

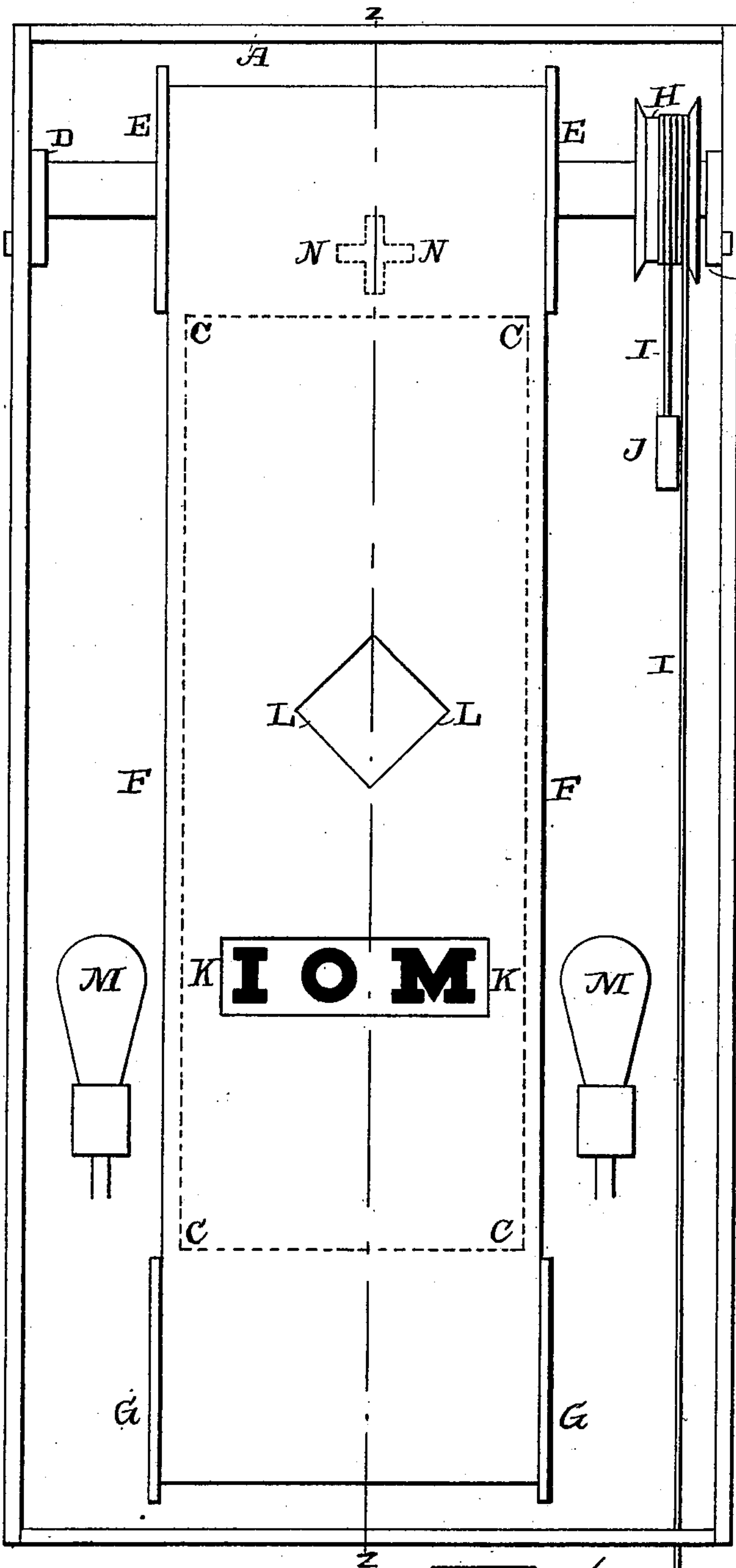
No. 666,557.

Patented Jan. 22, 1901.

F. W. REICH & M. B. CLASON.
SIGHT TESTING APPARATUS.

(Application filed Feb. 9, 1900.)

(No Model.)



WITNESSES

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Fig. 1 -

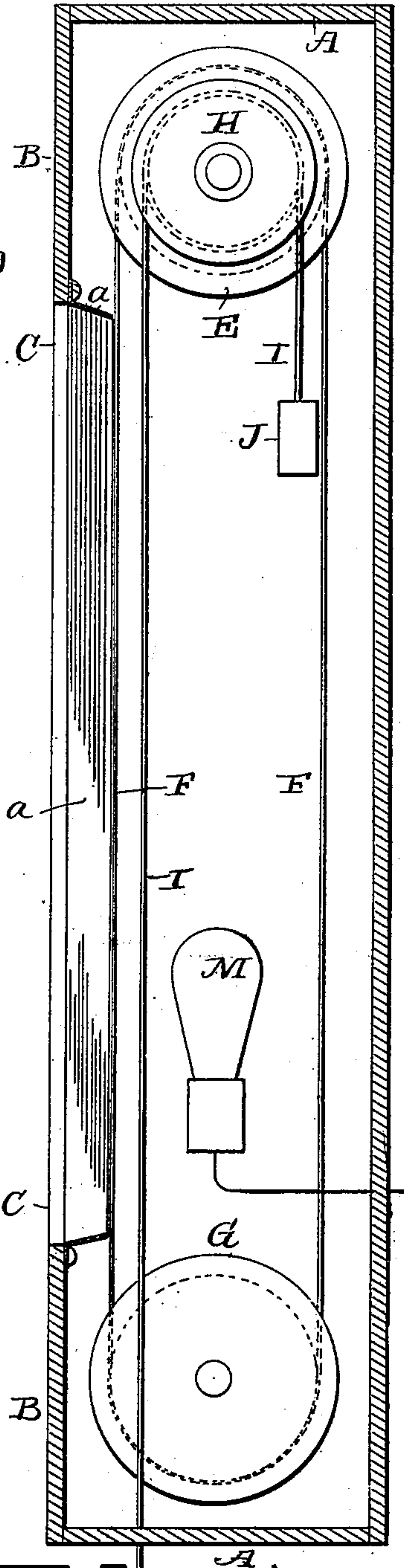


Fig. 2. INVENTORS

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UNITED STATES PATENT OFFICE.

FREDERICK W. REICH AND MILO B. CLASON, OF COLUMBUS, GEORGIA.

SIGHT-TESTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 666,557, dated January 22, 1901.

Application filed February 9, 1900. Serial No. 4,705. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK WILLIAM REICH and MILO B. CLASON, citizens of the United States, residing at Columbus, in the county of Muscogee and State of Georgia, have invented a certain new and useful Sight-Testing Apparatus, described in the following specification and exhibited in the accompanying drawings, in which—

Figure 1 is a front elevation of the apparatus. Fig. 2 is a side elevation of the apparatus, being partly sectional along the line Z Z shown in Fig. 1.

Similar letters of reference indicate similar parts in both views.

A vertical box-cabinet A A, having a front thin hinged or sliding door-plate B B, is mounted and held upon a convenient support at a suitable distance—say twenty feet—from the position of the patient whose eyes are to be tested. Through this front plate B B a rectangular opening is cut, so as to afford a view into the interior of the cabinet. In Fig. 1 said front plate is not shown, having been removed, and the dotted rectangular outline C C C C shows the position of the plate-opening when ready for service.

Having spindle ends turning freely in bearings D D, secured within the cabinet, is a roller E E, around which passes an endless band F F in frictional contact with said roller and kept stretched downward by the weight of a lower roller G G, placed therein below and parallel to the upper roller E E. Firmly secured on the spindle of said upper roller is a pulley H, around which is wound a cord I I, secured at one end to and thereat supporting a weight J, while the other portion of the cord, passing vertically downward through the floor of the cabinet or upward through its roof or laterally through its side, extends thence around such pulleys as may be necessary to a latch or other fastening to be worked by the operator. It is easily seen that by pulling the cord the upper roller is caused to turn and to move the band in one direction, while at the same time the weight is drawn upward, and that by releasing the cord the weight is permitted to descend and by the aid of its portion of the cord to cause the upper roller to turn and to move the band in the opposite

direction. The object of this arrangement will soon be apparent.

Openings K K L L, &c., of such dimensions and shapes as may be suitable, are cut through the band, so as to afford a view through them to the back portion, and on the inner surface of the back portion marks, characters, or figures are to be drawn, painted, printed, or otherwise displayed, such as when seen through the aforesaid openings may be used in testing the eyesight of a patient stationed in front of the cabinet. In this manner, through the opening K K, a number of characters are shown in the drawings. Lamps M M are placed within the cabinet and near its sides at the right and left, respectively, so as to illuminate the inner surfaces of said band while yet said lamps and their light are by the front plate B B and front portion of the band F F hidden from the patient. A ridge or thin flange a around the interior edge of opening C C C C, being in contact always with the band, aids effectively in excluding from the patient all the interior light which he ought not to see.

The operation of this apparatus is as follows: After lighting the lamps and stationing the patient at the proper position in front of the cabinet the operator unlatches the cord I I and by pulling or relaxing it causes the band to move around the roller and vertically, so as to bring before the patient such openings as may be desired and to show through said openings the marks, characters, or figures aforesaid in order to test the sight of the patient. It is obvious that while one portion of the band moves vertically in one direction the other moves vertically in the opposite one, thus facilitating the prompt and quick adjustment of the aforesaid openings and marks, characters, or figures, all whereof are illuminated by the lamps. It is evident that since the total length of the band and the positions of the roller-centers are fixed each opening in said band, when stationed at a desired height, will show only one special character or set of characters, such as may be desired by the operator, all other characters or openings being invisible to the patient. In consequence of this arrangement the attention of the patient is always fixed

upon only such characters as the operator may desire. Characters or marks may also be displayed upon the exterior surface of the band, if necessary.

5 There is also a special opening N N cut through the band and shown in dotted outline in Fig. 1. Said opening in the position exhibited in that figure is supposed to be invisible to the patient, as it must be when
10 any other opening is in view; but when by shifting the band said opening N N is brought into proper position for use it displays only a brightly-illuminated area of the same size and shape as that of said opening N N for
15 testing the motor-muscles of the eye, and all other openings, characters, or interior light must be invisible.

What we claim, and desire to secure by Letters Patent, is—

20 1. In a sight-testing apparatus, the combination with a cabinet having an opening in its front, and provided interiorly with sight-testing characters, of a movable device in said cabinet, having an opening therein arranged to expose certain of said characters
25 to the view of the patient to the exclusion of other of said characters and means for moving said device to exclude certain of said characters from view and expose others through the
30 opening therein.

2. In a sight-testing apparatus, the combination with a cabinet having an opening therein, of an endless band mounted in said cabinet and having an opening, said band
35 having sight-testing characters on its inner face, and means for moving said band in one direction or the other.

3. In a sight-testing apparatus, the combination with a cabinet having an opening in
40 its front, said cabinet having sight-testing characters therein, of a movable device in the cabinet having an opening through which certain of said characters can be seen to the exclusion of others, means for moving said
45 device, and lamps in rear of and to the side of said movable device.

4. In a sight-testing apparatus, the combination with a cabinet having an opening in its front, said cabinet having sight-testing characters therein, of a movable device in said
50 cabinet having an opening through which certain of said characters can be seen to the exclusion of the others, lamps in said cabinet at the side and in rear of the movable device
55 and means for preventing the emission of light except through the opening in the movable device.

5. In a sight-testing apparatus, the combination with a cabinet having an opening in its
60 front, and having sight-testing characters therein, of a movable device having an opening through which certain of said characters can be seen to the exclusion of others, lamps in the cabinet at respective sides of the opening therein, a strip or shield around the open-

ing in the front of the cabinet to prevent the emission of light at the edges of said opening, and means for moving said movable device.

6. In a sight-testing apparatus, the combination with a cabinet having an opening therein and lamps in the cabinet beyond the walls of said opening, of an endless band disposed in the cabinet between said lamps, said band having an opening therein and having sight-testing characters on its inner face to be
75 viewed through said opening.

7. In a sight-testing apparatus, the combination with a cabinet, of a roller mounted in the upper part thereof, an endless band passing over said roller, a roller in the lower portion of the cabinet and supported by said
80 band and serving as a weight therefor, said band having an opening therein and having sight-testing characters on its inner face to be viewed through said opening, and means
85 connected with the upper roller for rotating it in one direction or the other to expose certain of said characters to the opening in the band.

8. In a sight-testing apparatus, the combination with a cabinet having an opening in its front, of an endless band mounted in the cabinet and having an opening to expose a part of the inner face of the band, said inner face of the band having rows of sight-testing
95 characters thereon and a lamp located in the cabinet at the side of the band and in line with the space between the parallel parts thereof.

9. In a sight-testing apparatus, the combination with a cabinet having an opening in its front, of a shaft mounted in the upper part of said cabinet above the opening therein, a roller on said shaft, an endless band passing over said roller, a roller in the bottom
105 of the cabinet and supported by said band, said band having an opening in its front portion and having sight-testing characters on the inner face of its rear portion, a pulley on said shaft, a cord wound on said pulley and
110 having one end extending through the wall of the cabinet and a weight on the other end of said cord.

10. In a sight-testing apparatus, the combination with a cabinet, of a movable device
115 having an unobstructed opening therein, illuminating means behind said movable device and means for moving said movable device to expose an illuminated area through the opening in said movable device and of a
120 size and shape the same as said opening for testing the motor-muscles of the eye.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRED. W. REICH.
MILO B. CLASON.

Witnesses:

M. C. WHITE,
FRANK U. DOWNEY.