WWI Zeiss / Bausch & Lomb Prism
Binoculars with Canadian Markings
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ABSTRACT

The purpose of this paper is to discuss a little-known, definitely military, two pairs of Zeiss 8X25 IF, and 6X30 IF binoculars, made by Bausch & Lomb in the US after a Zeiss licence agreement 1907, and the introduction of a new binocular line in 1906/07. The 8X25 binoculars have the “Zeiss Prism Stereo” logo in a circle on the left prism plate. The binocular specs, 8X25, are printed in the centre of the Zeiss logo. The Canadian Government Capital “C” with a “Broad Arrow” is just outside the circle. The “Bausch & Lomb Optical Co. Rochester, N.Y.” logo is in a circle on the right prism plate. Within the circle is a triangle with 3 sets of initials (Z; B&L; S). The “S” stands for George Saegmuller, a B&L optical engineer who had his own optical company. The 6X30 binoculars have B&L markings only. Shortly after he joined B&L, he brought Zeiss and Bausch & Lomb together in 1905. This model of binocular is featured in Seeger 2010: 358-370), but not with the C Broad Arrow on the left prism cover outside the Zeiss circle (Fig. 1).

A number of binoculars with the 8X25 and other specs (e.g. 6X30) were made available to the Canadian Government during WWI. The 8X25 binoculars discussed here were probably sold to Canada before August 1914, whereas the 6X30 pair was sold to Canada in 1915 or later. The Canadian Government Marking of a Capital Letter “C” containing/surrounding the “Broad Arrow” was in official use from 1907 till 1949. The lenses and prisms are not coated. Discussion is given about the roles played, and the effects on trading partners, by the Triple Alliance (Germany, Austria-Hungary and Italy, 1882-1914), and the Triple Entente (the Russian Empire, the French Third Republic and the United Kingdom, 1907-1917).

INTRODUCTION AND HISTORY

Most of the detailed information available about Zeiss binoculars such as these pairs being discussed here comes from only a few published sources (e.g., Rohan 2001; Seeger 1996/2002, 2010 and 2015). For the 8X25 pair, Seeger (2010: 358-370) is the most informative and authoritative source, as is personal correspondence with Seeger (Seeger, email, 30 Nov 2015). The pair of Zeiss 8X25 is in the Sharon and Allan Kerr Collection, and the B&L 6X30 are in Frank Lagorio Collection.

In 1890, Edward Bausch of Rochester, N.Y. contacted Carl Zeiss, a German optics company. Arrangements were made for Bausch & Lomb (B&L) to license Zeiss patents in the United States. This gave Zeiss the exclusive rights to the U.S. market. The binoculars with both Zeiss and B&L logos were US-made (Saeger, pers. comm. 6 December 2015)

George N. Saegmuller was locally known as “Mr Saegmuller, the inventor”. Few knew how many scientific instruments he created, or assisted in creating, or how many patents he held. His most famous contribution to the surveying community was the Saegmuller Patent Solar Attachment, but he also constructed the first model of W.M. Bearman’s Stadia Arc in June 1904. He compiled his own mathematical data and was often at the
naval observatory. Surveyors of that era could send ten cents to “G.N. Saegmuller, Washington, D.C.”, and receive “The Pocket Solar Ephemeris and Refraction Tables for use with the Saegmuller’s Solar Attachment.”

In 1905, George N. Saegmuller, who had his own optical company, started working with the Bausch & Lomb Optical Company. Shortly after that, Saegmuller helped with the merger of B&L and the Carl Zeiss Company of Germany (Root 1959). It is for this action that George Saegmuller’s name is represented as the initial “S” in the B&L logo on the right prism cover (Fig. 2). Among the most important Zeiss patents sought after by B&L were the new Zeiss photographic lens and its first prism binoculars (Brink 2015). With these new rights in hand, B&L expanded from Rochester, NY, to new offices in Chicago, Boston, New York City, and Frankfurt, Germany. Gradually B&L became THE name in things optical in the United States.

In 1907, Zeiss bought 20% of B&L, and granted B&L free use of Zeiss patents in the U.S. Conversely, Zeiss sold its products to the rest of the world. Zeiss was paid in dividends by B&L rather than royalties. B&L sent its technicians to Germany to be trained in Zeiss laboratories. As there were no wars at this time, military products accounted for only a small portion of B&L’s production. Because B&L was the only U.S. maker of many optical products, its optical production was vital to the U.S. military. As a result, the U.S. Navy stationed technical experts in the B&L’s Rochester plant in 1912.

TRIPLE ALLIANCE (1882-1914) and the TRIPLE ENTENTE (1907-1917)

The Triple Alliance was a military alliance among Germany, Austria-Hungary and Italy. It lasted from 20 May 1882 until the outbreak of World War 1 in 1914 with the murder of Arch Duke Ferdinand, and the July 1914 Crisis [Triple Alliance (1882) Wikipedia, 2015]. The July 1914 Crisis was a diplomatic crisis (triggered mainly by the shooting of Archduke Ferdinand) among the major powers of Europe in the summer of 1914 that led to WWI. The Crisis actually spans the period from 28 June 1914 to the declaration of war in early August 1914.

The Triple Entente (i.e., agreement, understanding and friendship) was the linking of the Russian Empire, the French Third Republic and the United Kingdom (of Great Britain and Ireland) after the signing of the Anglo-Russian Entente on 31 August 1907 (Triple Entente – Wikipedia, 2015). The understanding between these three powers, supplemented by agreements with Japan and Portugal, constituted a powerful counter to the Triple Alliance (i.e., Germany, Austria-Hungary and Kingdom of Italy). However, Italy did not continue long within the Triple Alliance. It broke away and joined the Allies. This background information is important as it gives the reasons for discord among the central European countries (i.e., the Triple Alliance) on the one hand, and the Triple Entente (Russia, France and UK) on the other. It also explains the how and the why of the problems that arose between Zeiss and B&L.

The Zeiss - B&L agreements and arrangements unravelled after the outbreak of WWI (Figs 1, 2). Germany was at war with UK and France in 1914, but was not at war with the US until 1917. The main cause of the Zeiss - B&L agreements unravelling was that B&L had sold its optical products in Europe without the approval of Zeiss. Europe was not a B&L market – it was a Zeiss market. In 1915, Zeiss sold its 20% share back to B&L and, until 1921, the two companies had no dealings with one another (see below, Wells 2002). However, B&L did continue to use Zeiss patents, especially in regards to the manufacture of prismatic binoculars. There are several reasons for this, the first being that B&L now knew how to build prismatic binoculars, and, second, B&L now had access to high quality optical glass made within the US.
Fig. 1. Left prism cover, Zeiss 8X25 IF. Note the Capital “C” on left with “Broad Arrow” inside. This is the Canadian Gov’t Marking.

Fig. 2. Right prism cover, Zeiss 8X25 IF. The triangle letters Stand for B&L, Zeiss and S for George Saegmuller.

Fig. 3. Top or dorsal view of the Zeiss-B&L 8X25 IF binos used in WWI. This pair is marked with the Canadian “C Broad Arrow”.

Because of the problems caused by the partnerships in the Triple Alliance and the Triple Entente at the beginning of WWI, B&L became the main US supplier, of scientific, precision optical glass. This glass was ground for microscopes and for military lenses.
Fig. 4. Bottom or ventral view of the Zeiss-B&L 8X25 IF binos used in WWI. All things considered, this pair is in remarkable condition.

Fig. 5. Zeiss-B&L 8X25 IF showing the deep ocular cups. The lenses in the left ocular have partly separated.

After WWI, other US companies that had learned to make the high quality glass, and which had helped with the war effort, stopped production, making B&L the only producer of scientific, precision glass in the Western Hemisphere (Brink 2015). In 1921, all of Zeiss’s patents, by a cartel accord, became exclusively available to B&L (Brink 2015; Wells 2002: 68-71). This action was not with the full agreement of Zeiss. It was, however, of tremendous importance to B&L later when WWII occurred.
There is a much more to this saga [e.g., at the beginning of WWII, despite the accomplishments by B&L, its image had been tarnished by a 1940 federal law suit regarding its relationship with Zeiss. The US Justice Department charged both companies with anti-trust violations because of their agreed-upon division of world markets. As the discussion presented here is leading to situations and events that occurred during and after WWI, we will end this thread here].

Fig. 6. Zeiss-B&L 8X25 IF objective view. The engraved name, “H.Douglas” is most likely that of a post-WWI owner, as there is no officer notation.

We have tried to track the route that the Zeiss 8X25 pair of binoculars had in order to have a Canadian Marking on them. They were most likely made in the US at a time when Zeiss and B&L were compatible partners (compare with Fig. 9). We can speculate that these were sold to Canada about 1914, and that the “C Broad Arrow” was imprinted on the binocular about 1915.

Fig. 9 shows a pair of 6X30 binoculars that were made by Bausch & Lomb, probably in 1915, but after the two companies, Zeiss and Bausch & Lomb, had parted ways at the beginning of WWI in August 1914. As noted earlier, B&L continued to make the same prism binoculars that had been made when Zeiss and B&L were business partners. The “C Broad Arrow” on the left prism cover in Fig. 9 indicates that this pair of binoculars was sold to the Canadian Government.
Fig. 7. Case lid for the Zeiss-B&L 8X25 IF binos with the Capital “C” and the “Broad Arrow”.

Fig. 8. Inside of the case lid for the Zeiss / B&L 8X25 binoculars. The data here match that on the right prism cover (Fig. 2).
Fig. 9. B&L 6X30. Same as Zeiss-B&L 8X25 IF, except that reference to Zeiss does not appear on binos made in US after Zeiss-B&L split in 1914. The left prism cover reads “Military Stereo 6X30”. Note also the C Broad Arrow on the left prism cover. Right prism cover reads “Bausch & Lomb Optical Co. Rochester, N.Y., U.S.A.” This pair was made in the US. Photo: Frank Lagorio.

CONCLUSIONS

The Capital C and Broad Arrow for official Canadian Government property marking is not well-known in Europe. The C Broad Arrow was used officially by Canada with Militia Order 213 of 1907 until 1949. The initials inside the triangle of the B&L marking stand for: Z for Zeiss; B&L for Bausch & Lomb; and S for George N. Saegmuller, a B&L optical engineer who helped coordinate activities and the merger between Zeiss and Bausch & Lomb in 1905. Zeiss and B&L parted ways in 1914, perhaps even into 1915, but B&L continued to sell prism binoculars with the Zeiss name removed. The two companies did not “work” together until 1921. The cartel formed was much to the advantage of B&L, and to the disadvantage of Zeiss. To Zeiss it was not so much a working as a stripping of Zeiss’s research (Wells 2002: 68-71). To the Victor belong the Spoils.

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REFERENCES


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