

TESTS
for
COLOR PERCEPTION
VISUAL AND AUDITORY
ACUITY

used in the

RAILWAY, MILITARY
AND MARINE SERVICE

also in THE ARTS AND
SCIENCES *for* RESEARCH,
EXPERIMENTATION,
EDUCATIONAL AND
VOCATIONAL GUIDANCE

C. H. **STOELTING** CO.

MANUFACTURERS—PUBLISHERS—IMPORTERS—EXPORTERS

424 N. Homan Ave.

CHICAGO, ILL., U. S. A.

1886

1931

In July, 1927, Mr. James Cook McAllister, the sole active survivor of the formerly well-known Philadelphia firm of opticians, McAllister and Company (established in 1782), informed us of his desire to retire, and suggested that we take over the remaining branch of the business in which he had been specializing, as he was very anxious to have the business continued by someone sufficiently interested to give it proper attention. In view of the fact that we were already interested to the extent of having Mr. McAllister produce the Whipple modification of the Holmgren Worsted Test for us, we decided to accept his offer, and in August, 1928, closed negotiations for absorbing this remaining branch of McAllister and Company's business.

Mr. McAllister devoted the later years of his life to specializing in color perception and visual acuity tests such as used by the railroad, military, and marine surgeons, and beside being personally acquainted with the majority of the devisers of these tests, he kept in constant touch with the users of these tests and took particular pleasure in giving his personal attention to their production. His stock included the color perception and visual acuity tests of Holmgren, Thomson, Edridge-Green, Oliver, Williams, Jennings, Ishihara, Hering, Nagel, Scripture, Stilling, Snellen, Lowell, and Black, also the Standard Railway Test Cards, and a number of other tests that were of interest to the physician and surgeon engaged in general practice, the oculist, psychologist, and optometrist.

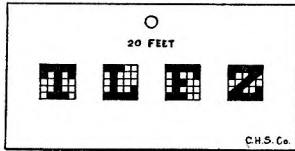
During the last two years we have been engaged in perfecting facilities for producing this testing equipment in greater quantities, and in a modern, scientific manner. We have in our possession, in carefully sealed, light-proof containers, several samples of all the approved original worsteds, glass, and printing, and as all of the material for color perception tests has been matched and recorded in the most careful manner according to the scientific Munsell color system, we can assure our patrons of scientifically correct tests with no deviations from the originals.

It was a pleasure to note the good will and support with which our predecessor was favored, and it shall be our constant endeavor to merit a continuance of this good will and support by leaving nothing undone that will tend to maintain these tests at a high standard of scientific accuracy.

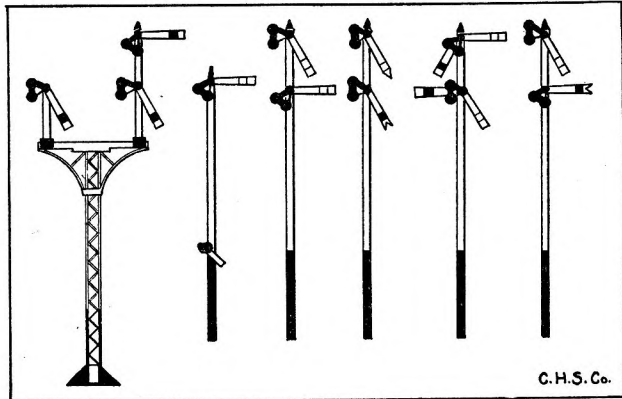
C. H. STOELTING COMPANY.

C. H. Stoelting, President
E. E. Searles, Treasurer.
W. C. Wideman, Secretary.

VISUAL ACUITY.



No. 634.



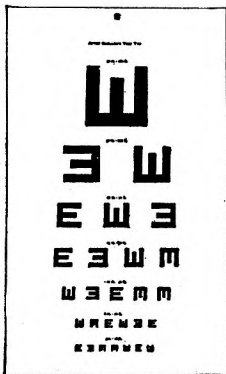
No. 661.

Number

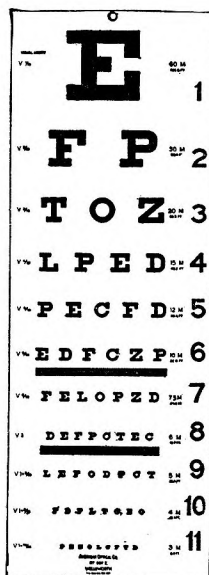
Price

634. **Visual Acuity Test, Black's.** A set of 24 visual acuity tests on cards approximately 3 7/8 x 8 7/8 in. This set consists of four groups: two groups of letters, a group of numerals, and a group of illiterate "E." It is the Pennsylvania Railroad Standard Visual Acuity Test for distance..... \$ 4.00

661. **Semaphore Charts, Black's.** Devised by Dr. N. M. Black for testing the vision of railroad employees. The figures on the cards illustrate at 20 ft. a standard semaphore pole and arm seen at one-half-mile (2,640 ft.), with the actual colors used for the distance and home signals placed on a neutral grayish background so that it will correspond to the average tint of the horizon against which a semaphore is seen in the ideal position. There are 6 cards in the set; some show the signal blades in various positions; others, various combinations of double blades; and one, a reduction of the Hall or disk signal used on many roads for block signalling. The addition of the colored blades in this set has no special significance, as the position of the blade governs the test; but as the semaphore blades are painted some color (usually red, green, or yellow), the figures represent existing conditions. It will be noticed, however, that the blades have different ends, i. e., square, forked or fish-tail, pointed, and round (convex and concave). These have a special indication, but at 2,640 ft. they can hardly be discerned. The square end is usually used for home signals at interlocking plants and with the new style train order signal, the fish-tail end for distance signals, and the pointed ends on some roads for train order signals.



No. 12015.



No. 12011.



No. 631.

Number		Price
	With card No. 3, the color of the disk exposed gives the indication. With this card the person examined should not be required to name the colors but should state whether the indication is danger, caution, or clear. The reason for this is ignorance of the names of colors occasionally displayed by the examinees. They may be able to match perfectly the Holmgren worsteds but may be at a loss to name a color.....	\$ 3.00
12015.	Visual Acuity Test, Cohn's; for illiterates. On this chart the original Snellen "E" is used in various positions, so that the examinee merely has to indicate the position of the symbol. This chart, like the No. 12011 Visual Acuity Test of Lowell's, is provided with a 1 cm. wide green line placed below the 10 M. (32.8 ft.) type, and a red line of the same width placed below the 6 M. (19.7 ft.) type. These two colored lines are useful for obtaining an idea of the subject's color perception.....	.50
12011.	Visual Acuity Test, Lowell's. This has become the standard distance test. It is a modification of the original Snellen test type chart and meets all the requirements of a test of visual acuity. Every line of type is numbered with large figures, and in addition, like No. 12015, has a 1 cm. wide green line placed below the 10 M. type and a red line of the same width below the 6 M. type in order to obtain some idea of the subject's color perception.....	.50
631.	Visual Acuity Test, Snellen's. The original distance test card, with letters; 14x22 in.	.50
632.	Visual Acuity Test, Snellen's. The original distance test card, with figures; 14x22 in.	.75
645.	Visual Acuity Test, Snellen's. This is the Snellen Book of Test Types for Near Vision ("Optotypi"). It contains test types for six different languages: Latin, English, French, Italian, German, and Dutch.....	4.00

Standard Railway Distance Test Card

STANDARD CARD OF SNELLEN'S TEST LETTERS.

70

O Z H

50

T D A L

40

E T O L A

30

F D T A L O

20

T O L F C X E D

No. 640.

Standard Railway Distance Test Card

STANDARD CARD OF SNELLEN'S TEST LETTERS.

70

H O Z

50

A T L D

40

L O E T A

30

O T F A L D

20

D E X C F L O T

No. 641.

Standard Railway Reading Card

No. 1.

When to place an officer at either end of a car or other rail vehicle, see Table, Chapter III, page 10.

No. 2.

A type of sign must be used to mark the seat immediately ahead of each sleeping berth (one end of the berth) for the purpose of preventing the berth from being occupied by a passenger who has been assigned to the other end of the berth. The sign should be placed on the side of the berth nearest the head end of the car.

No. 3.

Inasmuch as it is not possible to examine the ends of every car for the purpose of detecting explosive material, the ends of every car containing explosive must be marked. The ends of every car containing explosive must be marked on each side of the car, and Conductors will refer to every car containing explosive as marked. If necessary to use of a car containing explosive.

No. 4.

When a car is set off, and the Superintendent from first telegraph office. The Agent where car is set off must see every precaution is taken to prevent accident to the car. In case of a wreck involving a car containing explosive the most important precaution is to prevent fire. Before beginning to clear a wreck in which a car containing explosive is involved all unbroken packages should, if possible, be moved to a place of safety, and as much of the broken packages as possible gathered up and likewise removed. With all explosives, mixing them with damp dirt renders them safer either from fire or concussion. Trainmen will understand that these rules are intended for their individual safety as well as for the safety of others.

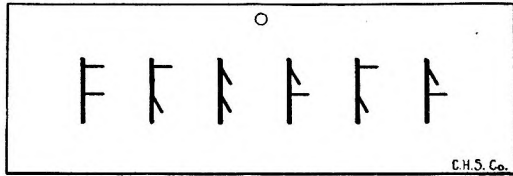
No. 642.

640.	Visual Acuity Test. The Standard Railway Test Card (O Z H). Distance Test; 5½x9¼ in.85
641.	Visual Acuity Test. The Standard Railway Test Card (H O Z). An alternate test for distance85
642.	Visual Acuity Test. The Standard Railway Test Card with reading matter for the "near" or reading test. Approximately 4½x6¾ in.50
643.	Visual Acuity Test. The Standard Railway Test Card with figures instead of reading matter for the "near" or reading test.....	.30
644.	Holder for the Nos. 642 and 643 reading matter and figure charts used for testing "near" or reading vision.....	2.25
630.	Visual Acuity Test, Thomson's. A round chart with Snellen type. Can be shown in any order through a vertical fan-shaped slot above the two largest letters of the covering chart. A very handy test where it is desirable to present the test letters in different sequences.....	2.50
635.	Letter—Semaphore Charts, Williams'. This test for visual acuity was devised by Dr. Charles H. Williams for testing railroad employees. In view of the fact that the letters in the Snellen distance test chart vary in shape, he thought that the addition of a series of semaphore charts, in which the characters, i. e., the arms, are all alike, and where the subject would simply be required to recognize the different positions, would in some respects be a fairer test and moreover would correspond to the actual	

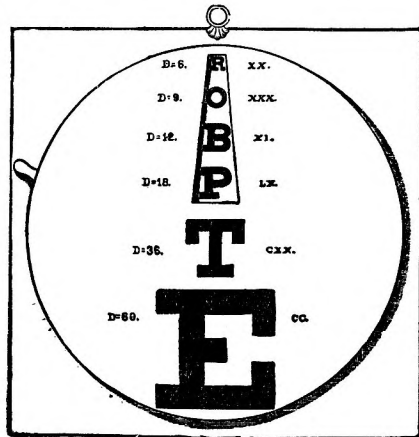
Number

Price

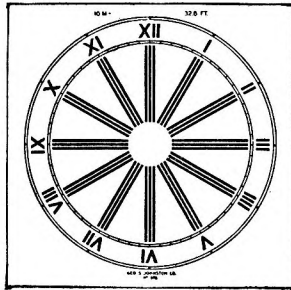
conditions of railroad service. Under the circumstances he added a series of three semaphore charts to the usual letter charts for 15, 20, 30, 40, 50 and 70 ft. Per set of 21 charts, approximately 3 7/8 x 8 7/8..... \$ 4.00



No. 635.



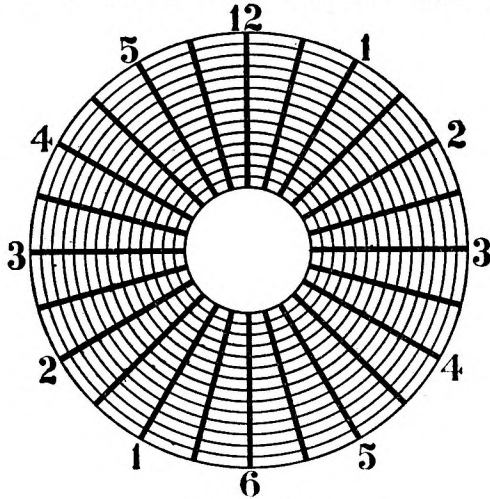
No. 630.



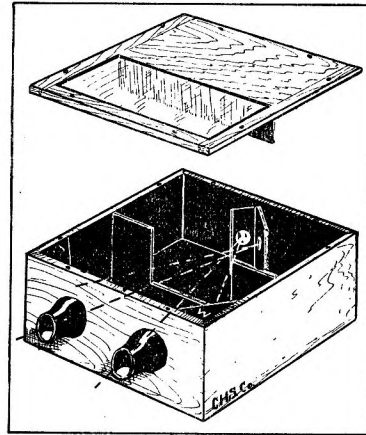
No. 12031.

12031. Astigmatic Chart, "clock-dial" type. Used for detecting astigmatism.....

.50



No. 12035.



No. 12191.

12035. Astigmatic Chart, Verhoeff's. The concentric circles connecting the radial lines or spokes have a tendency to make the astigmatism, particularly that of a small degree, more apparent than the ordinary "clock-dial" type.....

.50

663. Trial Frame, Simple, Single-cell. For 1 1/2-in. trial lenses.....

1.75

663A. Trial Frame, Simple, Double-cell. For 1 1/2-in. trial lenses.....

2.10

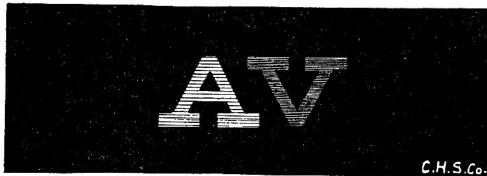
664. Blank Disk, 1 1/2-in. diameter. To fit Nos. 663 and 663A trial frames.....

.60

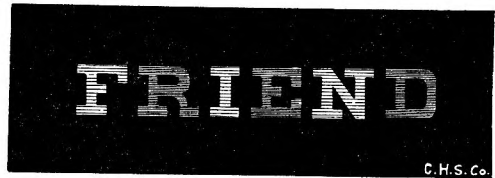
665. Test Lenses, Mounted. To fit Nos. 663 and 663A trial frames.

0.12 to 4.25D. plus or minus spheres.	Per pair	2.20
4.50 to 6.00D. plus or minus spheres.	Per pair	2.60
6.50 to 8.00D. plus or minus spheres.	Per pair	3.20
8.50 to 10.00D. plus or minus spheres.	Per pair	4.20
10.50 to 13.00D. plus or minus spheres.	Per pair	5.20
14.00 to 16.00D. plus or minus spheres.	Per pair	5.90
18.00 to 20.00D. plus or minus spheres.	Per pair	7.00
0.12 to 4.25D. plus or minus cylinders.	Per pair	3.00
4.50 to 6.00D. plus or minus cylinders.	Per pair	3.70
6.50 to 8.00D. plus or minus cylinders.	Per pair	5.00

Number		Price
	.50 to 3.50 ^Δ prism. Per pair.....	\$ 3.95
	4.00 to 7.00 ^Δ prism. Per pair.....	4.20
	8.00 to 10.00 ^Δ prism. Per pair.....	4.55
	11.00 to 13.00 ^Δ prism. Per pair.....	5.25
	14.00 to 16.00 ^Δ prism. Per pair.....	5.95
	18.00 to 20.00 ^Δ prism. Per pair.....	6.65
12191.	Box, Flees'. An excellent device for the detection of feigned blindness in one eye. The subject is asked to look into the box with both eyes and report what is seen. The interior construction is such as to transpose the images of the two eyes in a way not readily detected. A one-eyed subject would report an image on the side of the blind eye, or a truthful individual would report an image on the side of the closed eye; while the malingerer would report the image on the side of the eye admitted to be good, thus demonstrating conclusively that the blindness of the other was feigned. Neither of the two images can be seen simultaneously with both eyes.....	25.00



No. 649.

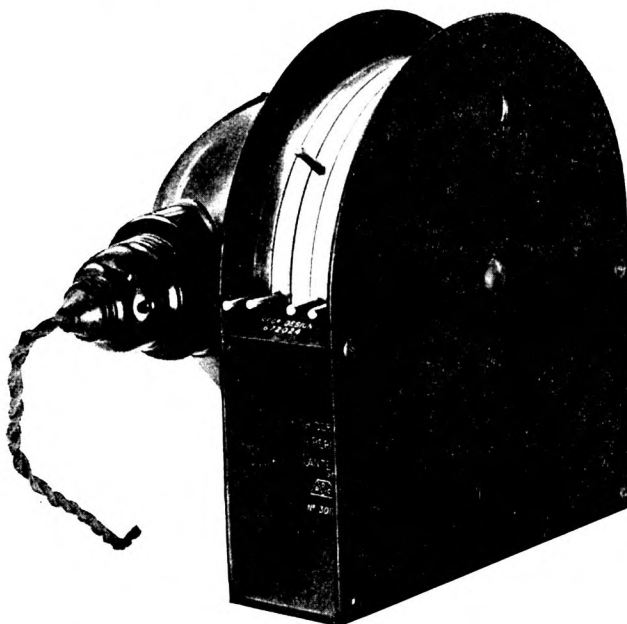


No. 649A.

649. **A V—Red-Green Chart, Snellen's.** For the detection of malingering. This chart is used with the No. 662 red and green glazed spectacle frame. The red glass of this reversible frame virtually eliminates the red A, while the blue-green does the same to the green letter of the chart..... 2.50
- 649A. **FRIEND—Red-Green Chart, Snellen's.** A test similar to No. 649 for the detection of malingerers. Used with the No. 662 red and green reversible spectacle frame. With both eyes open the subject sees the entire word, while with one of the glasses, using one eye only, he will see the word FIN or RED, depending upon the glass placed before the employed eye..... 5.00
662. **Red-Green Spectacle Frame.** A reversible frame with a red glass on one side and a green on the other. The reversibility of the frame makes it possible to place a red or green glass before either the right or left eye. Used with Nos. 649 and 649A for the detection of malingerers..... 5.00
666. **Test Glass, Red, Mounted.** To fit Nos. 663 and 663A trial frames..... 1.25
667. **Test Glass, Yellow-Green, Mounted.** To fit Nos. 663 and 663A trial frames..... 1.25
668. **Test Glass, Blue-Green, Mounted.** To fit Nos. 663 and 663A trial frames..... 1.25
669. **Test Glass, Blue, Mounted.** To fit Nos. 663 and 663A trial frames..... 1.25
670. **Test Glass, Yellow, Mounted.** To fit Nos. 663 and 663A trial frames..... 1.25
12865. **Photometrical Glasses, Tscherning's.** Until the advent of these glasses, the oculist, optometrist, and psychologist possessed no means for readily determining and recording with scientific accuracy the minimum illumination under which an individual could distinguish objects at the standard distance under standard illumination. In legal actions and laboratory experimentation it is frequently necessary to determine with scientific accuracy, in comparable units, the photometric sensitiveness of the human eye. With the aid of these glasses, it is possible to measure the amplitude of adaptation to light in much the same way as one would measure the amplitude of accommodation in diopters, the only difference being that instead of diopters, we use the photometric unit "Photoptrie," the abbreviation for which is "Ph." In obtaining the amplitude of adaptation to light, Prof. Tscherning uses the flame of a stearine candle at a distance of a half-meter. One glass after another is inserted in the frame until the subject is just able to distinguish the candle flame. In using these glasses, the examiner must differentiate between the primary adaptation which takes place within 10 to 15 minutes and the secondary adaptation which takes place in 30 to 45 minutes. The range of adaptation for the normal eye is 9. to 10. Ph. After 30 minutes the majority see with a 10. Ph.
- In addition to the glasses furnished for determining the photometric sensitiveness of the eye and the special trial frame for holding them, there is furnished a series of colored glasses which provide means for the study of color-blindness and color perception in general under various conditions of illumination.

Number		Price
	It might be interesting to note that Prof. Tscherning's first idea was to supply a series of smoke glasses, but he soon discovered the impossibility of producing these with any degree of regularity in the desired units, and furthermore, that all the darker shades possessed a reddish tinge; in other words, they did not permit all of the rays to pass in the same proportion. This was particularly noticeable when the flame of the standard candle was allowed to illuminate the small white square used as a test object.	
	Complete set of glasses, with special trial frame	\$120.00
25117.	Meter Stick, Brass Tipped, graduated its entire length in millimeters and eighths of an inch75

COLOR PERCEPTION.



No. 12319.

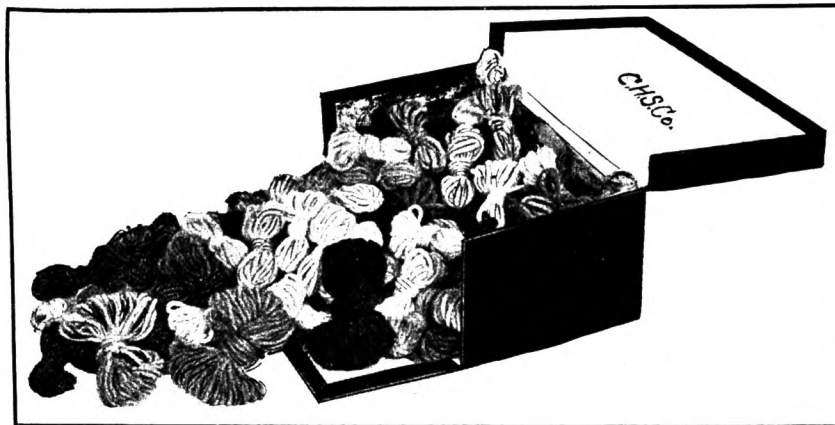
12319. **Color Perception Lantern**, Edridge-Green's. This lantern is used in the British and other navies, the chief shipping companies, and in several British colonial and foreign railways. It enables tests to be made under conditions very closely allied to those found in everyday practice, while the colors chosen are those which most rapidly and definitely disclose any defect in color perception.
- The lantern is illuminated by means of electricity and a parabolic reflector. There are five disks with handles; three of the disks carry seven colored glasses each, one carries seven apertures and one obturator, and one, seven modifying glasses. Each disk has a clear aperture. Complete as illustrated, for connecting to the 110-volt A. C. or D. C. socket.....
- 75.00
- 12319A. **Record Blanks**, Edridge-Green's. For use with No. 12319 lantern. Per 100.....
- 2.00
12320. **Color Perception Test**, Edridge-Green's. A series of 24 cards, approximately 4% in square, devised by Dr. F. W. Edridge-Green, with the idea of supplying something comparatively inexpensive and simpler than his lantern. The principle involved is the perception of difference between two colors presented in a special diagram of spots of irregular shape and various tones. On a ground of separate spots of one color, a letter is formed in spots of another color. The test consists in discriminating between the colors and hence recognizing the letters. This test is supplied with a booklet of directions and a leatherette case for protection.....
- 10.00

Number	Price
12320B. Bead Test, Edridge-Green's , for color perception. This test consists of a number of colored beads in which all the confusion colors of the color-blind are represented, and a box with four compartments into which the beads can be dropped. The four compartments of the box are labeled red, yellow, green, and blue respectively, and the aperture to each of the compartments is such that the observer cannot see the bead after it has been dropped into the box. The lower part of the box contains a drawer which may be withdrawn so that the examinee can select the beads to be dropped into the different compartments. This test, like the lantern, permits the detection of color scotoma as well as color-blindness.....	\$ 16.25
12329. Color Perception Test, Hering's . See catalog of Psychological and Physiological Apparatus and Supplies.....	160.00



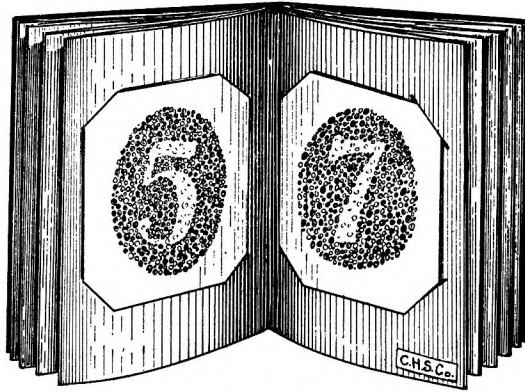
No. 650.

- 650. **Worsted, Holmgren's**. This is the simplest collection of worsteds available for making the Holmgren test for color-blindness. It consists of 100 small skeins and 3 large test skeins of colored worsteds, all without tags, in a plain cardboard box..... 9.00
- 651. **Worsted, Holmgren's**. This, like the No. 650, consists of 100 small skeins and the 3 large skeins, but in this set all of the skeins are tagged. The small skeins are numbered from 1 to 100, while the large test skeins are tagged A, B, C..... 11.00
- 652. **Worsted, Holmgren's**. Known as the Army and Navy Test for Color-blindness. It consists of 125 small skeins and 3 large test skeins of colored worsteds, all untagged, in a cardboard box..... 11.25
- 652A. **Worsted, Holmgren's**. Adopted by the American Ophthalmological Society at the meeting of July 17, 1901. It consists of 125 small skeins of colored worsteds and 3 large test skeins, all tagged, complete in box with full directions..... 13.50



No. 12325.

- 12325. **Worsted, Holmgren's; modified by Whipple**. Also known as American Color-blind Test. It consists of 125 small skeins and 3 large test skeins. The skeins are all tagged with metal tags. The test skeins are numbered 101 (green), 102 (rose), and 103 (red). The small skeins are numbered from 1 to 100. The test colors—greens and reds—have the odd numbers and the confusion colors the even numbers. There are also 25 small skeins of confusion colors with tags lettered A to Z, omitting the letter I. The first forty colors (1 to 40) correspond to the numbers on Thomson's stick
- 13.50



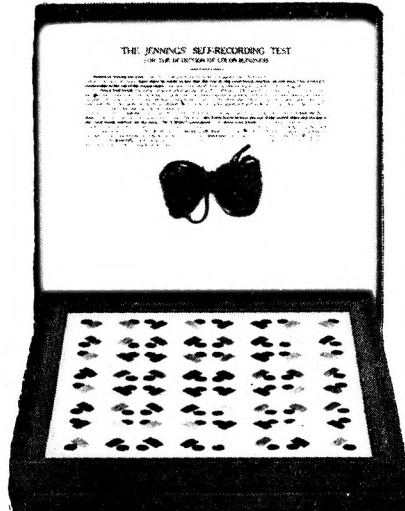
No. 12326.

Number
12326.

Price

Color Perception Test, Ishihara's. This test consists of a series of 16 color plates, printed on dull white cardboard and mounted substantially between stiff covers in book form. Detailed instructions for applying the test are bound into the cover with each set of color plates. Many devices for the detection of color-blindness are in use, and while all are more or less meritorious and can be used with a fair measure of satisfaction and success, nevertheless, the Ishihara test is probably the most practical so far devised. Dr. J. H. Clark, of the School of Hygiene and Public Health, Johns Hopkins University, has made a study of color-blindness and tests, and in an article in the American Journal of Physiological Optics, remarked that the ingenuity and simplicity of this test, and the clear-cut results obtained with it in practice, make it the most successful of the color-blind tests offered to the clinician and investigator. The value of this test was pointed out recently at the International Ophthalmic Conference.....

7 6.00

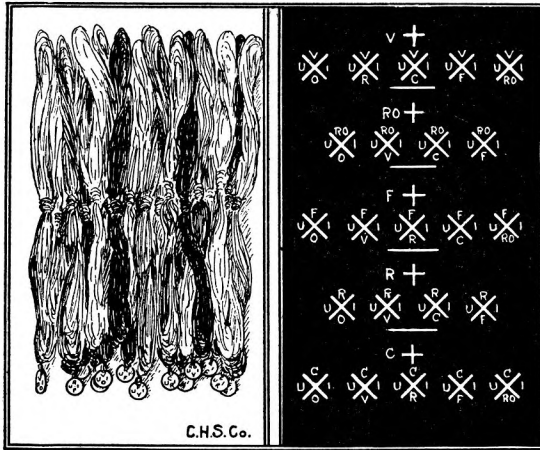


No. 659.

- 659. Color Perception Test, Self-Recording, Jennings'.** With this test the subject makes a detailed record of his performance on a special record blank by means of a stylus. This record can be readily filed for future reference. The test consists of two color boards, a double compartment box, two lids with attached test skeins, three large test skeins, a stylus, and detailed directions. In administering the test, the examiner places a record blank underneath one of the color boards, and the subject is instructed to punch the blank in the perforation opposite each color which in his judgment matches the test skein.....
- 659A. Record Blanks, Jennings'.** Per 50.....
Per 1,000

20.00
1.00
15.00

Number		Price
12327.	Color Perception Test, Nagel's. Devised to discover the more difficult cases of color perception occasionally remaining undetected by some of the other tests. This test is very desirable for detecting color weakness and differentiating between the more difficult sub-types of red and green color-blindness	\$ 2.50
12339.	Anomoloscope, Model I, Nagel's. See catalog of Psychological and Physiological Apparatus and Supplies.....	480.00

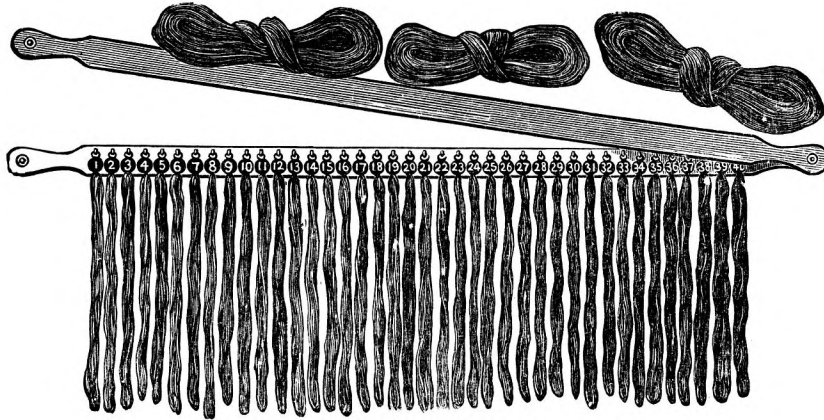


No. 658.



No. 12321.

658.	Color Perception Test, Oliver's. An abridged test based upon the Holmgren, for the detection of subnormal color perception. Intended as a ready and everyday-clinical, yet strictly scientific test. The procedure does not as a rule consume more than a few minutes' time for each subject. The test comprises five large test skeins (pure green, pure red, rose, pure blue, and yellow), five small matched skeins, and 18 small confusion skeins of the same intensity, each containing a mixture of certain definite percentages of two or more of the colors of the principal skeins. Each skein is designated by a small black metallic bangle upon which is marked the initial of the color and its degree of saturation in such a manner that it cannot be understood by anyone but the examiner. In cloth-covered cardboard box, with detailed directions for administering	10.00
12321.	Color Sense Tester, Scripture's. This tester was devised for the examination of railroad employees, soldiers, and sailors, and in fact, the testing of any subject employed in a business where the ability to distinguish colors is a desideratum. The idea in the mind of Dr. Scripture was to provide something to replace the somewhat cumbersome lanterns. In appearance, the tester resembles a hand optometer or simple ophthalmoscope, although of course, it is much larger but, nevertheless, light enough to be held in the hand. On the side toward the subject there are three windows of glass, numbered 1, 2, and 3 respectively. The opposite side is provided with a rotating disk carrying twelve glasses of different colors. As the disk is rotated, the operator brings the various colors behind the three windows. At each movement of the disk, the subject calls off the color seen at the window. Window No. 1 carries a dark smoke glass, No. 2 a piece of ground glass, and No. 3 a light smoke glass. The twelve glasses in the rotating disk consist mainly of reds, greens, and grays. There are thus 36 combinations possible.....	50.00
12323.	Semaphore Lantern. For use with the No. 12321 color sense tester.....	25.00
12328.	Color Perception Test, Stilling's. This is a pseudo-isochromatic test for color-blindness somewhat similar to the Edridge-Green, Ishihara, and Nagel tests. It is rather extensive and consists of 60 plates, printed in colors, and bound in book form with a heavy cover.....	7.50
625.	Stick of Colored Worsteds, Thomson's. This test consists of two narrow flat blades of wood, hinged together at one end and supplied with forty hooks, to which are attached, by bangles or round tags, forty test skeins arranged to be alternately matched, and confusion colors to be compared with three large test skeins, A (green), B (rose), and C (red). The bangles or tags are numbered in such a way that odd numbers denote matched skeins and even numbers, confusion skeins. The skeins from 1 to 20 correspond to Holmgren's first tests and consist of various shades and tinges of green alternating with confusion—grays, tans, light browns, etc. The second series, 21-30, is composed of lighter and darker shades of rose alternating with blues, etc. The third series, 31-40, is made up of reds, alternating with browns, sages, and dark olives. This type of color perception test is now in use by many of the leading railroad companies of the United States.....	15.00



No. 625.

Number

Price

- | | |
|---|----------|
| 625½. Colored Worsteds. Braided skeins (40) for the Thomson stick..... | \$ 11.25 |
| 626. Colored Worsteds, Thomson's. This new wool test consists of two different sets of worsteds in a box with a partition running across the center. The two sets must always be kept in their corresponding section of the box. One set consists of 20 skeins numbered 1 to 20, the numbers being concealed so that the examinee cannot see them. In this set, the odd numbers are greens, while the even numbers are greens or light browns. The other set also consists of 20 skeins, but they are numbered from 21 to 40. Here the odd numbers are all different shades of rose color, while the even numbers consist of blues, greens, and grays. Accompanying this set are three large test skeins..... | 15.00 |



No. 626A.

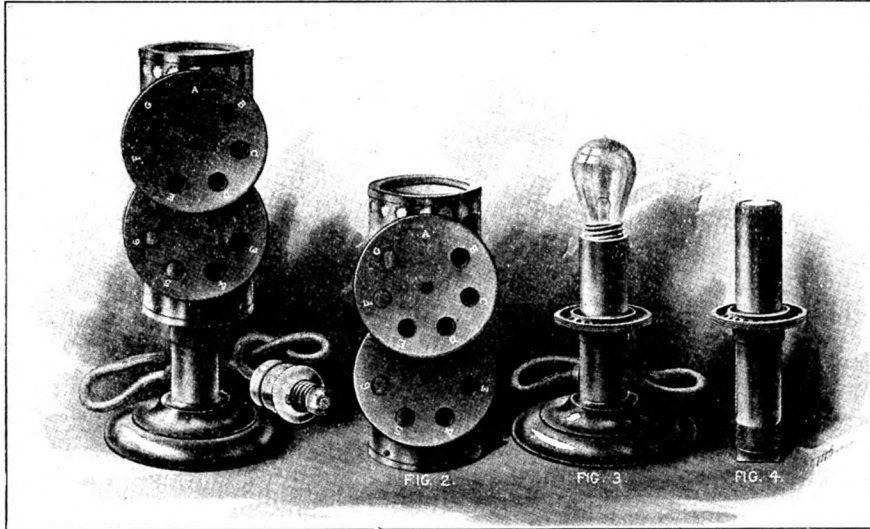
- 626A. Colored Worsteds, Thomson's. A modification of test No. 626. Tassels of the different colors are attached to a slotted disk provided with a small disk pivoted to the top so that it can be used to cover the number. This modification of No. 626 is used by medical practitioners and optometrists who have no time for making comprehensive tests of color perception.....

7.00



No. 627.

Number		Price
627.	Colored Worsteds, Thomson's. A simplification of the Holmgren test, conforming to the arrangements in the Thomson stick and Nos. 626 and 626A. There are 40 small skeins and 3 large test skeins of the same size as those used in the original Holmgren. The skeins are all tagged.....	\$ 13.50



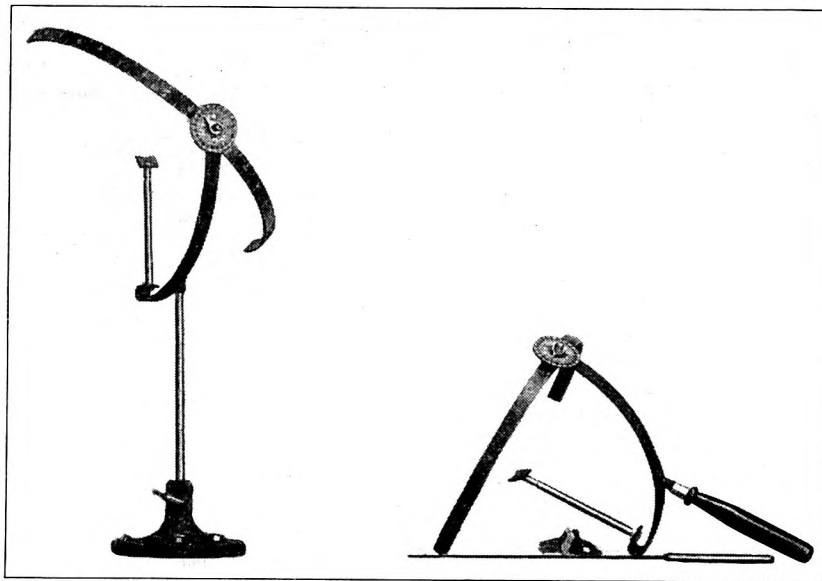
No. 681.

681.	Color Perception Lantern, Thomson's, Model III, with cord and plug for connecting to the 110-volt or 220-volt A. C. or D. C. For the 110-volt current, a 4 c.p. electric light bulb, sign size, is furnished, while for the 220-volt there is furnished a 5 c.p. frosted bulb. The foundation of this lantern is a metal chimney, approximately 7 in. long, lined with asbestos and provided with a piece of corrugated glass to provide a uniform intensity for illumination of the two superimposed metal disks carrying the colored glasses. The disks are approximately 3½ in. in diameter, each provided with seven apertures of the requisite diameter. The upper disk contains the following: A, small aperture; B, white ground glass; C, London smoke glass; D, rose glass; E, yellow-green glass; F, cobalt glass; G, plain white glass. The lower disk contains the following: 1, plain white glass; 2, red glass; 3, blue-green glass; 4, blue glass; 5, yellow glass; 6, white ground glass; 7, blue-green glass. As the upper disk is mounted over the lower disk in a way to permit the glasses to be superimposed, it is possible to get any conceivable combination of signal lights and atmospheric conditions. The base of the lantern is arranged to take a spring candlestick, which is interchangeable with the tube supporting the incandescent bulb. Complete with wood carrying case and detailed instructions.....	48.00
681A.	Record Blanks, Thomson's. For use with No. 681 lantern. Per 100.....	1.50
690.	Color Perception Lantern, Williams'. This is another lantern for testing color perception and is quite popular with the railway and marine service. This lantern, as illustrated, is constructed of metal and provided with a disk containing eighteen glasses—seven shades of red, five or green, two of blue, and one each purple, yellow, smoke, and white. An easily controlled diaphragm and shutter arrangement permits control of the illumination, and in the new model, the presentation of one, two, or three lights at a time. Complete with electrical illuminant, cord, and lamp socket for 110-volt or 220-volt A. C. or D. C.....	65.00
691.	Color Perception Lantern, Williams'. Similar to No. 690 but arranged for oil light illumination. Complete with illuminant.....	62.00
690A.	Electric Illuminant	14.00
690B.	Incandescent Lamp. Each.....	1.15
690C.	Connecting Cord with socket.....	2.25
691A.	Oil Light Illuminant.....	2.20
691B.	Glass Chimneys. Each.....	.25
690D.	Record Blanks, Williams. For use with Nos. 690 and 691 lanterns. Per 100	2.00



No. 690, 691.

Number	Price
654. Signal Flags, set of 5. Approximately 4 in. square—red, white, blue, green, and yellow—with staff for each.....	\$ 4.00
648. Color-blind Chart, Holmgren's. For demonstrating color-blindness	1.00
25450. Spectroscope, Pocket, Browning's. While a valuable aid to the scientific study of color-blindness, it is not so satisfactory for the everyday work of the examiner. It is usually used to discover whether the subject sees a shortened spectrum and whether or not he sees the two colors (yellow and blue) usually seen by the ordinary red-green blind	20.00
12423. Perimeter, Hand, Schweigger's. A compact and valuable accessory for the study of color-blindness and scotoma. This is the model used by the United States Surgeon General's office and in many of the Psychological Laboratories of educational institutions, for experimental work of an elementary nature. It consists of a hand support carrying an eye-rest and a graduated metal arc whose angular position is recorded by an indicator on a small protractor attached to the front of the support. A small mirror at the back of the protractor serves as a fixation point. Each instrument is supplied with a holder for carrying the five color disks which are moved along the metal arc until the subject under examination recognizes the colors.....	30.00
12424. Perimeter, Schweigger's. Similar in construction to No. 12423 but mounted on a base instead of a handle. The color disks are attached to small clips which slide along the graduated arc	30.00
12455. Perimeter Paper, Engelking and Eckstein. Produced under the supervision of an oculist and physiologist of the University of Freiburg. A set of 5 standardized papers, 13.5x21 cm., consisting of a neutral gray and 4 colors (yellow, blue, green, and red), invariable and peripherally equal in good daylight. For the detailed theoretical fundamentals and use of the colors, see "Physiologische Bestimmung von Musterfarben für die klinische Perimetrie." (Klin. Monatsbl. f. Augenheilk. 1920, Bd. 64, S. 88).....	1.75



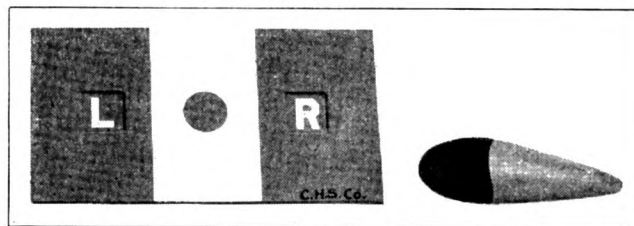
No. 12424.

No. 12423.

Number

Price

12227. **Manoptoscope, Parsons'.** Recent research work discloses the fact that the twin phenomena "eyedness" and "handedness" ought to receive more attention in the future than it has in the past. There are many lines of human endeavor where eyedness and handedness become important factors. Heretofore the diagnosing of this twin phenomena took more or less time, but with the use of the Parson manoptoscope, a combination of sighting tube and exposure apparatus, this test becomes a matter of seconds. The manoptoscope, as will be noticed from the illustration, consists of a conical-shaped aluminum sighting tube about 9 in. long, the wide end of which is placed against the face like a stereoscope. The target, customarily placed about two feet from the subject, consists of an exposing device and a sliding chart carrying the target or fixation disk and test objects. The exposing device has a target or central fixation disk flanked by two square apertures. The chart, bearing the test objects "R" and "L," may be moved back and forth so that the letters are either hidden or exposed. The procedure is simplicity itself. Complete as illustrated.... \$ 7.40

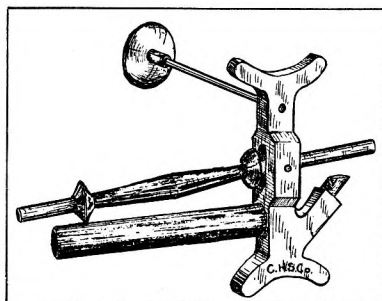


No. 12227.

AUDITORY ACUITY.

- 655. **Acoumeter, Bartlett's, ratchet type**..... 3.20
- 14041. **Tuning Fork, Blake's, 512 s.v.** For acuity and diagnostic tests by the temporal or "ringing-off" method..... 3.20
- 14301. **Acoumeter, Politzer's.** An inexpensive instrument for producing a constant sound. It is held between the thumb and second finger, and the metal hammer always drops from a fixed height. Each instrument is supplied with a small disk attached to a cylindrical rod which is used for bone conduction and other diagnostic tests..... 6.25
- 14305. **Audiometer, Seashore's.** A portable instrument designed to meet the requirements of the clinic, office, and laboratory. It has stood the test of time, and is being used extensively for testing the auditory acuity of school children, experimental work in the Psychological Laboratory, and in the professional work of the aurist. See catalog of Psychological and Physiological Apparatus and Supplies..... 220.00

Number		Price
14307.	Audiometer, McCallie's. This is a portable instrument and the sound is produced by a metal hammer falling upon a small bell. As it falls from a definite height, the sound produced is always of the same intensity. The aperture emitting the sound is controlled by a disk graduated in 100 equal parts. See catalog of Psychological and Physiological Apparatus and Supplies.....	\$ 95.00



No. 14301.

BOOKS.

46121.	"Color Blindness: Its Relations to Other Ocular Conditions and the Bearing on Public Health of Tests for Color Sense Acuity," by George L. Collins, M. D., U. S. P. H. S. Public Health Bulletin No. 92, 1918.....	.35
46121A.	"Colour-Blindness—With a Comparison of Different Methods of Testing Colour-Blindness," by Mary Collins, Ph. D.....	5.00
12319C.	"Colour Blindness and Colour Perception," by F. W. Edridge-Green, M. D.....	5.00
12319B.	"The Hunterian Lectures on Colour-Vision and Colour-Blindness," by F. W. Edridge-Green, M. D.....	2.50
46168.	"Colour and Colour Theories," by Christine Ladd-Franklin, Ph. D.....	3.90
46308.	"Colour-Blindness—Its Dangers and Its Detection," by B. Jay Jeffries, M. D.....	5.00
659D.	"Color-Vision and Color-Blindness," by J. Ellis Jennings, M. D.....	1.50
46564.	"The Color Sense Tester," by E. W. Scripture, Ph. D.....	.50

THE discovery of refractive errors is a comparatively simple procedure, although their correction frequently calls for extremely high professional skill on the part of the oculist and optometrist. Ordinarily, the work of detecting refractive errors may be done with visual acuity and astigmatic charts. Muscular imbalances and scotoma detection require more extensive equipment. The visual acuity test charts which we list are those usually used by the railroads, military and marine service, and have the approval of the authorities of the different organizations for which they were devised. Occasionally the examiner is called upon to deal with malingers, and so requires a test that will prove conclusively that the subject is feigning blindness or defective vision. For this purpose a few of the more effective tests of this type have been included.

In the field of tests for color perception, the tyro is often at a loss for a choice. One examiner, who has succeeded with a certain test by having acquired an intimate knowledge of its possibilities and limitations, will frequently insist on having discovered the only test of value. Another examiner, equally as critical and experienced, will insist with the same assurance that the particular test he is using cannot be improved upon. Some types of tests are better for one purpose than for another, but as a matter of fact, the careful examiner will not rely on any one test for all kinds of work. A check with another test—the same procedure as followed in testing for errors of refraction and in mental testing—is the only safe way to arrive at a reliable diagnosis. Some of the tests are extremely reliable for rapid detection and differentiation; whereas, on the other hand, where the examiner has to contend with subnormal color perception or even color ignorance, other more extensive and refined tests may be desirable. Due to a possible central scotoma, amblyopia, or other pathological condition, it is advisable to make both "near" and "distant" tests for color perception.

At the present time the defect of color-blindness, or "Daltonism," as it is sometimes called, is receiving a great deal more attention than it has in the past, both from a theoretical and a practical standpoint. A great deal of this attention is due to the necessity of eliminating the color-blind from the railroads, marine service, operation of motor-propelled vehicles, and the vocational counselors' efforts in preventing the color-blind from entering such professions and vocations as painting, interior decorating, millinery, botany, chemistry, color printing, and similar occupations where acuity of color perception is a desideratum.

The controversy among the adherents of the various theories of color perception has not abated to any appreciable extent. In fact, the aggressive presentation of the Ladd-Franklin theory of color during the last decade, and the issue of her book, "Colour and Colour Theories," in 1929 served to renew interest in the subject. The physicist, in most instances, still clings to the more or less obsolete and unsatisfactory Young-Helmholtz theory, while the physiologist as consistently stands by the equally unsatisfactory Hering theory. This latter theory is also still espoused by a number of psychologists, although on the whole the majority of psychologists lean toward the Ladd-Franklin theory or some slight modification of it, as it is the most logical and from the standpoint of genetics the most acceptable theory so far put forth. The Ladd-Franklin theory is also gradually gaining adherents among those physiologists and physicists who have given the various theories critical study.

For those who have a desire to give the subject further study, we take pleasure in referring to the articles in the January, 1930, number of the American Journal of Psychology and the April, 1930 number of the Journal of General Psychology. The article in the former journal, written by Dr. Elsie Murray, of Cornell University, entitled "Color Problems: The Divergent Outlook of Physicist and Psychologist," is a critical discussion of the misconceptions and false leads arising from the discrepancies of the various color theories, and the difference of viewpoints on the part of the physicist and the psychologist, while the article in the latter journal, by Dr. Istar A. Haupt, of Johns Hopkins University, entitled "Tests for Color-blindness: A Survey of the Literature with Bibliography to 1928," describes virtually all of the tests for color perception and contains an excellent bibliography which we are sure anyone interested in the subject will be very glad to have at hand.

Auditory acuity should never be tested by such obsolete methods as the watch or the voice. Such unscientific terms as "my watch," or "my voice" should be discarded. Watches and voices vary in intensity and cannot be regulated with any degree of scientific accuracy to insure definite intensities. Such unscientific reports in this day and age are not acceptable, and of course the records are not comparable. A test used for auditory acuity, whether it is of the simple type or of the highest precision, must be of such a nature that the result will always be the same no matter when, where, and by whom the test is made. Lack of the proper degree of auditory acuity is in many situations a source of danger to both the individual and to those who have to depend upon his auditory perception for their safety.