

# ELECTRIC RETINOSCOPIES

## Regular Electric Retinoscope, No. 275

Has Regular Thorington Plano Mirror—Hairpin Filament Carbon Lamp,  
Extension Light Tube and Automatic Circuit Breaker  
in Handle with Conducting Cords Attached

**T**HIS superior model of the electric Retinoscope reduces the angle at which the mirror is set and insures an immediate stoppage of current consumption when not in use.

The light tube is adjustably connected with the handle, and although fully extended when used, it may be depressed in close alignment with the handle for convenience in carrying.

The automatic circuit breaker which it contains, is located in convenient position for compression by the thumb when in use, and through its agency, the life of the lamp and the current are greatly preserved.

The De Zeng Electric Retinoscopes  
are invaluable to every progressive Refractionist

BECAUSE they give a much greater illumination than can otherwise be obtained.

BECAUSE the brilliant retinal reflex which they give is plainly seen and easily followed in eyes having the smallest pupils and darkest pigmentation.

BECAUSE they carry their own source of light, are extremely portable and can be used in almost any place or position.

BECAUSE their light is derived from an ideal electric point of great brilliancy, which alone gives clean cut edges to the pupilar lights and shadows.

BECAUSE the exact reversal point can be quickly and easily found, owing to the responsive movement of the reflex being comparatively slow.

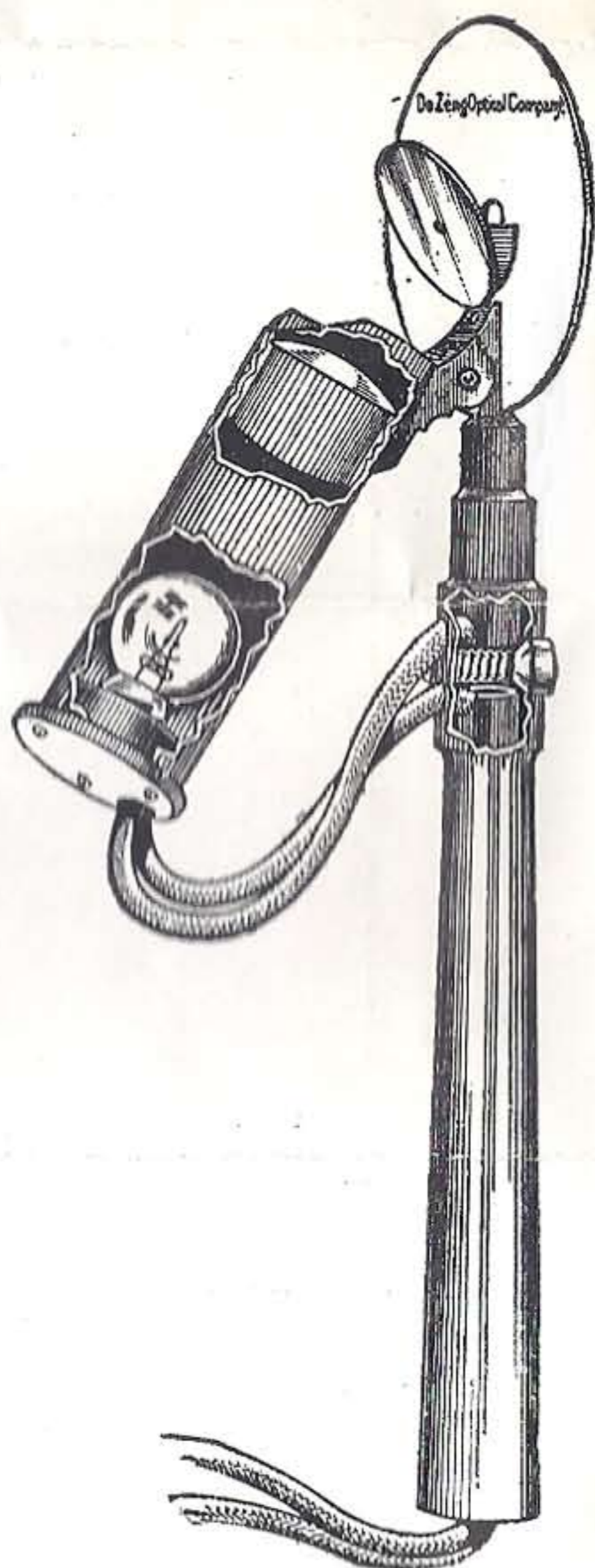
BECAUSE the refractive error can be accurately determined, no matter how difficult or complicated the case, and does not fatigue or annoy the patient.

BECAUSE the different phases of astigmatism cannot escape immediate detection, their characteristic bands standing boldly forth within the pupillary area.

BECAUSE with them, Retinoscopy can be practiced in the open refraction room and the inconvenience and heat of the small dark room entirely avoided.

BECAUSE they are business getters. A favorable and permanent impression is always made by the refractionist who determines and measures his cases objectively.

BECAUSE they sell at a popular price and are easily within the reach of every one who wishes to improve his methods, better his work and make a reputation.

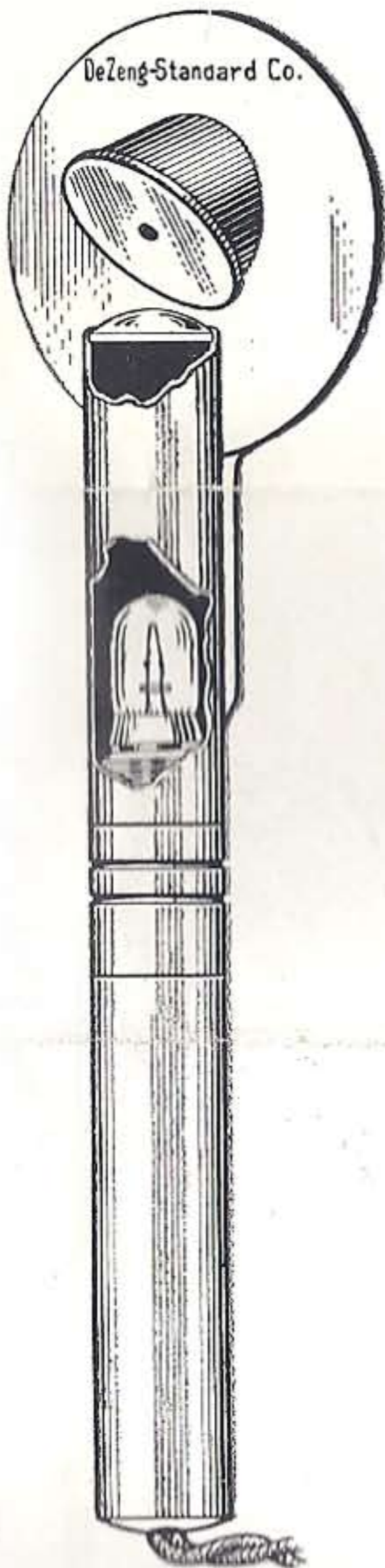


No. 275

# ELECTRIC RETINOSCOPES

## Special Electric Retinoscope, No. 277

Has Regular Thorington Plano Mirror—  
Hairpin Filament Carbon Lamp and  
Handle with Cords Attached



No. 277

**T**HIS Retinoscope is the same in every particular as those already described on pages one and two with the exception of the lamps and the handle.

It is made with the regular Hairpin Filament Carbon Lamp and Hard Rubber Handle with cords attached.

As the city incandescent electric mains represent an inexhaustible source of current supply, contact made with them gives the greatest amount of satisfaction in using instruments lighted by miniature lamps, providing the voltage is suitably reduced through the employment of an efficient controller designed for this purpose.

This instrument is furnished with either the Plain or Fixation Lettered Top and has six feet of silk tinsel conducting cords attached to the handle, which allow ample room for the working range.

While the Carbon Lamps with which this instrument is supplied, cannot be used in connection with the Handle Battery, the Tungsten Lamps supplied with the Handle Battery Retinoscopes, can be used in this instrument, although their employment is not advisable owing to their sensitive nature. It will be remembered that the Tungsten Lamps are but  $2\frac{1}{2}$  volts while the Carbon are  $5\frac{1}{2}$  volts.

These instruments are all finished in fine ebony black and are provided with spring lamp sockets for the prevention of faulty contact and a consequent flickering light. Full printed information accompanies each instrument covering the various types of lamps, batteries and current controllers which should be employed with them.

No. 275.— De Zeng's Regular Electric Retinoscope, complete with Thorington Plano Mirror, Extension Light Tube and Automatic Circuit Breaker in handle with Conducting Cords attached and two Carbon Lamps, in case.....\$15.00

No. 277.— De Zeng's Special Electric Retinoscope, complete with Thorington Plano Mirror, Cord attached handle and two Carbon Lamps, in case..... 12.50

No. 279.— Same as No. 277 but with Illuminated Fixation Letters..... 13.50

No. 900 Set.— Contains Special Electric Retinoscope and Regular Electric Ophthalmoscope with detachable cord handles, three carbon lamps for each, complete in one fine case 30.00

No. 905 Set.— Same as No. 900 with Wurdemann's Transilluminator and three lamps added ..... 40.00

No. 300.— Incandescent Current Controller. Has fifteen-point Rheostat, handsome Mahogany Base, six feet of feed wire with socket current tap. (For use with city incandescent current of 54 to 220 volts, direct or alternating)..... 10.00

No. 305.— Socket Current Controller. For use in socket of electric fixtures. Has new feed indicator, compressible central contact and full nickel finish. Is furnished complete with blue or frosted 16 candle-power lamp and will work on direct or alternating current of 54 to 220 volts..... 8.00

No. 310.— Pocket Battery. Has fine calf skin case, five-point Quill Rheostat, and contains cartridge of six dry cells giving nine volts. It has long life with extreme portability and is the best small battery on the market..... 5.00

No. 320.— Large office Battery. Contains four full size commercial dry cells and gives six volts. The box is quartered oak with locked corners. Has five-point rheostat, tan leather carrying strap and is a splendid battery in every particular..... 6.00

Lamps.— Extra Carbon Lamps for Retinoscope, Ophthalmoscope or Transilluminator, each .40

Batteries.— Extra battery filler of six dry cells, for No. 310 Pocket Battery ..... 1.00

# ELECTRIC RETINOSCOPES

## Ideal Electric Retinoscope, No. 280

Has Illuminated Fixation Letters—Thorington Plano Mirror—  
Tungsten Wire Lamp with Drawn Hairpin Filament  
and Jumbo Handle Battery



No. 280

**T**HIS self-contained Electric Retinoscope combining as it does, the battery, lamp, mirror and illuminated fixation letters, leaves nothing to be desired in an instrument of this kind. It offers tremendous advantages in every branch of Retinoscopy. It can be used in any place or position irrespectively of circumstances, and is the latest De Zeng Electric Retinoscope.

### Illuminated Fixation Letters

The Illuminated Fixation Letters, appearing to the left of the mirror, are invaluable in the Dynamic System of Skiascopy. They are clearly cut in white against a black background, and being located in close proximity to the mirror, the refraction can be estimated almost at the macula. These letters are rendered visible in the dark room by a divergent shaft of light which passes through an opening in the tube containing the lamp, which illuminates the mirror. This coincident illumination of the mirror and fixation letters, obviates the necessity of any extraneous light, thereby affording the operator the advantage of a perfectly darkened room when so desired.

### Thorington Plano Mirror

This popular form of mirror is used exclusively in this Retinoscope. It has a centrally located peep aperture of two millimeters, which is made by the removal of the silvering, the glass being imperforate. It is spun into the mounting and fully protected behind by a metal shield.

### Tungsten Hairpin Lamp

This new type of miniature Tungsten Lamp, which is made especially for these Retinoscopes, has a clear globe with tall narrow filament of drawn Tungsten wire, greatly resembling a hairpin in form, and gives the ideal illuminating point of great brilliancy required for Retinoscopy. With this lamp the pupillary manifestations are sharply characterized even in errors of low degree and in darkly pigmented eyes having small pupils, this lamp is invaluable.

### Jumbo Handle Battery

The Jumbo Handle Battery shown in the accompanying illustration, is designed to meet the demand for a very compact and portable instrument of maximum endurance. It is made of Aluminum and is designed to hold a two-cell battery of regular stock size. This handle is well proportioned, is convenient to hold and has a compressible circuit breaker conveniently located for the thumb of the operator. It is arranged for either a touch or a fixed contact, the lamp being lighted either by pressing the extending arm against the handle or swinging it around in contact with the clip on the top of the cap as desired.

To replace the battery, unscrew the cap at the upper end of the handle, there being no electric connections of any kind requiring attention.

This handle is 5 inches long by 1-7/16 inches in diameter and weighs 10 ounces complete. The battery is obtainable at small cost from any electrical supply store in the country or can be purchased from the optical dealers.

# ELECTRIC RETINOSCOPES

## Standard Electric Retinoscope, No. 284

Has Thorington Plano Mirror—Tungsten Wire Lamp with Drawn Hairpin Filament and Standard Handle Battery

**T**HIS Retinoscope is the same as the Ideal Instrument illustrated and described on the first page, excepting that it has a somewhat smaller handle and does not contain the illuminated fixation letters

Owing to the intense brilliancy of the Tungsten Lamp with its exceedingly small current consumption, an enormous reduction in battery bulk is made possible without apparent loss of power or duration of light, hence the practicability of this form of Handle Battery. The lamp and battery being in exact electrical balance, one with the other, a perfect illumination is obtained with comparative safety and the necessity of lamp replacement is thereby reduced to the minimum.

The Standard Handle Battery with which this instrument is provided, is somewhat smaller than the jumbo. It will give excellent results and is of a popular size, being  $4\frac{1}{2}$  inches long by  $1\frac{1}{8}$  inches in diameter and weighs 6 ounces complete.

The two-cell dry battery which it contains is of standard size and is obtainable from stock at any electric supply or optical jobbing house

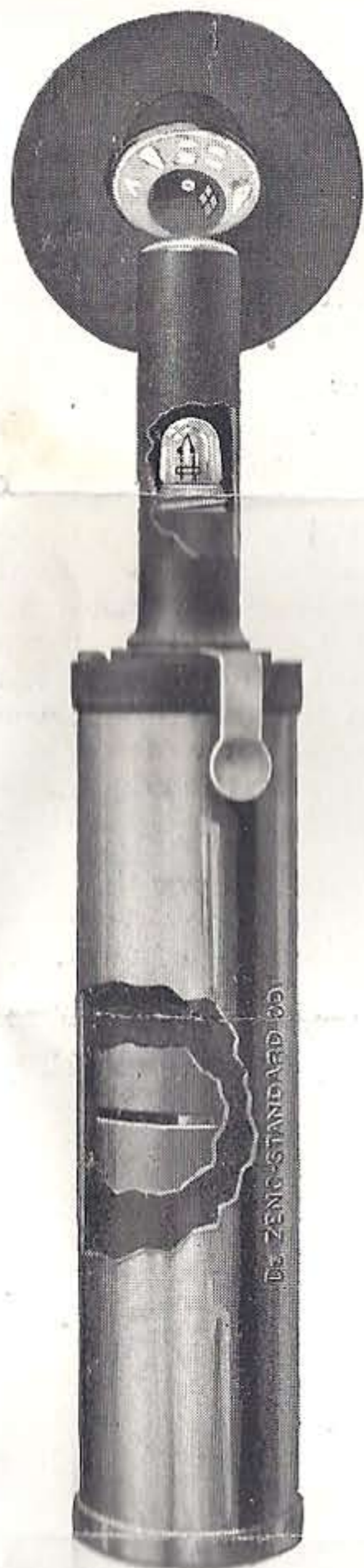
This handle is recharged in the same way as the Jumbo, by the removal of the cap at the upper end. It is also provided with the same form of circuit breaker and is complete and satisfactory in every particular. As it has the DeZeng Standard thread, it will interchange with any DeZeng Ophthalmoscope, Special Retinoscope or Transilluminator.

This self-contained type of Electric Retinoscope should appeal strongly to visiting surgeons and all refractionists who are called upon to prescribe for patients out of the office. Nothing could be more complete for refraction work at the bed-side, and like the Electric Ophthalmoscope, when thus equipped with the battery in the handle, is in every way a model instrument.

**T**HESE many advantageous features combine to give these Retinoscopes an unrivalled position in their class and they unquestionably mark a notable advance in objective instrumentation. There are no delicate connections or other intricate parts to get out of order. They are beautifully designed and finished, the electrical, optical and mechanical arrangement being such as to insure thorough practicability under all conditons.

No. 280.—De Zeng's Ideal Electric Retinoscope, complete with Illuminated Fixation Letters, Thorington Plano Mirror, a Tungsten Wire Hairpin Lamp and Jumbo Handle Battery, in case ..... \$16.00

No. 282.—	Same as No. 280 without Illuminated Fixation Letters.....	15.00
No. 284.—	De Zeng Standard Electric Retinoscope, complete with Thorington Plano Mirror, a Tungsten Wire Hairpin Lamp and Standard Handle Battery, in case.....	14.00
No. 286.—	Same as No. 284 but with Illuminated Fixation Letters.....	15.00
No. 950 Set.—	Contains De Zeng's Special Electric Retinoscope and De Zeng's Special Electric Ophthalmoscope with Jumbo Handle and Tungsten Lamp for each, complete in single case.....	25.50
No. 953 Set.—	Same as No. 950, with the addition of Wurdemann's Transilluminator Tip, with Tungsten Lamp.....	31.00
No. 955 Set.—	Same as No. 950, with the addition of Hard Rubber Handle, having cords attached and a Carbon Lamp for each instrument. (With this equipment, connection can be made with other electric accessories, when desired.).....	28.80
No. 956 Set.—	Same as No. 955 with addition of Wurdemann's Transilluminator Tip and two lamps for same.....	34.70
No. 1050.—	Standard Handle Battery, complete with two-cell dry battery and a Tungsten Lamp	5.00
No. 1060.—	Jumbo Handle Battery, complete with two-cell dry battery and a Tungsten Lamp...	6.00
Lamps.—	Tungsten Lamps for Retinoscope, Ophthalmoscope or Transilluminator, (specify which), each.....	.50
Batteries.—	Extra Batteries for either Jumbo or Standard Handle.....	.25



No. 284