

## ST. LOUIS GUNS, THE MECHANICS OF MANUFACTURE AND POINTS OF IDENTIFICATION

by Clarence B. Fall Saint Louis, Mo.

Dr. Byrne has covered well the various makers and their backgrounds. It is my purpose to enlarge on the mechanics of the gun-maker's trade.



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It was obvious that the long lighter Pennsylvania type of rifle was not fitted to the rugged requirements of the West. No doubt, the earliest shops did a big trade in attempting modification. The heavier, foreign guns seemed the pattern for the new St. Louis guns accepted so universally for personal protection, large game and horseback use.

St. Louis was literally a trading post. The large demand for Hawken Guns presented a real problem. No evidence of steam power, water power or gas engines is found. Iron from local area was available in short straps. To make a heavy barrel required methods similar to Damascus manufacture. There were no doubt simple drop forges. How much of this welding and shaping was done near the Foundry is unclear. Hawken claimed to make all their barrels. The process wherever done required plenty of manpower.

Since Hawken dominated the field, let's confine any analysis to his operations as they are known. Facts on space used would limit the manpower to possibly 10 to 15 men. This does not include farmed-out manufacturing which did exist to some extent.

To weld strips around a mandrel, shape, straighten, bore, ream should have taken two men two to three hours. The completed bore permitted an arbor to center for grinding to the acceptable finished octagon. It must then be cut to length threaded for the plain or patented breech -- both were used in early days. It's fair to assume two men, three hours. We now have twelve manhours. Let's say one barrel a day for two men.

The breech plug, tang, etc. was a forge job. The fitting and sight mounting plus the barrel pin sockets, another 10-hour day for one man if he hurried.

The lock by simplest methods should require one-man day, and the trigger assembly, guard and butt plate another day.

Stocking in hard maple or walnut, even without any stain or finish, must have required two days or twenty hours.

We still have the rifling of the barrel to be covered later in detail that must have required four hours even if the operator was a good runner.

With the sighting in and final finish, add two hours. We now have 58 to 60 hours.

If these estimates are close, twelve men might make two guns a day with a sale value of \$50.00. Little did Hawken Bros. know that same gun today, even in poor condition, might sell for many times that amount.

Since the Hawken Gun is so prized, it seems to be a good project to make available all information on what makes a genuine Hawken.

We all recognize the general outline -- the typical guard and the two-pin barrel -- the long tang and patented breech -- sturdy lock and typical sights. These only may be guides rather than fixed designs. Well-recognized guns have no patented breech and shorted tangs. They may have only one barrel pin. The guard may not have the familiar type of curl. The sights may be legitimate restorations.

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What we do have that is a better guide is the type of marking. The J. and S. Hawken or S. Hawken stamped with a unit die in bold letters. The St. Louis stamped with separate die in very similar letters. The marks read from breech to muzzle on all observed genuine guns. The bore and barrel length and weight vary frequently. Some existing genuine guns may have shortened barrels.

One of the surest signs of authenticity I offer, is the rifling. Even a freshened bore should retain the tracks of the original grooves. Although the plan to obtain as many bore plugs as possible is just starting, it has been proven valuable. All observed Hawken long guns have 7 lands and grooves with the groove having a noticeable rounded bottom or curvature. They are all right twist. Approximately one turn in 48. Interestingly, Dimmick, another famed St. Louis Maker, used a 7-land left twist. He also signed the barrels muzzle to breech.

How do we know for sure about the Hawken Rifling? For many years a collection of Hawken and Gemmer, Hawken's successor, guns, tools, etc. has been on display at the Missouri Historical Society in St. Louis. Among these pieces is a rifling rig reputed to have been used by Hawken. With the help of Dr. Tom Hoops, we got permission to move this device to a location to photograph and examine it. It was hoped we could confirm or deny its authenticity. It should be capable of making the typical pattern.

I have a plug of metal from a very fine Hawken. This gun I obtained locally. It shows little if any use and was reasonably well-stored. It is Picture #1. This plug displays the expected rifling with all details since the bore is near perfect.

We found this rig complete and in fine condition although it shows much use. It is typical in design except much more metal was used. Picture #15 shows its outline. It is approximately 10 feet long. The threaded feed screw is metal with male threads, right twist. It can't make a left-twist groove. First point proved. The cutter mounted in the wood bore fitting plug has a slight curvature to produce a rounded bottom groove. Second point proved.

Now look at Picture #16. This is the indexor. A very ingenious design. The lock or stop with its six holes and movable pin will anchor the disc and locate the guide and threaded feed screw for the first cut. It was necessary to determine whether a combination of different holes in the stop lever with the proper holes in the disc could permit a 7 land and groove cut. Since restriction of time did not permit the check on actual rig, we made a paper tracing of the parts with hole locations. I transferred this to a cardboard disc with all hole locations marked and the same process on the lock holder. Holes and combinations were found that divided the disc into seven equal parts and even six and eight. There were many unused holes left so this was usable for any shop demand on right twist pistol or long gun needs. Third point proved it would cut the 7 land and groove rifling.

We are of the opinion that the rigs used by Hawken is substantiated. Further proof is the source of the device through Gemmer.

Internal markings on parts are confusing for identification. Since these guns were never completely standardized, it is not unusual to find internal cryptic marks on the locks and triggers and barrel bottoms. I have viewed fakes with all kinds of hidden Hawken marks. There was some use of contemporary parts makers products. This seemed to slow or accelerate due to demand for production and particularly in the later periods. There never seemed to be enough production. Even Daniel Boone complained by letter he had to wait over two weeks for a gun. No doubt other St. Louis makers were beset with the same problem.

The pistol and revolver phase of St. Louis production is not as clear. It seems no great number were produced here. The complete authentication is more difficult. This is more difficult due to the few survivors.

St. Louis was a good market for pistols since dueling was not uncommon. Very few sets have survived. The personal protection and sidearm use must have been large. It is very realistic to accept the larger number of outside produced pistols marked for or sold by a local dealer or gun maker.

In the display of examples of my collection, these all seem as authentic. The detailed reasons for this selection could well be the subject for future articles.

I solicit any information by our members on any phase of this subject. Bore plugs will be very helpful if full data accompany them.



#1 S. HAWKEN, ST. LOUIS (1 LINE), 33-3/4" BBL., .50 CAL, OCT., 2 PIN, IRON FURNITURE NON-CURL TRIGGER GUARD, DBL. SET TRIGGER, PLAIN ST. LOUIS TYPE LOCK, 7 LANDS, RIGHT TWIST, WT. 10#, NEAR MINT CONDITION.



#5 H. E. DIMICK ST. LOUIS, 2 LINES, .45 CAL., 31 3/4" Oct. Bbl., 2 BBL KEYS, 13# Wt., 6 LANDS, LEFT TWIST, PLAIN LOCK TYPICAL ST. LOUIS PATTERN, TYPICAL IRON TRIGGER GUARD, SET TRIGGER, HOLES FOR BULLET STARTER



#2 S. HAWKEN, ST. LOUIS, (1 LINE), 38" BBL., .50 CAL, OCT. 1 PIN, BRASS FURNITURE, NON-CURL TRIGGER GUARD, DBL. SET TRIGGER, TYPICAL PLAIN LOCK, 7 LANDS, R. TWIST, WT. 12#, VERY EARLY TYPE, NOT PATENT BREECH, IT IS KNOWN THIS TYPE WAS MADE.



#6 H.E. DIMICK ON RIGHT BARREL, ST. LOUIS ON LEFT BARREL, SIDE BY SIDE, 10 GAUGE SHOT AND .58 CAL RIFLE, 32" BARRELS WITH ELG PROOF ON BOTTOM, AT BACK ACTION LOCKS, SET TRIGGER ON RIFLE BARREL, DAMASCUS BARRELS, WT., 12#



#3 H.E. DIMICK & CO., ST. LOUIS, (2 LINE), 33-1/2" BBL., .50 CAL., OCT. 1 PIN, SILVER FURNITURE, 6 LANDS, LEFT TWIST, FANCHEST GRADE, PATCH BOX, DEER, BACK ACTION LOCK, WT. 11#, CUSTOMED FOR P.H. KELLEY, DBL SET TRIGGER



#7 ADOLPHUS MEIER & CO., ST. LOUIS ON LOCK, KENTUCKY TYPE RIFLE, 43" BBL, .32 CAL., WT. 10#, OBSCURE INITIALS ON BBL TOP, ALL BRASS FURNITURE AND IN-LAYS, SET TRIGGER, FANCY GRADE



#4 H.E. DIMICK, ST. LOUIS, 2 LINES, 10# WT., 32" OCT BBL., .40 CAL., LEFT TWIST, 6 LANDS, 2 PINS, BBL KEYS, TYPICAL IRON GUARD, UNMARKED ST. LOUIS PATTERN LOCK, TURNED FOR STARTER



#8 ST. LOUIS KENTUCKY TYPE RIFLE, .36 CAL., WT 10#, MAKER UNKNOWN, LOCK ENGRAVED, BARREL MARKED E.T. HEBB, ST. LOUIS ON LOCK, DBL SET TRIGGER, BRASS FURNITURE



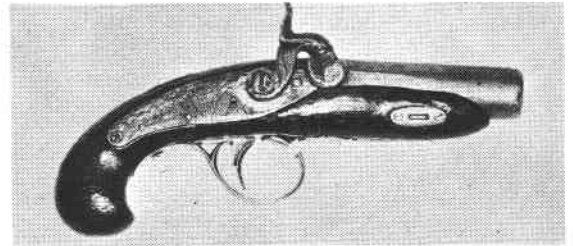
#9 ONE OF A MATCHED PAIR MADE FOR H.E.DIMICK, ST.LOUIS, PROBABLY FRENCH MANUFACTURE, 10" MICRO GROVE .56 CAL BBL., IRON FURNITURE, ADJUSTABLE SINGLE SET TRIGGER, FINELY MADE ENGRAVED LOCK.



#12 METROPOLITAN MADE AND ENGRAVED REVOLVER MADE FOR H.E.DIMICK, ST.LOUIS .36 CAL, SERIAL #1425 SERIAL GROUP ACCEPTABLE TO DIMICK MARKING AND SALES SEEM TO RUN 1300 TO 1700. THIS GUN OWNERSHIP TRACEABLE FOR MANY YEARS.



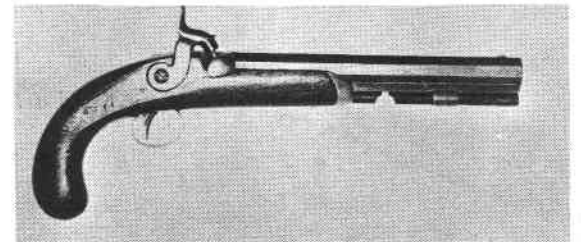
#10 ONE OF A POSSIBLE PAIR, SEEMS ST. LOUIS MADE, 11" .50 CAL OCT & ROUND BBL, PLAIN IRON FURNITURE, DBL. SET TRIGGER, PLAIN ST. LOUIS LOCK, STAMPED H.E. DIMICK & CO., ST. LOUIS.



#13 H.E.DIMICK ON BBL., DERINGER TYPE PISTOL, 3" BBL., .45 CAL, SILVER FURNITURE, SILVER SHIELD ESCUTCHEON, FLAGS & SHIELD ON LOCK PLATE, SKULL & CROSS-BONES ON GUARD, WELL INDICATED DIMICK MADE THIS TYPE.



#11 H.E.DIMICK & CO., ST.LOUIS, 2 LINE, AMERICAN MADE HALF ROUND HALF OCT. 6" BBL., .44 CAL, ALL INSPECTOR MARK INITIALS CHECK WITH KNOWN DIMICK EMPLOYEES, MARKINGS ON BBL DIE STRUCK, TYPICAL ST.LOUIS PATTERN



#14 AMERICAN MADE, MARKED ADOLPHUS MEIER & COMPANY, SN<sup>T</sup>. LOUIS ON LOCK, OCT. .45 CAL. BBL., RARE MODEL, ENGRAVED LOCK GOOD PLAIN QUALITY, BELT HOOK LFT. SIDE.