

Subject: History of the Optical Program.

To: The Historical Division, S.G.O.

Thru: The Chief, Supply Service

From: Mr. Stanley W. Rybak, Optical & Artificial Eyes Section,
Distribution Division, Supply Service.

The history of the Optical Program begins in May 1940 and relates all the important events up to 31 December 1945. The true facts are related, and in criticizing certain aspects of the program, no reflections are cast upon the administrative abilities of any person connected with this program. It is intended to describe the over-all program and pointing out where mistakes were made in order that our predecessors may have something concrete with which to work in the event a program of this magnitude is again needed. The history is concluded with certain recommendations which are not only the ideas and impressions of the author, but also, of persons who were directly connected with this program and since have been separated from the Service. The recommendations are the consensus of individuals who are responsible for the administration of this program as well as of those who handled the various mechanics of fabricating spectacles.

To begin with, it must be stated and emphasized and re-emphasized that the Optical Program, although considered relatively minor and unimportant, was in reality very significant as concerns the health of the Army. In most instances, the program as a whole ran along smoothly, and consequently, attention was not invited to the importance of this program. The difficulties which were experienced were ordinarily localized, and therefore, not sufficient to attract attention. During a critical point of this program, Lt. Col. Walter H. Potter took over the responsibilities

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list was made for every conceivable prescription, i.e., spheres, plus and minus in ranges of two diopters were priced separately, and the same applied to plano cylinders and compound lenses. As a result, it was necessary that prescriptions be interpreted. Unfortunately, a uniform method for writing a prescription is not the practice of the ophthalmological profession, and consequently, transposition of the prescriptions was necessary. To elaborate further, it may be stated that the following are supplied:

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necessary to transpose any prescriptions written for minus cylinders, plus on minus and minus on minus compounds, and the following rule was established: The sign of the minus cylinder was changed to a plus and the power for the cylinder remained the same. However, this power of the minus cylinder was added algebraically to the power of the sphere. For example, a minus fifty cylinder was transposed to a minus fifty on a plus fifty. A plus fifty on a minus seventy-five was transposed to a minus twenty-five on a plus seventy-five; a minus one on a minus one was transposed to a minus two on a plus one.

On various occasions, the optical companies complained that the payments were not received for as long as six months after an order was filled, and this was primarily due to the fact that installations retained the order forms until a sufficient number was accumulated before they were forwarded to the fiscal branch office. Only through a directive that installations forward spectacle order forms in groups of 100, and in any event, once weekly if this volume was not available, was the entire problem remedied. It was also found that installations upon receiving the spectacle

spectacles are required. Supposing further that three million men are stationed in this country, 18% of whom are wearing spectacles and each man having two pairs in his possession, with a replacement factor of 30% on the 540,000 spectacles existing would make a replacement factor of 162,000; therefore, the requirements for that year for issuance locally would be 522,000 pairs of spectacles.

Fitting and Repair Cases:--At the beginning of the optical program, it was realized that with the distribution of spectacles, it would be necessary to set up an organization which could prescribe as well as fit the frames after they were received from the optical company. Realizing that with the induction of men into the Army many opticians would find their way into the eye clinics (this being especially true when the program for providing spectacles was announced to the various posts, camps and stations), a fitting case, Item 3627500, Case, Spectacle, Fitting and Repair, was devised which contained frames of all sizes which would be supplied under the optical program as well as an adequate quantity of temples of various sizes as well as adjusting pliers, screwdrivers, taps and screws for the endpiece as well as temple-piece. The sizes of frames supplied were:

40 x 18	42 x 20	44 x 20	46 x 22
40 x 20	42 x 22	44 x 22	46 x 24
40 x 22	42 x 24	44 x 24	46 x 26
40 x 24	42 x 26	44 x 26	
40 x 26			

The temple lengths supplied were $5\frac{1}{2}$ " , 6" , $6\frac{1}{2}$ " and 7". The procedure set up for taking measurements of the frames as well as fitting was as follows: After refraction, the individual would present himself to the optician who would determine the size frame and temple required, and this data together with the prescription would be set forth on the spectacle order form. Upon receipt of the spectacles, the individual concerned would be

The mobile optical repair units ordinarily operated behind the rear lines, and only in a few exceptional cases were in the forward areas or went forward with the initial invasion forces. Of the approximately fifty mobile units in overseas theaters, only one was destroyed by German aircraft which raided our rear lines.

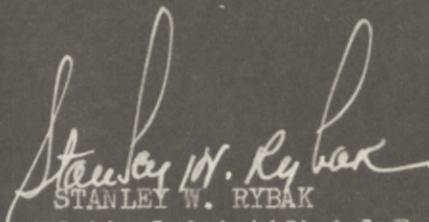
As stated previously, the optical repair units in overseas theaters did a splendid job of the task assigned them, and this can be attributed directly to three reasons: one, the sole task was to repair and replace a standard type of spectacle issued by the Army; two, the units were commanded by personnel who in civilian life, managed optical shops; three, one individual in each theater was assigned the responsibility for coordinating all activities of the optical repair units in that theater.

~~There is perhaps only one serious problem which resulted in the overseas theaters, and this can be attributed to the lack of cooperation received by the individuals responsible for planning campaigns. In the African invasion, although four mobile units were sent forward, no provision was made for making available to these four units a stockpile on which they could draw until such time as requisitions could be sent to this country. Consequently, after the first few months of operation, these units were short of certain foci and other types of expendable optical equipment. However, ingenuity of the optical repair officers was remarkable in that when a definite shortage of rough emery was found, the optical officers used desert sand to accomplish the job. At any rate, after a short period of time, the entire matter was adjusted when stocks were received from this country. The lack of cooperation on the part of planning personnel is probably a direct result of the tendency to minimize or completely disregard the importance of the optical program. In most~~

instances, our own medical officers were entirely unsympathetic with the optical program and did not actually realize the importance of it. As the war went on and men were pulled out of the lines because of breakage of spectacles, the importance became self-evident, and future invasion campaigns were planned to include optical repair facilities as well as small stocks of optical supplies.

Conclusion:--It may be stated that despite the unpreparedness of the Medical Department for an optical program as well as the shortsightedness during the initial phases of this program, the Medical Department can be well proud of the final result. An outstanding job was made of the extremely difficult task, and on many occasions, general officers of the Army Ground Forces and Army Air Forces have commented upon the extremely well-done job which was accomplished in overseas theaters. However, it must be borne in mind that should we ever be faced with another war, we should be prepared for all eventualities. The Medical Department should, in cooperation with commercial optical companies, keep abreast of the progress made in the optical field in order that only the best types of equipment can be utilized. It may be that some day contact lenses will supersede the type of spectacles we have today, and the Medical Department should be the first to go forth to explore this possibility. A training program should be instituted to maintain the nucleus of regular Army personnel who are opticians and officer personnel who will be well versed with problems of the Army in optical repair during wartime. Constant cooperation is important between the Navy and the War Department in order that a standard type of spectacle may be adopted. Close liaison should be maintained with the Chemical Warfare Service in order to overcome the

problem of supplying visual correction beneath the gas mask. In summary, the Medical Department should realize the problem of optical repair and constantly maintain some program in order that it might be fully prepared with the best type of personnel, equipment and supplies in the event we are again faced with another war.

A handwritten signature in cursive script, reading "Stanley W. Rybak". The signature is written in dark ink and is positioned above the typed name.

STANLEY W. RYBAK

Optical & Artificial Eyes Section