

The American Air Gun School of 1800-1830

by: H. M. Stewart

When the Pilgrims stepped on the Rock in 1620 did they carry those blunderbusses we see pictured? How about air guns? My expert friend, Chuck Suydam, joins most of us in ruling out the blunderbuss, but there could have been air guns. Marin Le Bourgeois of Lisieux, France, demonstrated his air gun to Henry II of Navarre in 1602. At the 1976 Valley Forge ASAC meeting practically all the active interested members were present for my discussion on Philadelphia air guns. I spent nearly an hour covering the prior state of the art, the types of arms, and, what impressed them most, the deadly efficiency of these early weapons. They were not the BB rifle you played with as a kid: these penetrated 2¼ inches of pine while the Kentucky rifle, in comparison, did 2¾ inches! For those of you who would have liked to be at Valley Forge, I recommend Eldon Wolff's AIR GUNS for this background. In particular, I urge Dr. Jim, who sent me the BB marksman's button to alibi his New Orleans Anesthetic Adventure, that this be required reading! Most of the guns physically used in my talk are pictured in Eldon's AIR GUNS, which is obtainable from the Milwaukee Museum for a few dollars. Space in the JOURNAL will be saved if you read and understand the bellows, the spring plunger and the pneumatic types, with a visual concept of the pneumatic reservoir built into the particular arm as being 1) around the barrel, 2) as a butt flask, or 3) as a spherical reservoir either above or below the barrel breech.

The Philadelphia Air Gun story that follows is an original factual concept scarcely recognized in prior writings and will add to your knowledge acquired by reading the above material, I trust for future collecting enjoyment. The Valley Forge Presentation and this article are to establish "The American Air Gun School of 1800-1830" as separate and distinct from the Continental and English types pre- and post-1800.

The air gun in the background years received publicity first in the 1650's when an air gun capable of seven shots was purchased in Utrecht to be sent to England in a conspiracy to assassinate Oliver Cromwell. It is generally acknowledged that this model was the reservoir type with outside lock where the striker activated the air release by a lever above the receiver. Pictured in fig. 1 is an early model of this type. For the student, note the Queen Anne under lighter with the same type lock of twenty years later. An example of priority in re the chicken and the egg!

Those members who attended the Valley Forge meeting will remember that Henry Stewart not only organized most of the meeting, but also gave an extemporaneous talk about air guns, cut short by the problems of time and his own feeling of illness. They may not know that the illness became what he calls "a small case of pneumonia", and that after the meeting he was in bed for some time. However, he has recovered and written this version of the talk, which we happily present here.



The second publicity of the air gun in my context is the Girardini Austrian military model of 1780 with its bullet magazine for 20 balls on the right side of the barrel breech. I chose as my example of this a model by M. Kolle of Marieboe (a small valley about 20 miles south of Vienna) since it wedded the Girardoni system to a brass barrelled weapon and this is shown in fig. 2. Both of the above arms are smoothbore, but have recognizable features in the Philadelphia arms and so are included for your consideration. The French in their conquest of Vienna by Napoleon recognized the Austrian air gun more as an assassin's weapon than a military arm, but the following excerpt from Wolff's AIR GUNS can give a feeling of awe for an Austrian concept of firepower that *was not* exploited to influence the history of Napoleon:

The Logistics of the Austrian Air Gun Corps

Equipped with a Model 1780 Girardoni air rifle, the Austrian marksman went into battle with 24 pumped-up butt reservoirs, each capable of 20 or more shots. Additional reservoirs and repumping were available from pump wagons in the rear. To start he would have 20 × 24 or 480 shots from 150 to 400 yards. Therefore one corps — 500 men — could with this field equipment deliver 240,000 shots to open a battle. Rate of fire for the airgun soldier was 20 shots or one reservoir per minute. Thus the 24 reservoirs could offer ½ hour of sustained firing and the 500 man corps could have the potential fire power of 10,000 shots per minute or 300,000 shots per half hour — without the smoke, noise, or overheated barrels of gunpowder musketry. (Wolff, AIR GUNS, pp 29-30)

Now to America and a riddle that has foiled the history buff and arms student for one hundred and seventy years.

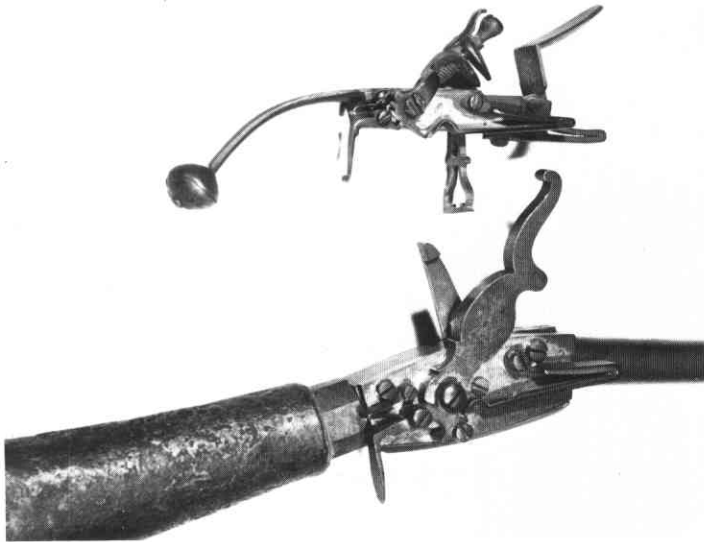


Fig. 1: Outside lock, flask butt early type, (1650) alleged to be type purchased in Utrecht for Cromwell assassination attempt. Queen Anne tinder lighter pictured above.

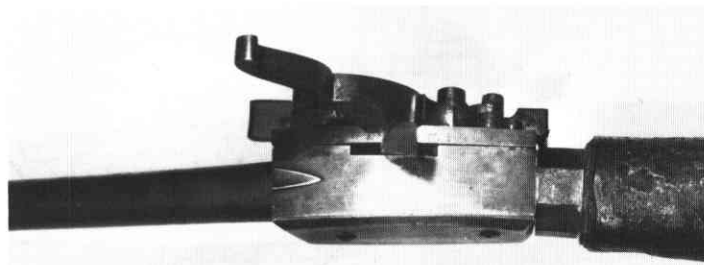


Fig. 1A: Showing characteristic outside striker.



Fig. 2: M. Kolle of Marieboe — The Girardoni magazine on a brass, smooth bore, flask butt, pneumatic.

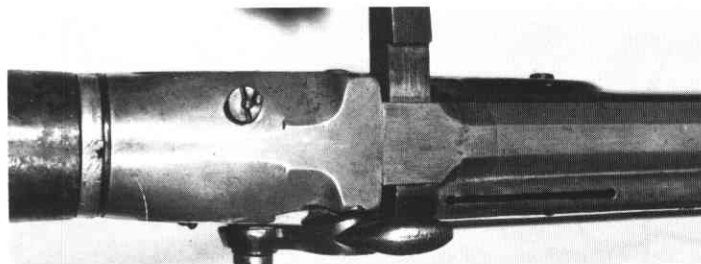


Fig. 2A: Same, showing end of magazine tube and loading bar of Girardoni system.

Meriwether Lewis and William Clark, starting in August 1803 and ending late in 1806, led and charted the exploration of the great Northwest to the Pacific. The Lewis and Clark Expedition, was well covered by individual writings, and the JOURNAL of the Expedition makes mention 19 times of the "great medicine" air gun carried, its use, repair, and final return from St. Louis in 1806 to Washington by Lt. Peters as part of two cases of trophies. From 1806 to the present at Valley Forge in 1976, the questions of what type air gun, country of origin, identity of maker, and disposition after St. Louis have been an unanswered riddle. My ability to solve it lay in a fresh approach rather than uncommon acumen. To the learned and highly respected Lewis & Clark authorities such as Dr. Paul Cutright of Jenkintown, Philadelphia, and Roy M. Charters, Professor Emeritus of Nuclear Science at the University of Washington, Pullman, Washington, the trail of Lt. Peter's two packing cases ended at Washington, D.C. with the supposition that President Jefferson had preempted the trophies to Monticello. My search started with air guns and Lt. Peters was anti-climax!

My background of 52 years of active gun collecting included air guns with the names of Kunz, Lukens, Porter etc., that appeared American. I found Isaiah Lukens was unknown as a gunmaker, but justly famous as a maker of clocks (horologist), culminating his efforts with the State House Clock of 1828. That State House is now called Independence Hall in 1776 Bicentennial celebrations!. Lukens was active in clock making from 1790 to 1819 in the Philadelphia suburb of Horsham; from 1819 to 1829 he was at 173 High Street, Philadelphia, then, after ten years of travel in Europe, he returned to 305 High Street from 1841 to his death in 1846. I owned two of his air guns with feint (sic) hammers and an air cane, the case of which contained the newspaper clippings of Lukens and the State House Clock. One air rifle had the name Coleman Sellers 231 High Street, Philada. engraved on the barrel: this seventh cousin of our member Frank Sellers got me started in unraveling this Philadelphia story. Coleman Sellers married Charles Willson Peale's daughter Sophronisba Angosciola Peale on Sept. 3, 1805, and they set up housekeeping at 1 Mulberry Court until Coleman died May 7, 1834. I found the biography of Charles Coleman Sellers, American Portraitist, by author Charles Coleman Sellers and found that author still alive as Librarian Emeritus of Dickinson College, Carlisle, Pa. Though he knew nothing of Coleman's air rifle, he did know of Joseph Priestly, discoverer of oxygen, who fled Birmingham, England in 1791 as a sympathizer of the French Revolution and target of Birmingham mobs. Priestly came to Philadelphia and found he lodged in a rooming house a few blocks from Independence Hall. He died in 1806 at his residence in Northumberland, Pa.; in 1811 his scientific apparatus and air gun were purchased by the Trustees of Dickinson College. The air gun was a most interesting ball-above-barrel rifle by William Wilson of London, ca. 1790. Forgive the Priestly aside, except that he must have personally known Peale and Lukens of Philadelphia's scientific community.



Fig. 3: The Isaiah Lukens air rifle originally indicated by Charter Harrison as the "Lewis & Clark gun". Overhead striker in conjunction with flint hammer, butt shaped (not flask) reservoir.

To get back on the trail: Charles C. Seller's biography of Peale revealed Lukens as not only a horologist-mechanician, but as a member of the Philadelphia intelligensia, a close friend of Peale's, and a member of the American Philosophical Society. Peale had other interests besides painting and fathering children. He opened the first American Natural History Museum in Independence Hall, which displayed animal and bird skeletons and mounted specimens, including the skeleton of the Great Mammoth. As an aside, the Peale acquisitions were eventually sold to a lad named P. T. Barnum, who then moved it to New York for more lasting fame as a House of Curiosities, which included the space-making "Egress", the directions to which were indicated on a sign on one of the rear walls.

In my Valley Forge speech I extolled what I consider the genius or sharp vision of G. Charter Harrison, Editor of the early GUN COLLECTOR'S LETTER, GUN COLLECTOR, and a feature writer for THE GUN REPORT. Nick Harrison is still alive; though regrettably mentally incapacitated, he is still admired by the many American Society members who knew his brilliant pinnacle of accomplishment. He was an air gun authority and the main inspiration for and aide to Eldon Wolff in the production of the air gun book. Towards the end of his active career, he published in THE GUN REPORT, May-June 1956 and November 1957, a series of articles on the Lewis & Clark air gun. Rationalizing first that it was the Lukens rifle that I now own, later disclaiming the Lukens butt reservoir model for a back-action-lock, ball reservoir specimen of unknown American origin as the true one carried on that expedition. Though the second gun nominated was patently of later manufacture than 1803-06, he presented it to the Smithsonian where it is now called the Harrison Air Gun in honor of the donor. My second Lukens air rifle is the Harrison-Eldon Wolff item pictured in THE GUN REPORT and Wolff's AIR GUNS and herein as fig. 3. The hammer is undoubtedly the reinforced neck type of the later 1836 martial and a replacement for the goose neck variety found on my other three similar specimens. However, this hammer was specially prepared for the release armspring and bolt, as were the others, so it was a knowing, not accidental, replacement (Harrison would have rationalized this replacement as made by Lukens on his return from Europe in 1836 to make the Lewis & Clark gun whole again). All I can say is that this gun is Lukens' style, and probably, like the Lewis & Clark gun, made by Lukens.

As a unique design it should be noted that the outside cock Utrecht type of 1630 and this American type use what is called an overhead outside striker release. The 1650 type uses a cocking lever, whereas the American utilizes a true

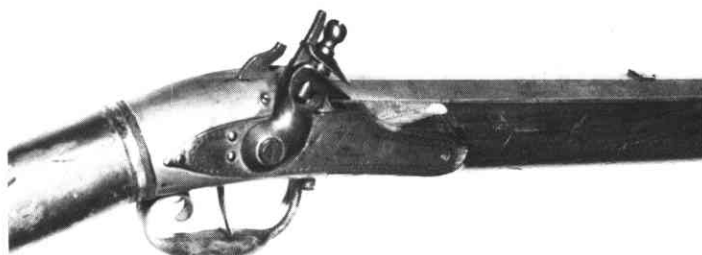


Fig. 3A: Showing overhead striker and reinforced neck flint hammer.

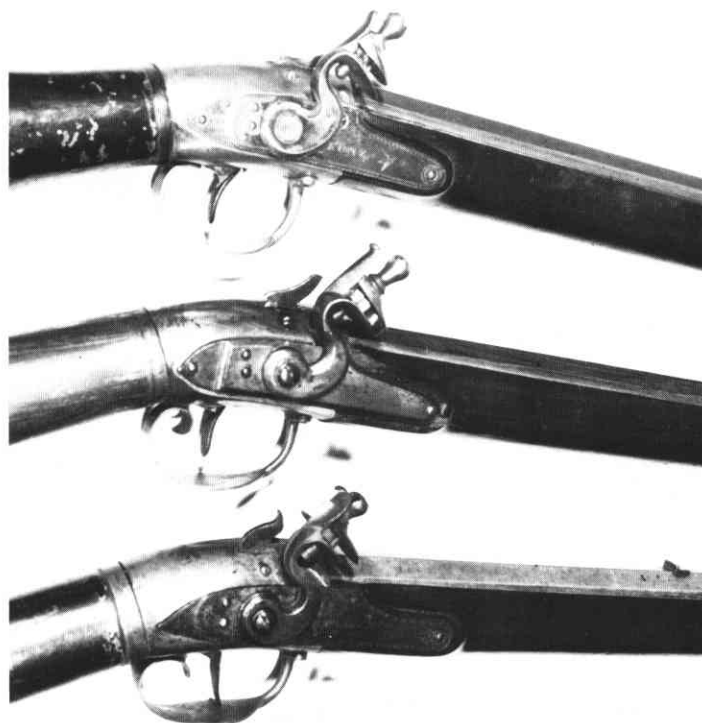


Fig. 4: Three Philadelphia pneumatics identical to previous model except for correct gooseneck hammer. Top two marked "J. KUNZ" and bottom one marked "LUKENS" (the Coleman Sellers rifle).

Fig. 5: The Porter Philadelphia ball reservoir rifle with silver patchbox and inlays. Another early Philadelphia masterpiece of American styling.

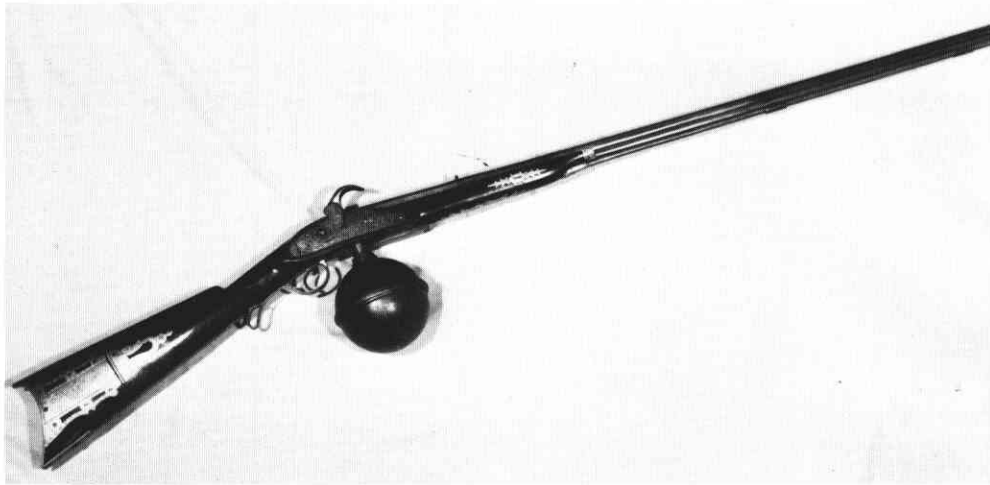


Fig. 6: J. KUNZ, Philadelphia, showing improved skills of about 1830 — gold bands, top flight engraving, etc. Forty shot butt reservoir half-stock model.

flint hammer on all four specimens. The hammer carries the striker bar across the outside striker to release the measured amount of air to propel the ball. The American type has a true butt-shaped reservoir, not a flask shape, and, to the casual eye, could easily be mistaken for an American Kentucky with its full stock and ramrod. In fig. 4 I have tried to show the top of the breeches to illustrate the unique system. In my Valley Forge display I also had the Swiss Schenk outside striker to illustrate how the American system differed. I would say the Philadelphia design is unique and a precise American innovation to the credit of Philadelphians Lukens and Kunz.

The Philadelphia air canes are also unique and of more than passing interest. Did they precede the English canes? I would say American circa 1828 with English circa 1845. The obvious unique approach of the American type is the reservoir around the barrel with action separate in the handle, whereas the English models are all with reservoir and action in the handle section, obviously shortening the barrel to accomplish this. The Kunz in its silver mounted style also has an original and different breech loading style.

The foregoing words I trust create in the reader's mind the fact of an American development to be recognized as distinct and different even as the recognition of the Kentucky pistol stirred the collecting world in the early 1950's. Three more early Philadelphia types appear in the collec-

tion with the ball-beneath-barrel reservoir model marked J. H. PORTER on the lock and PHILADELPHIA on the barrel, with its patchbox, butt embellishment, and inlays we term "Kentucky" (fig. 5). The single barrel J. Kunz half-stock air rifle and the combination percussion-air rifle by J. Kunz are superb examples of the evolved efforts of that Philadelphia maker circa 1835, still using the butt reservoir (figs. 6 and 6A). To complete this learned (?) testimonial to Yankee ingenuity, I believe one further point I have developed is in order. Reservoirs, no matter what type, need pumping. The European system invariably attached pump to reservoir, even those concealed-in-butt types (Wentzlau in Ehrenbreitstein) and the pump was held to the ground by the pumper's feet while his arms rose and fell the thousand-odd strokes necessary, at the expense of arm muscles. When I purchased my first early Philadelphia cased outfit by J. Kunz the seller apologized to me for the apparently missing crossbar pump handle. He assured me I could easily replace it. At home, on examination, I found that the pump handle ended in what appeared to be, and was, a large wood screw with a wing-nut-like pair of flats above to assist the screwdriver. People don't hardly ever go around screwing things into the ground, so lo and behold that Yankee ingenuity scored again. Picture step 1: attach the butt reservoir to discharge end of pump (fig. 7). Step 2: locate a convenient tree or door jamb, and twist that large screw aforementioned, by means of those wing flats, into



Fig. 7: Philadelphia butt reservoir attached to its pump ready to be screwed into shoulder-level point on tree for pump-up.



Fig. 6A: J. KUNZ, Philadelphia, of the 1830 period, gold bands, silver inlays, engraving, and two barrel system: upper percussion, lower pneumatic. Cased with accessories.

the object at shoulder height. Now you can lean into your strokes and use your back to save your arms! There is no indication that such a system existed in either Continental or British evolution.

At this point we have evidence of a Philadelphia air gun maker well-known enough to have consorted with the leaders of the Lewis & Clark expedition circa 1803. When Lewis & Clark drew arms, they had Schuykill Arsenal, Philadelphia, and the newly-opened Harpers Ferry Arsenal under Philadelphian Joseph Perkins, its first Superintendent. Perkins had just designed and begun manufacture of the Harpers Ferry rifle, and had not yet manufactured the Harpers Ferry pistol. Schuykill Arsenal was a repository for arms accepted by the Commissary General, and, except for a rather vague reference to Peter Pelloux as the designer of an American air gun for the Continental Army in an antique arms catalog of the 1920's (Ye Olde Curiosity Shoppe of Stephan Nagy, Philad.), has no tie-in with air guns. For the record, Peter Peloux did work at Schuykill. As I recall, on the 1814 contract rifles and later during the percussion period he produced first quality arms as a dealer — so I consider the reference to an air gun as an error in the early sales catalog. Ruling out these two sources of the air gun left only Lancaster as a possible other source, and Philadelphia as the logical point of procurement. I concluded that the air gun was obtained in Philadelphia, but lacked proof.

The Franklin Institute of Philadelphia is one of many sources of information in the area. My search for everything pertaining to Isaiah Lukens led me there and in their rare document room was a pamphlet describing the offerings in settlement of the estate of Isaiah Lukens at a sale to be held at the N.W. corner of Eighth and Market Sts. at 10:00 A.M. on Monday, January 4th, 1847. The auctioneers were W. S. Burrell and J. S. Burr of 297 Market St., Philad. The catalog featured Lukens' town clocks and gold chronometers and offered his vast accumulation of turning lathes, steam engines, tools and air guns, etc. The unsold group of his air canes (items 79 through 90) showed his trend toward the making of these as against air guns. There were six boxes for air canes in the inventory under item 97. Item 95 was the pay-off of the long search, as it itemized "one large air gun made for and used by Messrs. Lewis and Clark in their exploring expeditions. A great curiosity". The last three words in italics! Fig. 8 is a zerox copy of the catalog cover and fig. 80, page five, which includes item 95.

The aim of the Valley Forge talk was to seek recognition of the Philadelphia School of air gun makers in the early half of the 19th Century, to identify Isaiah Lukens as the maker of the Lewis & Clark air gun, and finally to expose the American Society members present to the collecting field of air guns generally. Pursuing that final aim the talk continued into the period of the air gun as a precision

instrument, showing and discussing the relatively expensive convolute spring guns of Lindner, Glaeser, and Lurch of New York and the St. Louis type of Wirsing and Schemann of Cincinnati, Ohio. From there the talk was closed with a variety of the low cost flat spring guns of the Quackenbush and Pope period that just preceded the boy's toy BB gun. Other than the patent models shown, all of this last part can be found by those interested in Wolff's AIR GUNS.

I have found the whole field of more than passing interest as a collector; the Philadelphia era noted chiefly by Lukens and Lewis & Clark's expedition has been one of my absorbing interests and the Valley Forge meeting seemed a fitting place to introduce it. I trust you concur.

AIR GUNS, by Eldon Wolff. Milwaukee Museum Publications In History No. 1, 1958. Milwaukee Public Museum, Milwaukee, Wisc.



End of Speech

CATALOGUE
or
TOWN CLOCKS,
GOLD CHRONOMETERS,
NAUTICAL, PHILOSOPHICAL AND CHEMICAL INSTRUMENTS,
TURNING LATHES,
STEAM, CUTTING, AND DIVIDING ENGINES,
Tools, Air Guns, Curiosities, Library, Medals,
Cabinet of Minerals, Rain Gages,
Stocks and Dies, &c. &c.

BELONGING TO THE ESTATE OF THE LATE
ISAAH LUKENS, DEC'D.

TO BE SOLD AT AUCTION,

By order of the Executor,

ON MONDAY, JANUARY 4th, 1847,

AT THE N. W. CORNER OF EIGHTH AND MARKET STREETS,
PHILADELPHIA.

Sale to commence at 10 o'clock, A. M.

W. S. BERRELL & J. S. BURR, AUCTIONEERS,
No. 297 Market Street.

The Goods can be examined on and after December 29th.

CONDITIONS OF SALE.

Cash upon delivery of the Goods—which are to be removed immediately after the Sale—except the Town Clocks, upon which an advance of 10 per cent. will be required to be paid down, and the balance within 30 days from the day of Sale. The Clocks will be taken good care of during that time.

All bills must be paid in *Bankable Funds*.

Fig. 8: Cover of the catalog of the I. Lukens estate sale. Apparently on his return from Europe he went heavily towards air canes. Photo courtesy Franklin Institute, Phila.

5

- 67. 1 Box for small Tools
- 68. 1 Mahogany Box and Steel Wire
- 69. 1 Mariner's Compass
- 70. 1 Box, and Soldering Silver
- 71. 1 Machine for showing the procession of the Equinox
- 72. Mahogany Vial Case, and Vials
- 73. Box, and contents
- 74. Mahogany Box and Spirit Blow Pipe
- 75. Second hand Sachrometer
- 76. 1 Machine for ascertaining Specific Gravities. Mahogany case and weights
- 77. 1 fine Sextant, extra tubes, complete
- 78. 1 superior Rifle, silver mounted, telescopic and graduating sights, &c., with mahogany case. Made by Isaiah Lukens for his own special use
- 79. 1 Air Cane Gun, complete
- 80. 1 do do
- 81. 1 do do
- 82. 1 do do
- 83. 1 do do
- 84. 1 do do
- 85. 1 do do
- 86. 1 do do
- 87. 1 do do
- 88. 1 do do
- 89. 1 do do
- 90. 1 do do
- 91. 1 Walking Cane, agate head
- 92. 1 " ivory head. This is a very curious article, of his own construction, particulars and explanation at sale
- 93. 1 large Air Gun, in order
- 94. 1 small do do
- 95. 1 large do made for, and used by Messrs Lewis & Clark in their exploring expeditions. *A great curiosity.*
- 96. Contents in Window
- 97. 6 Boxes for Air Canes
- 98. 1 very large Telescope and Case. In complete order
- 99. 1 Revolving Pistol, English.
- 100. 4 unfinished Barometers
- 101. 8 do do
- 102. Box and Stamps
- 103. " of Fishing Aparatus
- 104. " and contents
- 105. Box of Cast Steel

Note →

Fig. 8A: Page 5 of the Lukens Catalog, showing item 95.