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ARNOLD MYERS AND NILES ELDREDGE

The Brasswind Production of Marthe Besson's London Factory

The establishment of a brass instrument manufactory at 198 Euston Road, London by Gustave Auguste Besson in 1858 and its continuation by his widow, Florentine Besson née Ridoux, and then by their daughter Marthe have been described in the literature.[1] The history of the London Besson firm has been sketched anecdotally by Charles Timms, a long time employee and latterly Chairman and Managing Director of Besson & Co.[2]

This article draws on Stock Books in the Boosey and Hawkes archive and other documents to throw light on the instruments produced by the firm of F. Besson in the late nineteenth century, especially in the period from 1874 (following the death of Gustave Besson) to June 1895 (when the London factory passed into British ownership and separated from the French Besson firm).[3] From 1877 to 1895 both the Paris and London branches of the firm were managed by Marthe Josephine Besson. Marthe Besson married Adolphe Fontaine in 1880 but continued to use the Besson name.[4] An outline of the subsequent history of the company and its purchase by Boosey and Hawkes (completed 1 July 1968) has been given by one of the present authors.[5]

[1] Constant Pierre, *Les Facteurs d'Instruments de Musique*, (Paris, 1893) (Reprint: Minkoff, 1972). William Waterhouse, *The New Langwill Index: a Dictionary of Musical Wind Instrument Makers and Inventors*, (London: Tony Bingham, 1993), pp.29-30. Niles Eldredge, 'Mme. F. Besson and the Early History of the Périnet Valve', *Galpin Society Journal* LVI, (2003), pp.147-151.

[2] Charles. E. Timms, 'It started in 1837: the Story of a Famous Brass Wind Instrument Maker', in Frank Wright, (ed.), *Brass Today*, (London: Besson & Co., 1957).

[3] The Prospectus for the sale of shares in Besson & Co Ltd issued 1st July 1895 (Boosey & Hawkes archive, located in the Horniman Museum, London) summarises the history of the firm, giving 1853 as the date of establishment in London, 1873 as the year Gustave Besson died and was succeeded by his widow, and 1877 as the date his widow Mrs Florentine Besson died and was succeeded by their daughter Mrs Martha Josephine Fontaine Besson who, in 1888, became sole proprietress of the business.

[4] Fontaine was involved in the London business and not solely the Paris firm. Algernon Sidney Rose in *Talks with Bandsmen: a Popular Handbook for Brass Instrumentalists* (London: Tony Bingham, 1995: reprint of the 1st edition of 1895 with a new introduction) writes that in the absence of Adolphe Fontaine he was received by Henry Grice when he visited in 1893. His involvement came to an abrupt end when Marthe Besson sold the London business in 1895. She sold it (15 May 1895) to Arthur Bryans, who in turn sold it to the new company set up with Stratten Boulnois, Patrick Ross and Henry Grice as Directors. Fontaine then entered into litigation against his wife. According to a letter sent by the company to its shareholders on 24 October 1895 (Boosey & Hawkes archive, Horniman Museum, London) 'Monsieur Fontaine, the husband of Madame Besson, alleges that his wife had no authority to sell the business without his being a party to it, & has issued a writ restraining the Company from completing the purchase ... In the opinion of the Directors this matter is a quarrel betwen husband and wife to which the Company should not have been made a party'. The dispute between the company and Fontaine was resolved in August 1896, following which Bryans received payment as shares were sold. Soon after, seeking to patent the pedal (contrabass) clarinet in Britain, the company entered into negotiations with Fontaine.

[5] Arnold Myers, 'Brasswind Manufacturing at Boosey & Hawkes 1930-1959', *Historic Brass Society Journal* 15, (2003), pp.55-72.

THE STOCK BOOKS

The Boosey & Hawkes archive, located in the Horniman Museum, London, includes an incomplete but nonetheless extremely valuable group of eight Besson Stock Books. These record the instruments as completed: a brief description, the date added to stock, plating, engraving, case, date of sale and the name of the purchaser. The books have not survived in which Besson & Co recorded the instruments ordered and the allocation of serial numbers (a series analogous to the Distin & Co 'Work Shop Order Books' can be assumed).[6] Other Stock Books, not surviving, will have recorded sales of flugelhorns, tenor horns, baritones, trumpets, french horns, etc.: instruments which we know from surviving examples that Besson made in London.

Two sequences of serial numbers were used, one for valved instruments and one for slide trombones. The serial numbers of surviving valved instruments (stamped on the piston casing) accord with the entries in the extant Stock Books. Few Besson slide trombones survive from the period 1875-1895 and not all bear serial numbers, but those which do also correspond to the Stock Book entries. The manufacturing details given in the Stock Books are written in French (even entries in the later period when the firm was a British company), as are the sales details for British and export customers. It would appear that common serial number sequences may have been used for Besson production in Paris and London up to 1869 when the Paris factory was re established at rue Angoulème, after which separate serial numbering sequences were used for the two branches. Some instruments were stamped with both the London and the pre-1869 Paris addresses: details of the workmanship suggest that these were made in London. There is little to suggest that these instruments were not in fact in the same numbering sequence as Paris, however that might have been achieved. It would appear that from 1869 a new sequence was started in Paris, but that the London serial numbers continued the sequence used for the dual address instruments. The eight books are shown below in Table 1.

Besson 'Cornets No. 8' Stock Book 1868 - Apr 1873. Serial numbers 9009-14395 (+ some earlier)
1868 - 31 Mar 1871: serial numbers 9009-11885 in delivery date order
31 Mar 1871 - Apr 1873: serial numbers 11886-14395 in serial number order

Besson cornet Stock Book Feb 1874 - Apr 1875. Serial numbers 15693-17632
Front cover, 17556-67 (on page 1), initial signatures/pages missing
14396-15692 and 16131-44 apparently missing (14 numbers = 2 sides)

Besson 'Cornets No. 7' Stock Book Oct 1887 - Oct 1889. Serial numbers 38051-42988
apparently complete

Besson cornet Stock Book Oct 1889 - Oct 1891. Serial numbers 42989-47120
Front cover missing, otherwise apparently complete

These four books give details of cornets, mostly in B♭ but also soprano cornets in E♭ and the occasional cornet in C.

Besson 'Basses No. 3' Stock Book 1889 - 1899. Serial numbers 41259-65748
main sequence apparently complete; Victory models 58450-63266 not present

This book gives details of the production and sales of euphoniums, including the introduction of the 'Victory' model (see below).

Besson 'Contrebasses No. 3' Stock Book 1885 - 1893. Serial numbers 33324-52759
apparently complete

This book gives details of the production and sales of bombardons in both E♭ and B♭.

'F.B. & Co / Trombones No. 2' Stock Book 1875 - 1886. Serial numbers 673-2163
apparently complete

Besson 'Trombones à Coulisses No. 3' Stock Book 1887 - 1895. Serial numbers 2166-4514
apparently complete

These two books give details of the production and sales of alto, tenor and bass slide trombones.

Table 1. *The eight Besson stock books.*

[6] Arnold Myers, 'Brasswind Innovation and Output of Boosey & Co in the Blaikley Era', *Historic Brass Society Journal* 14, (2002), pp.391-423.

From 1871, it appears that the books were ruled in four columns (date sold, model, serial number, customer) and in twelve rows. The serial numbers were entered first, the model names added when the instruments were entered into stock, and the date sold and customer's name were completed at time of sale or when the instrument was spoken for. The standard models were generally made in batches of 6, 12 or 24. Within batches there was often variation in details such as the classification,[7] the engraving, silver plating and the provision or not of a waterkey.[8] In some cases a batch of 5 or 11 was entered together with a blank row, suggesting that a small number of instruments were stocked somewhere other than the main address. The sale of a few instruments to 'City' could mean that Besson maintained a retail outlet somewhere more central in London than Euston Road.

By piecing together the data in these books it has been possible to reconstruct the two serial number sequences for valved and slide instruments to a good approximation. The sequences are given in Appendices 1 and 2. Before 31 Mar 1871 the Stock Book entries were made in order of delivery from the workshop, and are not in serial number order. The time taken to complete some batches could be weeks or months longer than other batches close in serial number.

ADVERTISING

Figures 1-6 (see pp.59-66) show an advertising poster from around 1885.[9] This a particularly valuable resource because it uses photographs, unlike most advertising material from this period, which uses line drawings. The poster shows what were probably the most common models offered at that time (excluding models made to special order).

PRODUCTION

From the beginning of the London operation, the Besson factory workshops were in Euston Buildings (now re-named Stephenson Way), a lane situated close behind the Euston Road showrooms and offices. The factory and showrooms were thus back-to-back and no doubt connected on at least one level. Algernon Rose visited Euston Road in 1893,[10] gathering material for the series of lectures which would subsequently be published as *Talks with Bandsmen*. He reported that at this time the firm employed 131 in the workshops and made 100 brass instruments a week. The manufacturing operations are described and illustrated in *Talks with Bandsmen*, and in a contemporary article by Edward Salmon, 'How Brass Bands are Made'.[11]

From 29 September 1933, the former Boosey & Company factory at Frederick Mews, Stanhope Place, was leased[12] and was used by Besson & Co until 1948. A showroom was established in West End; the Euston premises were demolished and the site was re developed in the mid 1930s.

A number of the original designs for instruments and mandrels survive in the Boosey & Hawkes archive.[13] As with the Stock Books, the text is mostly in French. The designs are mostly for standard models of band instruments.

The earliest Stock Books record a number of instruments supplied to and received from the Paris house.[14] It is also possible that in the early days,

[7] The Stock Books record the classes as 'Classe 1', 'Classe 2', 'Classe 3'; surviving instruments are stamped 'CLASS / A', 'CLASS / C'. The class referred to the quality of finish and the length of guarantee, and not to the design.

[8] This is in contrast to the production methods of Boosey & Co, where Class A and Class B instruments were not made in the same batch.

[9] This has kindly been made available by North Winds, an instrument repair business based in Perth, Scotland. The latest medal cited on the poster is 1882; instruments from 1886-87 were stamped '40 MEDALS OF HONOUR' so at that date the poster would have claimed 40 medals rather than 35. The poster therefore dates from c1885. The full form of the name F. BESSON & CO. has not been found stamped on instruments, but is marked on some instrument cases.

[10] Algernon Sidney Rose, op cit, mentions that at the time of his visit Adolphe Fontaine was representing the firm at the The World's Columbian Exposition in Chicago, so it must have been in the period 1 May to 31 October 1893.

[11] Edward Salmon, 'How Brass Bands are Made', *Strand Magazine*, (November 1894). This article was commissioned 29 May 1893, so Salmon was working at the same time as Rose. The article was reprinted in the sales catalogue *The World Renowned Besson "Prototype" Band Instruments*, (London: Besson & Co., 1913), pp.61-64. It uses nine of the same plates that are in Rose, *Talks with Bandsmen*; it is possible that the blocks may have been used previously for Besson's trade literature.

[12] The *Seal Book* 25 January 1902 - 1 July 1968 (Boosey & Hawkes archive, Horniman Museum, London). The Frederick Mews factory was built for Boosey & Co in 1876 and still stands.

[13] The surviving drawings are listed below in Appendix 5.

[14] A batch of cornets commencing with 12342 was supplied to the Paris house in 1872, the stock books recording that

components such as valve clusters may have been made in Paris for assembly in London. In general, completed instruments were not interchangeable between the two houses since instruments for the French market were built at *Diapason Normal* (A_4=435 Hz, standard since 1859) but instruments for the British market were built at 'Old Philharmonic' pitch standard (A_4=452 Hz). However, when new designs were introduced (such as the cornophone or the Victory models) it seems likely that one factory would have initially supplied both markets.

The number of nineteenth-century Besson instruments in museums or private collections known to the authors is not large. Most of the survivors are silver plated but the Stock Books record a small proportion of instruments as 'argenté'. Most instruments in the Stock Books are annotated 'Cl. 1', 'Cl. 2', or 'Cl. 3'. This quality grade does not appear on instruments until after 1895: most extant Besson & Co instruments are stamped 'CLASS A'. These factors suggest that Besson's output of cheaper, unplated instruments has long since worn out and corroded away.

The year 1890 is the only year to be completely documented in the surviving Stock Books for cornets, basses, contrabasses and trombones, and thus provides a suitable sample period to review Marthe Besson's production in detail. The items added to stock over this year are listed in Table 2 on the next page, but the description of the various models may not be entirely consistent.

TOTALS	
E♭ soprano cornets	92
cornets in C	17
cornets in B♭	1084
trombone in C	1
trombones in B♭	229
trombones in G	55
euphoniums in C	3
euphoniums in B♭	297
bombardons in E♭	180
bombardons in B♭	105

The serial numbers allocated in this period, as closely as we can estimate, were:

for valved instruments	43615-46340	(2725)
for slide instruments	3015-3312	(307)

For comparison, if a total production of 3032 instruments were constituted in the same proportion as the standard instrumentation of a British brass band, we would have:

E♭ soprano cornets	125.5
B♭ cornets	1004
B♭ flugelhorns	125.5
E♭ tenor horns	376.5
B♭ baritones	251
B♭ tenor trombones	251
G bass trombones	125.5
B♭ euphoniums	251
E♭ bombardons	251
B♭ bombardons	251

The production figures are consistent with the fact that British brass bands constituted the largest market for Besson's London factory. The large number of cornets sold allowed a range of models to be offered. These included the Cornet Belge (Figure 7), the Cornet Périnet (Figure 8), the Desideratum model (Figure 9), the Cornet collé (Figure 10), the Etoile model (Figure 11), and the n/Etoile model (Figure 12). Figures 7-12 (which are not all at the same scale) may be found on pp. 67-72.

THE CUSTOMER BASE

The production of 1890 has been analysed by allocating purchasers into categories. The purchasers of instruments with serial numbers 43615-46340 (valved) and 3015-3312 (slide) have been classified as follows:

Brass bands	brass bands (BB in title, or recognised names of bands; volunteer and militia bands counted here)
Companies	companies excluding those known to be dealers, instruments probably bought for works bands (some dealers may be inadvertently included); also police
Dealers	companies known to be dealers (some instruments bought for works bands may be inadvertently included)
Individuals	individuals (some may be bandmasters or others buying instruments for bands)
Military	GB Services bands (also Kneller Hall)
Schools	schools (including Sunday schools)
S.A.	Salvation Army
Presented	prizes at contests

[14] (*continued*) they were 'Diapason Français'. One Paris made silver cornet with a London hallmark (30634, 1883-4) has been recorded. The supply of cornet 45821 to 'Maison de Paris' in 1890 was a rare occurrence by this time.

Sopranos en Mi♭ (some specifically 'soprano anglais')	92	in 13 batches
Cornets en Ut, N/Etoile	14	in 2 batches
Echo cornets en Ut	3	in 1 batch
Cornets en Si♭, n/Etoile or n/star	305	in 30 batches
Cornets en Si♭, Desideratum (some specifically 'anglais')	286	in 24 batches
Cornets en Si♭, Belge (some with waterkey, 'à clef')	134	in 12 batches
Cornets en Si♭, Périnet (some with waterkey, 'à clef')	104	in 10 batches
Cornets en Si♭, Etoile Eclipse or n/star Eclipse	103	in 8 batches
Cornets en Si♭, Collé (some specifically 'anglais', some with waterkey, 'à clef')	84	in 10 batches
Cornets en Si♭, Desideratum Eclipse	42	in 7 batches
Echo cornets en Si♭	12	in 4 batches
Cornets en Si♭, Desideratum Collé	4	one off
Cornets en Si♭, Etoile n/mod	4	in 3 batches
Cornets en Si♭, Desideratum n/mod	4	in 1 batch
Cornet en Si♭, n/modèle	1	
Cornet descendant	1	
[the designation 'Collé' refers to a variant of the 'Desideratum' model]		
[the designations 'nouveau modèle' and 'Eclipse' may be the same]		
Basses en Ut et Si♭ à 4	3	in 1 batch
Basses Si♭ à 3	124	in 22 batches
Basses Si♭ à 4	84	in 16 batches
Basses Si♭ à 5	30	in 5 batches
Basses Si♭ à 3 nouv. mod.	7	in 2 batches
Basses Si♭ à 4 nouv. mod.	24	in 6 batches
Basses Si♭ à 5 nouv. mod.	3	one off
Basses Si♭ nouv. mod (number of valves not specified)	4	one off
Basse et trombone (probably a double bell euphonium)	1	
Doublephone simple	12	in 5 batches
Doublophone duplex (or double)	8	in 4 batches
Contrebasses Mi♭ à 3 (or number of valves not specified)	116	in 23 batches
Contrebasses Mi♭ à 4	24	in 15 batches
Contrebasses Mi♭, cavalry model	36	in 6 batches
Contrebasse Mi♭, ronde	4	in 1 batch
Contrebasses Si♭ (model not specified)	3	in 3 batches
Contrebasses Si♭, petit prop.	45	in 14 batches
Contrebasses Si♭, petit prop. droite	7	in 3 batches
Contrebasses Si♭, grand prop.	30	in 3 batches
Contrebasses Si♭, grand prop. droite	2	in 1 batch
Contrebasses Si♭, monster	10	in 6 batches
Contrebasses Si♭, monster droite	4	in 3 batches
Contrebasse Si♭, ronde petit prop.	1	
Contrebasses Si♭, ronde grand prop.	3	in 1 batch
Trombones à Coulisses en Ut	1	
Trombones à Coulisses en Si♭ (or pitch not specified)	211	
Trombones à Coulisses en Si♭ large proportions	12	
Trombones à Coulisses en Si♭ G. proportions	1	
Trombones à Coulisses en Si♭ avec triste	5	
Trombones à Coulisses en Sol	54	
Trombones à Coulisses en Sol avec poids à la coil	1	
Coulisses vendu seul, Si♭	4	
Coulisses vendu seul, Sol	1	

Table 2. *Additions to Besson's stock in 1890.*

Export destinations were primarily Australia, Canada, India and USA (at this date, via Carl Fischer), with tiny numbers going to New Zealand and South Africa. In other years, many went to Egypt.

In many cases an original customer's name and date of purchase have been crossed out and replaced by a different name and a later date. These quite frequent instances could represent instruments returned by dissatisfied or defaulting customers, or possibly indicate prospective customers 'putting their name down' for instruments which were not in the end bought. In this analysis of the customer base, the final purchaser has been counted. In the allocation of serial numbers to dates, however, the first date of sale has been used as evidence of the allocation of a serial number.

Slide trombones

Brass bands	123	(43%)
Companies	13	(3%)
Dealers	57	(20%)
Individuals	47	(17%)
Military	39	(14%)
Schools	3	(1%)
Presented	2	(1%)
Australia	2	(1%)
India	2	(1%)
USA	47	(17%)

Bombardons (contrebasses)

Brass bands	155	(54%)
Companies	18	(6%)
Dealers	55	(19%)
Individuals	43	(15%)
Military	14	(5%)
Schools	3	(1%)
S.A.	1	(0%)
Antigua	1	(0%)
India	2	(1%)
USA	34	(12%)

Euphoniums (basses)

Brass bands	116	(39%)
Companies	26	(9%)
Dealers	78	(26%)
Individuals	42	(14%)
Military	25	(8%)
Schools	8	(3%)
Presented	2	(1%)
S.A.	1	(0%)
Australia	2	(1%)
Canada	10	
India	6	(2%)
New Zealand	1	(0%)
USA	65	(22%)

Cornets

Brass bands	283	(23%)
Companies	97	(8%)
Dealers	453	(37%)
Individuals	286	(24%)
Military	64	(5%)
Schools	18	(1%)
Presented	7	(1%)
S.A.	2	(0%)
Reed band	1	(0%)
Maison de Paris	1	(0%)
Unknown	5	
Australia	7	(1%)
Canada	1	(0%)
India	10	(1%)
S.A.	4	(0%)
USA	340	(28%)

TOTALS

Brass bands	677	(33%)
Companies	154	(7%)
Dealers	643	(31%)
Individuals	418	(20%)
Military	142	(7%)
Schools	32	(2%)
Presented	11	(1%)
S.A.	4	(0%)
Australia	11	(1%)
Canada	11	(1%)
India	20	(1%)
New Zealand	1	(0%)
South Africa	5	(0%)
USA	486	(23%)

These figures can be contasted with those of Besson's main rival, Boosey and Company, whose brass instrument output in the year 1890 numbered 1819.[15] According to Rose, Besson's annual London production of brass instruments was 5000.[16] Boosey

[15] A comparable analysis of Boosey & Co production is given in Arnold Myers, 'Brasswind Innovation and Output of Boosey & Co in the Blaikley Era.', *Historic Brass Society Journal* 14 (2002), pp.391-423.

[16] Algernon Rose, op cit, calculated on the basis of a 50-week working year.

& Co allocated serial numbers to the large numbers of hunting horns, bugles and other natural instruments that they made; the annual total of 3032 reached above does not include such signalling instruments. Besson made them but did not number them.

Apart from supplies to one dealer, Fischer, the bulk of production was sold to British customers, primarily brass bands. According to Timms,[17] Madame Besson was:

> personally acquainted with bands and bandsmen throughout the country, she attended all the principal contests. She was a splendid hostess[18] and was most hospitable to players both at the London Headquarters and when present at Festivals. At the famous Belle Vue Gardens in Manchester, where the blue riband of band contesting was competed for annually, she had her own room in the hostelry where refreshments were available for all ... Many bands in the north would reserve their orders for new equipment until the contest day, when, at the usual big exhibition of the products, they would meet Madame personally, place their orders, and pay cash on the spot. It is on record that the money taken then in gold sovereigns! amounted to as much as £2,000; and Madame always had a bodyguard to assist in transporting it safely to London.

The expansion in this lucrative market had probably been one reason for the establishment of a London branch of the original Paris firm.[19]

The major exception was the United States agency of Carl Fischer in New York, which absorbed about a quarter of all manufacture. According to Timms,[20] 'this American business was started by an ex-employee of the firm who emigrated to the States, taking with him on 'spec' two cases of band instruments'. This is unlikely, since the firm's sole representative in the United States was, until his retirement in 1883, Louis Schreiber. A good number of surviving instruments dating from 1874 to 1882 bear the inscription 'Louis Schreiber / Sole Agent / U. States' below the usual Besson inscriptions. His appointment was taken over by Carl Fischer, who held the agency until well into the twentieth century. The Directors' *Minute Books*[21] record that company management often had strained relations with Fischer, who (according to the *Minute Books*) over-priced Besson instruments to the point at which the larger instruments were unsaleable in the U.S., did not have the capacity to handle coast to coast distribution, and were guilty of using Besson tradenames such as 'Prototype' for instruments by other makers. Nevertheless, the Stock Books record substantial sales through Fischer's agency.[22]

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[17] Chas. E. Timms, 'It started in 1837: the Story of a Famous Brass Wind Instrument Maker', in Frank Wright, (ed.), *Brass Today*, (London: Besson & Co., 1957).

[18] According to the Minute Books (see note 21), Madame Besson regularly gave brandy to each man and boy at Christmas. The wage levels were so low, however, that under threat of industrial action the directors of Besson & Co had to raise the rates of pay very early in the existence of the new company.

[19] A repair branch in Manchester at 37 Cheetham Hill Road was set up and announced in *Brass Band News*, August 1895. According to the Minute Books (see note 21), in 1896 a branch in Newcastle was created by the acquisition of the firm of J.H. Woods, Mr Woods retained as local manager (*Brass Band News*, November 1896).

[20] C.E. Timms, op cit.

[21] The Boosey & Hawkes archive, located in the Horniman Museum, London, includes:

Directors' Minute Book 1	Aug 1895 - 1898
Directors' Minute Book	1898 - 1902
Directors' Minute Book	1906 - 1912
Directors' Minute Book	1912 - 1917
Directors' Minute Book	1917 - 1932
Shareholder Meeting Minutes	Oct 1932 - Mar 1957

(This includes correspondence with Boosey & Hawkes concerning the transfer of manufacture of Besson instruments to Edgware in 1948. One factor in the decision to transfer manufacture to Boosey & Hawkes was the imminent expiry in 1954 of the lease of factory premises at Frederick Mews from Boosey & Hawkes.)

The Chairman of the Board from 1895 to 1912 was Stratten Boulnois. A prominent Board member was Sir Arthur Conan Doyle, who chaired at least one Board meeting *c*1917. The Directors' *Minute Books* contain interesting industrial history. An example of this is the successful measures to resist trade union demands in 1913 for higher wages, and for the same wages to be paid to all employees regardless of levels of skill and experience. The minutes, and an enclosed letter to the Salvation Army, describe how Besson & Co formed an alliance with their main competitors in London, Hawkes & Son and Boosey & Co, to agree a common response (a lock out of union members) in the event of industrial action. (The Boosey & Co *Instrument Books* show that wage levels remained low until 1918.)

[22] Frequent consignments of numbers of instruments (often whole batches) to Fischer (usually mis-spelled 'Fisher') are recorded in the Stock Books, commencing 23 March 1885. In contrast, Schreiber is mentioned only in connection with the sale of 11 Desideratum cornets (13649-58, 60) and 6 soprano cornets (14119-24) on 6 January 1873. At least

THE PROTOTYPE SYSTEM

The word 'Prototype' was stamped on the bells all London Besson instruments from 1885-86 onwards, coinciding with the use of an 'FB' monogram in place of the 'FR' monogram bell stamping (see Figures 19 and 20). Gustav Besson's 'Système Prototype' was the method of making the sections of instruments on steel mandrels, ensuring that once the design of an instrument model had been determined, all subsequent production of that model would exactly duplicate the original. Since by then this was the normal method for the factory production of brass instruments, Besson's suggestion that it was a special feature was an advertising ploy.

Besson claimed in 1856 that his instrument designs were based on acoustical and mathematical principles.[23] The parabola was fashionable at this time and featured in designs of Boehm and Sax. Working through Besson's example, we find that Besson's 'parabola' was not that at all, but in fact an exponential function. This may well give acceptable proportions for gently expanding parts of instruments, but breaks down completely for most bell flares. Besson wrote of 'acoustical equations', but at this time an adequate theory to do this did not exist.

A broadsheet (undated, but probably 1874-85) put out by the London office entitled 'Improvements in Musical Instruments: the Mathematic Prototype' also hints at acoustical design. The text goes on to describe a more likely design procedure: forty or fifty tubes were made, assembled into instruments, and tested by a panel of 'accomplished provers'. The preferred design was adopted as the Prototype. This procedure may indeed have been an advance on the methods of other manufacturers if their design optimisation relied on iterative modifications assessed by trial and error.

CONTRABASS TROMBONES

Although Boosey & Sons purchased the patent rights to the double slide contrabass trombone in 1862 (which they marketed as the Basso Profundo) Besson and possibly Wigglesworth made examples before this date. The oldest survivor of this species is the Besson instrument at Keighley.[24]

DOBLOPHONES

According to an anonymous article of 1891 (probably based on Besson's advertising material),[25] the 'Doublophone' (later, 'Doblophone') was based on the 'Prototype' euphonium. Unlike the ordinary double bell euphonium, which they also made as a poorer, cheaper model, in the windway of the 'Doublophone' the dividing valve was in the mouthpipe, so there were double passages through the main valves. There is a doblophone in the museum collection of Gakkigaku Shiryokan, Kunitachi College of Music, Japan, Inventory number 1259.

THE 'VICTORY' MODELS

Madame Besson's main competitors in the brass band market of the British Empire were Boosey & Company. (The growth of Hawkes and Son to

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22 (*continued*) one surviving cornet (11870) with the Schreiber inscription is recorded in the Stock Books as 'inconnu'. It may be that instruments subsequently destined for New York were simply not entered into the Stock Books since they were specifically made for Schreiber and would not be sold in London. This is at variance with the practice for other dealers and for the later sales to Fischer, so remains something of a mystery.

23 Gustave Besson described his method in the *Certificate d'addition* dated 12 July 1856, supplement to French patent No. 22072 of 18 January 1855 for improvements to all types of brasswind instruments. An excerpt translated by de Keyser is given in Ignace de Keyser, 'The paradigm of industrial thinking in brass instrument making during the nineteenth century', *Historic Brass Society Journal* 15, (2003), pp.233-258. This includes the following:

> Now I need to rebuild all mandrels with a new profile ... I shall start from the mouthpiece's edge ... since the edge is proportional to each instrument and has been adapted by experience. From the base's diameter I subtracted the diameter of the edge of the mouthpiece and calculated the remainder or the difference between them in tenths of a millimetre. ...
>
> On my working drawing I indicate the length of the cylindrical part that should match up with the valves. Starting from the diameter of this cylindrical part, I reduce the cone of the mouthpiece up to its edge, always according to the law of acoustical equations that no one before me had discovered or even imagined to have existed. Once the ordinates and abscissae of my conical tube's profile were indicated on my working drawing, I needed only to draw the parabolic curve that constitutes the aforementioned acoustical profile. ...
>
> This acoustical perfection is so real that it will produce the same sound with the same intensity, the same perfection in every tone ... independent of the material the instrument is made of ...

24 This instrument is described and illustrated in Arnold Myers, 'A Slide Tuba?', *Galpin Society Journal* XLI, (1989), pp.127-128.

25 *Orchestral Times and Bandsman*, Vol. IV, (1891), p.120.

capture a large share of this market came in the early twentieth century). The success of D.J. Blaikley's 'compensating pistons' models from 1874 onwards for high quality instruments probably prompted in response Besson's British patent No. 6649 of 1890. Innovative valve designs such as the 'registre' had been made in Paris, but the production of the London factory would appear to have been standard valve designs up to this point. The new model was advertised as the 'Victory Compensator Transpositor' model.[26] The 1890 patent was a rather complicated system on the double principle. As built, 'Victory' three valve instruments such as a cornet (Figure 15) had the 1st and 2nd valves double with respect to 3rd. However, the shorter passage from 3rd to 1st valve (the windway when 3rd valve is not pressed) actually passes through the 2nd and 1st pistons before re entering 1st to continue as normal back to 3rd (via 1st and 2nd valve loops if 1st or 2nd valves are operated). This useless passage through the 1st and 2nd valves added weight to the pistons and increased risk of leaks. It may have been introduced merely to differentiate Besson's from previous designs such as Besson's own G.B. Patent No. 2887 of 1859 or some varieties of Sudre's 'Arban Compensateur'.

Production of Victory euphoniums ('basses') appears (from the Stock Books) to have started in 1896. An un-numbered and highly complex euphonium (Figure 16) in the collection of Frank Tomes may be the only survivor of this 'Victory basse'. Its design principle is the antithesis of compensation: the first valve is double with respect to the third valve, the third valve is double with respect to the fourth valve, and the fourth valve is double with respect to the first valve. Thus for any two valves (not including the second) the correct tube length is provided.[27]

In 1903 Besson & Co patented their so-called 'Enharmonic' valve which was simpler, with the 1st and 2nd valves double with respect to 3rd. The windway leads from mouthpipe to 3rd valve, then via one of two alternative windways through 1st and 2nd valves back to the third valve, thence to bell.[28] A four valve version was developed in which the mouthpipe leads to 3rd valve, the 1st and 2nd valves are double with respect to 3rd valve, and the 4th valve is compensating with respect to 3rd valve. Judging by the number of surviving examples, the 'Enharmonic' models were more successful. The 'Victory' models were probably too heavy and too expensive to become popular.

CORNOPHONES

The British patent on the cornophone familiy was filed late in 1890. Most surviving cornophones have a inscription on the valves incorporating 'S.G.D.G',[29] even when the bell has the 'F. BESSON / ... / LONDON' inscription. Since 'S.G.D.G' appears on contemporary Paris-made Besson instruments, and the serial numbers are rather low for London at this date, it is likely that cornophones were made in Britain only from circa 1895, and then for a short time.[30] They were marketed from the London office, however, as early as 1891. Five sizes were offered: B♭ Cornettito; F & E♭ Alto; C & B♭ Tenor; C & B♭ Tuba with 3 or 4 valves; E♭ Bass. It was claimed that they were used in church choirs, especially the Tuba in C, and also as horn substitutes.[31] However, there is no independent evidence for any specific use in Britain.

The cornophone was a bold attempt to introduce a different voice to the palette of tone colours.[32] Surviving instruments are responsive and rewarding to the player, but the time for introducing new families of brass instrument had passed by 1890.

CONCLUSIONS

By the time Marthe Besson's London business was floated as a limited company it had achieved pre eminence as the largest supplier of brass band and

[26] An advertisment in *Brass Band News*, February 1893, claimed that the 'Victory Compensator Transpositor' cornet was patented 'in all nations'.

[27] A schematic diagram of this system is given in Bruno Kampmann, 'Les Systems de Pistons', *Larigot* 7, (March 1990), pp.14-21.

[28] Enharmonic valves were first mentioned in *Brass Band News* in the issue for September 1906, where it is claimed that they 'had been used with great success in contests of 1905 and 1906'.

[29] 'S.G.D.G' *denoted sans garantie du gouvernement*: that is, breveté s.g.d.g. meant patented, but not under government guarantee.

[30] Only one cornophone with a London inscription and lacking 'S.G.D.G.', the alto in F with serial number 63831 in the Horniman Museum (14.5.47/312), is known to the authors. If numbered in the London sequence this was numbered by 7 December 1897.

[31] Anonymous article (probably based on Besson's advertising material), in *Orchestral Times and Bandsman*, Vol. IV, (1891), pp.201-3. The Alto Cornophone ('to take horn parts in brass or military bands') and the Tuba Cornophone ('for bass parts or leading choirs') had already been advertised in *Brass Band News*, November 1890.

[32] John Webb, 'The Cornophone as Wagner Tuba', *Galpin Society Journal* LI, (1999), p.193.

other brasswind instruments in Britain and brought in a substantial income from exports, primarily to the United States. The instruments themselves enjoyed a high reputation: and the customer base was not only large[33] but also included many of the best bands (such as Black Dike Mills Band) and the most prominent musicians (such as Alexander Owen).

It is not possible to determine who it was on Marthe Besson's staff who was responsible for the technical developments; there may not have been a single acoustical engineer to rank alongside David James Blaikley at Boosey & Co. It seems likely that some developments (such as the cornophone) originated in the Paris factory, and the 1854, 1855 and 1874 valve patent innovations were all patented, at least first, in Paris. (Besson's British and American Patents are listed in Appendix 4.) Other models (such as the 'Victory' instruments) appear to have originated in London, and bear witness to a high degree of ingenuity and enterprise at 198 Euston Road.

SURVIVING INSTRUMENTS

A list of surviving instruments is maintained on the Galpin Society website, URL:

www.galpinsociety.org/gdnj.html

The authors would be glad to hear of other extant instruments from the nineteenth century.

ACKNOWLEDGEMENTS

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Figures on facing page.

Figure 17 (top left). *Early bell inscription showing 'GB' monogram (photograph: Raymond Parks). B♭ cornet, 1849-57, probably c1851, EUCHMI (3271).*

This instrument also bears the mark of Henry Distin, and was probably imported for sale in Britain before the establishment of Besson's London factory in 1858.

Figure 18 (top right). *Typical valve inscription showing "Brevetée" (photograph: Raymond Parks).*

Vocal horn (Cavalry tenor cor) in F, E, E♭, D, D♭ and C, serial number 19662, probably 1876, EUCHMI (4197). Until 1895 the firm was F. Besson & Co., and 'F. Besson' was stamped on instruments: the feminine form 'Brevetée' indicates that here 'F. Besson' denotes Florentine Besson. The monogram used before 1885-6, however, was FR, which probably pertained to Madame Besson's maiden name, Florentine Ridoux.

Figure 19 (bottom left). *Typical bell inscription showing the FR monogram (photograph: Raymond Parks)*

Echo cornet in C, serial number 29420, probably 1882, EUCHMI (1451). Marthe Besson married Adolphe Fontaine in 1880, following which there was an opportunity to continue the use of 'F. Besson' with an alternative denotation of Fontaine Besson. This could explain the masculine form 'Breveté' which become more commonly used, as here.

Figure 20 (bottom right). *Typical bell inscription showing "CLASS A" (photograph: Raymond Parks)*

B♭ cornet, serial number 60896, circa 1898, EUCHMI (2869). This later bell inscription shows the quality classification and the 'Prototype' trade name. The monogram used after 1885-6 was FB. The change from the FR monogram to FB seems unlikely to have been purely a posthumous change from 'Florentine Ridoux' to 'Florentine Besson': it was quite possibly a step towards renaming the firm 'Fontaine Besson' (as used in the 1890 patents). Coinciding with the use of the FB monogram bell stamping, the word 'Prototype' was stamped on the bells all London Besson instruments from 1885-86. The FB monogram continued in use until at least 1973, and a stylised version was in use by Besson Musical Instruments until the firm ceased making instruments in Britain in January 2006.

[33] Algernon Rose, op cit, reported that the London firm had 10,000 brass bands on its books.

Figure 17 (for caption, see facing page).

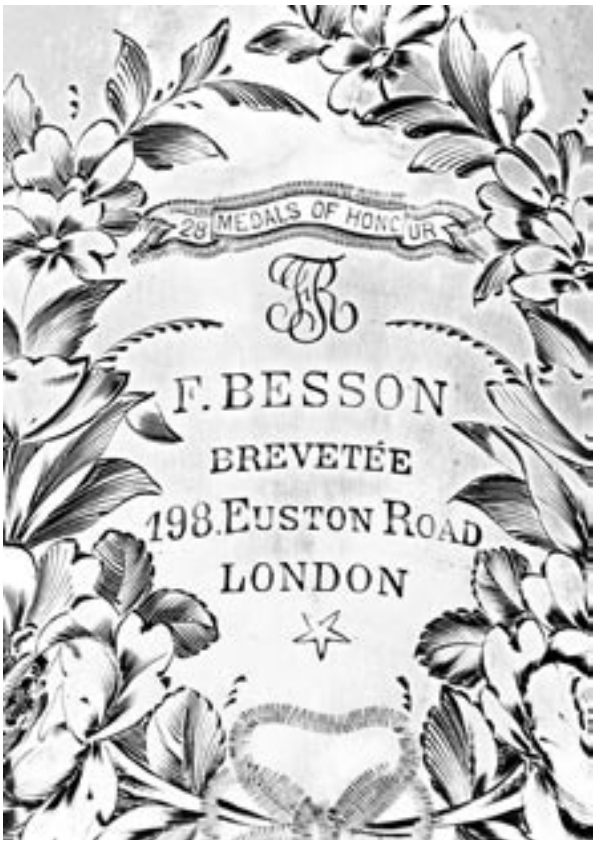

Figure 18 (for caption, see facing page).

Figure 19 (for caption, see facing page).

Figure 20 (for caption, see facing page).

APPENDIX 1. Table of valved instrument serial numbers.

Since the stock books record when instruments were sold, the dates when they were entered into stock can only be estimated. The serial numbers were apparently allocated when instruments were ordered from the workshop, and no records survive of these dates, which would represent the dates the design of an instrument was current. The dates given here are the latest possible date, assuming strict chronological numbering, at which the serial numbers could have been allocated. It can be assumed that the valve stampings (serial numbers etc) and the bell stampings (such as the number of medals of honour) were determined at a date or dates no later than when instruments were entered into stock.

Serial number	*Latest possible date*
9395	1869 Mar 16
9656	1869 Jun 17
10150	1869 Sep 22
10448	1869 Dec 17
10794	1870 Mar 31
11137	1870 Jun 18
11406	1870 Sep 28
11664	1870 Dec 10
11939	1871 Mar 31
12195	1871 Jun 30
12422	1871 Sep 26
12778	1871 Dec 22
13109	1872 Mar 20
13487	1872 Jun 20
13815	1872 Sep 20
14118	1872 Dec 23
14335	1873 Mar 28
14395	1873 May 22
16026	1874 Mar 25
16491	1874 Jun 25
16978	1874 Sep 19
17256	1874 Oct 12
17610	1875 Mar 13
18720	1875 Dec 31 (estimated)
20360	1876 Dec 31 (estimated)
21990	1877 Dec 31 (estimated)
23620	1878 Dec 31 (estimated)
25260	1879 Dec 31 (estimated)
26890	1880 Dec 31 (estimated)
28530	1881 Dec 31 (estimated)
30160	1882 Dec 31 (estimated)
31800	1883 Dec 31 (estimated)
33430	1884 Dec 31 (estimated)
35070	1885 Dec 31 (estimated)
36700	1886 Dec 31 (estimated)
38432	1887 Oct 27
38526	1887 Dec 06
39258	1888 Mar 08
39759	1888 Jun 30
40081	1888 Sep 20
40670	1888 Dec 28
41885	1889 Apr 29
42175	1889 Jun 21
42646	1889 Sep 14
43489	1889 Dec 20
44231	1890 Mar 01
44881	1890 Jun 12
45659	1890 Sep 28
46340	1890 Dec 31
46778	1891 Mar 20
47422	1891 Jun 30
48355	1891 Sep 30
49094	1891 Dec 19
49432	1892 Mar 31
50126	1892 Jun 30
50776	1892 Sep 29
51566	1892 Dec 22
51837	1893 Mar 03
52663	1893 Jun 16
53043	1893 Sep 30
53477	1893 Oct 31
54214	1894 Mar 22
54509	1894 Jun 18
55167	1894 Sep 29
55483	1894 Dec 21
56272	1895 Mar 08
56909	1895 Jun 25
57661	1895 Sep 28
58122	1895 Dec 18
59442	1896 Mar 31
59725	1896 Jun 18
60343	1896 Sep 30
61166	1896 Dec 23
61796	1897 Feb 10
62242	1897 Jun 15
62711	1897 Sep 29
63808	1897 Dec 07
64301	1898 Mar 29
64779	1898 Jun 29
65525	1898 Aug 24
65747	1898 Dec 17
65748	1899 Mar 11

APPENDIX 2. Table of slide instrument serial numbers.

Since the stock books record when instruments were sold, the dates when they were entered into stock can only be estimated. The serial numbers were apparently allocated when instruments were ordered from the workshop, and no records survive of these dates, which would represent the dates the design of an instrument was current. The dates given here are the latest possible date, assuming strict chronological numbering, when the serial numbers were allocated. It can be assumed that any slide stampings (serial numbers etc) and the bell stampings (such as the number of medals of honour) were determined at a date or dates no later than when instruments were entered into stock.

Serial number	*Latest possible date*
677	1874 Jun 06
698	1874 Jul 06
721	1874 Dec 23
751	1875 Mar 25
757	1875 Apr 06
801	1875 Sep 23
804	1875 Dec 08
849	1876 Mar 28
878	1876 Jun 16
893	1876 Sep 19
924	1876 Dec 29
948	1877 Feb 28
973	1877 Jun 11
999	1877 Sep 05
1017	1877 Dec 14
1038	1878 Feb 22
1042	1878 Jun 28
1063	1878 Sep 28
1083	1878 Dec 23
1091	1879 Mar 01
1108	1879 Jun 10
1130	1879 Sep 29
1133	1879 Nov 25
1144	1880 Mar 06
1191	1880 Jun 27
1201	1880 Aug 30
1239	1880 Dec 24
1284	1881 Mar 31
1309	1881 May 19
1336	1881 Sep 27
1359	1881 Oct 29
1374	1882 Mar 02
1416	1882 Jun 07
1442	1882 Sep 09
1478	1882 Dec 05
1516	1883 Mar 22
1536	1883 Jun 29
1572	1883 Sep 28
1621	1883 Dec 21
1657	1884 Mar 04
1704	1884 Jun 30
1763	1884 Sep 30
1804	1884 Dec 16
1848	1885 Mar 23
1881	1885 Jun 25
1931	1885 Sep 24
1989	1885 Dec 21
2052	1886 Mar 30
2112	1886 Jun 19
2193	1886 Sep 30
2238	1886 Dec 04
2293	1887 Mar 18
2371	1887 Jun 24
2433	1887 Sep 30
2473	1887 Dec 12
2527	1888 Mar 27
2599	1888 Jun 21
2641	1888 Sep 20
2690	1888 Dec 21
2752	1889 Mar 27
2835	1889 Jun 21
2918	1889 Sep 20
3014	1889 Dec 12
3106	1890 Mar 28
3165	1890 Jun 17
3235	1890 Sep 29
3312	1890 Dec 19
3373	1891 Mar 26
3451	1891 Jun 25
3512	1891 Sep 26
3584	1891 Dec 19
3681	1892 Mar 30
3782	1892 Jun 28
3833	1892 Sep 20
3875	1892 Dec 30
3941	1893 Mar 25
4021	1893 Jun 23
4105	1893 Sep 28
4166	1893 Dec 22
4234	1894 Mar 24
4294	1894 Jun 28
4347	1894 Sep 20
4426	1894 Dec 17
4463	1895 Jan 31
4502	1895 Mar 20
4514	1895 Apr 22

APPENDIX 3. Medals of honour stamped on surviving London Besson instruments.

25 Medals of Honour
Earliest valved instrument: serial number 10978 (cornet, private collection) numbered no later than 18 Jun 1870.
Latest valved instrument: serial number 11870 (cornet in author's [NE] collection) numbered no later than 31 Mar 1871.

26 Medals from All Nations
Only seen on: serial number 13693 (valve trumpet in G etc, long model, private collection) numbered no later than 3 Sep 1872.

28 Medals of Honour
Earliest valved instrument: serial number 14141 (E♭ cornet, private collection) numbered no later than 29 Jan 1873.
Latest valved instrument: serial number 25781 (cornet in author's [NE] collection) probably 1880.

31 Medals of Honour
Earliest valved instrument: serial number 25062 (C/B♭/A cornet, private collection) probably 1879.
Earliest slide instrument: serial number 789 (E♭ alto trombone, Horniman Museum 14.5.47/85) numbered no later than 23 Sep 1875.
Latest valved instrument: serial number 34500 (E♭ tenor horn, National Music Museum) probably 1885.
Latest slide instrument: serial number 1563 (B♭ trombone, private collection) numbered no later than 3 Sep 1883.

35 Medals of Honour
Not seen stamped on any London-made instrument, but claimed in the poster (Figure 1)

40 Medals of Honour
Earliest valved instrument: serial number 35835 (cornet, private collection) probably 1886.
Latest valved instrument: serial number 45121 (cornet, private collection) numbered no later than 1 Sep 1890.

50 Medals of Honour
Earliest valved instrument: serial number 45690 (cornet collé cornet in author's [NE] collection) numbered no later than 7 Oct 1890.
Earliest slide instrument: serial number 3777 (G bass trombone in author's [AM] collection) numbered no later than 28 Jun 1892.
Latest serial number 427135 (1966)

APPENDIX 4. British and American Besson Patents.

Auguste Edouard Loradoux Bellford.
Improvements in metal musical wind instruments (to be called 'Besson's system')
G.B. Patent Specification 328.
Appl: 5 Feb 1853.
(Pistons with eight passages to reduce bends)

G. Davies for Gustave Auguste Besson.
Wind Musical Instruments &c.
G.B. Patent Specification 2887.
Appl: 19 Dec 1859.
(double principle piston valves with 4th piston, the 'transposing stop', lowering a semitone for cornets, or a perfect fourth for bass instruments)

Florentine Besson.
Wind Musical Instruments.
G.B. Patent Specification 618.
Appl: 11 Mar 1864.
(cornets with second tuning slide to replace shanks and crooks)

J.G. Tongue for Madame Besson née Florentine Ridoux, Paris.
G.B. Patent Specification 2753.
Appl: 8 Aug 1874.
(early Besson valve arrangements, discussed in Niles Eldredge, 'Mme. F. Besson and the Early History of the Périnet Valve', *Galpin Society Journal* Vol. LVI, (2003), pp.147-151.)

Fontaine Besson.
New and Improved Valved Musical Instruments.
G.B. Patent Specification 6649.
Appl: 30 Apr 1890.
(double principle valves, 3 valve and 4 valve ('Registre') models; corresponding to 'Victory' models)

Fontaine Besson.
Valved Musical Instruments.
U.S. Patent Specification 457337.
Appl: 7 Jun 1890; letters patent 11 Aug 1891.
(equivalent to G.B. Patent Specification 6649)

W.L. Wise for Adolphe Fontaine Besson, Paris.
A New Family of Brass Wind Musical Instruments.
G.B. Patent Specification 16358.
Appl: 14 Oct 1890.
(cornophones, also called 'cornons')

J.H. Guilmartin and Besson & Co.
G.B. Patent Specification 10896.
Appl: 1 May 1897.
(Spring slide buffers for trombones to allow a shorter first position when needed)

Besson & Co and T.C. Edwards.
Improvements in or relating to Wind Musical *Instruments of the Character which ... have their Tubes Variously Lengthened by the Operation of Pistons or Valves.*
G.B. Patent Specification 12849.
Appl: 8 Jun 1903.
(enharmonic valves)

Besson & Co and T.C. Edwards.
Cornet or the like.
U.S. Patent Specification 886783.
Filed: 29 Apr 1904; patented 5 May 1908.
(equivalent to G.B. Patent Specification 12849)

Besson & Co and C. Martin.
G.B. Patent Specification 11837.
Appl: 24 May 1904.
(tuning slide with stocking to give a shunt quick change for A)

Besson & Co and T.C. Edwards.
Improvements in or relating to Wind Musical Instruments of the Type known as Brass Wind Musical Instruments.
G.B. Patent Specification 21464.
Appl: 27 Sep 1907.
(main tuning slide with shunt for semitone transposition)

APPENDIX 5. Boosey & Hawkes Drawings in the Horniman Museum, London

These drawings all appear to date from the the period 1890-1903, the 'Details of Steel Mandrils' series perhaps being slightly earlier than the 'Details and General Arrangement' series. Note that the wording is macaronic French and English; the measurements, however, are in inches.

Drawing No. 1 / Full Scale / Details of Steel Mandrils / Basse Victory.
Not dated.
[2 Sheets; Horniman Museum E91.141 and E91.142]

Drawing No. 2 / Full Scale / Details of Steel Mandrils / Baritone B♭.
Dated in body of drawing 1871, 1888.
[Horniman Museum E91.140]

Drawing No. 3 / Full Scale / Details of Steel Mandrils / 1 Ere de Contrebasse Mi♭ Fantaisie / 1 Ere De Mi♭ Cavalerie / 1 Ere De Fa Cavalerie.
Dated in body of drawing 1888 and 1889.
[Shows mandrels for branches; 2 sheets; Horniman Museum E91.138 and E91.139]

Drawing No. 4 / Full Scale / Details of Steel Mandrils / B♭ Contrebassse.
Dated in body of drawing 1888 and 1889.
[Shows mandrels for branches; 2 sheets; Horniman Museum E91.136 and E91.137]

Drawing No. 5 / Full Scale / Details of Steel Mandrils / Basse Si♭ B♭.
Dated in body of drawing 1871, 1888 and 1889.
[Also shows baritone; 2 sheets; Horniman Museum E91.130 and E91.131]

Drawing No. 6 / Full Scale / Details of Steel Mandrils / For Basse en Ut.C.
Dated in body of drawing 1888 and 1889.
[Also shows Baryton in C; Horniman Museum E91.132]

Drawing No. 7 / Full Scale / Details of Steel Mandrils / Baritone C.
Dated in body of drawing 1888 and 1889.
[2 sheets; Horniman Museum E91.133 and E91.134]

Drawing No. 8 / Full Scale / Details of Steel Mandrils / Alto Mi♭.
Dated in body of drawing 1888 and 1889.
[Horniman Museum E91.135]

Drawing No. 9 / Full Scale / Details of Steel Mandrils / Alto Fa Mi♭ long model / Alto Fa Mi♭ short model / Vocal horn Fa Mi♭ / Vocal horn en Ut / Koenig horn Fa Mi♭.
Dated in body of drawing 1888.
[Shows that these models have the same bore profile in the mid bore region; Horniman Museum E91.150.36]

Drawing No. 10 / Full Scale / Details of Steel Mandrils / G Slide trombone / G Valves trombone / B♭ Large Bore Valves Trombone / D♭ Trumpet.
Dated in body of drawing 1888 and 1889.
[Horniman Museum E91.150.27]

Drawing No. 11 / Full Scale / Details of Steel Mandrils / Trombone Si♭ A Coulisses.
[Horniman Museum E91.150.28]

Drawing No. 12 / Full Scale / Details of Steel Mandrils / Trombone 17 / Trombone à Coulisses 3rd Class / Trombone. 3 Valves / Trombone model Russian upright. [Horniman Museum E91.150.29]

Drawing No. 13 / Full Scale / Details of Steel Mandrils / French horn 2 & 3 valves / French horn Russian Model / French horn a*\ Attachements 2 & 3 valves / French horn a*\ Harmonie.
Not dated.
[2 sheets; Horniman Museum E91.150.31 and E91.150.34]

Drawing No. 14 / Full Scale / Trompette Cavalerie / Trompette Oratorio / Trompette Fantaisie Fa Mi♭ / Soprano Trumpet.
Dated in body of drawing 1888 and 1889.
[Horniman Museum E91.150.30]

Drawing No. 15 / Full Scale / Details of Steel Mandrils / Cornet in C / Echo Cornet.C.
Dated in body of drawing 1888 and 1889.
[Horniman Museum E91.150.38]

Drawing No. 15b / Full Scale / Details of Steel Mandrils / Echo Cornet.C.
Not dated.
[Shows echo bell mandrel; Horniman Museum E91.150.39]

Drawing No. 16(?) / Full Scale / Details of Steel Mandrils / Cornet Desideratum / Cornet New Star / Cornet Victory / Cornet Leader Model / Cornet Belgian Model / Echo Cornet B♭ / Cornet Ascending.
Dated in body of drawing 1888 and 1889.
[Horniman Museum E91.150.33]

Drawing No. 17 / Full Scale / Details of Steel Mandrils / Bugle Si♭ / Duty Bugle Si♭ Duty bugle in C.
Dated in body of drawing 1888.
[Horniman Museum E91.150.32]

Drawing No. 18 / Full Scale / Details of Steel Mandrils / Soprano Mi♭ / Trompette Cornet B♭.
Dated in body of drawing 1888 and 1889.
[Horniman Museum E91.150.35]

Full Scale / Details and General Arrangement of B♭ Cornet Desideratum.
Not dated.
[Shows mouthpiece and 'Colle stay'; Horniman Museum E91.153.4]

Full Scale / Details and General Arrangement of B♭ Cornet New Star Model.
Not dated.
[Horniman Museum E91.153.5]

Full Scale / Details and General Arrangement of B♭ Cornet Victory.
Not dated.
[Horniman Museum E91.153.6]

Full Scale / Details and General Arrangement of B♭ Cornet Leader Model.
Not dated.
[Horniman Museum E91.153.1]

Full Scale / Details and General Arrangement of Belge Cornet B♭.
Not dated.
[Horniman Museum E91.153.2]

Full Scale / Details and General Arrangement of Cornet in C.
Not dated.
[Horniman Museum E91.153.8, was E91.153.8(bis)]

Full Scale / Details and General Arrangement of E♭ Soprano Cornet Second Class Model.
Not dated.
[Horniman Museum E91.153.3]

Full Scale / Details and General Arrangement of Echo Cornet B♭.
Not dated.
[Horniman Museum E91.153.7]

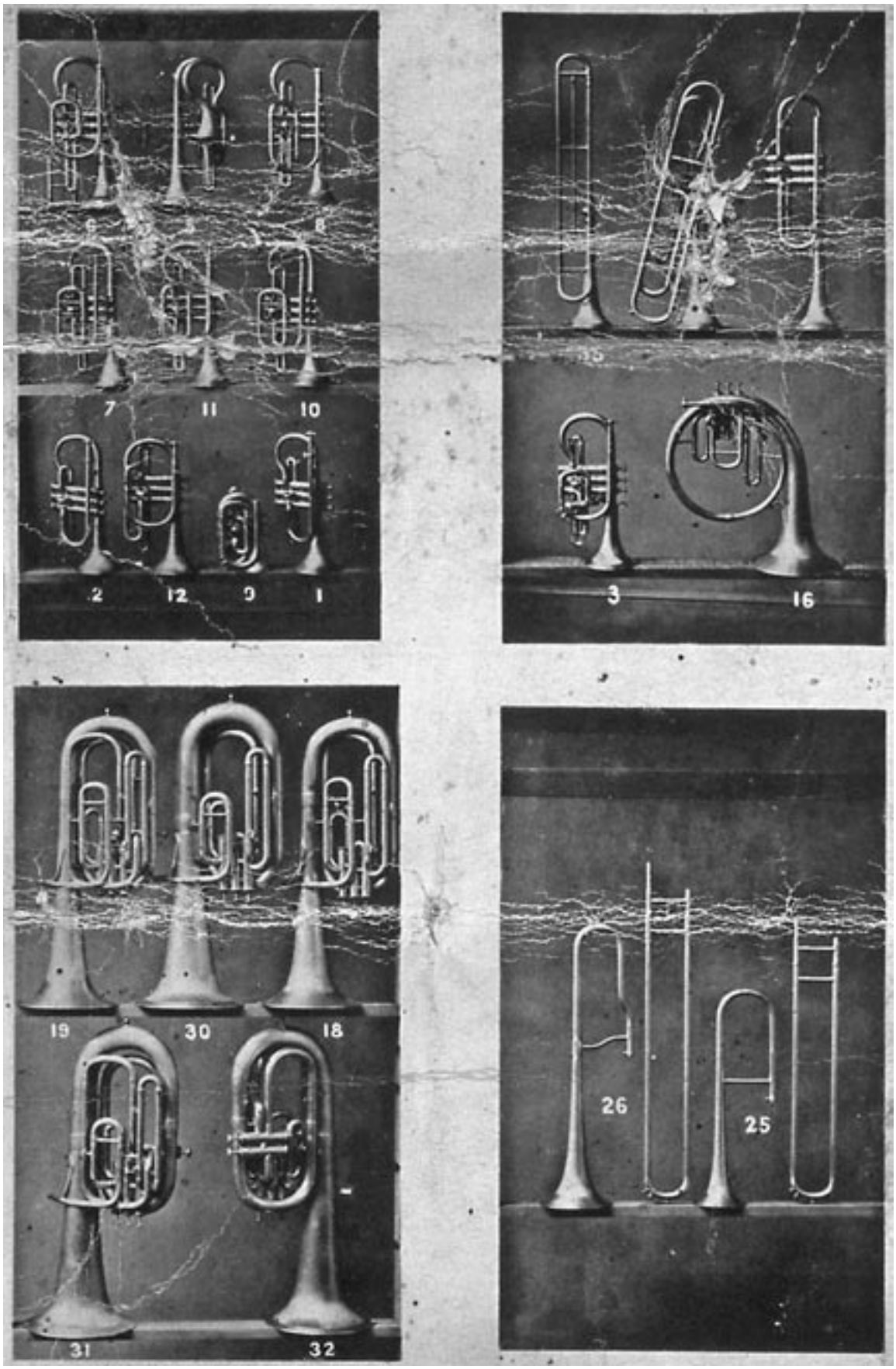

Figure 1. *(for caption, see p. 60).*

Figure 1 (p. 59). *First section of an advertising poster from circa 1885. The original captions for each picture are followed by the authors' comments.*

6 *Cornet, in C*
5 *Cornet, Echo in B♭*
8 *Cornet, New Star in B♭*

7 *Cornet, Desideratum in B♭*
11 *Cornet, Leader's Model in B♭*
10 *Cornet, Reversed Bell in B♭*

2 *Soprano, Reversed Bell*
12 *Cornet, Ordinary Model in B♭*
9 *Cornet, Exigu (Pocket) in B♭*
1 *Soprano, Leader's Model*

The Cornet in C (6) has the tuning slide extension piece for B♭, confusingly shown below the instrument. The term 'Leader's Model' (11) is not used in the Stock Books, but this could be the modèle français Périnet model cornet with the valves to the left of the bell from the player's viewpoint. Reversed Bell (10) is the modèle anglais cornet with the valves to the right of the bell from the player's viewpoint, this could possibly be the Cornet Collé model. The Ordinary Model (12) is referred to as the Cornet Belge in the Stock Books.

35 *Trumpet, Slide*
[no caption]
4 *Trumpet Cornet*

3 *Cornet, Ascending*
16 *Koenig Horn, in F and E♭*

The Slide trumpet (35) is the standard oratorio model English slide trumpet, in this period with tension spring or elastic slide return. The uncaptioned picture shows the B♭ tenor trombone with valve change to G advertised (but not illustrated) in the 1885 Carl Fischer catalogue as 'Miniature slide trombone, only 20 inches in length: the 6th and 7th positions which could not be reached by Juvenile performers are obtained on this in the 3rd and 4th'. Examples of this model survive in the Museum of Fine Arts, Boston (Inventory number 17.2010) and the National History Museum (National Museum Wales) at St Fagans, Cardiff (Inventory number F72.97/1). The Trumpet Cornet (4) is apparently a B♭ trumpet which would become popular only in the twentieth century; Boosey & Co called this a 'Soprano trumpet'. The Besson 'Trumpet Cornet' had removeable shanks, and thus could have been played with a cornet shank and cornet tapered mouthpiece. The Ascending Cornet (3) is shown more clearly in Figures 14a and 14b.

19 *Baritone, in B♭ 4 Valves*
30 *Euphonium C or B♭, 3 Valves*
18 *Baritone, in B♭*

31 *Euphonium C or B♭, 4 Valves*
32 *Euphonium C or B♭, 5 Valves*

Some Besson four valve baritones (19) survive, but other firms apparently did not make them. The five valve euphonium (32) was also made by Joseph Higham in Manchester (the fifth valve is a large semitone for use in comination with other valves); the later 'Barlow Model' tuba used the same five valve system on an orchestral F tuba.

26 *Slide Trombone, in C*
25 *Slide Trombone, in E♭ (Alto)*

The cranked tubing on the C trombone (26) was also used by Besson on some B♭ trombones. (26) and (25) do not have tuning slides, but there is limited provision for tuning in the ligature joint betwen the two sections.

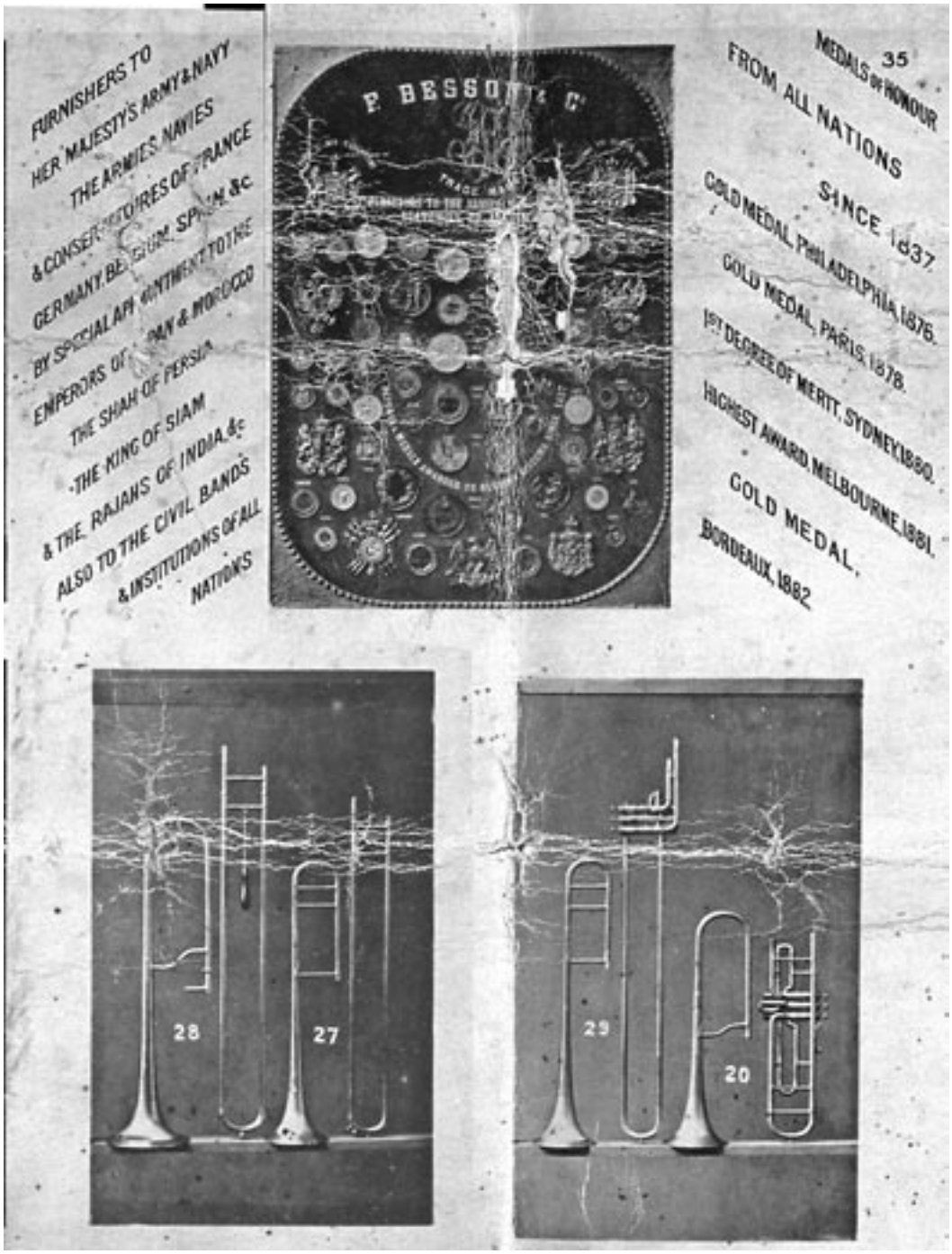

Figure 2. *Second section of an advertising poster from circa 1885. The original captions for each picture are followed by the authors' comments.*

28 *Slide Trombone, in G*
27 *Slide Trombone, in B♭*

Bass trombone (28) apparently has a ligature tuning rather than the tuning slide as in (27).

29 *Duplex Trombone (Slide and Valve)*
20 *Valve Trombone, in F or E♭*

The concept of a duplex trombone (29) was re-invented circa 1970 as the 'Superbone' by Ashley Alexander and/or Maynard Ferguson with the Holton Company in the U.S.A.; Besson duplex trombone 37411 (probably 1887) is in the National Music Museum, Vermillion, South Dakota. The valved alto trombone was probably made for the U.S. market: there is little evidence for its use in Britain.

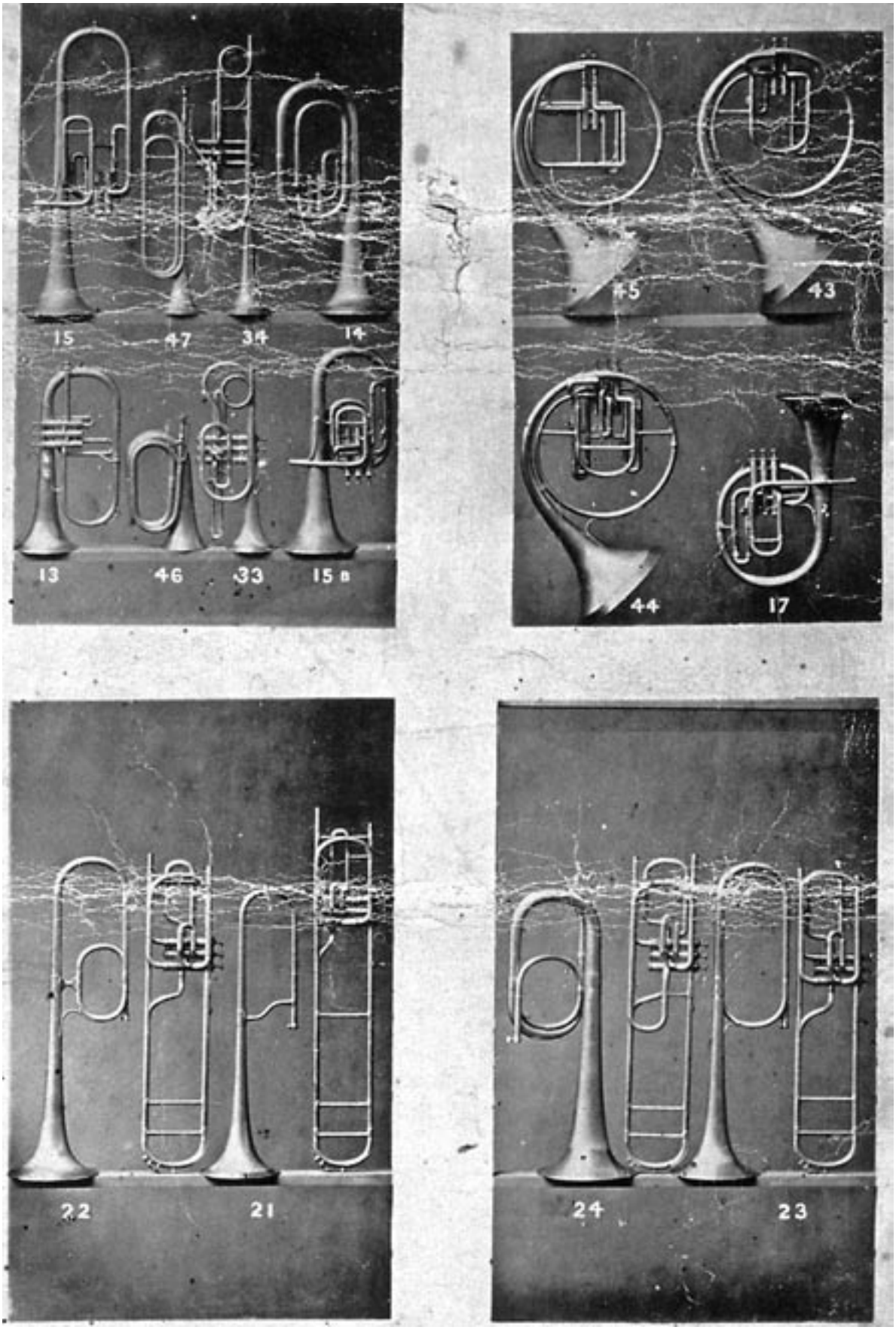

Figure 3. *(for caption, see p. 63).*

Figure 3 (p. 62). *Third section of an advertising poster from circa 1885. The original captions for each picture are followed by the authors' comments.*

15 Tenor Horn, in F and E♭
47 Cavalry Trumpet (Regulation)
34 Trumpet (Oratorio) from G to C
14 Tenor Horn, in E♭

13 Flugel Horn
46 Duty Bugle (Regulation)
33 Trumpet (Military) F and E♭, 3 valves
15B Tenor Horn, in F and E♭ Short Model

The wrap of tenor horn (15) is closer to that of the early saxhorn than that of tenor horn (14), which became Besson's common model, and that of tenor horn (15B).

22 Valve Trombone, in G
21 Valve Trombone, in B♭ or C

45 French Horn, Orchestral (attachment)
43 French Horn, Military, 2 Valves, F and E♭
44 French Horn, Military, 3 Valves, F and E♭
17 Vocal Horn, F to C

1885 may seem late for the production of a cor sauterelle (45) or fixed valve horn (43) with only two valves, but other makers such as Boosey and Courtois are known to have made two valve french horns in the twentieth century. The vocal horn (17) was equipped with alternative tuning slides for F, E, E♭, D, D♭, and C; with the latter it was comparable to the Rudall Carte vocal horn or Boosey & Co's ballad horn.

24 Valve Trombone, in E♭ (Contra bass)
23 Valve Trombone, in F

These models of valve trombone appear to have been widely used at this time; few have survived.

Figure 4 (p. 64). *Fourth section of an advertising poster from circa 1885. The original captions for each picture are followed by the authors' comments.*

37 Bombardon, E♭, 4 Valves
36 Bombardon, E♭, 4 Valves

57 Bass
63 Bassoon
56 Tenor

39 Bombardon, B♭, 3 Valves
38 Bombardon, E♭, Cavalry or School Model

51 Sarrusophone
50 Saxophone, Baritone, B♭ [sic]
49 Saxophone, Alto, E♭
48 Saxophone, Soprano, E♭ [sic]

The captions for clarinets (57) and (56) are printed following the other clarinets. It is not certain when Besson started making woodwinds in London: the woodwind instruments shown on the poster could have been made in Paris for sale in London.

Figure 5 (p. 65). *Fifth section of an advertising poster from circa 1885.*

40 Bombardon (monstre) BB♭, 3 Valves
41 Bombardon, B♭, Circular Model

64 Bass Drum
67 Cymbals
68 Triangle
65 Side Drum

66 Kettle Drum

Figure 6 (p. 66). *Sixth section of an advertising poster from circa 1885. The original captions for each picture are followed by the authors' comments.*

42 Bombardon (monstre) BB♭

69 Band Stand (Besson Portable)
71 Programme Stand
70 Band Stand (Besson Tripod)

52 Clarionet, in A
53 Clarionet, in B♭
54 Clarionet, in C
55 Clarionet, in E♭
58 Oboe
59 Concert Flute, in D
60 Military Flute, in E♭
61 Flute, in F
62 Piccolo.

72 Lamps and Pouches

The old English pitch nomenclature is used for the flutes: the modern notation refers to the usual transpositions used and would have (59) as a concert flute in C, (60) as a flute in D♭, and (61) as a flute, in E♭.

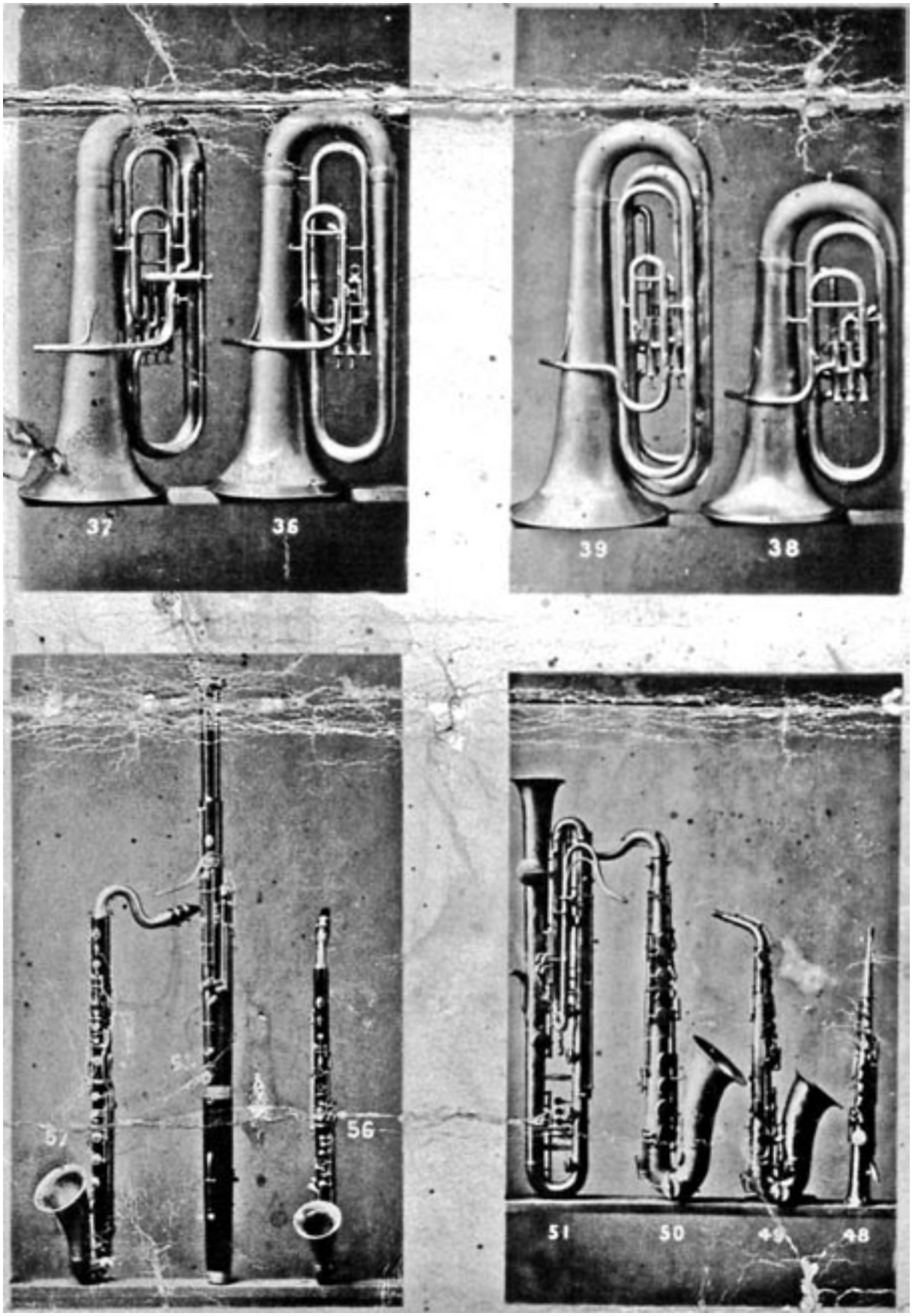

Figure 4. *(for caption, see p. 63)*

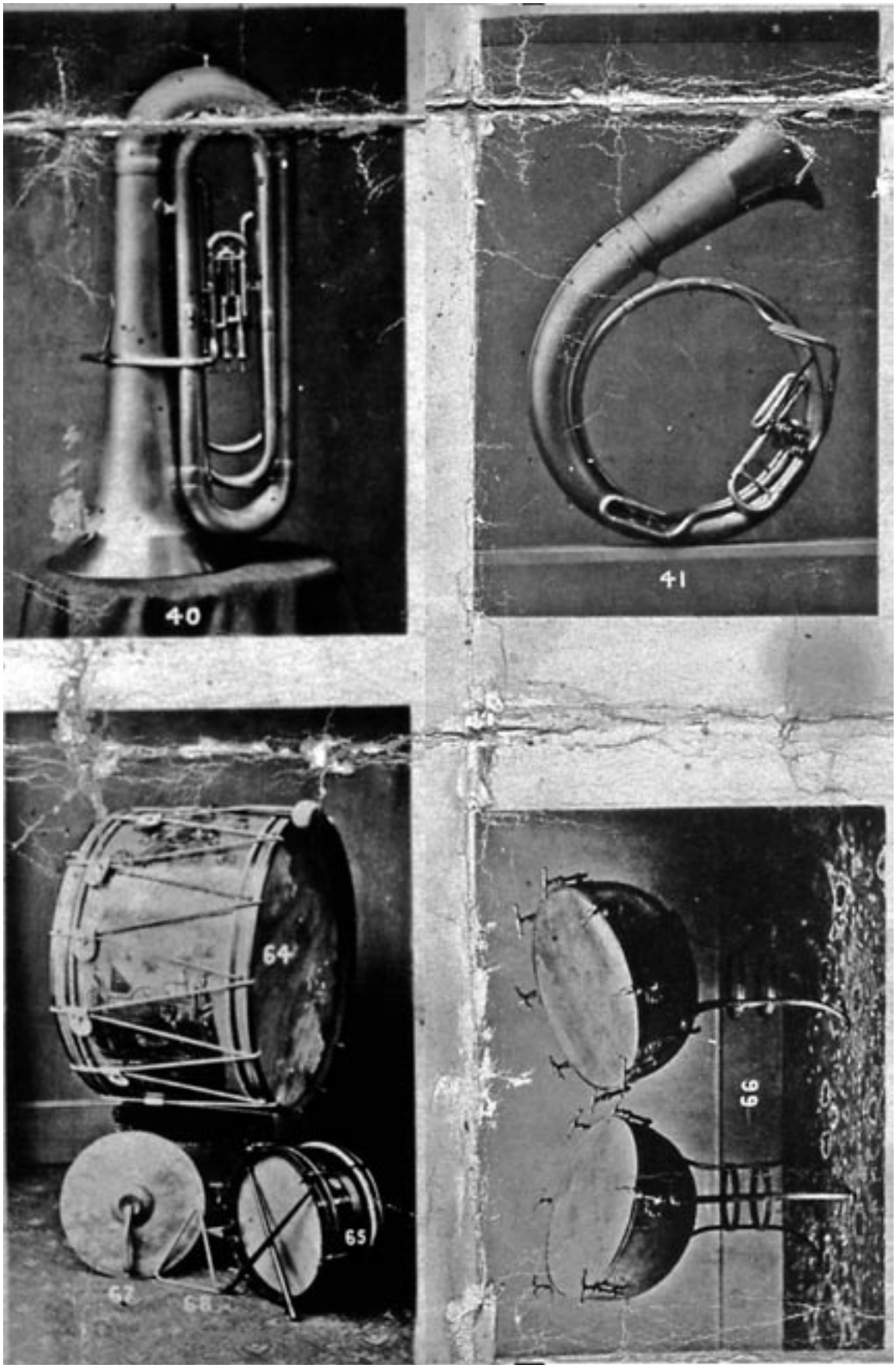

Figure 5. *(for caption, see p. 63)*

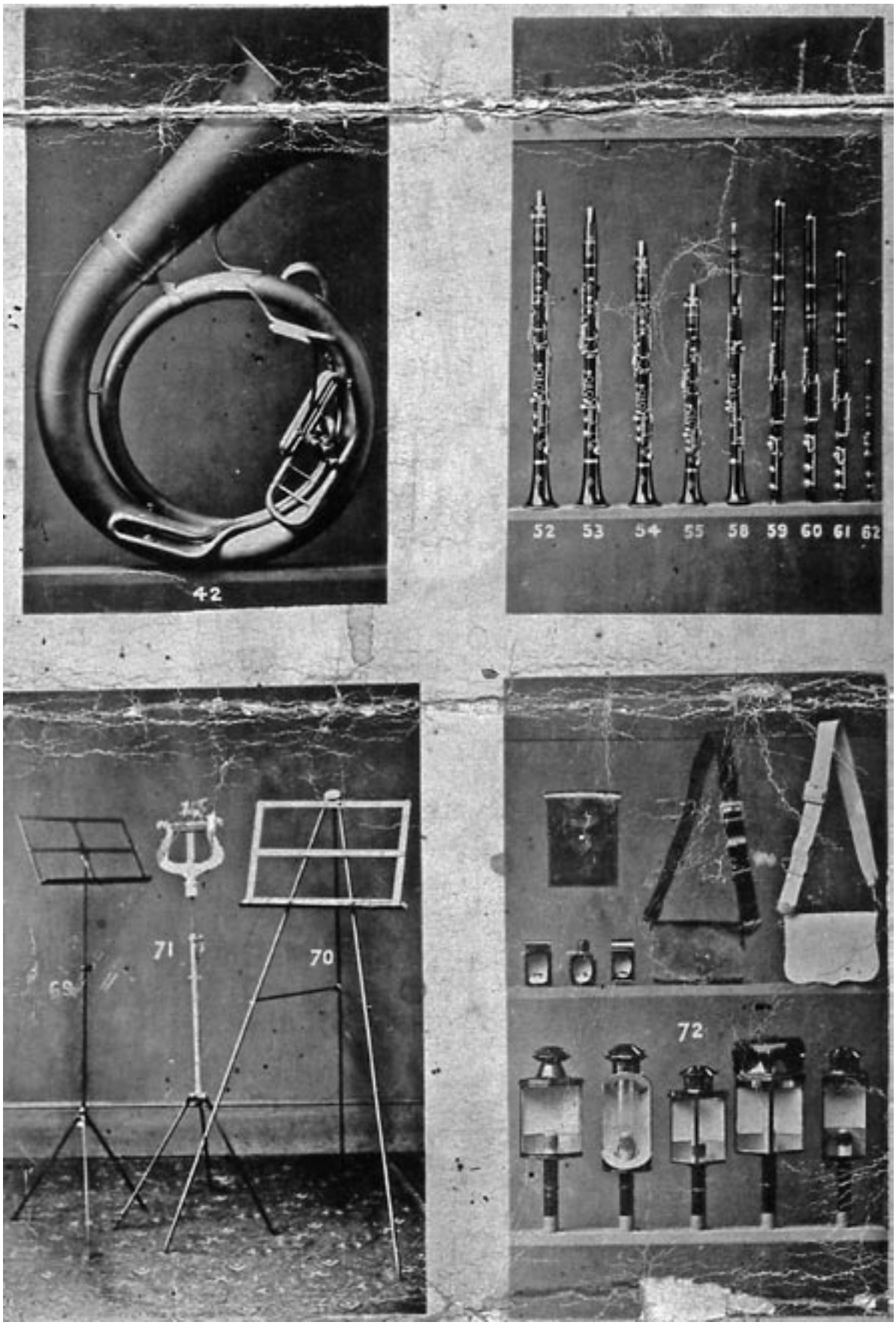

Figure 6. *(for caption, see p. 63)*

Figures 7a and 7b. *Cornet Belge (photograph: Niles Eldredge).*

The earliest known Cornet Belge, author's (NE) collection, serial number 3952, stamped with both London and Paris addresses, probably circa 1867. 'Modèle français' with the valves to the left of the bell from the player's viewpoint, and with the main tuning-slide placed between the third valve and the bell. A 'bell-tuning' model, the Cornet Belge is constructed around the same, original form of Périnet valve cluster as the more conventionally designed 'Périnet' model (Fig. 8).

Figures 8a and 8b. *Cornet Périnet (photograph: Niles Eldredge).*

Périnet model cornet with water key, author's (NE) collection in unrestored condition, serial number 41576; according to the firm's archives [Besson stock books], the instrument was 'perinet à clé'; sold 29 Aug 1889 to 'Barrow Town Bd'; it was part of a batch of 12 (41569-80) and was numbered no later than 11 Apr 1889. An inexpensive model.

Figures 9a and 9b. *Cornet, Desideratum model (photograph: Niles Eldredge).*

Desideratum model cornet, author's (NE) collection, serial number 15335 in the London sequence was numbered no later than 6 Feb 1874. 1874 was the patent date of the Étoile model, but with a minor variation in the 3rd valve tubing, the same valves are on the Étoile and Desideratum models. The Desideratum (in either perce pleine or perce droite configurations) was (1) never patented and (2) has the same valve configuration as over 95% of modern trumpets and cornets. Modèle anglais, with the valves to the right of the bell from the player's viewpoint. 'P' stamped on the second valve, possibly implying it was made in Paris but stamped and sold in London.

Figure 10a and 10b. *Cornet Collé (photograph: Niles Eldredge).*

Cornet Collé, author's (NE) collection in unrestored condition, serial number 45690; According to the firm's archives [Besson stock books], the instrument was 'Cornet Collé'; sold 8 Dec 1890 to 'W. Scott'; it was part of a batch of 12 (45686-97) and was numbered no later than 7 Oct 1890. 'Collé' means 'to the side', i.e. modèle anglais. This model is a cheap version of the Desideratum: no second main tuning slide (high/low pitch slide), and minor differences in bracing.

Figures 11a and 11b. *Cornet, Etoile model (photograph: Niles Eldredge)*

Etoile model cornet, author's (NE) collection in unrestored condition, serial number 18954, probably 1876; Schreiber import to the United States. This is the 1874 patent (France, Belgium, Great Britain). This model was apparently made simultaneously in London and Paris; the most common American import (Schreiber and especially Fischer 'new étoile') of all the Besson cornet models.

Figures 12a and 12b. *Cornet, Nouveau Etoile (New Star) model (photograph: Niles Eldredge).*

New Star model cornet in C, originally with main tuning slide extension for B♭ and A, author's (NE) collection, serial number 41635; according to the firm's archives [Besson stock books], the instrument was 'n/ Etoile'; sold 23 May 1889 to 'Fischer'; it was part of a batch of 12 (41633-44) and was numbered no later than 11 Apr 1889. This is essentially the same model as the preceding Étoile.

Figures 13a and 13b. *Cornet Exigu (photograph: Niles Eldredge).*

Pocket cornet, private collection, serial number 14259; according to the firm's archives [Besson stock books], the instrument was 'Exigu Si♭ en boite Embre. dorée 2 tons argté dorée pavillon gravé 2eme. classe'; sold 28 Feb 1873 to 'Merrall'; re-entered and sold 13 Mar 1873 to 'Richardson'; it was part of a batch of 3 (14257-9) and was numbered no later than 28 Feb 1873. Besson advertising (Paris) indicates that two different forms of pocket cornet were made - the 'exigu' (best translated as 'slighter' or 'smaller') being one of them. P on the second valve suggests the instrument may have been made in Paris and finished and sold by F. Besson (London).

Figures 14a and 14b: C B♭ A Ascending Valve cornet (photograph: Niles Eldredge)

4-valve model cornet in B♭ with ascending valve to C, author's (NE) collection, serial number 41231; according to the firm's archives [Besson stock books], the instrument was 'Cornet Ascending'; sold 30 Oct 1889 to 'Fischer'; it was part of a batch of 4 (41229-32) and was numbered no later than 4 Feb 1889.

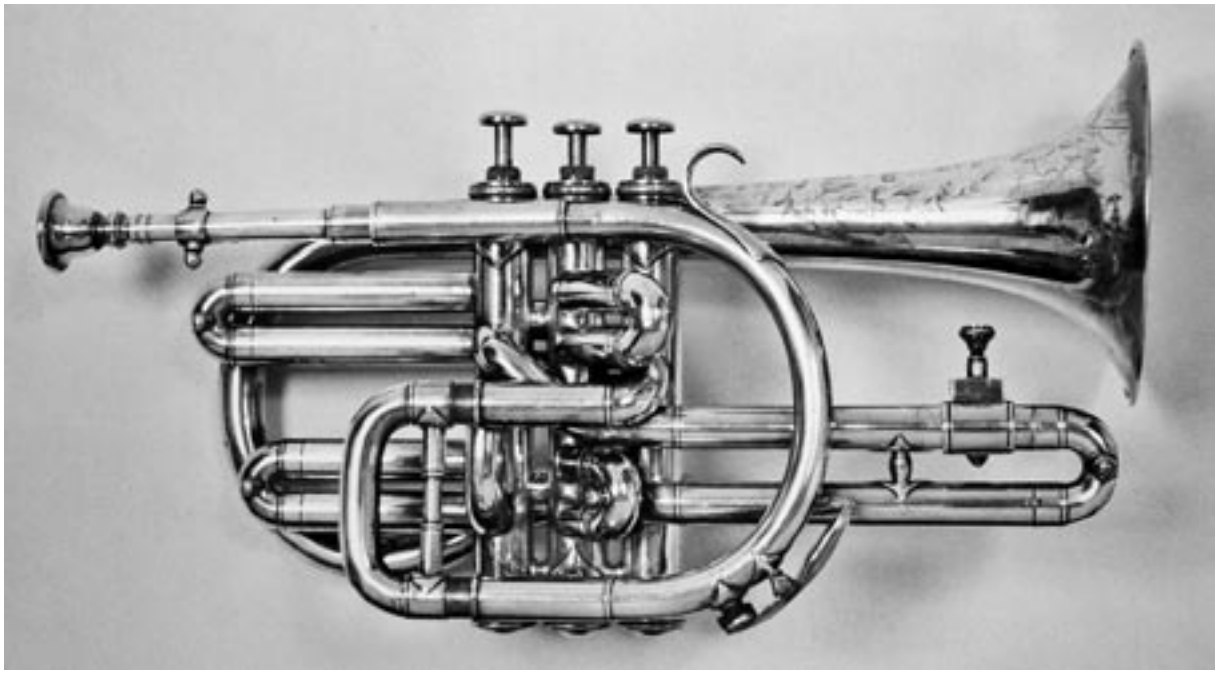

Figure 15 (above). *Victory model cornet. (photograph: Frank Tomes)*

The earliest surviving Victory cornet, serial number 50783, in the collection of Frank Tomes. According to the firm's archives [Besson stock books], the instrument was numbered no later than 30 Sep 1892.

Figure 16 (left). *Victory model euphonium. (photograph: Frank Tomes)*

The only surviving Victory euphonium known to the authors, un-numbered, in the collection of Frank Tomes; probably dating from 1895-1904. It corresponds exactly with the illustration for an 'improved Victory Compensator' in an advertisment in Brass Band News, June 1903