

(Model.)

F. L. MILES.

INSTRUMENT FOR MEASUREMENTS FOR SPECTACLES.

No. 339,676.

Patented Apr. 13, 1886.

FIG. I.

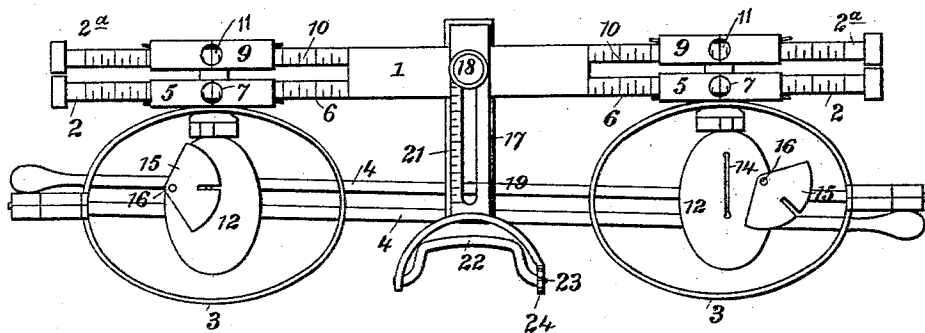


FIG. II.

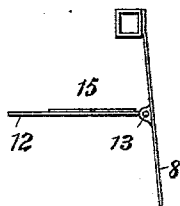


FIG. III.

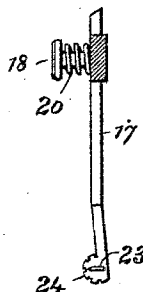
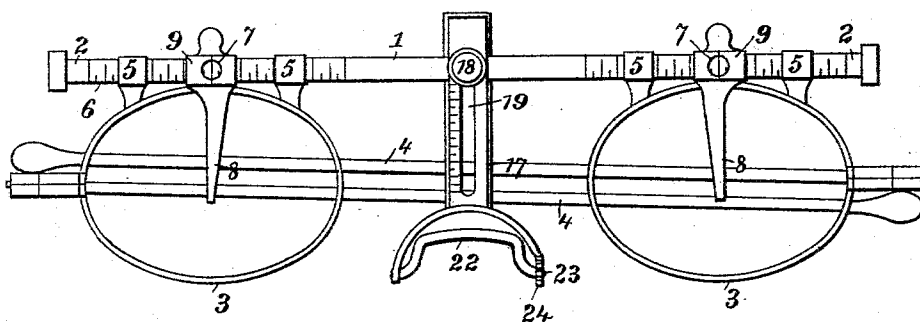


FIG. IV.



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INSTRUMENT FOR MEASUREMENTS FOR SPECTACLES.

SPECIFICATION forming part of Letters Patent No. 339,676, dated April 13, 1886.

Application filed August 26, 1885. Serial No. 175,392. (Model.)

To all whom it may concern:

Be it known that I, FRANKLIN L. MILES, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented a new and useful Improvement in Instruments for Taking Measurements for Spectacles, of which the following is a specification.

My improvement relates to an instrument capable of taking all the various measurements required for manufacturing a pair of spectacles to suit the individual. To this end I mount upon the main bar of the instrument sliding eye-pieces having bows attached in customary manner, sliding pupillary indexes, preferably of the form hereinafter described, and a sliding nose-piece having its arch pivoted so as to enable it to assume any desired angular position. Scales are provided for each of these moving parts of the instrument, to enable the indicating of the various positions assumed by them.

In order that the invention may be fully understood, I will proceed to describe it in reference to the accompanying drawings, in which—

Figure I is a front elevation of my improved instrument. Fig. II is a side elevation of one of the pupillary indexes detached. Fig. III is a side elevation of the nose-piece. Fig. IV is a front elevation of the preferred form of the instrument.

1 represents a bar of metal, made as shown in Fig. I or as in Fig. IV, in which former case it is divided at each end into two parts or arms, 2 2^a.

3 3 are the eye-pieces, to which are hinged the customary bows, 4. The eye-pieces are provided with arms 5, which surround the bar 1, as in Fig. IV, or the lower arms, 2, thereof, as in Fig. I. A scale, 6, on the said bar 1 or arm 2 and eyes 7 in arms 5 enable the ascertainment of the exact position of the eye-pieces. Pupillary indexes 8 may be employed ordinarily, having arms 9, sliding on the bar 1 or the upper arm, 2^a, thereof, in which latter case a separate scale, 10, is employed, which may be viewed through the apertures 11 to discover the precise position of the index on the scale, and consequently of the axis of the pupil to which the lens is to be adjusted. For ordinary use, such an index suffices; but

in case it is desired to fix more accurately such axis I employ a disk-shaped index, 12, which is so hinged to the index 8 at 13 or to an arm sliding on the bar 1 as to be capable of being readily turned back out of use. A vertical slot in said disk at 14, just to one side of the index 8, and a pivoted wing, 15, adapted to be swung over and thus cover more or less of said slot, enable the fixing of an exact point for the axis of the pupil. It is obvious that an equivalent of this construction would be one in which the wing 15 is provided with a slot radiating from its pivot 16, which slot by being moved over the slot 14 will present a single restricted aperture of variable height for observation.

17 is the nose-piece, bifurcated at bottom and sliding vertically in the bar 1 at center. A set-screw, 18, passes through a slot, 19, in the piece 17, and may be made to hold the same to any position to which it may be set by a greater or less compression of spiral spring 20, placed between said head and the piece or slide 17. A scale, 21, is employed for determining the position assumed by slide 17 on the nose of the individual being measured, and the height of the bridge of the spectacles is thereby determined. In the bifurcated arms at the bottom of the slide 17 is pivoted a bridge-piece, 22, which in employing the instrument is made to assume an angle on the nose corresponding to the angle necessary to be given to the bridge of the spectacles, while an upturned end, 23, of said bridge-piece 22 is employed to indicate on scale 24 the exact position assumed by said bridge-piece.

The following is the manner of using my device for taking measurements for spectacles: First, the bridge is so adjusted to the nose as to bring the end of the index-fingers on the same plane as the pupils. They are then adjusted so as to find the exact distance between axes of vision. This in ordinary spectacles gives the position which should be occupied by the centers of the lenses. The length of the bridge-piece depends upon the length of the horizontal diameters of the lenses. The greater their length the shorter, comparatively, the length of the bridge-piece. Should it be desired to find the exact dimensions of the lenses or eye-pieces most suitable to any

individual, first adjust index-fingers to the
axes of vision or the pupils, then adjust the
external portion of the eye-pieces to the width
of the face. The distance then between the
5 index-finger and the external portion of the
eye-piece will be one-half of the horizontal
diameter of the lenses best adapted to the in-
dividual. Having the distance between the
pupils and the width of the face or the length
10 of the lenses, the length of the nose-piece may
be readily ascertained. Again, having ad-
justed the index-fingers to the pupils, this will
give the ordinary lenses the exact position
of the eye-pieces and length of bridge-piece.
15 The eye-pieces, on being adjusted concen-
trically with the pupils, may then be used for
trying lenses, or they may be adjusted in-
wardly or outwardly, so as to ascertain the
width of the spectacles.

20 Having thus described my invention, the
following is what I claim as new therein and
desire to secure by Letters Patent:

1. In combination with the bar 1 and mov-

able eye-pieces hung therefrom, the pupillary
indexes also hung from said bar and adapted 25
to slide thereon, substantially as set forth.

2. A pupillary index consisting of a slotted
disk and a wing adapted to slide over the
slot on said disk, substantially as set forth.

3. In combination with a pupillary index- 30
finger, a second index of disk form hinged
thereto and having slot and pivoted wing,
substantially as set forth.

4. In combination with the main bar 1, a
nose-piece in the center thereof and a pivoted 35
bridge-piece thereon, substantially as set forth.

5. In combination with a nose-piece, a piv-
oted bridge-piece thereon carrying an index-
finger, and a scale on said nose-piece, over
which said index-finger may travel, substan- 40
tially as and for the purpose set forth.

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Witnesses:

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