J. M. SCOTT.

CABINET FOR EXHIBITING EYE TESTING DEVICES.

APPLICATION FILED SEPT. 17, 1918.

1,337,728.

Patented Apr. 20, 1920.

2 SHEETS—SHEET 1.

Fig. 3

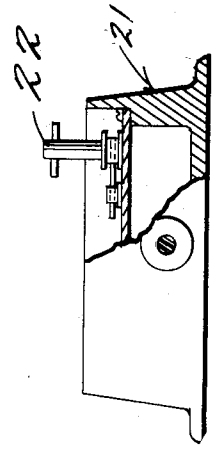


Fig. 4.

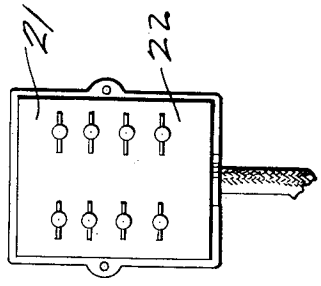
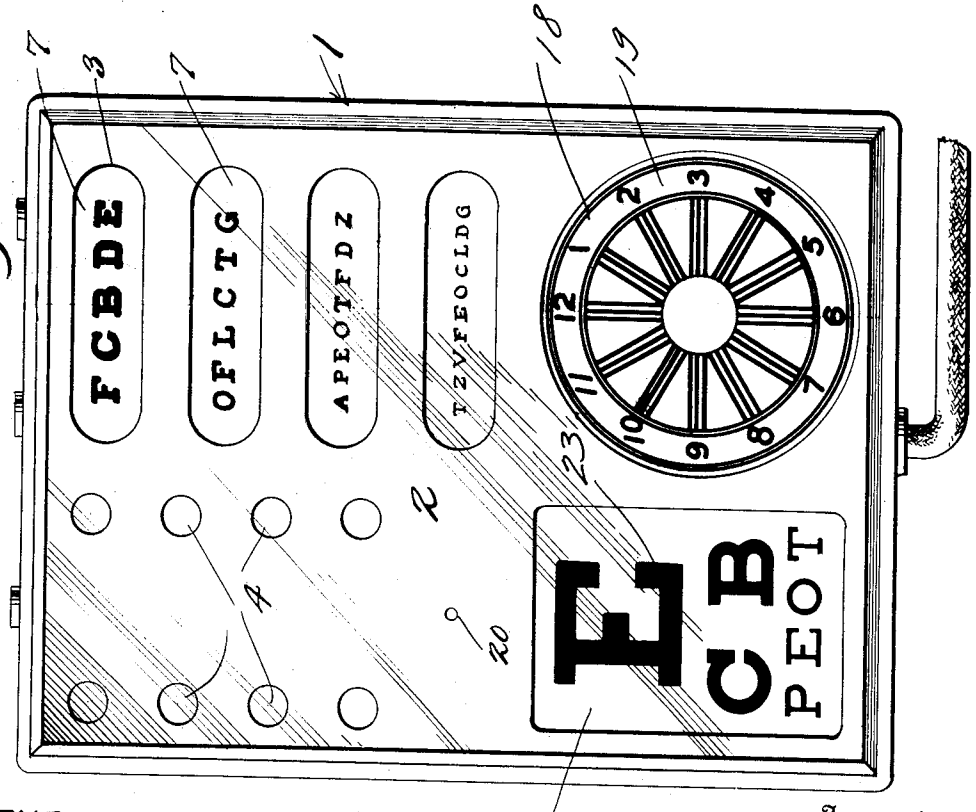


Fig. 1.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6.

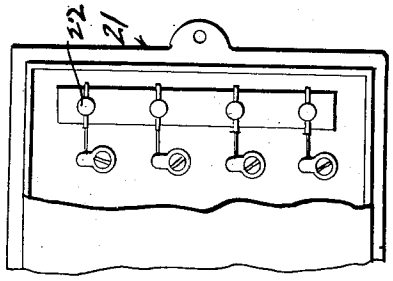


Fig. 5.

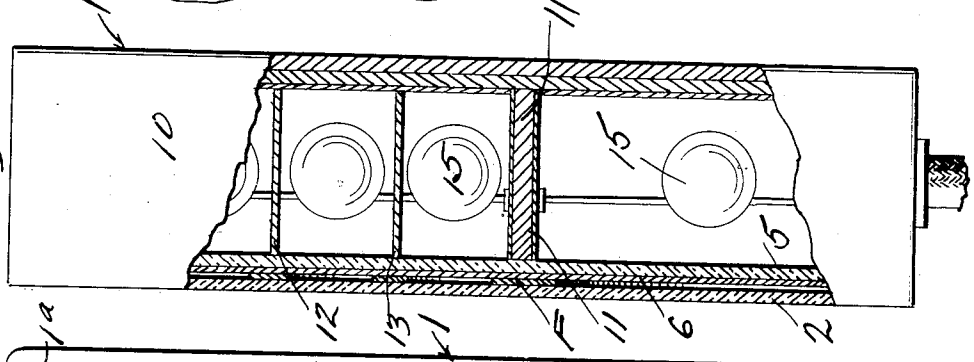
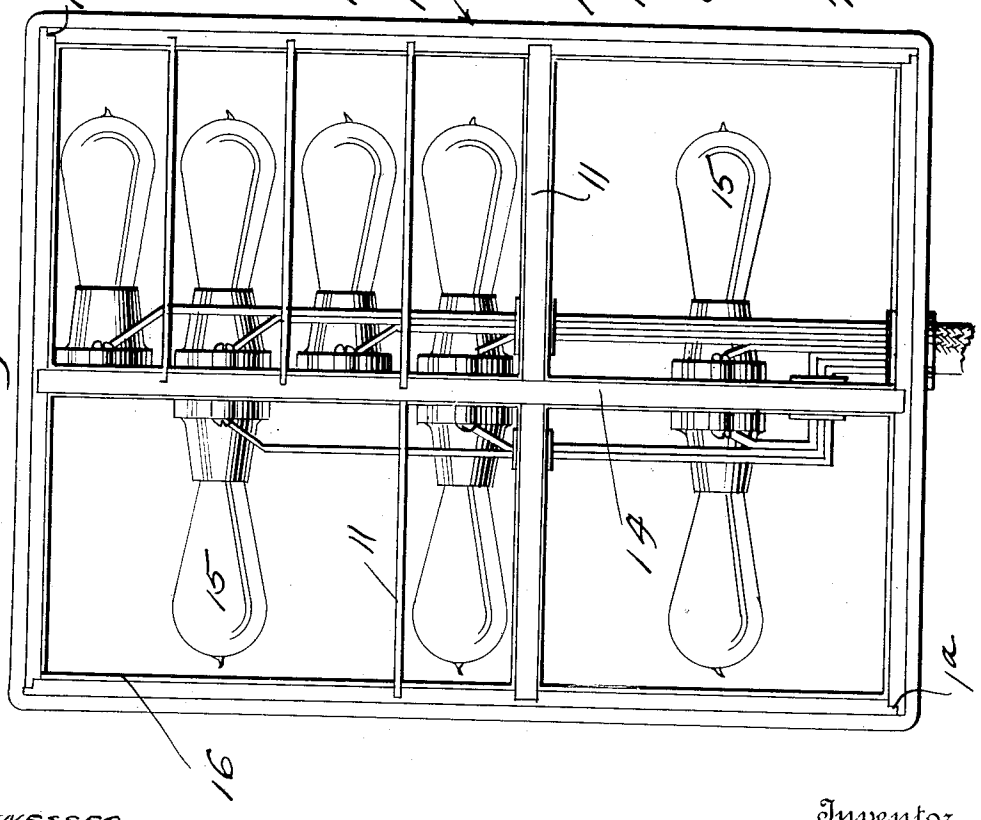


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

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CABINET FOR EXHIBITING EYE-TESTING DEVICES.

1,337,728. Specification of Letters Patent. Patented Apr. 20, 1920.

Application filed September 17, 1918. Serial No. 254,438.

To all whom it may concern:

Be it known that I, JOHN M. SCOTT, a citizen of the United States, residing at St. Louis, in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Cabinets for Exhibiting Eye-Testing Devices, of which the following is a specification.

This invention relates to improvements in cabinets for exhibiting eye testing devices, and the main object thereof, is the provision of a casing containing mechanism for performing the different tests employed by occulists and opticians and thus dispense with a number of separate complicated devices.

Another object is to provide a cabinet of this character having accurate test objects correctly illuminated.

Another object is to so construct such a cabinet as to obviate inaccuracies, avoid misunderstandings between the operator and the patient, facilitate the examination, raise the efficiency of the subjective test, and enable the examiner to make accurate diagnosis based on a definite knowledge of the patient's visual error.

Another object is to so construct such a cabinet that everything connected therewith is executed with scientific precision.

Another object is to construct a cabinet of this character, the illuminating lights of which may be operated one at a time or all or any combination lighted at one time.

Another object is to provide an apparatus of this character in which no time is lost in instructing the patient and no doubt is left in his mind concerning which letters are to be read.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 represents a front elevation of a cabinet embodying this invention,

Fig. 2 is a similar view with the front unit removed.

Fig. 3 is a side elevation partly in section of the switch board employed in connection with this apparatus,

Fig. 4 is a plan view of the switch-board,

Fig. 5 is an edge view partly in section of the cabinet, and

Fig. 6 is a detail of the switch board with parts broken out.

In the embodiment illustrated, a casing 1 is shown, which may be of any desired configuration, but is shown rectangular in form. Formed in the front wall or plate 2 of the casing are a plurality of transversely extending oblong openings 3, arranged one over the other and spaced apart for a purpose presently to be described.

At the other side of said plate 2 are a plurality of apertures 4, two series being here shown, each containing four openings.

The front plate 2 of the casing is made of clear glass and at the back thereof and spaced therefrom is another plate 5, between which plates is designed to be positioned a paper mat 6 carrying the charts 7 thereon. After these charts have been placed in operative position between the front plate 2 and the rear plate 5 a metal binding 16 is soldered entirely around the plates, making a unit which will protect the charts and may be readily replaced at any time when worn or broken.

The casing 1 is substantially and rigidly made with the end walls 10 connected with the front plate 2 and with the rear wall of the casing by rabbet joints 1^a at the corners. Cross partitions as 11 and 12 are arranged in the cabinet 1 and secured in any suitable manner, said partitions being preferably arranged in the grooves 13. A vertical partition 14 divides the casing into two compartments in which are mounted electric light bulbs 15 which are wired and connected to be operated in a manner presently to be described. The front face of the casing has the plate 2 arranged thereover, and the charts 7 are disposed between plates 2 and 5, said charts being composed of parchment paper with the test types lithographed thereon, the charts being engraved on stone from copy drawn to the .001454, to the tangent of a five minute angle, and then lithographed on genuine parchment stock. By thus constructing the parchment each stroke of every letter is accurate and clear cut hav-

ing no wavy lines and uneven milky surface as is the case when opal glass is used instead of the stone.

Opaque paper mats are used with openings cut to correspond with the compartments into which the body is divided. The charts are cemented on the back of this paper mat in such a manner that a line of letters or test is shown through the openings 3. The paper mat with the charts affixed is then placed between the two plates of glass 2 and 5 and the metal binding 16 soldered entirely around the plates, making a unit which may be replaced by another containing different charts.

The lights or bulbs 15 which are arranged behind the openings 3 and 4 are connected and wired so that each test may be illuminated absolutely independently of the others, which means that the tests may be illuminated one at a time in any order of rotation or, any group of tests illuminated collectively, or the entire chart lighted at once.

An opening 17 is formed at the left-hand corner of plate 2, said opening being here shown square, and another opening 18 is arranged at the right-hand corner of the plate, being made circular to receive an astigmatic dial 19.

A muscle test point-light aperture 20 is formed in the plate 2, the apertures 4 being designed for use in color-tests.

It will thus be seen that each cabinet is provided with compartments for test letters, an astigmatic dial, color test and muscle-test point light. The number of test letter compartments may be varied to suit the optician who is to use the cabinet.

A compact switch-board 21 is fastened on the wall within convenient reach of the optician making the test, or it may be placed on a table or other suitable support. This switch board 21 has the buttons as 22 for closing the contacts of the lights, and each of these buttons is marked to indicate what test it lights, so that the operator may always know just what he is doing without glancing at the chart or leaving his position at the trial case while making the subjective test. It will thus be seen that upon inspecting the illustration, the various lines of letters or chart 7 are in separate compartments, all of which are in the dark until the switch-board is manipulated, and any line of letters may be illuminated at the will of the operator, thus automatically directing the patient's attention to the particular line desired to be inspected by him, but if desired, any or all other lines may be lighted simultaneously. With this system no time is lost in instructing patients and no doubt is created in his mind concerning which letters are to be read.

The amount of light used in testing is just as important in the result as the size of the letters. If the light is too bright or too dim the letters cannot be seen clearly, even though the vision is good, and it is to be understood that the lighting of this test cabinet has been accurately gaged to comply with the standard which is the equivalent of a twenty-five watt tungsten lamp at a distance of twelve inches from the object viewed.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains and while I have described the principle of operation of the invention together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made as are within the scope of the claimed invention.

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

1. An eye testing cabinet, comprising a casing having a removable front face composed of two laterally spaced transparent plates arranged one in front of the other, an opaque mat disposed between said plates and having openings therein, charts carried by said mat over said openings, said casing having chambers arranged in the rear of said plates and opposite said charts, and illuminating means for said chambers.

2. An apparatus of the class described comprising a cabinet having accurate test objects arranged therein, illuminating lights for said test objects, and means whereby said lights may be operated individually or any combination at one time.

3. A cabinet for eye testing devices having a front plate with a plurality of transversely extending oblong openings arranged therein, one above the other, and spaced apart, transparent charts at the back of said openings, said plate having a plurality of series of color test apertures at one side of said chart containing openings and a concealed eye test light aperture, said plate having openings at its lower corners, an astigmatic dial in one corner opening and a chart in the other, and means under the control of the operator for illuminating the various tests individually or collectively.

4. In an apparatus of the class described, a cabinet divided into compartments, a test object in each compartment test illuminating means for each compartment, and means operable from a point remote to illuminate any or all of the said test objects.

5. In a cabinet of the class described,

a rigid body having grooved sides and ends, partitions dividing said body into compartments and cemented into said grooves, a removable chart containing front unit, and illuminating means for said chart.

6. A cabinet of the class described including a removable front unit composed of spaced transparent plates arranged one in front of the other with an opaque paper mat disposed between said plates and having openings therein, charts cemented to one face of said mat over said openings to be exposed therethrough, and a metal binding encompassing and secured to the edges of said plates to form said unit.

7. A cabinet of the class described including a removable front unit composed of spaced transparent plates arranged one in front of the other with an opaque paper mat disposed between said plates and having openings therein, parchment paper charts cemented to one face of said mat over said openings and having test type lithographed thereon for exposure through said openings, and a metal binding encompassing and secured to the edges of said plates.

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

JOHN M. SCOTT.

Witnesses:
MURRAY H. DAVIS,
JENNINGS O. NUGENT.