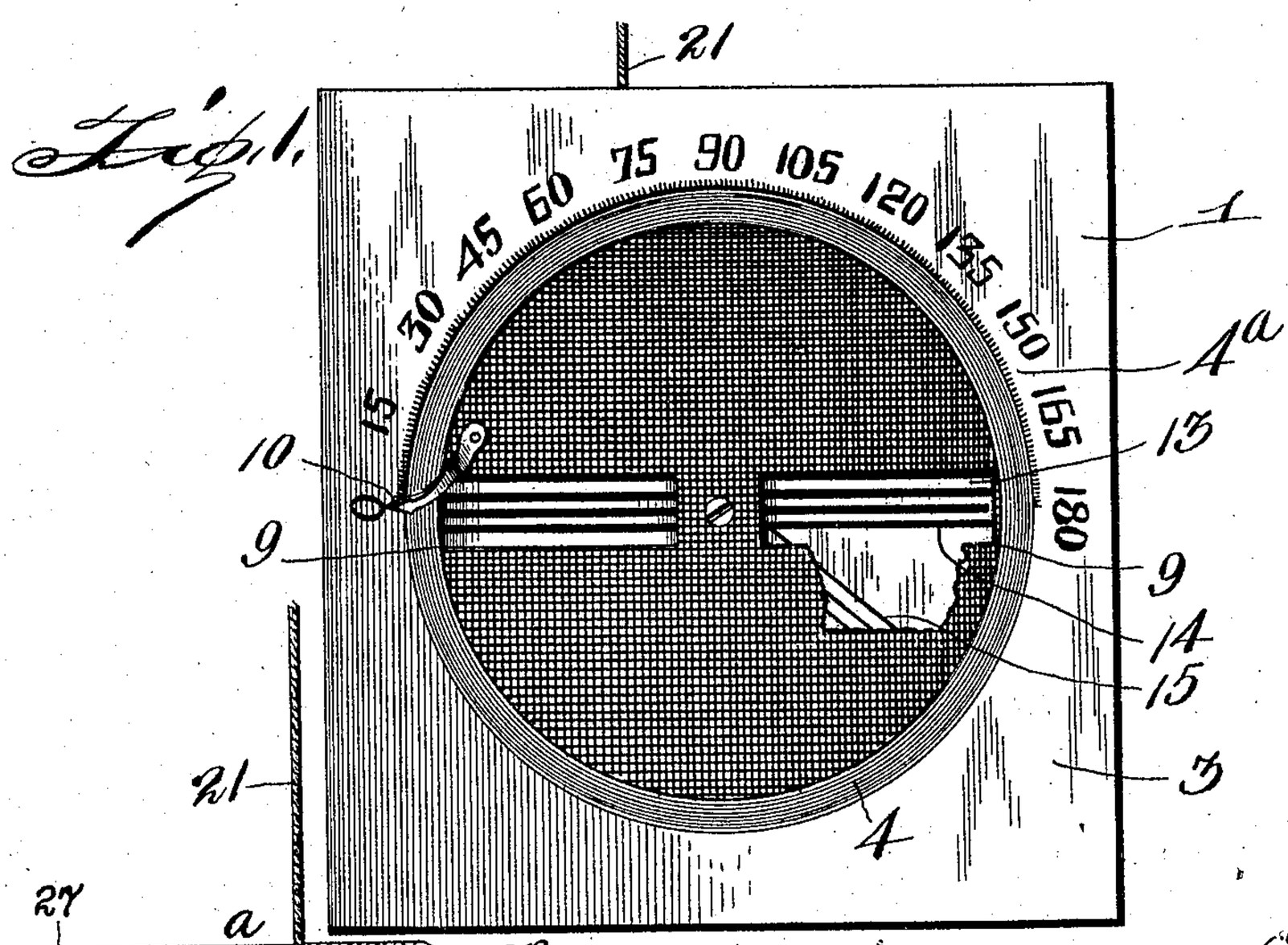
G. E. HOLMES.

ASTIGMATIC CABINET.

APPLICATION FILED JAN. 19, 1905.



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ASTIGMATIC CABINET.

No. 805,959. Specification of Letters Patent. Patented Nov. 28, 1905.

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To all whom it may concern:

Be it known that I, GEORGE E. HOLMES, a citizen of the United States, residing at Lockhaven, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Astigmatic Cabinets; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improved astigmatic cabinet adapted for use in testing eyes for astigmatism; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of an astigmatic cabinet embodying my improvements. Fig. 2 is a vertical central sectional view of the same. Fig. 3 is a vertical sectional view of the same, taken on the plane indicated by the line *a a* of Fig. 2.

My improved cabinet 1 may be made of any suitable size and shape and is here shown as rectangular in form and provided with a removable back 2. The front 3 of the cabinet is provided with a circular opening 4 of suitable size, and around the upper side of the said opening is a scale 4ª. To the back 2 at the center of the same is secured an inwardly-extending fixed arbor 5, on which is mounted a tubular axle 6. To the said axle near its inner end is secured a pinion 7, and to the front or outer end of the said tubular axle is fixed a face-disk 8, which is provided with radially-alining slots or openings 9, and has an indicating hand or pointer 10 at one side which alines with the center of the said face-disk and the centers of the said slots. Said face-disk is preferably blackened. Revolubly mounted on the tubular axle 6 is a tubular axle 11, which is adapted to turn independently thereof and is provided with a pinion 12. At the outer end of the said tubular axle 11 is secured an astigmatic disk 13, which may be rotated thereby and which is just within the face-disk. The said astigmatic disk is provided with astigmatic lines 14 15 of different dimensions or widths, which may be made to appear at will through the slots 9 of the face-disk by properly turning the said disks. The hand or pointer 10, carried by the face-disk, coacts with the scale 4ª on the front of the cabinet to indicate the position of the face-disk, this being necessary in determining the astigmatic axis of an eye. On the inner side of the removable back 2 of the cabinet is a vertical guide 16, which is provided on its inner side with a pair of vertical guide-grooves 17 18. Rack-bars 19 20 are guided and retained in place by the said guide-grooves 17 18, respectively, and the said rack-bars respectively engage the pinions 7 and 12. The weight of the said rack-bars is such that they normally remain at the lower end of the said guide-grooves, and hence by their coaction with the pinions and tubular axles turn the disks to their initial positions. Operating-cords 21 22 are respectively attached to the said rack-bars 19 20 and extend through openings in the upper side of the cabinet, so that the operator by means of the said cords may raise either or both of the rack-bars to any required extent, and hence independently turn the face-disk to any required angle and the astigmatic disk to such an angle as to cause either the astigmatic lines 14 or the lines 15 to register with and become displayed by the slot 9 of the face-disk.

Suitable springs may be employed in lieu of the weighted rack-bars for turning the disks to their initial positions, and I do not desire to limit myself in this particular. Neither do I desire to limit myself to the precise construction and arrangement of devices herein shown and described, as it is obvious that modifications may be made therein without departing from the spirit of my invention and within the scope of the appended claims.

In rear of the movable back 2 and between the same and the wall of a room when the box or cabinet is placed against such wall is an astigmatic dial-card 25, which is supported and may be raised and lowered by the cord 26. Said cord passes over suitable pulleys 27 and extends to the operator, who will be some twenty feet, or thereabout, away from the said box or cabinet. It is obvious that by means of the said cord 26 the dial-card 25 may be raised or lowered by the operator, as may be desired.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An astigmatic cabinet having an opening in its front side, a scale on its front side, an arbor in the cabinet, a face-disk having a tubular axle revoluble on the arbor, and a pinion on said tubular axle, the said face-

disk being further provided with radial openings and with a pointer, the latter coacting with the scale on the front side of the cabinet, an astigmatic disk in rear of the face-disk and having a tubular axle revoluble on that of the face-disk and provided with a pinion, vertically-movable racks mounted and guided in the cabinet and engaging the respective pinions and operating-cords for the respective racks to coact with the racks and pinions to independently turn the said disks to any desired angle, substantially as described.

2. An astigmatic cabinet having an opening in its front side, and a scale, and further provided with a removable back, a face-disk, an astigmatic disk, supports therefor, and means to independently turn them to any desired angle, said disks, supports and turning means being mounted on and carried by the removable back of the cabinet, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE E. HOLMES.

Witnesses:
T. M. STEVENSON,
GEO. A. BROWN.