The .450 Short Revolver Cartridge

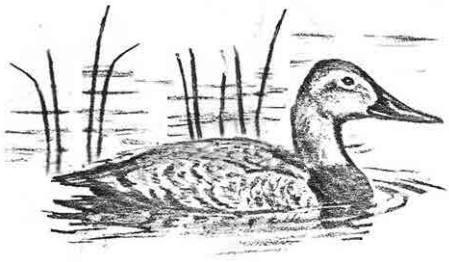
(A History of Its Production and the Companies that Made It)

Addendum

(November 2022)

Chris Punnett

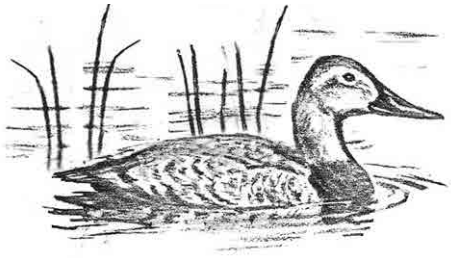
Addendum



Pondside Publishing, Rosemont, Ontario, Canada

Original Book

First Edition



Pondside Publishing, Rosemont, Ontario, Canada

ISBN 978-0-9919272-0-3

Foreword to the Addendum

Why?

The purpose of the original book, published in 2013, was to share the information on the .450 cartridge that I had been able to collect up to that point, and to encourage those with additional information and specimens to come forward. I was pleasantly surprised with regard to the amount of new information and the generosity of those who had something to share.

In addition, I was able to access British Government documents from the mid-to-late 1860's which shed more light on the early development of the .450 Adams revolver and its gradual acceptance, for which I must thank Dr. Dan LeClair whose knowledge of the Ordnance Committees of that period was invaluable. I also received information on the Eley/NRA invoices for .450 ammunition for the NRA matches for the 1895-1914 period from the NRA Museum at Bisley. For that I thank the Museum's Curator and Assistant Curators.

Other individuals and groups were similarly generous and their contribution is reflected in these pages - along with corrections to my earlier errors!

There was a list of contributors in the original book and many listed there also helped with this addendum.

I would like to offer my thanks to the following who went "above and beyond" to assist with the addendum:

Will Adye-White
Dmitry Adyeyev
Lou Behling
Derk Jan Besselink
Don Blyth
Jim Buchanan
Mel Carpenter
Terry Castle
Pete deCoux
Lew Curtis
Martin Golland
Federico Graziano (AACAM)
Bernt Kellner
Heinrich Kohlmann
John Kuntz
J-P Gragnolati
Francis Latoir
Dan LeClair
Amand Guy Leveau
Roger Mundy
Aaron Newcomer
Jean Renard (ECDV)
Dan Shuey
Paul Smith
Peter White

Please keep the information coming guys !!

Organization of this Addendum

To try and make this as easy to use as possible I have stuck to the original book's page-number sequence. It almost works though in areas like the "Unknown" manufacturers it does get a little cluttered.

For the list of references on page 46 of this addendum, I have included ones from the original book referred to in this addendum plus those new ones.

Where I refer to a headstamp code (e.g. Code *H-03*), I will also include an image of that headstamp to help you locate it in the original book.

Contact details

To contact me with further information or questions, I can be reached at...

cpunnett@sympatico.ca

For those of you who have either lost your copy of the original book, or left it hanging in the outhouse, or never bought it anyway..... I still have a few copies of the original book for sale. Contact me as above.

Introduction

Page 4: RH column. Under sub-heading "**Evolution**", replace last paragraph that starts: "Eley Brothers produced these '450 Boxer' ...." with the following text:

The actual date when Boxer-designed .450 revolver ammunition became available is not clear but it appears to have been in 1867.

Boxer's original British patents of 1866 (#'s 137 & 2653) do not mention revolver ammunition but the US version of the patent (#91818) which was signed by Boxer on December 17, 1867 and granted on June 29, 1869 does include a drawing and description of a revolver cartridge. The patent model provided at the time of the US application included a sample of what appears to be a .450 cartridge, sectioned to show the construction [159].

By the time Boxer officially assigned his patents to Eley on April 10, 1867 [160], Eley had already been providing the Royal Laboratory at Woolwich with .577 Snider cases for some months.

On July 18, 1867, John Adams sent a converted Deane & Adams regulation revolver with 380 rounds of .450 Boxer ammunition directly to the Admiralty [161].

Eley Brothers manufactured these cartridges and they were provided to John Adams, Webley and Tranter (and probably others) to facilitate their work in 1867. These cartridges from Eley Brothers were no secret within the gun trade.

Missing from all of this are the Eley records of .450 Boxer production as Eley's records have long since disappeared. There seems to be very little in the Ordnance Select Committee (OSC) Proceedings, i.e. minutes, regarding any instructions to the Royal Laboratory to request that Eley supply revolver cartridges in .450 or other calibers.

Page 4: RH column. Under sub-heading "**Military Development & Issue**", Replace the 1st paragraph with the following text:

The story officially starts with John Adams' submission to the OSC via the Admiralty of his conversion of the Deane & Adams Regulation percussion 5-shot revolver to use centerfire ammunition in July 1867. At the same time, he was working on a 6-shot centerfire revolver (using the frame and mechanism from his 1866 6-shot percussion revolver) which Adams revolver aficionados refer to as the M1867 and with which he was actively trying to interest the military and police. This two-pronged approach resulted in confusion amongst the popular press of the day.

The OSC was responsible for coordinating all matters on military equipment, for both Land Forces and Navy. Adams attended the test firing at Enfield of his proposed percussion revolver conversion on August 12th.[161]. The tests were favorably received and the Admiralty forwarded the information to the OSC who, in turn, met with Adams as part of a detailed trial. The resulting report [162] issued on August 21, 1867 identified some issues regarding safety and ease of use and decided that the revolver, in its then present state, was not suitable. It is clear that Adams was expected to address these issues.

On November 23, 1867, the *Pall Mall Gazette* announced that the Government had finally selected the Adam's revolver and centerfire Boxer ammunition. However, it is not clear if they are referring to the 5-shot percussion revolver conversion or his new model (M1867) in which the Metropolitan Police had expressed an interest and subsequently adopted.

A letter dated December 2, 1867 from the Superintendent of the Royal Small Arms Factories to the OSC states that he has one of the revolvers "about to be made" for the Metropolitan Police by Mr. John Adams. The OSC requested, and subsequently received, one of the revolvers of which 174 were "now being made" by Adams for the Police [169].

Despite the fact that the OSC had not formally recommended Adams' percussion revolver conversion, *The Engineer* for January 3, 1868 announced that the Admiralty had adopted the Adams Revolver and Boxer ammunition.

An article appeared in *The Engineer* for May 8, 1868 describing the new Adams revolver and cartridge, referring to it as "The Government Breech-loading Revolver". The article's engravings show the revolver, a .450 cartridge and two of the targets shot "last month" (implying April 1868) by Captain Majendie, R.A., then Assistant Superintendent of the Royal Laboratory, using "service cartridges". The revolver shown in the engraving and described in the text is the M1867 6-shot revolver adopted by the Metropolitan Police and not the 5-shot percussion revolver conversion soon to be adopted by the Admiralty.

According to a later OSC Minute, in May 1868 a supply of .450 caliber ammunition was purchased on behalf of the Metropolitan Police by the Royal Laboratory [166].

This must have come from Eley as they were the only manufacturer at that time.

It wasn't until July 1868 that Adams formally submitted changes to his percussion revolver conversion that addressed the OSC's concerns [163]. The OSC reacted positively and went through the process of recommending the conversion of 7,000 revolvers and sealing the patterns [164]. The progress then stalled when the Secretary of State announced that there were no funds available that year for the revolver conversions and the replacement of ammunition [165]. After the Deputy Director of Ordnance suggested in November that 700 of the revolvers should be converted as a start, sufficient funds were located [167].

The Adams percussion revolver converted to a breech-loading .450 caliber weapon was officially known as "Pistol BL Revolver Adams Mark I." It was approved for use by the Navy in November 1868 (other marks of Adams revolver up to Mark IV were approved for use in 1872).

Incidentally, it wasn't until 1872 that the aforementioned Adams M1867 6-shot revolver originally adopted by the Metropolitan Police was officially accepted, with minor modifications, as the "Pistol, Adams' Central Fire, B.L. (Mark II)" [172].

In 1878, the Adams Mark III revolver was adopted by the Cavalry after additional trials [56, 174]. By then many Army officers, who were required to purchase their own sidearms, had already acquired the commercial versions of the Adams revolver. As early as March 1877, the Army stores were stocking "Service" .450 ammunition [194].

Page 5: RH column. Under sub-heading "**Available Reference Material**", at the end of the existing text for this sub-heading, add the following paragraphs:

A fourth source is the minutes of the Ordnance Select Committee (OSC), formally referred to as the "Abstracts of Proceedings of the Ordnance Select Committee", which were published quarterly with an annual index. While there is only a little technical information on the development of the ammunition, it does provide insights into the process of selection [170].

Note: The Ordnance Select Committee met from 1855-1868. This was replaced by various temporary committees from 1868-1881 which were, in turn, replaced by the Ordnance Committee from 1881-1900.

Page 5: RH column. Immediately under sub-heading "**Adams Mark I Cartridge**", insert the following text:

On December 8, 1868, Col. Boxer forwarded a sample of the .450 cartridge together with drawings and specifications to the OSC and indicated that it was the same cartridge already provided to the Metropolitan Police. The OSC approved the sealing of the pattern (officially recording the specifications for that mark of the .450 cartridge), and recorded the specifications in the Committee's minutes as follows [168]:

Bullet, 2 cannelures, diameter - .455 inch
length - .765 inch
weight - 225 grains
lubricated with wax
Charge, - 13 grains F.G., 44 to 72 mesh
Case, - sheet brass, 0.01 inch thick.
Base disc, - iron between 0.03 and 0.035 inch thick
Drawing, No 704 S.A.A./20
Sealed, 22/12/68

Unfortunately, the above drawing, No. 704, could not be located.

Page 6: LH column. Just before the 6th paragraph which starts "The iron disk used....", add the following text:

There are contradictory reports regarding ammunition (and revolver) quality in the period leading up to its acceptance and beyond.

The Engineer's article of May 8, 1868 also quotes from Captain Majendie's report: "*The revolver worked with perfect freedom throughout, and was no more fouled after firing 200 cartridges than after the first. There were no misfires.*" (Bear in mind that the revolver referred to by Capt. Majendie was the 6-shot "M1867" revolver and not the 5-shot percussion revolver conversion, but the ammunition was the same.) Tests were conducted on the "M1867" revolvers and the .450 Boxer ammunition a few weeks later, in May 1868, at the Royal Small Arms Factory, Enfield, by J.B. Baker, the Proofmaster. One test on May 25th involved firing 12 rounds from each of nine Adams revolvers and resulted in 6 case splits, 3 misfires, 13 rounds hard to extract and 2 rounds that would not chamber. Mr. Baker suggested that "*…the base of the cartridges are not sufficient in thickenup* [*sic*] *to fill up the countersunk part of the cylinder flush with its base.*" A second test two days later, using a further six Adams revolvers, gave similar results but with two revolvers deemed mechanically defective. Tests in December 1868, indicated some improvements in the ammunition when 472 rounds were fired with only 47 misfires. Quality continued to improve

and tests between August and October 1869 resulted in a total of 2,440 rounds fired with only one misfire [171]. What exactly caused the misfires wasn't recorded.

Despite the initial improvement, problems with the Mark I ammunition continued to surface. In April 1881, the Admiralty forwarded reports from three of its ships regarding problems with revolvers and ammunition to what was then the Ordnance Committee [177]. One of these ships was the Navy frigate H.M.S. "Inconstant". The Inconstant's problem was summarized in the committee proceedings as follows: "*15 per cent. of the cartridges would not go home* [i.e. they wouldn't chamber]. *In some cases there was a set up of the brass around the disc, in others the disc was not accurately centred. In addition many missfires occurred. The pistols used were Tranter's breech-loading revolvers; the ammunition, Adams' Mark I*". The report doesn't indicate how old the ammunition was or how it had been stored. The "Inconstant" had been built in 1869.

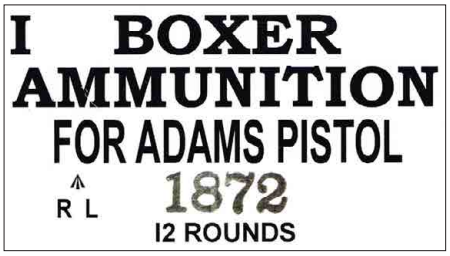
Page 6: RH column. First line of text after top illustration. Change "On later (post 1875)..." to "On later (1875 or perhaps earlier)..."

Page 7: LH column. Add the following text at the end of the column i.e. after the line ending "contract up until at least 1904.":

As mentioned above, bullet crimping appears to have been a perennial problem with the Mark II which they hoped would be addressed by the additional bullet crimps. How bad a problem was illustrated in the Admiralty report of April 1881 from the Navy Corvette H.M.S. "Tourmaline" which was summarized as follows in the Ordnance Committee minutes [177]: "*... after one or two cartridges had been fired, those remaining in the cylinder were found to have the bullets started from the cases, by as much as from ⅛ to ¼ inch. Similarly the caps of the unfired* [sic] *cartridges started from the cap chambers so as to prevent the cylinder from turning except by hand under considerable force. They often miss fired. This report is based on trials with several pistols, all of which were Adams' revolvers. The ammunition, which was taken from different packets and different boxes, was Adams' Mark II."* (I suspect that the reference to the "unfired" cartridges is a typographical error and it was the "fired" cartridges where the pressure had pushed the cap back.) The response submitted by the Superintendent Royal Laboratory on April 25, 1881 was that the problems of recoil impacting unfired rounds in the cylinder had not occurred "*in his proof*" and that "*It is the case that the fired cap has been forced back so much as to cause a difficulty in the revolving of the cylinder. But this is of rare occurrence.*"

Page 8: LH column. Under sub-heading "**Military Packaging**", replace second paragraph which starts with "The Adams Mk. I cartridge...." with the following text and illustration:

The Adams Mk. I cartridge was available from 1869 until 1877 and was issued using 12-round, string-tied paper packets. But despite the fact that the Royal Laboratory issued over 2 million of these cartridges between 1870 and 1878, only one packet of Mk. I cartridges, dated 1872, has been seen by this author [8]. A facsimile of the text on the paper wrapper is shown below at approximately actual size and fonts.



Page 8: LH column. Under sub-heading "**Military Packaging**", Insert the following images at the end of the text for this subject:

List of Changes 3,757 of August 16, 1880, introduced the black-sphere symbol which denotes Adams's revolver ammunition (Enfield revolver ammunition was denoted by a black circle with plain center).

Page 8: LH column. Under sub-heading "**Historical Context**", Insert the following paragraph after the 2nd paragraph which ends "...used as a stopgap measure.":

While the .450 Adams Mk III cartridge was finally classified as "Obsolete" in July 1927, this was not the end of the .450 cartridge's "military" service. In 1941-1942, during fears of an impending Japanese attack on northern Australia, the Australian Department of Defence re-issued Adams M1867 revolvers.[5] It is assumed ammunition was acquired from local commercial sources!

Page 9: RH column. Second paragraph, last line which reads "loaded it from about 1902". Change this line to read as follows:

"loaded it as early as 1889"

Page 9: RH column. Last paragraph, 6th line: after "11mm Danish Ordnance revolver" insert "the early 11mm Swedish Revolver,"

Argentina

Chiesa Hermanos, Rosario

Page 10: LH column, add new paragraph before paragraph starting with "Content of the boxes...".

The symbol on the box label was registered as a company trademark in Argentina in May 1901, and registered again in August 1921.[133]

Hasenclever & Company

Page 11: Add new paragraph at the end of the text for this company.

The "Marca Toro" trademark depicting a bull was registered on November 4, 1904 to Hasenclever & Co. for a variety of products and again on October 28, 1914 for cartridges. [134]

Austria

Georg Roth

Page 12: Add improved image for headstamp Code *GR-02* and accompanying specimen profile.

[*GR-02*] Primer: 0.17"

Ball: Brass case, copper primer, lead bullet

Keller & Company, and Hirtenberger Patronenfabrik

Page 13: RH column, Add new image to the first two specimens under Code *KC-02*, leave caption unchanged:

Page 14: RH column, Code *H-03*, add additional headstamp image for this code:

Page 14: RH column, Code *H-03*, add blank image and caption as follows:

Blank: Brass case, copper primer, roll crimp over rough off-white wad. O/a 0.685"
Images courtesy of Mag. Heinrich Kohlmann and Jean Renard, ECDV Manager.

Page 14: Add new company at end of Austrian chapter:

Ludwig Mandl & Co.

The company was based in Vienna (Wien) and was relatively well-known for its shotshells, headstamped L.M.& Co.. This .450 Short Revolver box, shown below, is evidence that the company also marketed pistol ammunition. The fired cases that accompanied this box were unheadstamped and may not be original to the box. The box itself is unusual in that the top is embossed cardboard with the "label" printed directly onto the cardboard. The sides and bottom of the box have a wood-grain finish.

It is probably from the 1880s - prior to or just after Mandl took over Keller & Co. in Hirtenberg in 1887.

The reference to Milan ("Mailand" in German) is odd but might be explained by Mandl & Company's relationship with Barnett & Colombo of Milan, which was a very obscure cartridge manufacturer, as their names appear together as the manufacturers on an early box of 10.4 Italian Vetterli cartridges. [133]

See also Keller & Company for Mandl's connection to that company.

Belgium

Bachmann (Establissements Bachmann)

Page 15: Add the following at the end of the text for this company.

Sectioning of a Bachmann .450 cartridge revealed a 3-piece case and a card wad under the 238-grain, heel-type, lead bullet. Powder charge was about 15 grains.

Page 15: Code *17-02*, add sectioned image and revise caption as follows:

Ball: Brass case, brass primer flush with case head, 238gr. lead bullet.

Cartoucherie Belge & Cartoucheries Russo-Belges

Page 16: 1st paragraph, line 8. Add the following at the end of the sentence:

(alternative spelling: Torbek and Inarov).

Page 16: Add the following at the end of the paragraph currently ending with "....Torbeck Plant in Russia."

While no .450's made at the Torbeck or Inaroff plants, either before or after they became part of Cartoucheries Russo-Belge, have appeared so far, they did make contemporary calibers such as .320 & .442.

Charles Fusnot (Cartoucheries d'Anderlecht)

Page 17: LH column, 4th paragraph. Add the following sentence at the end, after "...with himself owning 50%":

This company also had a factory in St. Etienne, France [179].

Pirlot Frères

Page 19: RH column, for Code *PF-02*, Add 2nd head-stamp image and add sectioned specimen image for first ball round, amending captions as follows:

[*PF-02*] Primer: 0.26"

Ball: Brass case, brass 4-flash-hole primer, lead 207-gr. bullet

Ball: Brass case, brass primer, lead bullet

V. Francotte May (Capsulerie Liégeoise)

Page 20: RH column for Code *VF-02*, add sectioned ball image and revised caption as follows:

Ball: Brass case, copper primer, 212 gr. lead bullet.

Page 20: RH column for Code *VF-04*, add new ball image and caption under existing pair of ball rounds and their caption as follows:

Ball: Brass case, nickel primer, lead bullet.

Page 21: Add new category at end of existing entries for this country (and before Brazil):

Unknown Belgian Manufacturer

[*EP-02*] Primer: 0.18″

Proof: Brass case, copper primer, lead bullet. O/a wt.: 190 gr. Note differences in spelling, and case/bullet specifications compared to the factory drawing on page 114 of original book. .

Brazil

Henrique Laport & Cie. and Émile Laport & Cie., Rio de Janeiro

Page 21: Last paragraph for this company rewritten to provide additional information.

The only information regarding their involvement with .450 cartridges comes from two series of box labels from the SFM, France records. The first series has the same label code (2505) for both Émile and Henrique. The second series (label codes 8565 & 8566) is just for Émile Laport and has a hand-written annotation indicating 10,000 labels were printed in June 1911. However, I cannot confirm its accuracy and it would have been a very large order. The contents of these boxes is unknown.

Using official records such as Rio de Janeiro postal directories [136] and other sources, some sense can be made of the time line involved.

1869: company name "Viuva Laport, Irmãos & Cie." (*Alexandre* Laport's widow and brothers) at 81 Rua d'Alfandega [137].

1875: company name "Henrique Laport & Cie.", at Rua d'Imperatriz 18 ,

1880: a fire occurred at the above property [138].

1891: "Henrique Laport & Cie.", at 75 Rua d'Alfandega. (Note that there seems to be no record of Henrique Laport at Alfandega 81 as per the top label shown below.)

1896, February 20: Émile Laport & Cie. registered the business at 75 Rua d'Alfandega, indicating he took over the company at that time [139].

1909: Émile Laport & Cie. at 79 Rua d'Alfandega.

1913, August 27: company is registered as "Casa Laport, Société Anonyme Etablissements Émile Laport & Cie." at 79 Rua d'Alfandega.

1918: minor address change occurs - "Casa Laport, Société Anonyme Etablissements Émile Laport & Cie." at 77-79 Rua d'Alfandega.

Canada

Dominion Cartridge Co.

Page 22: Replace the first paragraph for this manufacturer with the following:

The Dominion Cartridge Company was founded in 1886 at Brownsburg in Quebec. In 1910 it merged with a number of other companies to form Canadian Explosives Limited, which became Canadian Industries Limited (C-I-L) in 1927. A year later the Dominion Cartridge Company became the Dominion Ammunition Division of C-I-L, and remained so until C-I-L sold its commercial ammunition manufacturing plants and equipment to Industrie Valcartier in 1976.

The British company ICI (Imperial Chemical Industries), and its predecessor companies, had a financial interest in C-I-L since its founding and by 1954 ICI owned 72% of the C-I-L shares. There was significant cooperation between C-I-L and ICI during those years. C-I-L imported ICI-made, Kynoch-headstamped .450 cartridges rather than make them locally, though when this practice began is not recorded (see label below). As a footnote: In 1988, ICI bought the C-I-L's remaining shares and on May 1st, 1990, C-I-L became ICI Canada Inc..

Initially, Dominion Cartridge Company rounds were unheadstamped with the "D.C.Co." headstamp being introduced about 1890 and used until 1947 - long after manufacture of the .450 had ceased.

Page 22: Add following sentence to the 2nd paragraph:

While early D.C.Co catalogues do not mention the .450 cartridge, a recently-discovered 1889 Charles Stark catalogue does lists the Dominion 45 Webley, and these would have been without headstamp.

Page 22: Add following sentence to the 3rd paragraph:

The 1920 catalogue also indicates that primed cases and bullets were offered.

Page 22: Add following images, captions and credit after the cartridge images.

A Dominion Cartridge Company "Beaver brand" box (style made between 1886 and 1907). Courtesy of Don Blyth

This is a typical label on imported Kynoch (ICI) .450 boxes, this one from 1945.
The complete box is illustrated under "Additional Boxes" later in this addendum.

Czechoslovakia

Sellier & Bellot

Page 22: RH column, Add the following image and caption after image at bottom of column:

Content headstamped "450 SB" (*Code SB-03*)

Page 23: Add the following after the 1st paragraph (ending with "....salesman's sample case.":

The Sellier & Bellot Schönebeck 1939 price list mentions a .450 Revolver loading. Headstamps by this company are differentiated from those made at the Prague factory by placing the "SB" at 12 o'clock. (See also the "Unknown" section in the original book, describing the round with the S.F 450 headstamp - *Code SF-01*)

Page 23: Replace paragraph starting with "Documents dated 1899 show..." with the following:

SFM drawing 10804 dated 31 May 1892, shows S&B 2nd Quality rounds including .450. This has a headstamp of 450 SB ("SB" at 6 o'clock) and short bullet weighing 8.58 grams (132.4 grains).

Page 23: RH column, first headstamp in column - code *SB-05*, change primer diameter to 0.18" and replace all specimens and captions under *SB-05* with the following:

Ball: Brass case, copper primer, 213 gr. lead bullet. O/a 268-273 grs.

Ball: Brass case, copper primer, 171 gr. lead bullet. O/a wt. 227 grs. (Note: bullet distorted in loading process)

Ball: Brass case, copper primer, light lead bullet (O/a 202 grs.).

Page 24: Add new headstamp and specimens before segmented headstamp (Code *SB-04*):

[*SB-10*] Primer: 0.17"

Ball: Brass case, copper primer, lead bullet

Shot: Brass case, copper primer, paper sabot with white wad.

J. Roth / Zbrojovka Brno / Povazske Strojarne

Page 24: Replace paragraph starting with "The headstamp used between 1928 and 1934...." with the following:

The headstamp used between 1928 and 1934 was the Ⓜ symbol. I have yet to see a specimen in .450 caliber with this headstamp but a specimen does exist with the symbol stamped on the primer, see below. The "Z" headstamp was used from 1934 until the start of WWII.

Page 24: Add new image immediately after text:

[*Z-02*] Primer: 0.17"
[*Note: digitally enhanced image*]

Ball: Brass case, copper primer, green annulus, lead bullet
Images courtesy of Federico Graziano (AACAM)

Denmark

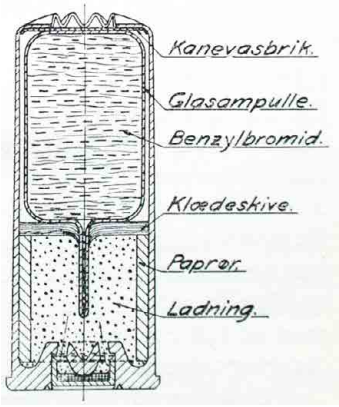
Page 25: 3rd paragraph, 4th & 5th line, change "Sometime in the post-1904 period..." to "In 1904 ...".

Page 25: 3rd paragraph, change last sentence to: "A box of these wood-cored rounds exists dated 1904 and another is dated 1919 [119,120,122]."

Page 25: After 3rd paragraph, insert the following image with captions:

Box of wood-cored-bullet loads, dated 1904.
Courtesy of Peter Petrusic

Page 25: RH column: After 3rd paragraph, insert the following image with captions:



Drawing of the "11mm Gaspatron M. 1929" from Danish Army bulletin. [141]

Page 26: LH column, delete last specimen, a teargas round, under unheadstamp code *21-01* (just before DRS-headstamped specimen). I recorded this specimen during my last visit to Woodin Lab but made an error assigning it to an unheadstamped case.

Page 26: LH column, description for "DRS" headstamp: change primer diameter to 0.20".

Page 26: RH column: Replace image for last teargas headstamp (code *HL-01*) with the following:

France

Page 27: Add new company before Cartoucherie Française:

Établishments B. Albert & Établishments P. Barnier & Cie

Benjamin Albert founded his company in 1878 at Bourg-lès-Valence in Valence on the Rhone River. At some point he acquired or built another factory at Crozette-Valence on the other side of the river [180,182].

Little information is available on the early years of his business. He was certainly manufacturing primers, pinfire cartridges and shotshells in significant quantities under his own name and for others. The earliest useful reference found to date is the record of an 1895/96 court case featuring SFM against B.Albert, a Madame Laurent and the St. Étienne branch of Société Anonyme pour la Fabrication des Cartouches et Projectiles, headquartered in Brussels [179]. A 1909 report of an industrial dispute describes his two factories as manufacturing primers, pinfire cartridges, shotshells and centerfire cases (calibers unrecorded) [181].

In the early 1920s, Pierre Bernier acquired the company including both factories and Albert's trademarks. It became Établishments P. Barnier & Cie, doing business as "Munitions Barnier, Anciene Établishments B. Albert". He advertised .450 cartridges [182].

In the early 1930s the company was acquired by Manufacture Générale de Munitions (MGM) which was eventually absorbed by Gévelot / SFM [183].

While Benjamin Albert's catalogues from the 1905 period show an interesting array of pinfire, centerfire and rimfire cartridges, and pinfire and centerfire shotshells, there is an ongoing debate regarding whether he made any revolver cartridges, partly because none has been seen. The .450 ball, blank and shot with a mottled green paper sabot are shown described as having the "B.A." trademark. Another .450 ball round is described as "Qualité Extra" which is listed as having an inside primer and using the "Sanglier" trademark which is the head of a wild boar.

When Pierre Barnier took over the business, he also advertised .450 cartridges in ball, shot and blank [182]. However, it is known that he had cartridges made for his company by Cartoucherie Française in boxes with Barnier labels, but headstamps seems to be the same as regular

Cartoucherie Française production. No .450 boxes with Barnier labels have been seen so far.

Cartoucherie Française

Page 27: LH column. Add the following sentence to last paragraph:

A January 1954 price list shows they were still offering ball cartridges with blackpowder [142].

Page 27: LH column. Add the following image of the sectioned round to the first specimen for *CF-01* and leave the caption unchanged:

Ball: Brass case, 192-grain lead bullet

Page 27: RH column. Add blank image under ball round for *CF-02*.

Blank: Brass case & primer, 6-pt open crimp over tan wad, o/a 0.599".

Cartoucherie Stéphanoise

Page 27: RH column. Replace the first two sentences for this manufacturer with the following:

This company was founded in 1884 [178]. It is described as a factory of SFM in an 1887 internal SFM document [74].

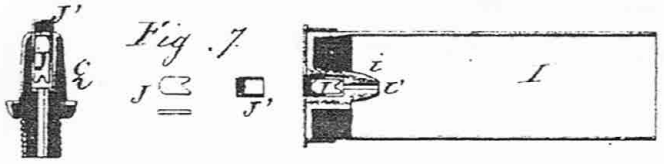
Gaupillat & Company

Page 28: LH column, 3rd line of text reads, in part: "by François André Gaupillat. ...". Replace this with "by André François Gaupillat. ..." - the correct order of the name.

Page 28: LH column, 5th line of text reads, in part: "lat & Delion....". Add the following phrase to the sentence: ", but records of such a company have not been found.".

Page 28: LH column. Replace paragraph starting with "One feature of the Gaupillat rounds..." with the following:

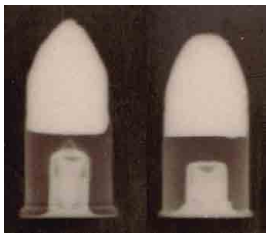
One feature of the Gaupillat rounds is Gaupillat's patented primer which was a quite complex design. It can trace its history back to Pottet's patent of 1855 (No. 22,587) which describes a cap holder consisting of a hollow metal tube which held the cap and anvil.



From Pottet's patent 22,587 of February 26, 1855

In 1863, Pottet sued Chalayer and Schneider for patent infringement but his case was dismissed due to similarities between his patent and some from the late 1840s. As a result, Pottet's patents were canceled and thus passed into the public domain.

Several individuals, including Gaupillat, took the opportunity to improve on Pottet's patent by shortening the cap holder tube and the anvil, and increasing its diameter. The x-rays below illustrate the changes. .450 cartridges with the GAUPILLAT headstamp use this Pottet improved primer which has the edges of the primer holder rounded.



Left: original Pottet primer made by Chaudun (cartridge shown is not a .450).
Right: Pottet improved primer by Gaupillat.
(Images courtesy of A.G. Leveau)

In 1870, Gaupillat patented a further improvement to the primer which included folding the edge of the primer holder over the primer to prevent set-back. This makes the edge of the primer holder flat rather than rounded as on the Pottet version. In some specimens the process of folding over the edge of the cap holder results in a groove. See close-up of sectioned cartridge head in next image.

The Gaupillat primer was used up until 1900 by the company's successors.

Page 28: RH column. Replace image of E. Gaupillat box with the following image and caption:

Box contained unheadstamped rounds (see *Code 17-06* on page 40 of original book) with copper-washed cases.

Page 29: LH column. Description of last cartridge shown for this manufacturer to read:

Ball: As above except copper primer and copper-washed case.

Karcher, Paris

Page 29: RH column. Add second headstamp image for KA-01:

[*KA-01*] Inside primed

Page 29: Add new company at end of page:

Le Hussard Société Anonyme

This small company made turned-brass empty cases in a number of calibers for reloading under the "Lynx" brand name.

Their website advertised ".450 Webley" cases from 2002 to 2005 and "Lynx" tools for reloading them up until at least 2008.

The "Lynx" trademark was registered on October 31, 1997 by Le Hussard Société Anonyme, 6 Rue du Portail de Ville, La-Tour-du-Pin. The city of La-Tour-du-Pin is located in the south west of France about 35 miles south east of Lyon.

The cases would have been unheadstamped and probably like those of H&C (see page 29 of original book).

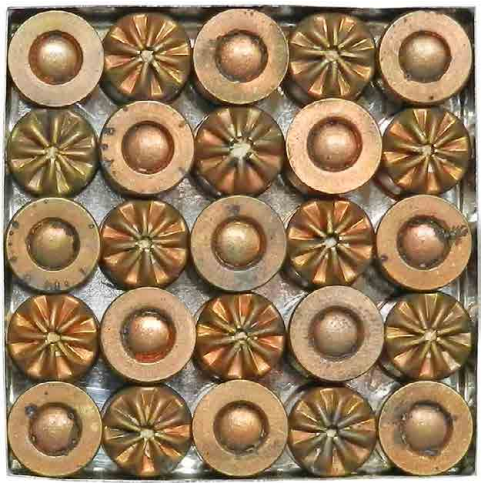
No packaging specifically for .450 cases has been seen to date but packaging for several other calibers shows the company logo of "Lynx" over the red-white-blue colors of the French flag, plus the address.

Marcel Gaupillat & Co.

Page 30: LH column. Add the following two box images and cartridge specimen after the text for this manufacturer (before the headstamp image Code *MG-01*):

Contents use headstamp code *MG-02*

An M. Gaupillat label over what was once an SFM tin.



Contents of the above box.

[*24-04*] Primer: 0.24"

Blank: CW Brass case, brass primer, tight 8-point crimp, tan wad just visible, o/a 0.537". From M. Gaupillat tin shown above.

Page 30: RH column. For *MG-03* add second and third headstamp images:

Page 30: RH column. Also for *MG-03* add second ball image and leave caption unchanged:

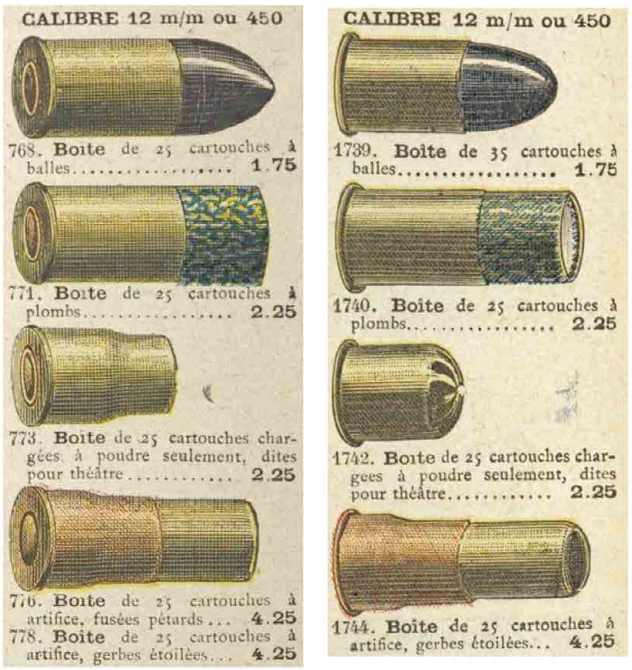
And add following image and caption after ball round:

Shot: Brass case, brass primer, paper sabot with roll crimp over white wad.

Manufacture Française d'Armes & Cycles de Saint Étienne.

Page 30: RH column. Last sentence of first paragraph reads: "The company closed in the 1980s [45]." Replace this with the following:

The company was forced to liquidate in 1985 but was re-registered with a new owner in 1991, and still exists today (2021) [45].



Extracts from catalogues: 1900 (left) and 1901 (right)

Page 30: RH column. Replace 2nd & 3rd paragraphs with the following:

A number of Manufrance catalogues from 1890 to 1928 have been examined.

.450 ball rounds are shown in all the above catalogues. Shot loads with paper sabots are listed from 1890 to 1920. Blanks with a necked case and roll-crimped mouth are shown from 1898 to 1900 while blanks with a rose-crimped case are listed from 1901 to 1920.

Two types of .450 firework cartridges were sold: "Fusées pétards" ["*rocket firecrackers*"] (1890-1900) and "gerbes étoilées" ["*starry sheaf*"] (1890-1903). Both have a necked case and are loaded with a tube. The "gerbes étoilées" appears to have a cap over the case mouth on some catalogue illustrations. As the names imply, one has a loud detonation while the other produces a shower of stars.

Most, if not all, of their ammunition was made for them by SFM as indicated by the box label from the SFM reference collection (see page 30 of original book) and the image below, and internal SFM records [187].

Page 31: LH column, after the text for this company, add following box image and caption:

A different style box from that shown on the original page 30 but note that the label number (975) is the same. Contents are headstamped with the G* 450 headstamp (Code *G-01*)
Image courtesy of Federico Graziano (AACAM)

Maurice Mégret

Page 31: Correct spelling of name to Mégret (incorrectly shown as "Megrét").

Page 31: Replace 2nd paragraph with the following:

Maurice Mégret tins contain rounds either without headstamp or with the "/18/ 450 /68/ Bull-Dog" headstamp in otherwise identical tins. Both are loaded with a 154-grain lead bullet with two plain cannelures, and brass or nickel-plated primer.

Page 31: Add the following images:

[*Bull-01*] Primer: 0.21"

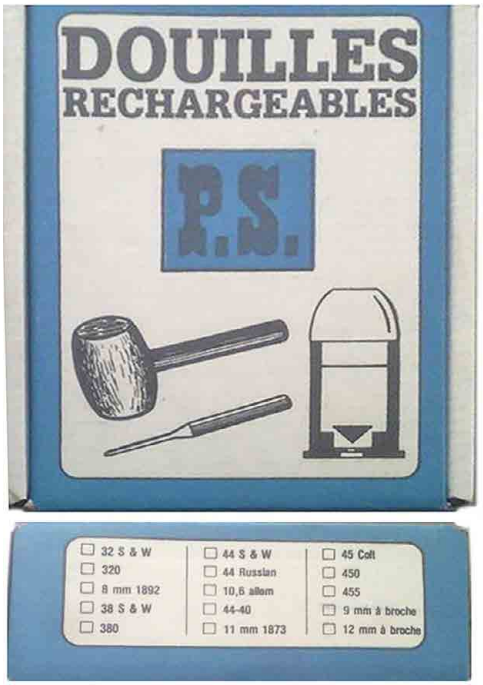
Ball: Brass case, brass primer, lead bullet

Paris Sport

Page 31: Add new paragraph after the 1st paragraph as follows:

Advertising in French gun periodicals indicates that Paris Sport was selling ".450 Webley" cases as early as 1976 until at least 1986. Addresses for both dates given as 43 Bd Voltaire, 75011 Paris. [143]

Page 31: RH column. Add the following box illustration and caption at the end of the cartridge images and captions for this manufacturer:



A generic box used by Paris Sport for their empty cases. Most packaging seen to date consists of small ziploc bags.

Société Française des Munitions (SFM) & Gévelot S.A.

Page 32: RH column, add the following paragraph at the end of the section on "General Production":

While most rounds made by SFM in this caliber used blackpowder as the propellant, their catalogues and box labels do indicate that they offered smokeless powder.

Page 33: LH column, delete 3rd and 4th paragraph (starting with "One of the more unusual series of blanks ...." and ending with "..... without reference to the Michelin device [48].".

Page 33: RH column, delete last paragraph before sub-heading "Contract Ammunition" which reads "While most rounds made by SFM in this caliber used blackpowder as the propellant, their catalogues and box labels indicate the use of smokeless powder."

Page 33: RH column, insert the following sub-heading and text before the sub-heading "Contract Ammunition":

Blanks for the Michelin Device

One of the more unusual series of blanks made by this company was for the Michelin puncture warning device which alerted the driver of a flat tire by firing a blank cartridge. The device was designed and patented in 1920 by André Michelin who, along with his brother, had founded the Michelin Company. It was fitted to the rim of pneumatic tires mounted on cars and light commercial vehicles but turned out to be not very popular. There are stories that it was used on trams (streetcars) and later on the "Micheline" railway coaches that ran on rails using pneumatic tires. However, no evidence that they were used on trams and the Michelines has been located with the exception of the early prototype Michelines (manufactured in 1928-1930) where the type of low-tire-pressure warning device used hasn't been determined.

The basic design called for a blank with a tight 8-petal crimp over a thick wad, and then sealed with solder. The French patent (#556,012 - filed Sept. 13, 1922, issued July 10, 1923) states that the design was intended to be completely waterproof and used a smaller powder charge than required for the unsealed blank which also resulted in less flash. SFM factory drawing #10027C (1922) depicts a blank that closely resembles that described in the patent. Specimens of this blank headstamped ꝺC 450 exist with a variety of primer annulus colors.

A design, stated to be without flash and loaded with 5.4 grains of potassium chloride as a flash suppressant over a small charge of smokeless powder, has the ꝺC 450M headstamp. Factory drawings for this blank include #10027D & #10027E which are dated 1925 and 1926 respectively.

Another variation of this puncture-warning blank, occasionally encountered in 450, has a raised band on the case. Instead of being sealed with solder the crimp on these is sealed with a heavy coating of shellac. They used an inside-primed case with the FTCI 450 headstamp and a 15.4-grain charge of blackpowder under a thick felt wad. Factory drawing associated with this design include #10029B, and #10029B Addendum from 1921-1922 - predating the design described in the French patent for the blanks (drawing #10029B is shown on page 56).

Factory drawing #10027Ff (1928) resurrects the early belted case blank design but it states that it is without flash and is a special model for England [*see 1st edition, pg. 116*]. The inclusion of a charge of flash suppressant would have required a longer case than the above belted blank and, tellingly, the case length is not given on the drawing. No specimens of this longer-cased belted blank have been seen or reported.

Blanks for the Michelin Device were also listed in the 1938 Léon Beaux catalogue, including one described as "double strength" though no further information is provided. A specimen of the solder-sealed blank also exists on a Remington-UMC case, which see [184].

Page 34: LH column, insert the following paragraph before the paragraph starting with "A 1901 SFM document....":

SFM drawing M.1032 Y dated December 12, 1928 shows the headstamp of a .450 "2nd Qualité" cartridge headstamped "FTCI 450" [*the "TC" is in the shape of a logo*]. No specimens with this headstamp are known to exist. For further information see "Turkey".

Page 34: RH column, insert the following dummy shot image and caption before the two shot specimens, as follows:

Dummy Shot: Brass case, brass primer, paper sabot with roll crimp over white wad. 1 hole in case, no shot.

Page 35: LH column, after entry for *G-05* and before *GG-01*, add the following:

[*G-06*] Primer: 0.20"

Ball: Brass case, brass primer, lead bullet

Page 35: LH column, add 2nd image to 1st ball round for Code *GG-01* as follows:

Page 35: LH column, add 2nd image to 2nd ball specimen for Code *GG-01* and update caption as follows:

Ball: Brass case, 214gr. lead bullet.

Page 35: RH column, for Code *GG-01* specimen with belted case, add sectioned specimen image and replace caption with the following:

Blank: Brass case, tight 8-pt crimp, thick brown seal, puncture warning device. Inside of case lacquered black. 15grs BP. Pitch/beeswax seal under crimp, 3-flash-hole primer, o/a 0.588".

Page 37: LH column, after 3rd specimen, add the following image and description:

Dummy: Brass case, brass primer, GM bullet, 1 hole in case. ".450 Roumanian Revolver"

Page 37: RH column, 3rd specimen (with flat-point aluminum bullet) - move and place under Code *GG-04* on page 36.

Page 37: RH column, after 3rd specimen for headstamp *GG-05*, change overall length to 0.540 - 0.557" as indicated below:

Blank: Brass case, brass primer, tight 8-point crimp, no seal, o/a 0.539".

Blank: As above with nickel primer and red annulus, o/a 0.540 - 0.557".

Page 38: LH column, last blank pictured before dummy ball round, add image of sectioned blank, leave caption unchanged:

Page 38: LH column, for Code *GG-05*, before dummy, add new blank image and caption as follows:

Blank: Brass case, copper primer with red annulus and coated in clear lacquer, roll crimp over sealed black wad, o/a 0.684".

Image courtesy of Mag. Heinrich Kohlmann and Jean Renard, ECDV Manager..

Page 38: RH column, last specimen in RH column, add image of sectioned blank:

Page 39: LH column, headstamp Code *SFM-02*, add the following specimen and caption as follows:

Shot: Brass case, brass primer, paper sabot with roll crimp over green wad.

Image courtesy of Mag. Heinrich Kohlmann and Jean Renard, ECDV Manager..

Page 40: Add new company at end of page:

Spalek Arm

This one-man company was based in Le Cerne, a town in the south-east of France.

The company is better known for its distinctive plastic-cased pinfire and shotshell loads which date from the mid-1980s. By 1991, and at least until 1995, the company was advertising brass cartridge cases in a variety of handgun and rifle calibers with a simple manual reloading tool. It is believed that, initially, the cases were unmarked though from around 1993 at least some were headstamped [144].

Advertising from 1991 to 1995 [145] does not mention the .450 centerfire, or .450 "Bulldog" amongst the calibers the company offered. However, a box for the cartridge does exist and looks like a typical Spalek Arm product. This is presented below with the caveat that, so far, nothing else from the company has been found that confirms it did make the .450 cartridges.

It is believed the owner of the company retired around the turn of the century and production ceased at that point.

Probable Spalek Arm box, contents unknown
Image courtesy of Federico Graziano (AACAM)

Germany

A.&W. Allendorff, Sprengstoff und Patronen Fabrik, Schönebeck

Page 41: RH column, under Code *CAL-02*, add an additional specimen leaving caption unchanged:

Cuno Melcher KG.

Page 43: Add the following sentence before the one starting with "The caliber is no longer....":

The .45 Short blanks were introduced by the company in 1984 [146] and were advertised for several years after that.

Diefke Wadie Munition GmbH & Co.

Page 43: Replace the first sentence for this manufacturer with the following:

This Rhön-based company marketed boxes of ".45 Short" blanks, apparently starting in the 1999 time-frame, and was still advertising them in 2022 [147, 189].

DWM

Page 44: LH column, add the following to the end of the first paragraph:

It is thought by many that the so-called "Rimmed Schouboe" (11mm Danish) was initially made by DWM though it has not been confirmed. See chapter on Denmark.

Gustav Genschow & Co.

Page 47: LH column, Code *GGC-02*, add 2nd ball round image, leave caption unchanged:

Helmut Diehl

Page 47: 1st paragraph, last sentence, replace with the following:

If advertising is an indication then the company moved from Langen to Darmstadt between 1985 and 1988. However, the company's website states that they had a permit

to reload ammunition in Darmstadt from 1966. In addition, box lot numbers for at least 1990 & 1991 show an address in Langen. It is possible that the company maintained two addresses or, perhaps, used boxes with the old address.

Page 47: 2nd paragraph, 1st sentence, replace "In 1990 or earlier, ..." with "In 1984 [148] or earlier, ...".

Page 47: Replace 4th paragraph with the following:

Some of the blanks have the "HD" logo stamped on the primer (initially thought, by the author, to be a "5"!). The same stamp is applied to some blanks on Fiocchi cases indicating that Diehl loaded them.

H. Schmidt Waffentechnik

Page 48: LH column. Add the following at the end of the text for this company:

The company first introduced the blanks and CS-gas blanks in 1984 and these were made for them by Helmut Diehl [148].

Note the company trademark on the container.

The company's German trademark went through several iterations which may help date some containers and company evolution. The first, shown above, was filed in December 1980 and assigned to "Waffenfabrik Schmidt GmbH". The second with the single wing was filed in June 1983 and also assigned to "Waffenfabrik Schmidt GmbH". The third with the double wing was filed in February 1986 and assigned to "Ritzmann, Edgar". [149]

This suggests that by 1980 the company name had changed to Waffenfabrik Schmidt GmbH and that between 1983 and 1986 Edgar Ritzmann took over the company.

The last advertisement seen that mentions HS blanks is from late 1997.[150]

Munitionswerke Schönebeck GmbH

Page 48: RH column. For Code *MW-01*, replace the two specimens and their captions with the following three specimens:

Ball: Brass case, copper primer, lead bullet - knurled cannelure as indicated. O/a wt: left - 221gr., right - 178gr.

Ball: Brass case, copper primer, lead bullet - knurled cannelure as indicated. O/a wt: 233gr.

Patronen Hulsen Fabrik Bischweiler (PHFB)

Page 49: LH column. 1st paragraph, 4th line. Add "in 1884 [178]," after "at Bischweiler/Alsace," and delete sentence "If this is true then that would put the founding of the company around 1884-86, but I have been unable to confirm this."

Rhöner Sportwaffen GmbH (SM-Rhöner Sportwaffen)

Page 49: 3rd paragraph, replace the first sentence with the following:

This family-owned business also made rifles and loaded ammunition.

They had .45 Short cases supplied to them by Helmut Diehl which Rhöner Sportwaffen loaded with CS gas [151]. Whether the "SM" trademark on the headstamp was added by Rhöner or the cases were supplied that way by Diehl is not known.

Rheinisch-Westfälische Sprengstoff (RWS)

Page 50: LH column, insert the following text at the end of the existing text for RWS:

In addition to the rounds shown below it is thought that RWS was the manufacturer of rounds headstamped "REV * 450 *" (see Code *REV-01* under "Unknown" on page 90 of original book), and those headstamped "• 450 •" (see Code *45-08* on page 93 of original book). As definitive evidence is lacking, they remain in the "Unknown" section.

Page 50: Bottom of LH column, add following image and caption for Code *RWS-01* as follows:

Blank: Brass case & primer, 8-point crimp over light tan wad, o/a 0.606″.

Page 50: RH column, first specimen shown under Code *RWS-02*, add image of sectioned round and adjust caption as follows:

Ball: Brass case, copper primer, 204gr. lead bullet, ~18gr BP.

Page 50: Bottom of RH column, add following image and caption below the blanks for Code *RWS-02* as follows:

Shot: Brass case, copper primer, paper sabot with roll crimp over glazed tan wad.

Page 51: LH column, add image of sectioned round next to the first image under the headstamped for Code *RWS-03* and amend the caption as follows:

Ball: Brass case with very light knurling, nickel primer, 206 gr. lead bullet, 5 grs. N/C powder.

Page 51: LH column, description of 3rd specimen on page reads:

"**Blank:** Brass case, copper primer, tight roll crimp over tan wad, o/a 0.683".

Change measurement to read: o/a 0.683 - 0.692"

Umarex

Page 52: Add the following as a new paragraph under the existing text:

The Umarex .45 Short blanks were marketed from at least 1989 and were still being advertised in 1999.[152]

Italy

Giulio Fiocchi, Lecco

Page 53: Replace the 2nd paragraph with the following:

The company catalogues ranging from 1926 to 1998 and those on their website have been examined. The catalogues from 1926 show ball (both inside and external primed) and blank (rose crimped and inside primed). A factory drawing dated Nov. 1947 shows an inside-primed ball round with a cannelured bullet. The 1951, 1956 and 1961 catalogues list a 217-grain ball and a rose-crimped blank (external primed). The catalogues from 1987 through 2021 list a ".450 Short" with a 226-grain bullet and a rose-crimped blank.

The Fiocchi shot load (134 grains of small shot) with the elongated unheadstamped case is not shown in available catalogues. A box for these is shown in Appendix 1, on page 105 of the original book with the "A Pallini" (literally "small balls") over-label.

Fiocchi's main catalogue was still advertising the .450 Short ball round and blanks in 2021 though they were not available through the Fiocchi USA subsidiary.

Page 53: Replace the last paragraph with the following:

Some Fiocchi blanks have the "HD" logo (for Helmut Diehl, Germany) stamped on the primer (initially thought, by the author, to be a "5"!). These cases were supplied by Fiocchi to Diehl who loaded them.

Page 54: RH column. Replace image for the case profile and text for *GFL-04*:

[*GFL-04*] Primer: 0.17"

Blank: Brass case, undercut rim, nickel primer, 8-p tight crimp, o/a 0.637".

Léon Beaux & Co., Milan

Page 55: LH column. Replace the 2nd paragraph with the following:

Company advertising from the 1904-1909 period shows the company offered inside-primed .450 ball rounds. In 1910 they added inside-primed blanks with the rose-crimped case mouth and the inside-primed shot load with the paper sabot.

Catalogues of 1929 and 1932 depict .450 CF with "scoperta" (uncovered primers) headstamped BEAUX 450 in ball (lead bullet), and "coperta" (inside primed), also headstamped BEAUX 450, in ball (lead bullet), blank (rose crimped case) and shot (standard case with red paper sabot). The 1938 price list indicates that they also made

the Michelin puncture-warning device blanks in both standard and double charge loadings though it is not clear from the entry whether this is in .380 or .450, though the latter is more likely. The 1962 catalogue shows ball and blank loadings, both inside primed.

Page 55: LH column. Add two new specimen under headstamp code *BE-01*:

Dummy: Brass case, lead bullet
(Image courtesy of Federico Graziano (AACAM))

Blank: Brass case, tight 8-point crimp, o/a 0.563"

Page 55: LH column. Replace caption for box image with the following:

Box contains ball rounds with lead bullet
using headstamp code *BE-02*

Page 55: LH column. Add new box image and caption under existing box as follows:

Tin (top and one side shown) of 25 blanks headstamped "L. B. C. * 450 *" (Code *LBC-01*)

Page 56: LH column. Code *LBC-03*, Add a 3rd ball image to the pair with the "Odd, slightly-necked case...", leave caption unchanged:

Latvia

Sellier & Bellot

Page 57: RH column. Replace headstamp image and caption with the following:

[*CYR-01*] Primer: 0.25-26"

According to the Buttweiler auction catalogue Volume IX, Number 2, Lot 473 (June 1993), the ball round has

a brass case, brass primer, and a round-nosed lead bullet with 2 grooves.

Netherlands

Page 57: RH column. Add new company before the section on H. Alard:

Patroonfabriek Delft

The state gun factory at Delft was founded in 1679. In 1866 it was expanded to accommodate cartridge manufacturing. The name was changed to Artillerie Inrichtingen in 1887, by which time its responsibilities included all aspects of production and support for munitions [193].

In the early 1870s, the Dutch Navy went through the process of converting their percussion revolvers to a centerfire cartridge. The result was a cartridge, referred to as the 11.4mm Welij, that was dimensionally within the tolerances for the .450 C.F. and specimens can easily be confused with it. The fact that confirmed specimens are rare is not because few were made (many were) but most probably because they were assumed to be .450 cartridges. The brief story of their development follows.

In the late 1860's, the Dutch Navy and Army were using the Adams-Francotte M1860 percussion revolver. This appears to be very similar to the standard Beaumont-Adams M1855 percussion revolver (54-bore/.450") with Kerr's patent rammer, and made under license by Francotte.

In July, 1871, Lieutenant J.H. van Welij of the Dutch Marine Corps was commissioned by the Dutch Navy Department to look at converting the naval revolvers. In March, 1873, van Welij presented his report and recommendations which included the conversion design and the ammunition. His ammunition was based on the commercial Gévelot 12mm C.F. cartridge though he was plagued with damaged cases due to tolerances in the original revolver cylinders. After about a year, the State Factory at Delft had produced ammunition with a better fit. In October 1874, Welij-converted revolvers, and the ammunition destined for them, were designated "Revolverpistool A" (the "A" is for Achterlaad meaning breech-loading).

Over the next couple of years the specifications for the ammunition changed frequently, including changes to bullet weight, powder charge, primer anvil and rim diameter. A photo of a specimen of the 11.4mm Welij with a brass case/primer and lead bullet, and with the following dimensions have been examined:

Overall length: 1.110″ (28.2mm)
Case length: 0.693″ (17.6mm)
Case diameter: 0.457″ (11.6mm)
Rim diameter: 0.482″ (12.23mm)
Bullet diameter: 0.445″ (11.3mm)
Primer diameter: 0.217″ (5.5mm)
Overall weight: 275 grs (17.8gms)
(Measurements courtesy of Herr Heinrich E. Harder)

The Dutch Navy used the 11.4mm Welij revolver and its cartridge for 15 years (until 1891). Close to half a million unheadstamped 11.4mm Welij cartridges were made at Delft in 1879 alone. Blank cartridges were also produced at Delft, the design used a wad of sawdust dipped in shellac to seal the case.[153,154]

H. Alard Fils & Cie, Maastricht

Page 58: LH column. Add new specimen and caption for Code *AL-01* after the existing images:

Shot: Brass case, copper primer, paper sabot with white wad.

Sweden

Page 59: Add new company after existing text for this country:

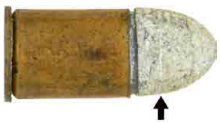
Kongelige Fyrvekar Corpsen / Mariebergs Ammunitionsfabrik

In the early 1870's, Sweden was another of those countries that faced the need to upgrade their service handguns: The Swedish Cavalry were still using a single barreled pistol while the Swedish Artillery and Navy were using 11mm pinfire revolvers. In 1871, the Cavalry was issued with an 11mm centerfire revolver designed by August Hagström. Who actually designed the cartridge is unknown though it is possible that it was based on a French design. In 1879, a centerfire conversion of the service pinfire revolver was adopted by the Swedish Navy using the same 11mm centerfire cartridge used by the cavalry.

Early loadings of this 11mm cartridge are often mistaken for .450 revolver cartridge as they have very similar dimensions. As a result these early loadings will be included here. Later manufacture used a very distinctive beveled rim further distinguishing it from the .450 cartridge.

This early manufacture of the 11mm cartridge is thought to have been performed at Kongelige Fyrvekar Corpsen [*literally, the Royal Fireworks Corps*], a military department that was renamed as Mariebergs Ammunitionsfabrik in 1877 [175, 176].

[*17-23*] Primer: 0.17"



Ball: Brass 2-piece case, brass primer, lead bullet with cannelure on ogive, as indicated.

Blank: Brass 2-piece case, brass primer, very open 6-point rose crimp over cork wad, o/a 0.663".

Page 60: Add new country before "UK":

Turkey

Türkiye Cumhuriyeti Fişekleri İnhisarı (FTCI)

Türkiye Cumhuriyeti Fişekleri İnhisarı (Republic of Turkey, Cartridges Monopoly) was one of several monopolies created by the Turkish government in 1925 after the dissolution of the Ottoman Empire in 1922 and the liquidation of the Ottoman Public Debt Administration established to collect the payments owed to European companies. After it was created, this monopoly was leased to a private company, in which the treasury held a 50% share, and French interests held almost all the rest [173].

In 1928 this monopoly placed several orders with (or asked for proposals from) S.F.M., and probably other European manufacturers.

SFM drawing M.1032Y dated December 12, 1928 shows the headstamp of a .450 "2nd Qualité" cartridge headstamped "FTCI [*logo*] 450" (shown at right). The drawing also shows images of headstamps for the 7.65 Parabellum, 7.65 Browning, 32 S&W Long and 38 S&W. The drawing appears to be requesting design approval. It is not known if this order was actually filled and no specimens of the .450 shown are known to exist at the time of writing.

UK

Eley Brothers, London.

Page 62: RH column. Under "**Ball - 220-grain round nose.**", change description to the following:

While definitive proof is lacking, it is possible that this is the round mentioned in the 1905 NRA order to Eley for 2,000 rounds loaded with cordite and 220-grain bullets. It exists in some numbers on cases with a "Nitro" headstamp (*E4N-01, E4N-04 & ELS-04*).[86]

Page 62: RH column. Under "**Ball - "Target".**", 2nd line change "...in or just before 1906" to "early 1905".

Page 62: RH column. Same paragraph as above, 5th line after sentence ending with "....as the "Naval" bullet. Add the following:

On May 26, 1905, the NRA at Bisley ordered 2,000 .450 cartridges from Eley loaded with the "new target bullet". Further orders were placed in July - September of that year coincident with the Imperial Meeting matches.[155]

Page 63: LH column. Under "**Humane Killer.**", 1st line change "1967" to "1961 and 1967"

Page 63: RH column. Insert the following paragraph before the last paragraph on the page (starting with "Ball and blanks…":

While no raised Eley headstamps have been confirmed or encountered to date, there is a distinct possibility that they do exist. "ELEY BROS. [*cal*]" raised headstamps do exist on the .380 Revolver cartridge – a contemporary caliber. In addition, it is just possible that a round shown on Page 91 of the original publication (Code *L-02*) is the remains of an Eley raised headstamp. Further discussion of that round can be found later in this addendum.

Page 64: top of LH column. Fourth line reads, in part "III. I suspect they ...". Insert the following sentence before the "I suspect...":

They are loaded with a 225-grain bullet and 5.6 grains of square-flake nitro-cellulose powder - not the cordite as indicated by the headstamp.

Page 64: After 1st paragraph in LH column and before section entitled "Notes", add the following paragraph:

There is a series of blank cartridges with headstamps of just "E" and the caliber in the form of "45" or "450" (see section on "Unknown" in original book). One of these, Code *E-03* with the larger primer, is a product of Eley and uses the Eley Cap No. 31. The other blanks in this series do not appear to have been made by Eley though they may have been made for Eley for the Australian market where they are relatively common.

Page 64: LH column. Under "**Notes**" sub-heading, replace the 1st and 2nd paragraphs with the following:

There is one unusual ball round that has turned up on a regular basis. Loaded in cases headstamped "ELEY•LONDON•450•", it has a copper tube in the nose. The bullet is flat-based and weighs a hefty 277 grains. It uses the early Boxer primer with a wad inside the head around the primer holder, probably to reduce the powder space as it is loaded with 4.5 grains of smokeless powder. I suspect that it is an early smokeless load. An illustration of a sectioned round is shown later in this addendum. Although some collectors call it a "proof round," there is no evidence to support this.

Other rounds with the "ELEY•LONDON•450•" headstamp that have eluded explanation are ball rounds with the case cannelure ***below*** the bullet. Sectioning a specimen revealed that it also appears to be an early smokeless round. It also uses the long pocket early Boxer primer with the wad around the head. The cannelure is actually positioned to retain the wad and not to support the bullet which is often the case. There is a small (~3.2gr.) charge of fine smokeless powder and an almost flat-based lead bullet of 223 grains. An illustration of a sectioned round is shown later in this addendum.

Page 64: LH column. Before the sub-heading "**Eley Box Date Codes**" insert the following with its sub-heading:

Imperial Meeting Special Orders to Eley.

The British National Rifle Association (NRA) has held the annual Imperial Meeting for the last 150 years, initially at Wimbledon outside London and then, from 1900, at Bisley in the south of England. Often more commonly known by the major rifle match held during it as "The Queen's [*or King's*] Prize", it is actually a program of multiple competitions including those for pistol and revolver, normally held in July of each year.

From 1895 up to and including 1914, the NRA contracted with Eley to provide ammunition for the competitions. The arrangement may have preceded 1895 and continued after 1914 but records have not been located to support this. The agreement included a provision that ammunition not used at the competitions could be returned to Eley Brothers in their original wrappers for credit. As a result, very little is now known about what was supplied and how it was wrapped. However, invoices and return receipts from Eley give an interesting though incomplete picture. The following is a summary of the information on what was ordered as it pertains to the .450 C.F. cartridge.

1895 15,000 rounds ordered.
1896 26,000 rounds ordered in July .
1897 25,000 rounds with "Bisley Labels".
1898 13,000 rounds ordered, plus orders for another 12,000 rounds and 1,000 rounds with "man-stopping bullets" both with "Bisley 98 labels".
1899 7,000 rounds blackpowder; 5,000 rounds loaded with smokeless powder; 1,000 rounds loaded with man-stopping bullets and blackpowder. Plus an additional 18,000 rounds (probably blackpowder).
1900 25,000 rounds (assumed blackpowder load); 1,000 rounds with smokeless powder. Interestingly, the return receipt for 550 rounds indicate that smokeless powder was referred to as "Cordite".
1901 25,000 rounds (assumed blackpowder load); 5,000 rounds with smokeless powder; and 1,000 rounds with "man-stopping bullets". The invoice indicates that they were supplied with "Special Bisley 1901" labels. The return receipt calls the smokeless powder "Ballistite" (a Nobels' smokeless powder) and indicates that none of the rounds with man-stopping bullets were used.
1902 20,000 rounds blackpowder and 1,000 rounds with "Cordite". These were in 6-round packets with "special labels".
1903 42,204 rounds blackpowder and 1,008 rounds with smokeless powder.
1904 25,200 rounds blackpowder and 3,024 rounds with smokeless powder. All in packets of 6 rounds.
1905 10,800 rounds with "Eley Smokeless" powder; 6,150 rounds with smokeless powder and the new "Target bullet"; 2,000 rounds with smokeless powder and "Special Bisley bullets"; 2,000 rounds loaded with cordite and 220-grain bullets; 1,000 rounds with "Eley smokeless" powder and "Target bullets".
1906 15,120 rounds with "Eley smokeless" powder in packets of 6; 5,000 rounds with "Eley smokeless powder" and "target bullets"; 4,000 rounds with "smokeless powder" and "target bullets".
1907 15,120 rounds with "Eley smokeless" powder and "target bullets"; 10,000 rounds with "smokeless powder" and "target bullets". The return receipts indicate that nearly 13,000 rounds were returned unused including 3,450 in packets of 50.
1908 13,104 rounds with "Eley smokeless" powder and "target bullets"; 2,016 rounds with "smokeless powder" and "target bullets". All in packets of 6.
1909 15,120 rounds with "Eley smokeless" powder and "target bullets"; 4,032 rounds with "smokeless powder" and "target bullets". All in packets of 6.
1910 15,120 rounds with "smokeless" powder and "target bullets", in packets of 6.
1911 4,032 rounds with "smokeless" powder and "target bullets", packets of 6 with "printed Bisley 1911 etc.".
1912 4,032 rounds (assumed to be smokeless powder and target bullets in packets of 6); 1,000 rounds with "smokeless" powder and "target bullets", packets of 50.
1913 no records located.
1914 2,016 rounds with "smokeless" powder and "target bullets", packets of 6.

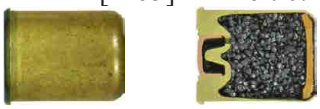
It is possible that "Eley smokeless" and "smokeless" refer to the same powder on different invoices.

It is likely that all the ammunition suppled was, in some way, identified as to year to be used as the rules of the Imperial Meeting required all shooters to use the ammunition as supplied by the NRA. In some years this labeling is specified on the invoice but the long-standing agreement between the NRA and Eley probably makes this superfluous. Fifty-round boxes do exist labeled "Loaded to conform to the N.R.A. Specification" (see Appendix 1, page 101 of original book) but there is no year specified on that label. So far, the author has only seen images of one packet which is purported to contain 6 rounds which has a

red all-round wrapper and orange label stamped "BISLEY 1908" on it.

Page 64: RH column. Add "E" as the first headstamp in the headstamp listing sequence. Then add the following images and captions immediately after the headstamp listing sequence:

[*E-03*] Primer: 0.21"



Blank: Brass case, crimped copper primer, roll crimp over tan wad, o/a 0.620". Appears to be an Eley product using Cap No. 31, and 17.4gr of blackpowder.

Page 64: RH column. For "E C III" (Code *EC-01*) specimen, add image of sectioned round and revised caption as follows:

Ball: Brass case, copper primer, 225-grain lead bullet, 5.6 grains of square-flake N/C powder.

Page 65: LH column. Code *E4-02*, add a 2nd headstamp image as follows:

Page 65: LH column. Code *E4-02*, add the following two specimens and captions before the existing shot load as follows:

Blank: Brass case, brass primer, 8-pt crimp, tan glazed wad visible. In both headstamp styles. O/a 0.611".

Dummy: Brass case, copper primer - holed, lead bullet. 1 hole in case.

Page 65: RH column. Code *E4-05*, replace first 3 specimens, including both captions with the following **4** specimens and one caption as follows:

Ball: Brass case, copper primer, lead bullet

Page 66: LH column. Code *E4-06*, add new ball specimen and caption under existing ball round/caption as follows:

Ball: Brass case, copper primer, lead bullet

Page 67: LH column, top, under Code *E4-10*, add another specimen and caption as follows:

Blank: Brass case, crimped copper primer, roll crimp over tan wad, o/a 0.664″.

Page 67: LH column, under Code *E4N-01* add additional image of ball round, leave caption unchanged:

Page 67: RH column, under Code *E4N-05*, add another specimen image - leaving caption unchanged - as follows:

Ball: Brass case, copper primer, lead bullet.

Page 67: RH column, under Code *E4N-04*, add another specimen image - leaving caption unchanged - as follows:

Page 69: RH column. Add new specimen and caption for *EL-01* under existing specimen/caption at top of column:

Ball: Brass case, copper primer, lead bullet. Rim normal.

Page 69: RH column. Last specimen at bottom of column, replace image and caption with the following:

Ball: Brass case, copper primer, wad in head, 277-grain lead bullet with copper tube, cannelure and grease groove. 4.5 grains of smokeless powder

Page 70: LH column. Insert new specimen before 1st blank cartridge in column:

Ball: Brass case, copper primer, lead bullet. Note: this is not the "Naval" target bullet.

Page 70: LH column, insert new specimen after last blank cartridge in column with caption as follows:

Blank: Brass case, copper primer, open case mouth over tan cup wad (original?).

Page 70: RH column. Specimens under headstamp code *EL4-05* with low cannelure, add illustration of sectioned specimen and revised caption as below:

Ball: Brass case, copper primer, 223-grain lead bullet, low cannelure on top specimen retains wad around primer. Approx. 3.2 grains of smokeless powder.

Page 70: RH column. Code *EL4-05*. Add blank specimen and caption before shot load as follows:

Blank: Brass case, copper primer, 8-pt tight crimp, o/a 0.544".

Page 71: LH column. Code *ELS-01*. Add new blank specimen and caption as follows:

Blank: Brass case, brass primer, 8-pt open crimp over glazed tan wad, o/a 0.652".

Frank Dyke & Company

Page 72: LH column. 1st line of last paragraph for this company: Change "...about 1915..." to "...about 1907...".

Page 72: Add new company before Kynoch Limited:

Greenwood & Batley, Leeds

This company is included here to correct previously-published information that it manufactured the .450 cartridge.

The company was founded in 1856 by Thomas Greenwood and John Batley who had worked together at the Wellington Foundry (a highly respected machine shop, also in Leeds). They designed, developed and manufactured machinery including that used for making ammunition and in about 1868 they started making ammunition themselves.

There is a report that the company manufactured ".450 Webley" revolver ammunition in 1898 for the Colonial Ammunition Company (CAC) of Australia and New Zealand. This is incorrect. The order was actually for .455 Webley Mark II (subsequently amended to Mark I) cartridges [185, 188]. No record of them producing the .450 cartridge has been found.

Kynoch Limited

Page 73: LH column, end of 2nd paragraph, replace last sentence with the following:

They were normally loaded with nickel primers and loaded as blanks. However, in late 1972, Fred Carr & Sons, an ironmonger [*hardware store*] of Pudsey, Yorkshire, was offering unprimed Norma cases with Kynoch headstamps [156]. Hand-loads have been seen using these cases.

Page 73: LH column, under heading "Loadings" and sub-heading "Ball", 2nd sentence reads "Their 1902 cata-

logue refers to a load using 5 grains of Cordite.".

Replace this with "Their 1898 and 1902 catalogues refer to a load using 5 grains of Cordite."

Page 73: RH column, under sub-heading "Blanks", 4th paragraph, 1st sentence reads, in part, "Blanks were listed in Kynoch catalogues from at least 1902 until 1970...".

Change "1902" to "1898".

Page 73: RH column, under sub-heading "Shot", last sentence. Change "1902 up to 1957" to "1898 up to 1957".

Page 74: LH column, at top under sub-heading "Cases", Change "1902" to "1898".

Page 74: at end of text for LH column add new sub-heading and text as follows:

"Service Cartridge". In the 1891 Kynoch catalogue, a fired target (dated August 1, 1889) is shown and described as being made by Kynoch's ".450 Service Cartridge". The extract is from the *Field* magazine, Oct. 5, 1889 edition. What the specifications of this "Service Cartridge" was or how it got what amounts to an official blessing is unknown. It is possible that the military authorities had been relying on commercial manufacturers, like Kynoch, to provide modern drawn-case cartridges for those who didn't want to use the Adams Mk II cartridge which was by then an obsolete design.

Page 76: LH column, under first blank for Code *KY-04*, add the following image and caption:

Blank: Brass case, nkl primer, undercut rim, open creased roll crimp over pink wad, o/a 0.606"

Page 77: LH column, add the following images and captions after the last rose-crimped blank for Code *KY-06*:

Blank: Brass case, copper primer, 4-pt crimp over grey wad, o/a 0.666"

Blank: Brass case, copper primer, 4-pt crimp over white wad and inside of case also white, o/a 0.675".

Page 77: LH column. Last specimen for *KY-06*, add 2nd image with revised caption as follows:

Blank: Brass case, copper primer, tight roll crimp over tan glazed wad with light waffle pattern. O/a 0.841 - 0.957″.

Page 78: LH column, last specimen, with full metal jacket. Add image of bullet profile and base. Replace existing caption with that shown:

Ball: Brass case, copper primer, 227gr. CN bullet. This may not be a factory load. Those that I have examine so far have had no powder charge. The case is not crimped into the crimping cannelure on the bullet.

Page 79: LH column, for code *KY-14*, add the following image after the first image with the semi-wadcutter bullet:

Page 79: LH column, add the following image and caption after the existing images for Code *KY-14*:

Dummy: Brass case, copper primer, lead bullet, 1 hole in case (factory?).

Page 79: RH column. Replace headstamp and specimen images, and captions under headstamp codes *KYC-03* and *KYC-02* with the following:

[*KYC-03*] Primer: 0.24″.

Ball: Brass case, copper primer, lead bullet

[*KYC-02*] Primer: 0.24″.

Ball: Brass case, copper primer, 227-grain lead bullet, 5 grains chopped fine-strand cordite.

Dummy: Brass case, holed copper primer, lead bullet. 1 hole in case.

Royal Laboratory

Page 81: LH column, delete headstamp Code *17-04* and specimen. This is shown under "Unknown (English) Makers" as it has not been confirmed as a product of the Royal Laboratory.

Page 81: RH column, replace the existing Smokeless Powder company name and text with the following:

Smokeless Powder Company & Smokeless Powder & Ammunition Co.

The Smokeless Powder Company was founded in 1888 and a plant built in Barwick in Hertfordshire.

Their first product appeared in late 1890. Further variations of their product followed – usually tailored to a specific cartridge or purpose. In 1894 they introduced "Revolver Rifleite" and "SV Revolver Rifleite" smokeless powder. An Eley box exists with "RIFLEITE REVR" ink-stamped on the front along with a date stamp of "18 AUG 94" [191]. Another Eley box with "SV" and "SMOKELESS" is shown on Appendix 1 of the original book.

In 1898 it was taken over by the Schultze Gunpowder Company Limited and subsequently reorganized as The Smokeless Powder and Ammunition Co.

There seems to have been a close working relationship between the Schultze Company and Eley Brothers and, in fact, Eley acquired the Schultze Gunpowder Company in 1911. Eley liquidated the Schultze company in 1923.

The May 1900 catalogue of the Smokeless Powder & Ammunition Company states that they loaded .450 Revolver cartridges at their own factory using "Revolver Rifleite" powder. Listed are ball with 225-grain "solid" (i.e. round-nosed lead) and 200-grain "Manstopping" bullet. Also listed are blanks [35, 36].

They appear to have used cases exclusively from Eley. The Smokeless Powder and Ammunition Co. closed in 1903

Page 81: Add new company before J. Venables & Son..:

Tipping & Lawden, Birmingham

Thomas Tipping and Caleb Lawden formed a gun-making partnership in 1837 on Constitution Hill in Birmingham. They also had a registered address in London from 1837 until 1854. They produced military pattern muskets, shotguns and handguns.

On March 13, 1869, the company foreman, John Thomas, was granted patent 779/1869 for a "Self-extracting Revolver" which the company manufactured. While the revolvers were well-made they were unable to break into the market already dominated by the likes of Adams and Webley. The company was taken over by P. Webley & Son in May, 1877. Thomas's patent was not renewed in 1876 and Thomas left the company about the time that Webley took over and started his own business which appears to have lasted until about 1884.

Below is an unusual and rare tin that held the common iron-based, Boxer-designed .450 cartridge made by Eley. Note that the manufacturer of the cartridges and their inventor are not mentioned on the label.

Wilkinson Sword, London

Page 83: RH column. Add the following at the end of the existing text:

With the Partition of Ireland in 1921, which pleased neither Unionists or Nationalists, the sectarian violence, particularly in Northern Ireland, rose to new heights. In June 1922, Sir Charles Wickham, the first Inspector General of the newly-created Royal Ulster Constabulary (R.U.C.) "demanded" 500,000 rounds of .450 revolver ammunition (the amount was later reduced to 478,000 rounds). The gun trade was approached and the Wilkinson Sword Company and Webley & Scott both responded. The Ministry of Munition's Disposal Board also responded. Webley was eliminated due to the high price and samples were provided by both Wilkinson and the Disposal Board for testing. While Wilkinson's quote was 60 shillings [£3] per thousand compared to the Disposal Board's 40 shillings, the sample provided by them was considered "satisfactory" while that of the Board was "not so favourable". On September 8th 1922, an order was placed with Wilkinson Sword Co. for 478,000 rounds of .450 ammunition.

Less than two weeks later the Disposal Board wrote to the Minister of Home Affairs pointing out that they had been approached by Wilkinson regarding this ammunition. Apparently Wilkinson were getting the ammunition from the Disposal Board and reselling it to the Ministry. The matter went all the way to the Prime Minister but I have been unable to discover if the contract was canceled and/or who got the contract for nearly half a million rounds[195]. In addition, Wickham's request for a large quantity of .450 ammunition seems odd when the previous police force had mostly .455 revolvers and .455 automatic pistols?

Unknown (English) Makers

Page 84: LH column, top pair of specimens. Separate and use following captions:

Ball: Brass case, iron disk (0.045" thick), copper primer, brass rivet, lead bullet, 2 stab crimps.

Ball: Brass case, iron disk (0.035" thick), copper primer, brass rivet, lead bullet, no crimps.

Page 84: LH column, Code *17-04*, remove the 3rd ball round. It has been identified as an 11mm Swedish. See the section on Sweden in this addendum.

Page 84: LH column, Code *17-04*, add additional Ball specimen and caption as follows:

Ball: Brass case, brass disk, copper primer, brass rivet, lead bullet, no crimps.

Page 84: RH column, after entries for Code *17-18*, add new headstamp, specimen and caption:

[*17-24*] Primer: 0.17"

Ball: Brass case, copper primer, 222.5 gr. lead bullet. Probably by Eley or Kynoch.

Page 84: RH column, 1st specimen under Code *24-01*, is not an Adams Mk 3 Ball. Add image of sectioned round and revised caption as follows:

Cattle Killer: Brass case, copper primer, 223gr. lead bullet, 6 grains of chopped cordite (heavier charge than service round). Probably by Kynoch.

Page 84: RH column, under Code *24-01*, insert new specimen and caption under the caption for the semi-wadcutter load as follows:

Ball: Brass case, copper primer, lead bullet.

Page 84: RH column, under Code *24-01*, for the last image for this code, add sectioned specimen and revise caption as follows:

Ball, loading error?: Brass case, copper primer, lead bullet. 18-grain charge: short-strand cordite (~5gr) and graphited blackpowder (~13gr).

USA

Union Metallic Cartridge Company (UMC)

Page 85: RH column, 2nd paragraph for this company, 6th line, sentence starting with "It is possible...", replace this and the next two sentences, the last one ending with "...of 13 grains of blackpowder." with the following:

The catalogue describes it as having a 225-grain bullet and 20 grains of blackpowder (quite a heavy charge compared with the official British specification of 13 grains of blackpowder). During this period, UMC did not headstamp their rounds. Such a round has been identified (see Code *17-22* below) with a 219-grain lead bullet, 20 grains of powder and uses the A.C. Hobbs 1876 patent primer anvil (Patent No, 183,925) which UMC referred to as their #0 primer.

Page 86: LH column, after the text and before the first headstamp illustration, insert the following images and caption:

[*17-22*] Primer: 0.175"

Ball: Brass case, copper primer, 219-gr. lead bullet, 20-gr. of blackpowder, A.C. Hobbs 1876 patent primer (UMC #0).

Page 86: LH column, for Code *UMC-02*, add 2nd image to dummy round at bottom on column with revised caption as follows:

Board Dummy: Brass case, copper primer, lead bullet. 2 or 4 holes in case

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Remington-UMC

Page 87: LH column, 1st full paragraph, add the following to the end of the paragraph after "used by its predecessor, UMC.":

According to Remington-UMC drawing #F.R.1157 from September 1914 (renumbered to #C-4518 in 1933), this base wad was discontinued in 1920.

Page 87: LH column, 3rd paragraph, add the following at the end (after sentence that ends ".... producer of the .450 cartridge."):

A comparison of the Remington and SFM blanks indicates that the powder weight and appearance are identical. The Remington blank has two wads compared to the one in the SFM blank. The entire inside of Remington case has been chemically blackened with a gloss finish while the SFM is coated in clear lacquer.

Page 87: LH column, add the following paragraph at the end of the existing text and before the first headstamp images:

Remington-UMC drawings exist showing a .450 Humane Cattle Killer cartridge (#'s 1194 through 1197, dated April 1915). Whether this was ever made is not known and, at the time of writing, no specimens of this round have been seen or reported. According to the drawings, the round used the same case as the normal ball round but with a larger primer (diameter 0.209" versus 0.1745") and had a smooth case cannelure. The bullet weight is given as 226.5 – 225.5 grains and is very similar to the ball round's bullet except that the bullet diameter is smaller: 0.439" versus 0.458". There are also very minor differences in bullet ogive, base cavity and depth of the bullet cannelures. The powder charge was "as per ball". The drawing also shows a "U" on the primer. The headstamp shown on the drawing is just "REM-UMC" at 12 o'clock with no caliber but this might just be artistic license which, I am told, is not unusual on Remington headstamp drawings. Some of these drawings are shown at the end of Appendix 2 in this addendum.

Page 87: RH column, first specimen in column, add sectioned image and revise caption as follows:

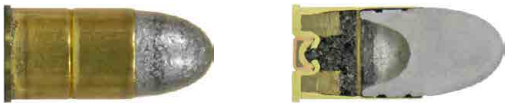
Blank: Brass case, nkl primer, 8-pt crimp with solder seal, o/a 0.517". 6-grs of blackpowder, two wads. Possibly for the Michelin device?

Page 87: RH column, Insert the following two specimens with their captions after the existing board dummy specimen:

Board dummy: Brass case, nkl primer (holed), round-nose lead bullet, 4 holes.

Dummy: Brass case, nkl primer (holed), round-nose lead bullet, 4 small holes in case 5mm above head.

Page 87: RH column, last specimen for this company, under Code *REM-02*, add sectioned image and revise caption as follows:



Ball: Brass case, nkl primer, lead bullet.

Ball: Brass case, copper primer, lead bullet. Shown sectioned, wad around primer cup.

Winchester Repeating Arms (W.R.A.Co.)

Page 88: Replace the 1st paragraph under the Exposition Blank box illustration with the following:

Until recently, Winchester's manufacture of loaded .450 rounds was believed to have started in 1918. However, an April 20th, 1896 letter to their customers or sales staff from Winchester New Haven has come to light [157]. It announces (amongst other items) the introduction of: ".450 English Revolver" cartridges with smokeless powder. It does not give any further information regarding the load.

Winchester's factory records indicate manufacture of the ".450 C.F." started in 1918.

Page 89: Before "Yugoslavia", add the following:

Miscellaneous U.S. Manufacturers

In 2016, a private individual in Pacifica, California embarked on a project to determine if making all-plastic dummies was viable and cost effective. Very few prototypes were made but included the .450 Revolver round. These proved not to be cost effective and never got to the production stage.

[*20-11*] Primer: 0.20"

Dummy: Blue plastic 1-piece case/bullet.

Unknown

Page 90: LH column, add the following to the text for the first specimen under headstamp Code *AK-01*:

The "AK" on the above headstamp ***might*** be associated with Anton Keller who, in 1905, established the "Anton Keller Metallwerk und Munitionsfabrik" company. Primer boxes from this manufacturer have a distinct "AK" logo. However, no concrete connection has been established.

Page 90: LH column, in the block of text at the bottom of this column, revise the first sentence of the 2nd paragraph as follows:

With the exception of the blank with the larger crimped primer (*E-03*), which does appear to be an Eley product,

the other blanks differ significantly from those made by Eley.

Page 90: RH column, add the following image and caption under the headstamp Code *E-02*:

Blank: Brass case, copper primer, roll crimp over off-white wad, o/a 0.626″.

Page 90: RH column, add the following sectioned image and revised caption under the headstamp Code *E-03* as follows:

Blank: Brass case, crimped copper primer, roll crimp over tan wad, o/a 0.620″. Appears to be an Eley product using Cap No. 31 and loaded with 17.4gr of blackpowder.

Page 91: LH column, add the following to the text for the Jarvis advertising novelty, Code *JAR-01*:

The design of the representation of a bullet bearing the words shown on the headstamp was registered as a trademark on May 2, 1916.[158]

Page 91: LH column. Replace entry for Code *L-02*, images and caption, with the following:

The case head shown below has several raised marks, one of which looks like an "L". A second, almost identical, specimen has similar markings with the same spacing. The battery primer suggests English origin. A very interesting observation was made by Federico Graziano (AACAM), who overlaid a normal, i.e. impressed, "Eley London" headstamp and found that the spacing was a very close match with the "L", part of the "N" and part of the "D" of "LONDON" showing. No raised headstamp of "ELEY LONDON • 450 • " is known to exist at the time of writing.

[*L-02*] Primer: 0.17"
Battery primer, raised partial headstamp

Ball: Brass case, copper battery primer, lead 226-gr. bullet, ~17 grs of fine blackpowder.

Page 91: RH column, above headstamp for Code *REV-01*, insert the following text:

The following rounds headstamped "REV * 450 *" are likely products of RWS, Germany. As well as the case construction, which includes an internal step in the case wall just above the case head, the headstamp also appears on .380 caliber steel-cased rounds identical to those made by RWS. Compare sectioned round below with that of the

RWS ball round shown earlier in this addendum. Note: this case-wall step is also a feature of rounds from Braun & Bloem and Sellier & Bellot, which see.

Page 91: Bottom of RH column. Add sectioned image to specimen for Code *REV-01* and revise captions as follows:

Ball: Brass case, copper primer, lead bullet
Ball: As above with brass primer (sectioned), note step in case wall near case head.

Page 92: RH column, add new specimen and caption for Code *45-02* under the two captions for the existing specimens as follows:

Ball: Brass case, copper primer, lead bullet.

Page 93: LH column, add two new headstamps and specimens after entry for headstamp Code *45-14* as follows:

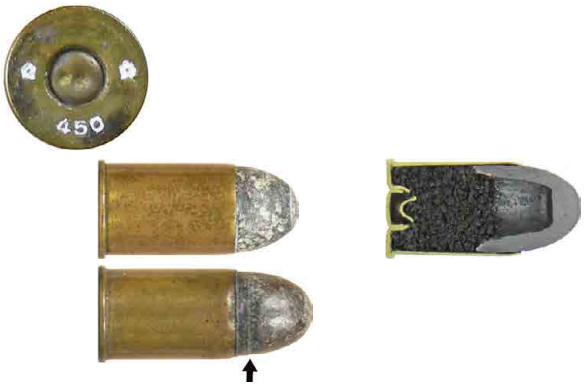
[*45-16*] Primer: 0.21", raised h/s

Ball: Brass case, brass primer, lead bullet.

[*45-15*] Primer: 0.20"

Ball: Brass case, nkl primer, 250gr. lead bullet. Hand-load on modern case (probably trimmed 45 Colt).

Page 93: RH column, for Code *45-07*, add additional headstamp image and replace existing ball round images and their captions with the following specimens:



Ball: Brass case, brass primer. Top: 105gr. lead bullet, o/a wt: 176gr.. Lower: o/a wt:164gr.

Ball: Brass case, brass primer, lead bullet. O/a wt: 275gr.

Page 93: RH column, for headstamp Code *45-08*, change primer diameter from 0.20" to 0.19", and replace the 1st image with the following, including new captions:

Ball: Brass case, copper primer, 150gr. lead bullet. O/a weight 215grs.

Ball: Brass case, copper primer, lead bullet. O/a weight 264gr.

Page 94: LH column, top of page, add new specimen under the illustrations shown for Code *45-09* with caption as follows:

Ball: Brass case, brass primer, lead bullet

Page 94: LH column, add following paragraph before first unheadstamped round (Code *00-01*):

Note: The following unheadstamped rounds are grouped by case-head appearance and are not intended to imply that a group are from the same manufacturer.

Page 94: RH column, for Code *17-01*, add two new specimen and revise captions as follows:

Ball: Brass case, copper primer, lead bullet. (O/a wt.: left 230gr; right 297gr.)

Ball: Brass case, copper primer, lead bullet. (O/a wt.: 274gr.)

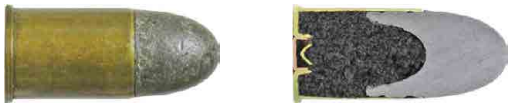
Page 94: RH column, last headstamp on page (Code *17-12*) - delete first specimen (ball). This is now shown under UMC.

Page 95: RH column, add illustration of sectioned round for specimen under Code *17-21* and new caption:

Ball: Brass case, copper primer, 228-grain heel-type lead bullet. 15.5 grains of fine blackpowder. From box shown under unidentified boxes in Appendix 1, pg. 106 in original book, top left).

Page 95: RH column, at bottom of page, add new headstamp and specimen with caption as follows:

[*18-02*] Primer: 0.18"



Ball: Brass case, copper primer, lead 215gr. bullet.

Page 96: Top of LH column, Code *18-04*, replace existing specimen image with following images and captions:

Ball: Brass case, copper primer, 208.5gr. lead bullet.

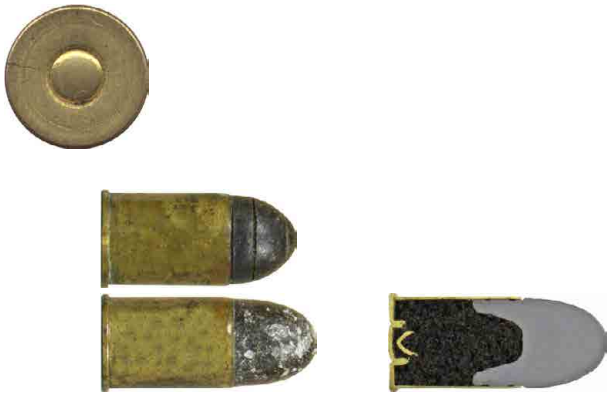
Ball: Brass case, copper primer, lead bullet.

Page 96: LH column, insert additional images of two ball round for Code *18-03* and revised captions as follows:

Ball: Brass case, copper primer, lead bullet. O/a wt.: left-266gr., right-260gr.)

Ball: Brass case, copper primer, lead bullet. O/a wt.: 288gr.

Page 96: LH column, add image of sectioned ball round for 2nd specimen for Code *19-01* and replace caption as follows:



Ball: Brass case, brass primer, lead bullet. Bottom specimen has 220.5gr bullet and 2-hole Berdan primer.

Page 96: RH column, first specimen, change value for o/a length from 0.636" to 0.636 - 0.641".

Page 96: RH column, for Code *19-02*, add new specimen with sectioned image and caption as follows:

Ball: Brass case, copper primer, 187gr. lead bullet. 2-hole Berdan primer.

Page 96: RH column, for Code *20-01*, add new sectioned image and revise caption as follows:

Ball: Brass case, copper primer, 203gr. lead bullet. 2-hole Berdan primer. Note similarity to specimens with the "LONDON .." head-stamp (Codes *LON-03* & *LON-04*) which have similar overall weight.)

Page 96: RH column, for Code *20-04*, add new sectioned image and revise caption as follows:

Ball: Brass case, brass primer, 221.5gr lead bullet.

Page 96: RH column, for Code *20-09*, add new specimen leaving caption unchanged:

Page 97: LH column, for description of shot specimen under Code *20-05* add "brass primer".

Page 97: RH column, add new image to the two existing ball specimens under Code *24-02*, leave caption unchanged:

Page 97: RH column, Code *24-03*, add the following to the caption under the blank specimen: "Probably made by SFM."

Page 97: RH column, Code *25-01*, and **Page 98**, LH column, Code *25-06*, Replace with the following images and caption:

[*25-01*] Primer: 0.25"

Firework: Copper case, copper primer, 6-point crimp, o/a 0.798". Grey pellet burns brightly releasing white glittering stars.

Page 98: LH column, for Code *25-05*, add image of sectioned round with revised caption as follows:

Ball: Brass case, large brass 2-hole Berdan primer, 187grs lead bullet.

Page 98: LH column, Add 2 new images for ball rounds for Code *25-03* - same caption as for other two ball images:

Page 98: LH column, Add image of sectioned specimen for shot load for Code *25-03* with revised caption as follows:

Shot: Brass case, brass primer, Tan lacquered wad at case mouth. Slight rattle from 45-grs of shot. O/a 0.702".

Page 98: RH column, last headstamp. Replace all specimen images and captions for Code *26-02* with the following:

Ball: Brass case, brass primer, 286gr. lead bullet. 4-hole Berdan primer.

Ball: Brass case, brass primer, 267gr. lead bullet. 4-hole Berdan primer.

Ball: Brass case, brass primer, lead bullet.

References (Addendum only):

5. Adams' Revolvers by Chamberlain & Taylerson, 1976
8. *A History of British Small Arms Ammunition, Part One: The Royal Laboratory, Woolwich,* by John Pople-Crump, 2004.
35. "Smokeless Powder Co." Will Adye-White, IAA *Journal* 444
36. Smokeless Powder & Ammunition Co. May 1900 price list
45. Manufrance Mania website
48. SFM Factory Drawings
56. *British Small Arms Ammunition, 1864-1938* by Peter Labbett, 1993
74. SFM Factory documentation and working notes
86. Sectioned cartridges, author's collection.
100. *The Webley Story*, William Chipchase Dowell, (Skyrac Press Ltd. 1962)
119. 11.35mm Schouboe Automatic Pistol Cartridges by Donald B. Brady, *The Gun Report*, June 1957
120. DWM Case and Bullet Registers ~1913
122. Danish Factory Drawing, *The Gun Report*, July 1996
133. Argentine trademarks, 9807, May 29, 1901 & 83,555, August 25, 1921, Research Note, Argentina #15.
134. Research Note, Argentina #14 & 15.
135. Correspondence with Aaron Newcomer.
136. Rio de Janeiro Postal Directories for 1852, 1891, 1909 & 1918. Research Note Brazil #6
137. Coleção das Decisoes do Governo do Imperio do Brasil de 1869, (Government records office).
138. *O Globo* newspaper, January 19, 1875, and *A Regeneracao* newspaper, February 19, 1880
139. Diario Oficial, (Official business records for Rio de Janeiro) February 1896
140. Diario Oficial, (Official business records for Rio de Janeiro) September 1903
141. Hærens Tekniske Korps, Bulletin F. Nr. 64, 1929
142. CF Tarif No. 46, January 1, 1954
143. *Gazette des Armes*, Nov. 1976 & Sept. 1986
144. ECRA Bulletin 350/23
145. *Gazette des Armes*, Apr. 1991, Sept. 1993 and *Action Armes & Tir*, Sept. 1995
146. *Deutsches-Waffen-Journal* (DWJ), Oct. 1984, Feb. 1985, June 1985 and Feb. 1986.
147. Frankonia ad in *Deutsches-Waffen-Journal* (DWJ) of Oct. or Nov. 1999.
148. *Deutsches-Waffen-Journal* (DWJ), Mar. 1984.
149. German trademarks 1021119, 1059203 & 1096590.
150. Frankonia Jagd advertisement in *Deutsches-Waffen-Journal* (DWJ) late 1997
151. *Deutsches-Waffen-Journal* (DWJ), Jan. 1983.
152. *Deutsches-Waffen-Journal* (DWJ), Sep. 1989, Nov. 1999
153. *Die Militärrevolver der Niederlande 1856-1940* by H.E. Harder & W.A. Dreschler, Published 1998 De Bataafsche Leeuw, Amsterdam.
154. IAA *Journal* #509, May/June 2016, pg 42.
155. Eley/NRA bills, NRA Museum, Bisley, UK.
156. Ad in *Guns Review*, October 1972 - June 1974
157. IAA *Journal* #517 pg. 48. Dan Shuey
158. Jarvis advertising and corporation registration
159. Virginia Military Institute, Henry Stewart Jr. Collection
160. Letter from H.R. Storks, War Office, to Boxer, October 8, 1869.
161. Abstracts of Proceedings and Reports of the Ordnance Select Committee (OSC). Minute 22,880, August 16, 1867
162. *ibid*. OSC Report #4696, Aug. 21, 1867
163. *ibid*. OSC Minute 25,403, July 22, 1868
164. *ibid*. OSC Report #5061, July 29, 1868
165 *ibid.* OSC Minutes, 25,505 (July 29) & 26,012 (Sept. 30), 1868
166. *ibid.* OSC Minutes, 26,553 (November 25, 1868)
167. *ibid.* OSC Minutes, 26,436 (November 25, 1868)
168. *ibid.* OSC Minutes, 26,558
169. *ibid.* OSC Minutes. 23,780 & 24,282
170. National Archives, Kew, London
171. RSAF, Enfield "Range Book"
172. List of Changes 2227, February 22, 1872
173. Federico Graziano, IAA Forum post #31464
174. List of Changes 3316, January 17, 1878
175. *Deutsches-Waffen-Journal* (DWJ), May. 1987, pg 575.
176. Göta Vapenhistoriska Sällskap *Swedish Military Pistols & Revolvers*
177. Ordnance Committee Minute 40,123, November 1881
178. *Rapport Général de l'Exposition Française à Madrid*, May-June 1927
179. *Annales de La Propriété Industrielle Artistique & Littéraire*, 1896, pages 168-177.
180. B. Albert Catalogue 1905
181. *Statistique des Grèves et des Recours à la Conciliation et à l'Arbitrage survenus pendant l'Année 1909*. Published 1911. Gallica website.
182. P. Barnier 1928 catalogue
183. "*History of SFM*" by Philippe Mention, 2011
184. "The Michelin Low-Tire-Pressure Warning System and its Cartridges", IAA *Journal* #540, July-August 2021.
185. *British Cartridge Manufacturers, Loaders and Retailers* by C.W. Harding, 2012
186. *A Little Further, a Little Faster* by Lynn Harris, 1981
187. SFM factory drawing 26,042D
188. Greenwood & Batley Order Book for 1898, West Yorkshire Archive Service Leeds, England
189. Diefke Wadie Munition GmbH website

190. Louisiana Purchase Exposition Official Guide
191. Rock Island Auction Lot 4256, June 24, 2022.
192. Research notes, Austria #17, 18 & 19.
193. *Het Staatsbedrijf der Artillerie Inrichtingen*, A.M.A. Goossens, December 2007
194. Belfast News-Letter, March 9, 1877
195. Letter dated 13th October 1922 from A.P. Waterfield, Assistant Secretary, Treasury, to Col. Sir Wilfred Spender, Secretary to the Government of Northern Ireland.

Appendix 1
Additional Boxes (Addendum)

(illustrations of box labels are not all to the same scale)

Page 101: RH column, last box image. Replace "Contents unknown" with the following:

Contents headstamped ELEY • LONDON • .450 • (*EL4-03*)

Page 105: Add the following box images and captions before the page on "Unidentified Boxes":

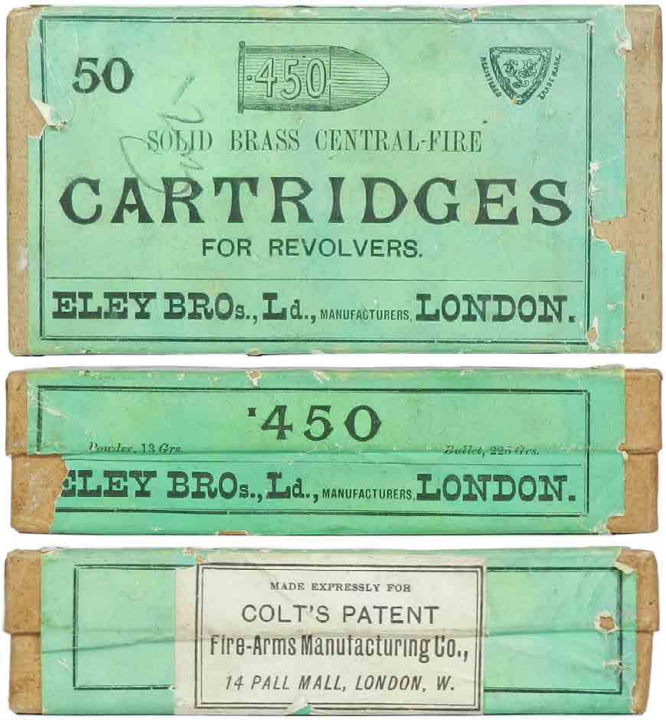
Sellier & Bellot, Czechoslovakia.
The box design is shown in their catalogues from the 1930s.
Contents headstamped 450 / / SB / / (Code *SB-10*).
Courtesy of Federico Graziano (AACAM), Buenos Aires.

The above box, though damaged, has an overlabel indicating theatrical blanks. The blanks appear normal with a roll crimp over a light-tan wad and are headstamped "KYNOCH .450" (Code *KY-17*). The date code is "8 J O" - March 8, 1966. They are loaded with 20-22 grains of blackpowder - a very heavy charge even for a theatrical blank.

The above box was made by Kynoch for William Kavanagh & Son of Dublin. The Kavanagh company was established in 1796 and was run by his descendants until the 1920s. What is particularly interesting about this box, which was made some time after 1872, is that Kynoch misspelled Kavanagh's name! All official records and such items as the gun case label below spell "Kavanagh" with one "n". Contents of above box unknown.

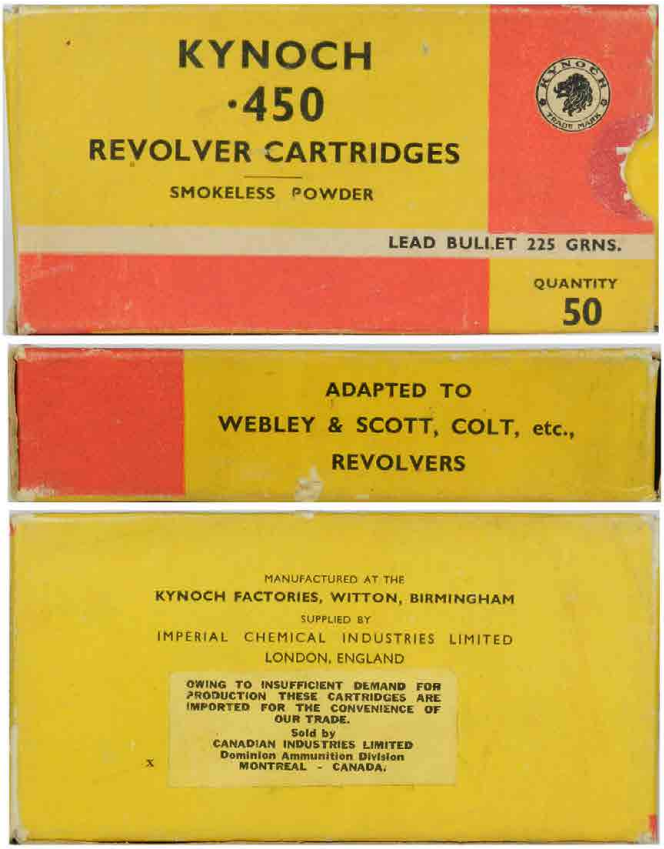
This series of RWS unused labels in the French language is a mystery. The series included labels for 25-, 100- and 250-round packaging for ball, blank and shot loads. No full boxes using these labels have been seen or reported. The writing in red is "poudre sans fumée" - i.e. smokeless powder. (Images courtesy of Bernd Kellner)

This is a box from Capsulerie Liégeoise which was one of the marketing company names used by V. Francotte May (VFM). The box contains ball rounds using the headstamp "VFM & C A LIEGE 450" - *Code VF-01* (see page 20 in the original book).



Showing the top and both sides, this full, sealed Eley box has the "Colt's Patent Fire-Arms Manufacturing Co., ...London" side label. It also has the weight of the powder (13 grs) and bullet (225 grs) on the side.

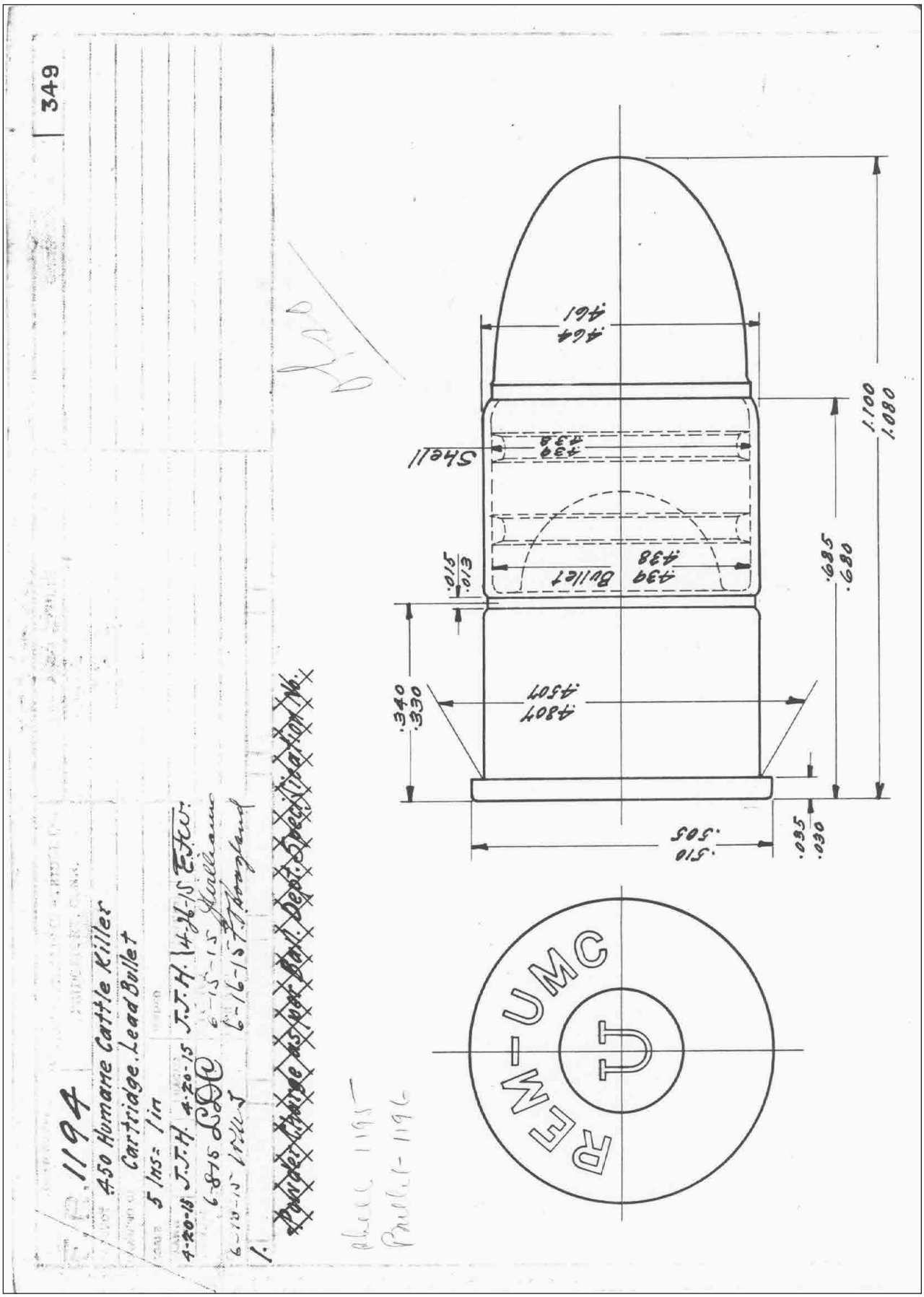
The tin of blanks has "A C" stamped on the label on the right-hand end. This stand for "Amorçage Couvert" - i.e. inside primed. The blanks have an 8-point crimp and are headstamped " 450" (Code *GG-01*)
(Image courtesy of John Kuntz)



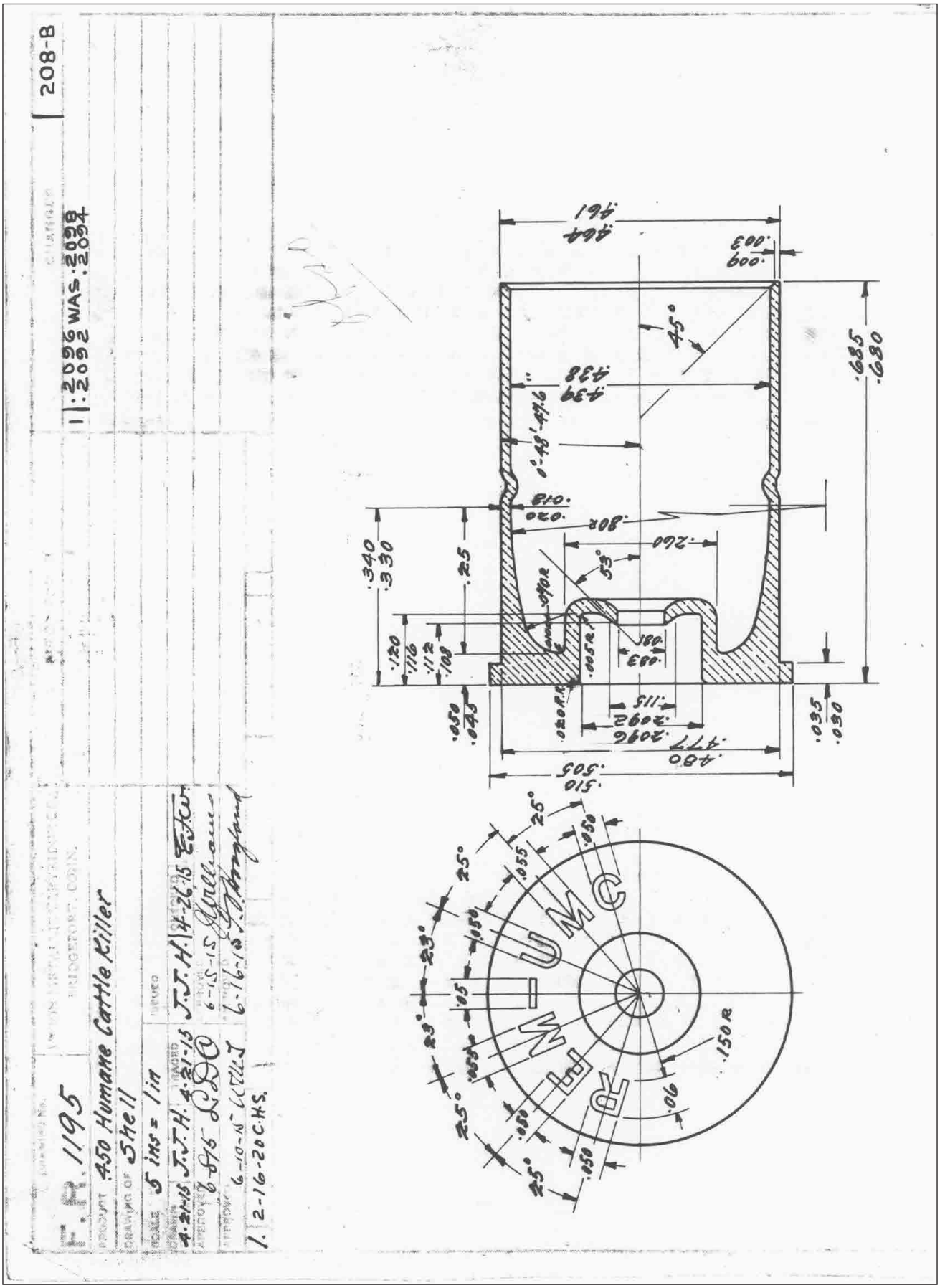
Top, bottom and side of a common Kynoch box, though with an over-label indicating that it had been imported from England by C-I-L (ICI was a major shareholder of C-I-L). Though not visible on this image, the box dates from 1945. See section on Canada in this addendum for more information about the relationship between ICI and C-I-L.

Appendix 2
Additional Factory Drawings

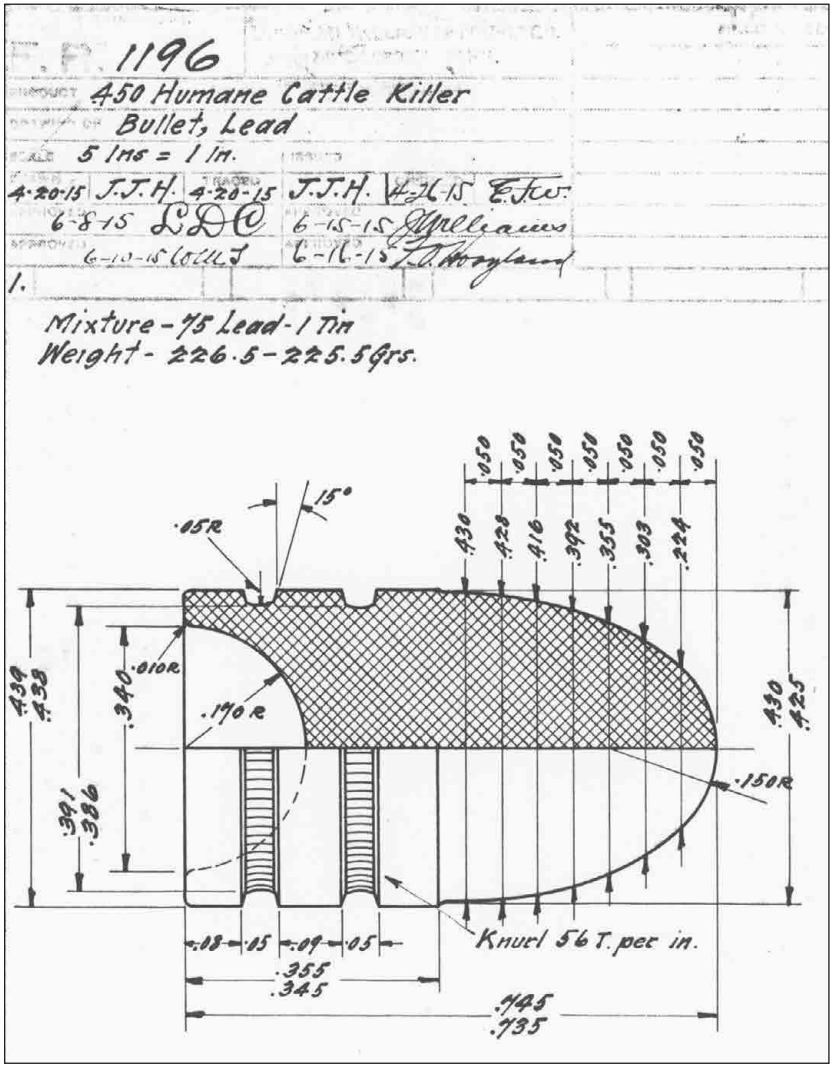
Page 121: Add the following drawings and their captions after page 121.

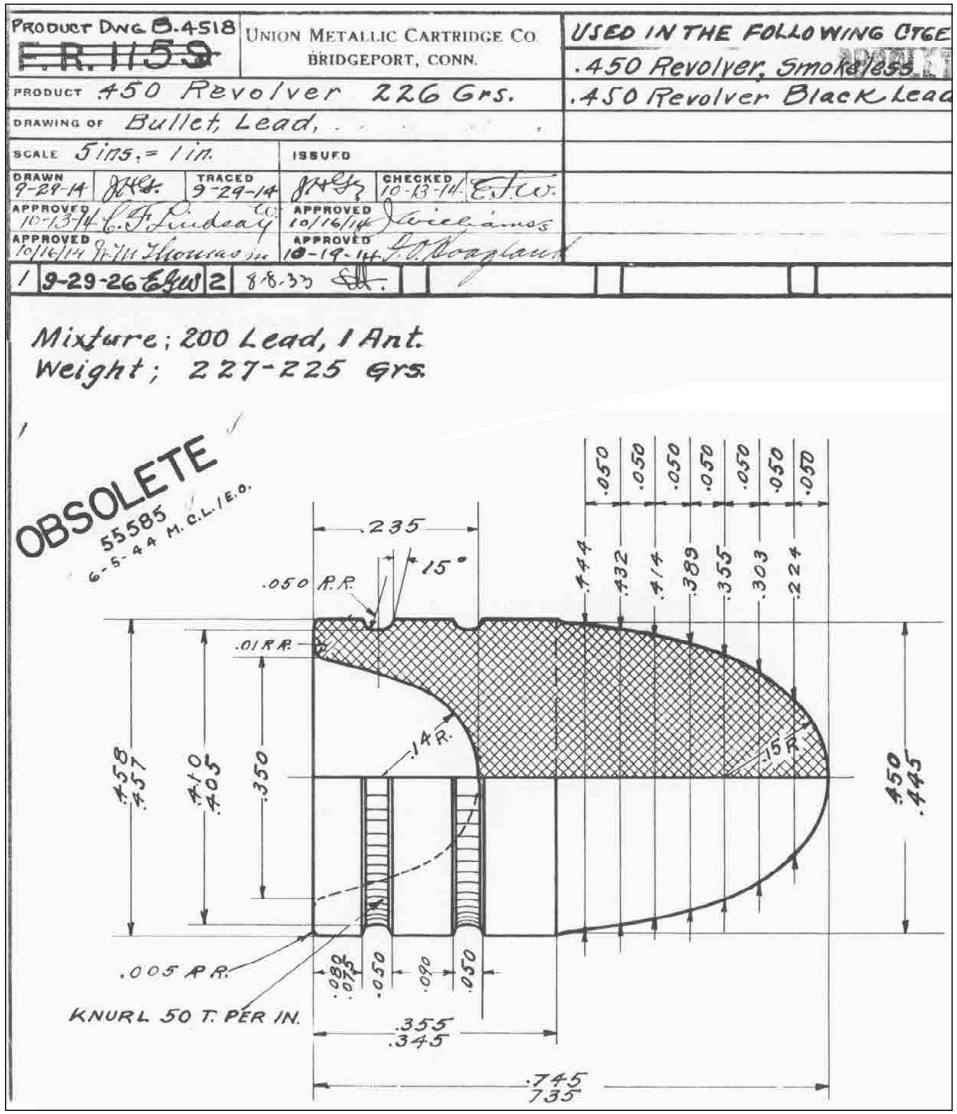


A Remington-UMC drawing showing a humane cattle killer cartridge. One of a series of drawings for this cartridge all dated from April 1915. No specimens of this cartridge have been located so far. Further information can be found on the next three pages. These drawings are courtesy of Lou Behling.



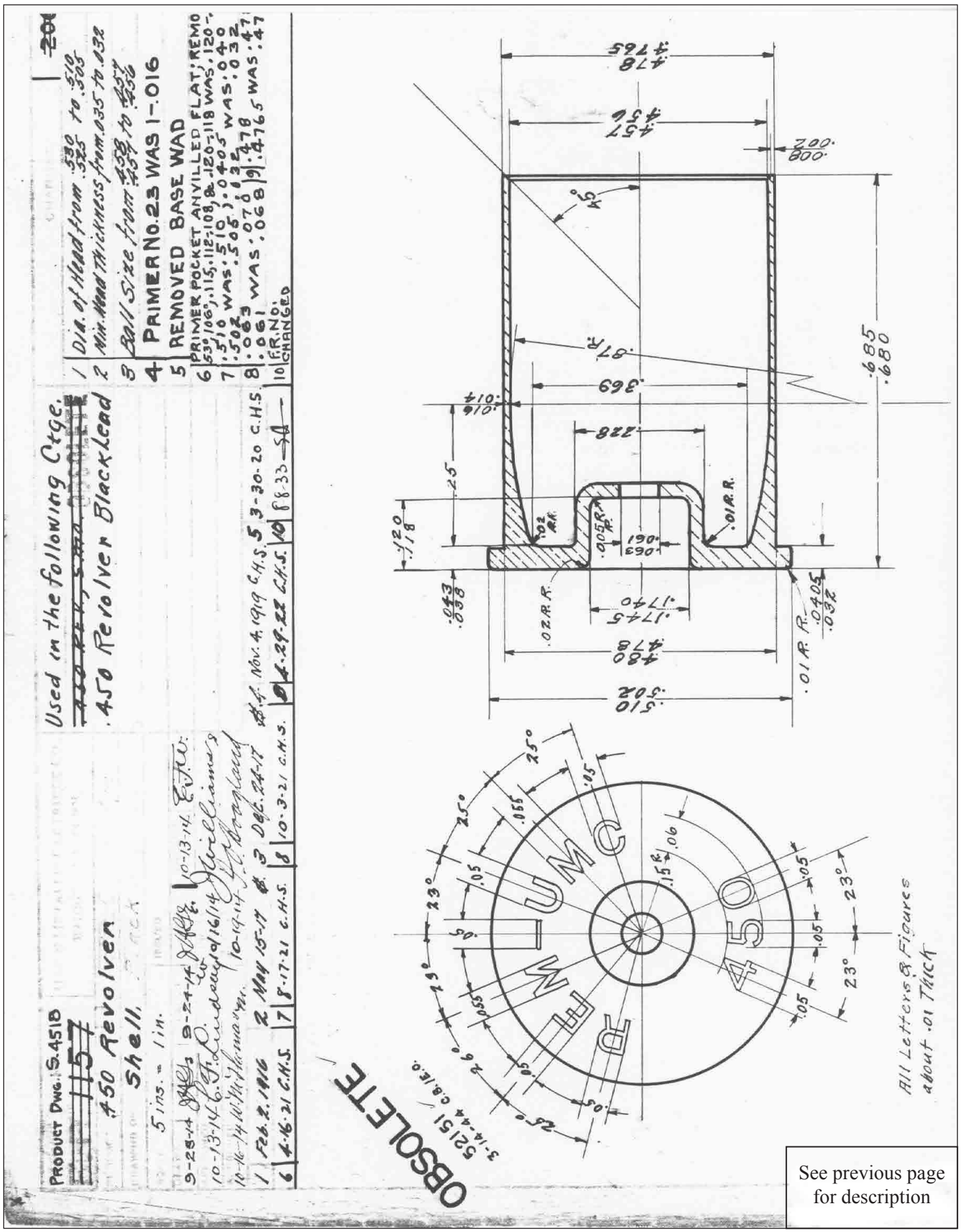
Another Remington-UMC drawing showing the details of the case and primer pocket for a humane cattle killer cartridge.

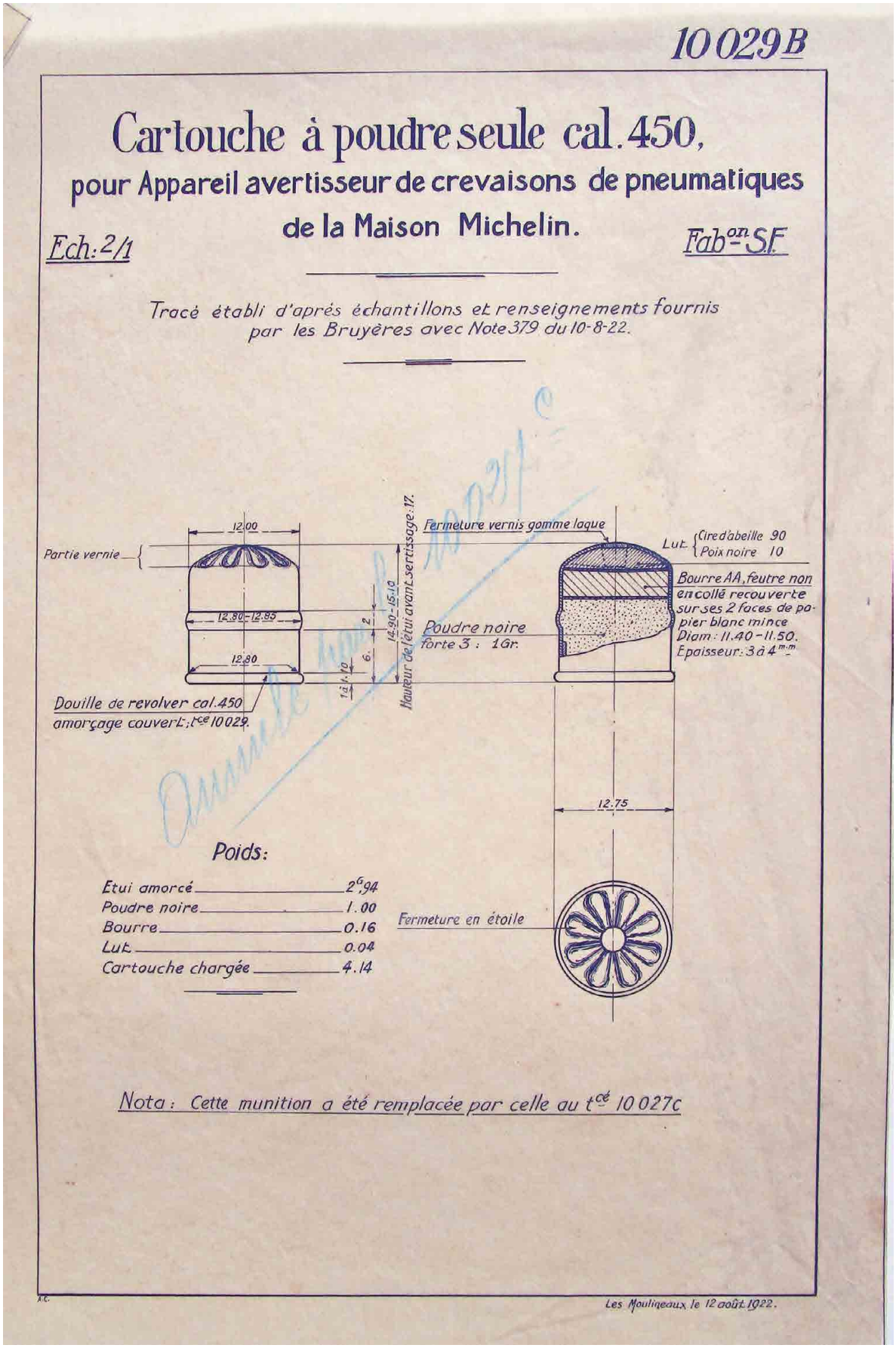




Extracts from two Remington-UMC drawings (reformatted to fit the page) showing the differences between the bullet for the humane cattle killer and the bullet for the normal ball round. The cattle killer bullet has a reduce diameter and shallower base cavity but the same weight.
The normal ball round drawings date from September 1914.
These drawings are courtesy of Lou Behling.

Below (on next page): the Remington-UMC drawing of the case for the regular .450 ball round. On comparing this to the case for the cattle-killer round on the previous page: note the differences in primer diameter and reduced base thickness.


PRODUCT DWG. S.4518
#157
.450 Revolver
Shell
5 ins. = 1 in.
Used in the following Ctge.
.450 Revolver Blacklead
1 Dia. of Head from .330 to .310
2 Min. Head Thickness from .035 to .032
3 Ball Size from #338 to #350
4 PRIMER No. 23 WAS 1-016
5 REMOVED BASE WAD
6 PRIMER POCKET ANVILLED FLAT; REMO 530/106, .115, 112-108, & .120-118 WAS: .120-.
7 .5110 WAS: .5105 .0405 WAS: .040
.5023 .0135 WAS: .032
8 .0661 WAS: .0678 9 .4765 WAS: .47
10 F.R. No. CHANGED
OBSOLETE
RIMLESS
.450
All Letters & Figures about .01 Thick
See previous page for description



SFM Drawing 10029B, dated August 12th, 1922. This shows the inside-primed blank cartridge with the belted case designed for the Michelin tire pressure warning device. The case contains 1 gram (approx 15 grains) of fine blackpowder covered by a coarse felt wad with white paper faces and topped with a heavy seal consisting of 90% beeswax and 10% black pitch (a petroleum based sealant)

End of Addendum
November 2022