Elizabeth Furnace Plantation

Herbert H. Beck

Elizabeth Furnace Plantation, one of the historic and picturesque features of Pennsylvania, began with John Jacob Huber of Germany. In 1746 Huber acquired 400 acres of lands, with allowance of 18 acres for roads, then in Warwick Township, Lancaster County; and about the same year, he built a one-and-a-half story dwelling there. This building, which was restored about 1925 by Miss Fannie Coleman, is in the approximate center of the original quadrangle of buildings at Elizabeth.

About 1750 Huber erected a blast furnace 125 yards southeast of his house, making use of the impounded stream, Furnace (or Broadwater) Run, to drive its blast. His ore and limestone came from Cornwall mines, nine miles away, his charcoal from woodlands adjoining the furnace. Aside of the furnace there was a casting house in which five plate stoves were made. Today there is a plate of such a stove at Ephrata Cloister marked: "Jacob Huber erste deutsche mann 1755." This is part of an inscription, traditionally on Huber's furnace, which read: "Johan Jacob Huber der erste deutsche Mann der das Eisenwerk volfuhren kann." (John Jacob Huber the first German man who can manage ironwork.) Like his son-in-law, Henry William Stiegel, Huber was a great advertizer.

Heinrich Wilhelm Stiegel

Heinrich Wilhelm Stiegel, born in Cologne in 1729, came to America in 1750 and soon found employment with Huber. In 1752 he married Huber's daughter, Elizabeth. Stiegel was a man of great enterprise, pomp and display. His career was meteoric, rising like a rocket to great heights only to fall within eighteen years.

Stiegel, with partners, Alexander and Charles Stedman of Philadelphia and John Barr of Lancaster, bought the Huber tract in 1757. By 1760, the 418 acres were increased to 10,544. This included all of Cannon Hill of today and much of the Furnace Hills to the east, some to the west. In 1757, Stiegel reconstructed the Huber furnace, on its original site. When the new furnace was officially put in blast, with ceremony, the torch which set it ablaze was carried by Stiegel's wife, Elizabeth; whence it became Elizabeth Furnace, destined to become famous throughout America, and the same year to name the new township, which surrounds it, Elizabeth Township.

Stiegel House portion of the Stiegel-Coleman complex at Elizabeth Furnace.

But Elizabeth Huber Stiegel, whose name lives on today, had a short life of glory. The year after she named Elizabeth Furnace, in 1758, she died at the birth of her second child, Barbara. Her grave is in the Brickerville Emmanual Lutheran graveyard, that of her husband, site unknown. With the erection of Elizabeth Furnace in 1757, and soon after, there was a building boom there under Stiegel's direction. The southeastern part of the mansion of today was built; its long adjoining belfry wing to the north, ending in the towering ice-house; about 25 tenant houses, one-and-a-half story, covering lands chiefly to the southwest, four are still standing; the long stables, with their flattened arch doorway, one of the architectural features of Lancaster County today; a general store, used as late as 1832, (gone today); a school house, (gone today); a blacksmith and wagon maker's shop (gone today); a grist mill and saw mill (gone today). The charcoal house, midway between the Huber home and the site of the furnace, which was restored by Miss Fannie Coleman, essential as it was to a furnace, is probably the original of John Jacob Huber. An arched cold cellar, about 10 ft. wide by 12 ft. long, its ceiling studded with meat hooks, must have been aside of a butcher house, probably of Stiegel's day. This cold cellar, recently unearthed by the fall of a tree, is west of Furnace Run about 25 yards southeast of the charcoal house.

Traditionally, the blacksmith shop and the store were immediately south of the mansion. The grist mill, evidence of which is still there, was on Furnace Run, about 700 yards below the furnace.

The original Elizabeth was a typical Iron Plantation with all its supporting industries and farms, a community in itself.

In this typical 18th century iron plantation Stiegel and his partners conducted a successful iron industry for 16 years. Some of the iron from Elizabeth Furnace was hauled to forges on the nearby Hammer Creek — Upper and Lower Hopewell and Speedwell — to be converted into bar iron; much of it into stoves, in the casting house adjoining the furnace. The first of these, prior to 1766, were five plate stoves. These stoves were built into a wall, their open ends fueled from an adjoining room, under a chimney. In 1759, Stiegel made a cannon stove, a copy of the Pommerofen of Germany. Up to about 1770, six plate stoves, America's first draught stoves, with pipes attached, were made. All were marked, as a five plate: "H. Whelm Stiegel and Compagni for Elizabeth, 1758"; a five plate, "Wo eurer Shatz ist da ist aucheurer Herz. John B. H. Stig. 1758"; the text, from Luther's Bible, "Where your treasure is there also will be your heart." This is the only known use of a Biblical text at Elizabeth, widely used at other furnaces of the period. John B. stands for John Barr, a partner who sold his interests at Elizabeth to Alexander Stedman in 1759. Other five plate stoves were marked, "Heinrich Wilhelm Sti 1758," "J. B. in Compagni vor Eliza H. W. Helm Stigehels" and "Stigel und K. 1765". There is a ten plate stove with four inside plates, the first cooking stove, marked "H. W. Stiegel Elizabeth Furnace 1769."

EXPLANATION CONCERNING MAP

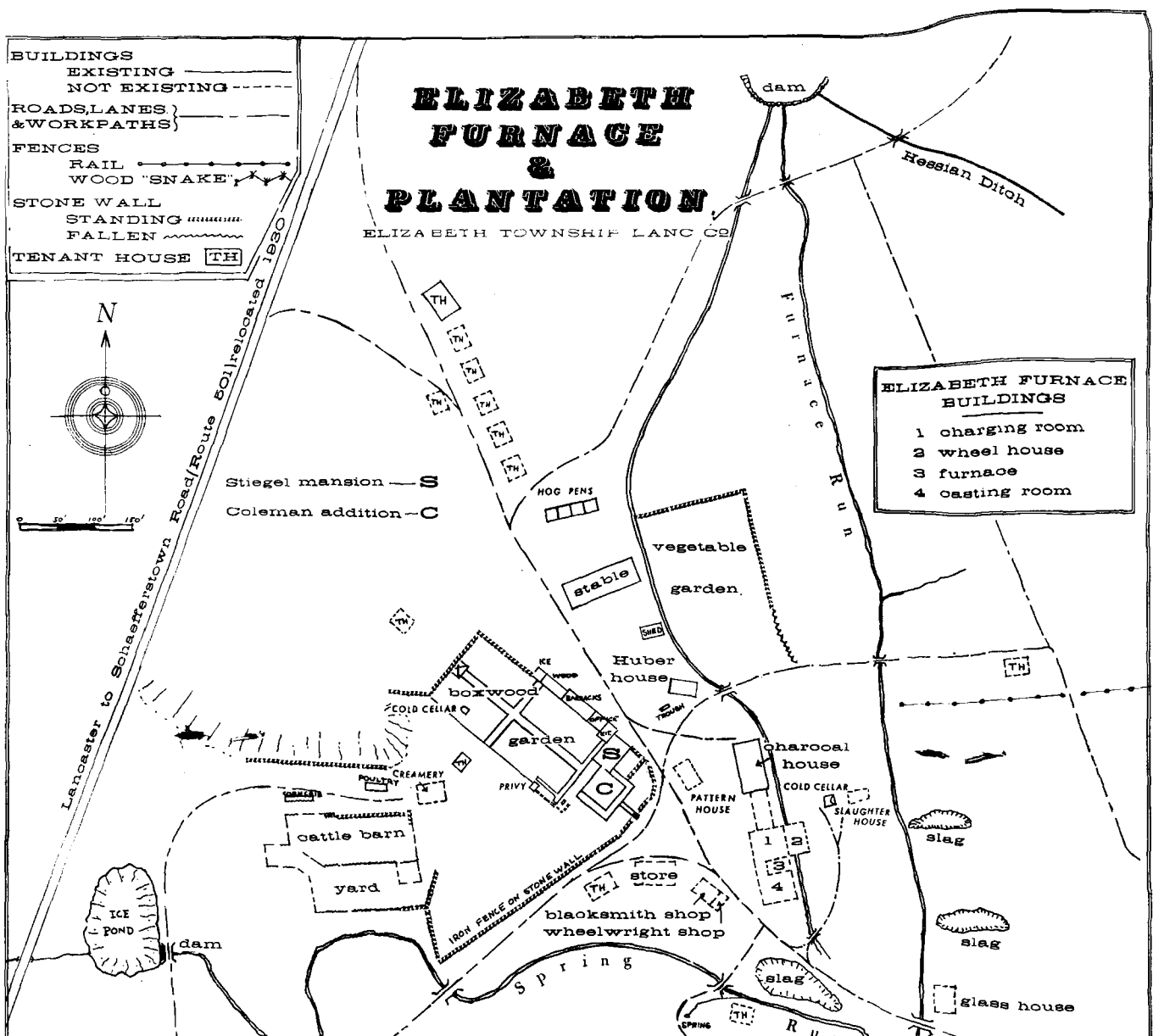
Considerable has been written about the history and life of the people who lived on the Elizabeth Furnace Plantation at its beginning. Apparently no attempt has ever been made - other than in simple sketch form - to reconstruct, in detail, the arrangement of the buildings, roads and streams of this area at the time Jacob Huber, W. H. Stiegel and Robert Coleman lived there. The growth of this small community was very gradual and since it overlapped the lives of all these early families, no sharp distinction can be made as to who built this building or that road. Dr. H. H. Beck gives his versions on this in his papers on "Cannon Hill and the Hession Ditch" Vol. XLIV, #2, 1940, Lancaster County Historical Society and "The Elizabeth Furnace Plantation" 1960, accompanying this map.

This map shows all the buildings, main roads and streams as they are today and also the buildings, work roads, lanes, dams and sluices not there today but known to have been there, more than 150 years ago. There is still much evidence there to confirm this. A few of the buildings were placed on the map from old Atlases, some from old foundations and others from those who saw and remembered them. The furnace building and wheel house are drawn similar to those of the period. The charcoal house is only about ⅓ the size of the one at Cornwall and from this it can be assumed that the furnace buildings were smaller also. Portions of these foundations are still there but can not be followed without excavating them. The glass house has been placed according to Frederick W. Hunter as outlined in his book, page 41, "Stiegel Glass." The dimensions of all the buildings not there today are unknown. Wire fences have been omitted to avoid confusion of lines on a map of this scale.

There are still many more buildings, foundations and well marked sites outside the 100 acre area covered by this map. These are the three farms, schools, church, more tenant houses, grist and saw mills etc. The entire Plantation did consist of more than 400 acres.

It is hoped that this map will be a foundation on which to built more accurate information by those who follow. This map would not have been possible without the help of the following - W. Dehaven, H. L. Feather, W. J. Hambright, G. L. Heiges, W. G. Heim, M. H. Keiffer, B. Rutherford, Mrs. C. Shirk, R. Shirk, Mrs. Paul Singer, and F. L. Windolph. Esq. The writer is grateful also to Mrs. G. Dawson Coleman for permission to use the files, buildings and the entire area to make the study.

H. Ray Woerner


BUILDINGS
EXISTING
NOT EXISTING
ROADS, LANES & WORKPATHS
FENCES
RAIL
WOOD "SNAKE"
STONE WALL
STANDING
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TENANT HOUSE TH
ELIZABETH FURNACE & PLANTATION
ELIZABETH TOWNSHIP LANC CO
N
Lancaster to Schaefferstown Road/Route 501 relocated 1930
dam
Hessian Ditch
Furnace Run
ELIZABETH FURNACE BUILDINGS
1 charging room
2 wheel house
3 furnace
4 casting room
Stiegel mansion — S
Coleman addition — C
HOG PENS
stable
vegetable garden
SHED
Huber house
TROUGH
ICE
WOOD
BARRACKS
LIME etc.
COLD CELLAR
boxwood garden
S
C
PRIVY
CREAMERY
POULTRY
CORNCRIB
cattle barn
yard
IRON FENCE ON STONE WALL
charcoal house
COLD CELLAR
PATTERN HOUSE
SLAUGHTER HOUSE
1
2
3
4
slag
store
blacksmith shop
wheelwright shop
ICE POND
dam
Spring
slag
glass house
SPRING
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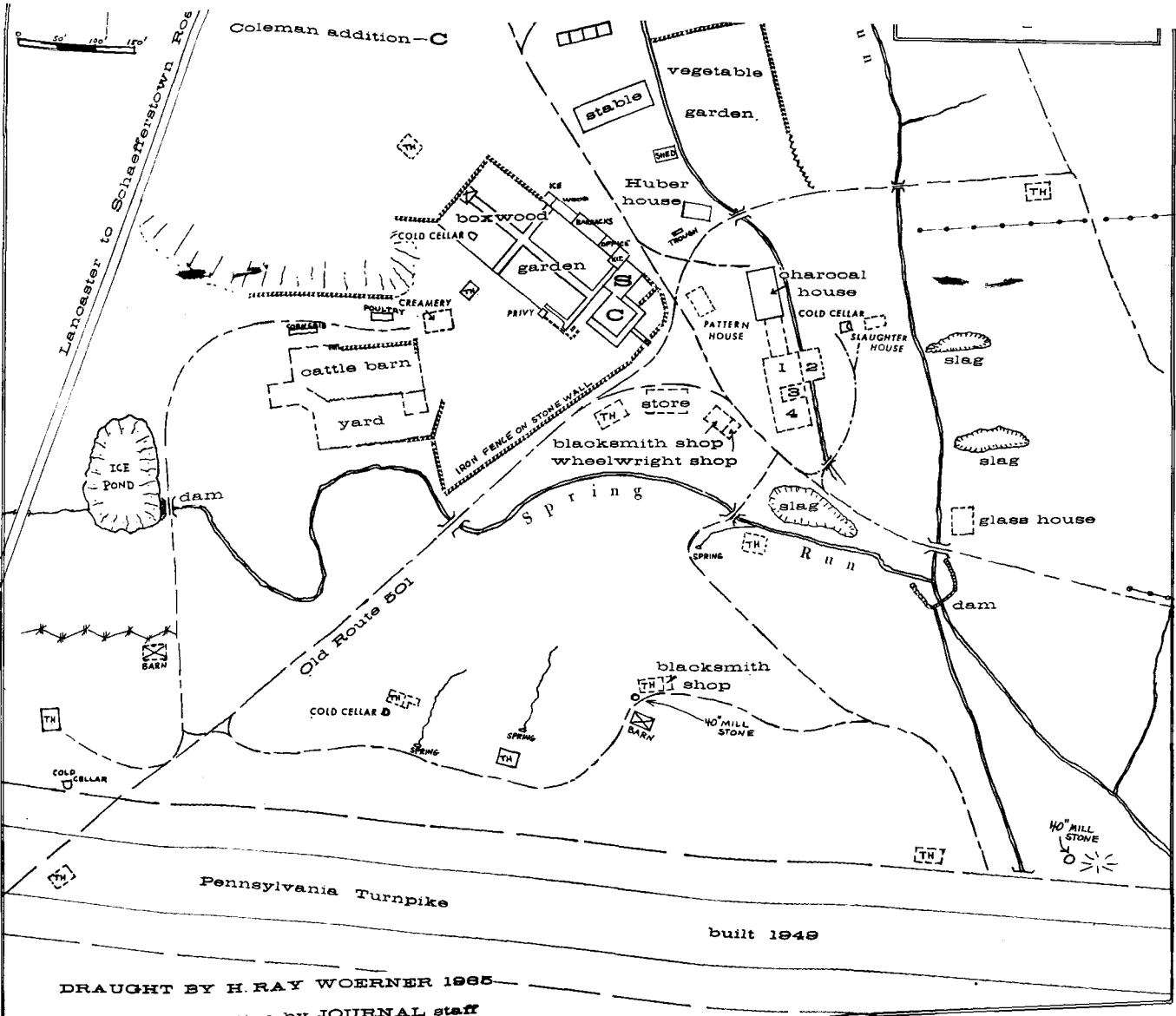
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Coleman addition—C
Lancaster to Schaefferstown Road
stable
vegetable garden
SHED
Huber house
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boxwood
ICE HOUSE
BARRICKS
OFFICE
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COLD CELLAR
garden
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charcoal house
COLD CELLAR
PATTERN HOUSE
SLAUGHTER HOUSE
CREAMERY
POULTRY
PRIVY
CORN CRIB
cattle barn
yard
1
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3
4
slag
slag
IRON FENCE ON STONE WALL
store
blacksmith shop
wheelwright shop
ICE POND
dam
Spring
slag
glass house
SPRING
Run
dam
Old Route 501
BARN
blacksmith shop
COLD CELLAR D
SPRING
SPRING
BARN
40" MILL STONE
COLD CELLAR
40" MILL STONE
Pennsylvania Turnpike
built 1949
DRAUGHT BY H. RAY WOERNER 1965—
by JOURNAL staff

The most striking sample of Stiegel's fondness for pomp and self-aggrandizement is the famous "Hero" stove, the only known one, intact, being now at Elizabeth. It is a six plate stove marked at top of side plate "H. W. Stiegel Elizabeth Furnace 1769"; below, crowned in laurel and surrounded by a laurel wreath, is the bust of a hero, evidently meant to be Stiegel. On rear plate is shown a shepherd (presumably Stiegel) leading his sheep (workmen).

In the year that stove was cast, 1769, Stiegel was at the height of his bombastic glory. About that time, as Stiegel approached Elizabeth in a coach-and-four with outriders, there was a cannon on adjoining Cannon Hill (named for it), on a 75 foot tower which, by its boom, saluted "Baron" Stiegel. There was a watchman with the cannon, awaiting his coming. This gun tower stood on a level 200 yards west of the crest of Cannon Hill. About 1920, the writer was taken to its site by Jacob Douple, born 1880, whose father, born 1836, had been a workman at Elizabeth. The foundation of the tower, 20 ft. by 20 ft., of red sandstone, was well remembered by Douple in his youth. Made of cut stone, the foundation had been removed for building elsewhere, as had all the stones from the furnace, casting house and many other buildings of the original Elizabeth. But that old cannon, which doubtless was picked up by an iron monger, in its day could be heard at all of Stiegel's domiciles, at his Octagonal Tower at Schaefferstown, at his brick mansion at distant Manheim. Canon Hill remains today a permanent monument to the glory of "Baron" Stiegel.

An account of the possessions of H. W. Stiegel, written by himself (now at the Historical Society of Pennsylvania, Philadelphia) shows, July 1, 1762, the following:

Elizabeth Furnace and Lands	4000	pounds
Charming Forge (Berks County), my half	3088	
Lands and buildings in my possession	4451	
Horses and retinue	208	
Musical instruments	737	
Store with 30 goods	887	
Negro Cires (Cyrus)	80	
Arms and 100 s.c.	102	
Clothes and other affair	260	
Cellar stores	49	

This investment in musical instruments, as early as 1762, is high. This confirms the traditions of bands and orchestras which Stiegel maintained for his welcome and entertainment; also a pipe organ. The "Retinue", coach, etc., is accounted for.

But few documents of Elizabeth remain today. An Elizabeth Store Account, 1769-70, shows credits to the following slaves: Emanuel, Tom, Will, David, Baccus, Sippio (Scipio), Bob, Beck and Sam. Even though slavery was officially abolished in Pennsylvania in 1780, there is a receipt of 56 pounds still at Elizabeth for two negroes purchased by Robert Coleman at a sale at Matthias Slough's in 1790. This was at Slough's White Swan Hotel, Penn Square, Lancaster. Robert Coleman himself was an Assistant Judge of the Common Pleas Court of Lancaster the year following his purchase of slaves.

View of formal gardens, barracks, and Stiegel-Coleman House from rear.
Courtesy of Lancaster New Era

In 1763, Stiegel entered into the industry which made him famous today — glassmaking. In that year he built a "glasshouse" at Elizabeth. Records show that blowing started there September 18, 1763, with Christian Nasel, Martin Greiner and Benjamin Misky as blowers. Window and bottle glass were made there as late as October 7, 1765. This glasshouse apparently stood west of the road, south of the slag pile. Most of the cullet, glass spilled from pots and refuse glass, which has been recovered, was found on this site.

Some of the window glass made at Elizabeth is still there. Doubtless all of the windows there in 1766 were covered with it. A few of the originals can still be seen on the upper floors of the mansion and in the kitchen adjoining the belfry house. Those panes show the waves and bubbles typical of Stiegel window glass. Small panes were the last to be lost by replacement throughout the two centuries.

In 1764, Stiegel erected his large glasshouse at Manheim. Blowing was started there December, 1764. Here was made the beautiful glassware so valuable today. Glass was made here for only about eight years. Records at Philadelphia show that in October 1773, "the American Glass Manufacturing Company" took charge "for Henry W. Stiegel". It was the last effort. Stiegel, with Alexander and Charles Stedman, had acquired lands at Manheim. Lots were sold at 16 pounds, 6 shillings.

View of parlor in Coleman House
Courtesy of Lancaster New Era

Stiegel's career, almost throughout, is marked with financial difficulties. He was always, with his bombastic aspirations, living beyond his means. In 1768, he mortgaged his shares of Elizabeth to Daniel Benezet of Philadelphia, for 3000 pounds. Other mortgages soon followed. There is a sheriff's claim of January 28, 1773, at Elizabeth today against lands and holdings of Henry W. Stiegel, plus a debt of 6000 pounds. By December, 1774, at which time Elizabeth belonged to Daniel Benezet and the Stedmans, the rocket had fallen for being declared bankrupt, Stiegel was in the debtor's prison in Philadelphia for a short term. All was now gone—Elizabeth Furnace Plantation; Schaefferstown, with its Thurmberg Castle and many lots there and at Newmanstown; Charming Forge with its large land holdings; Manheim, with its lands and great glasshouse; all were gone.

Having lived at Manheim in 1771, Stiegel strayed back to the cold furnace at Elizabeth in 1775. He was to become an employee there under new hands. Even his father-in-law, John Jacob Huber, had long since cast him out. For, doubtless incensed by Stiegel's marriage to Elizabeth Holz eight months after the death of his first wife, Elizabeth, his daughter, who named the furnace, Huber stated in his will: "I give and bequeath to my son-in-law, Henry William Stiegel, the sum of one shilling sterling and I exclude him and his heirs from all further claim to my estate, either real

Elizabeth Furnace

The blast furnace which Stiegel had erected in 1757 and which the Colemans ran until 1856, stood 40 yards from the charcoal house in direct line with its ridge pole. Its position can be seen today by an excavation against a hillside at that point where it had stood. There had been a short bridge leading to its top across which the charcoal, ore and limestone from the charcoal house had been taken in wheelbarrows or "buggies" to charge the furnace.

While no records of the furnace remain, it was doubtless built, as were the other furnaces of the period, like the nearby Cornwall furnace which was put in blast in 1742. It was a square stack made of red sandstone, 30 ft high, 25 ft. in breadth at base, tapering upward. The circular interior, which was lined with fire-clay, started above with 18" throat, expanded into a 7 ft. or 9 ft. "bosh" and terminated in a hearth or crucible, 3 ft. in diameter below. Immediately above the crucible was a tuyere, which was the fire-clay or water-cooled iron end of an air pipe through which the blast was driven into the furnace at the rate of about a pound to the square inch. The engine which drove this blast consisted of two frame and leather bellows about 6 ft. by 20 ft. which were operated alternately by an over-shot water-wheel about 25 to 30 ft. in diameter by about 6 ft. wide. The impounded water of Furnace Run ran the water-wheel. There was an iron door on the side of the top chimney which opened, forcing the bridge to receive the charge. The furnace was in continuous blast for about

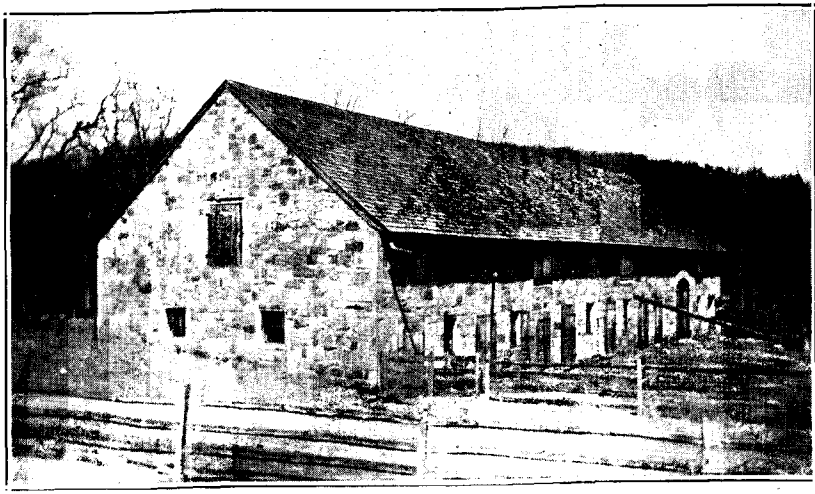
(Left) Door-knocker on front door of Coleman House. (Right) Newell post detail in Coleman House.

Courtesy of Lancaster New Era

8 months a year. Usually at noon and at midnight it was tapped. First the slag, the glassy product of the limestone and the siliceous impurities in the ore, was run out to be taken away in iron wheelbarrows to the slag pile; then the molten iron, which was run into sand molds in the casting house which adjoined the furnace. The long gutter in the sand through which the liquid iron ran, was adjoined on both sides by a series of cavaties. Some early iron master, noting the similarity of pigs sucking at a sow in this set up, called the iron in the smaller cavities "pig iron", a name which was to last. The long gutter was the "sow." The iron thus made, upon cooling, was brittle. The "pigs" could be broken from "sow" with a sledge hammer and the "sow" similarly broken up. But this brittle iron was useful for stove plates and also for cannon balls and shells which were made at Elizabeth during the Revolution. When these were made at Elizabeth the molten iron was run directly from the crucible into ladles which were carried by foundrymen to the molds in sand boxes.

Too brittle for use in horseshoes, wagon tires and rifle barrels, the pig iron at Elizabeth was hauled to nearby forges, Upper and Lower Hopewell and Speedwell on the Hammer Creek. Here the iron was remelted in a cupola furnace. Long iron bars worked it into a lump of about 200 lbs. These viscous lumps were carried to an anvil where they were repeatedly struck by a 500 lb. hammer, lifted at end of long beam by water power.

Barracks in which Hessian prisoners of war were housed at Elizabeth Furnace during construction of "Hessian Ditch".



The long stable at Elizabeth Furnace.

This forging reduced the carbon in the iron from about 4% to 1%. The product was bar iron, no longer brittle, useful for blacksmiths. A 500 lb. hammer head from Hopewell Forge is at Elizabeth today, as are stoves and cannon balls cast there.

Elizabeth Furnace accumulated an enormous slag-pile for, between the years 1750 and 1846, 196,000 tons of ore, hauled from Cornwall, were used there (Cornwall records). This slag-pile was 60 yards west of the furnace across the road, south of the mansion. Only a remnant remains today for the slag was used to cover "cinder roads" like the one running through Elizabeth which formerly was a public road. There must have been a roasting oven at Elizabeth to burn the sulphur out of the ore. This is gone, as are the furnace, the wheel house, the casting house, and all but a mere remnant of the dam breast on Furnace Run which had impounded the water to drive the great wheel. The only part of the Elizabeth furnace system there today is the arched tunnel which acted as a tail race for the spill water from the wheel. The only lingering memory of the furnace in action is that of Abraham R. Beck (1833-1928), who as a boy, in the 1840's, spent a night in one of the southern rooms of the mansion. He said, as he lay there in bed, the ceiling above him would brightly illuminate as the door on the glowing furnace would open for the charge.

Elizabeth Furnace, in a full year, required charcoal from 250 acres of woodland. This charcoal, at 800 bushels a day, making three to four tons of iron in 24 hours, came from Cannon Hill and Black Oak Hill to the east, and Hopewell Forge Hill to the west. It was made in "charcoal pits". The sites of many dozens of these "charcoal pits" can still be seen on these hills. Within circles of 25 feet in diameter, where cordwood had been stacked and charred, the enduring charcoal remains in the soil.

Tenant house near Elizabeth Furnace mansion. Built about 1757.

The Colemans

Robert Coleman, a man destined to become the Andrew Carnegie of early Pennsylvania, came to Elizabeth in 1776. He was born November 4th, 1748, at Castle Finn, County Donegal, Ireland. Though immigrants to America from that region have always been called Scotch-Irish, Robert Coleman was distinctly of English descent for his family had been persuaded by Charles I, soon after 1610, to leave England and settle in Ireland. He came to Philadelphia in 1764 better educated than most of the youth of Donegal. He was employed in the office of Prothonotary at Reading for two years. In 1766 he took a step which was to determine his career; he landed a clerkship with Curtis and Peter Grubb at the Hopewell Forges on the Hammer Creek, Lancaster County; he had entered the iron industry in which he was to rise to great heights. About six months later he was a clerk for James Old, who had built the Speedwell Forge on Hammer Creek below the Hopewell Forges in 1760. He worked there and at the Quittapahilla Forge, west of Lebanon, also run by James Old, and at another of Old's holdings, the Reading (Redding) Furnace on French Creek, Chester County. While at this furnace, October 2, 1773, Robert Coleman married Anne Old, daughter of his employer. Thomas Barton, famous Tory pastor of St. James Episcopal Church at Lancaster, performed the ceremony. By a curious turn of fate, Robert Coleman lies today in the cemetery of Thomas Barton's church at Lancaster, where he was buried in 1825.

The marriage of Robert Coleman, English-Irish, and Anne Old, of Welsh father and mother, resulted in fourteen children, one-half of whom died in infancy.

At the age of 25, Robert Coleman had accumulated enough capital to set out for himself in the iron industry. He leased Salford Forge near Norristown, Montgomery County, for a term of three years. A document still in existence recounts the rising tide of the American Revolution at that time. It is Robert Coleman's Memorial, presented August 26, 1776, asking permission for his clerk and three forgemen to be exempted from marching with the army to Amboy. It sets forth that he had rented the forge for three years at a rental of 200 pounds a year; the lease would expire in three months, and that the principal part of his workmen were associators who, if obliged to march with the militia, would cause him great loss and entirely prevent him from working up his stock in hand. This request to the Committee of Safety in Philadelphia was granted. At Salford Forge, Coleman had a contract to make chain bars, each link weighing about 150 lbs. which were designed to span the Delaware River for the defense of Philadelphia against an approaching British fleet.

Robert Coleman, in a document in possession of his grandson, George Dawson Coleman, in 1878 says: "In the year 1776, possessed of but small capital and recently married, I took a lease for Elizabeth Furnace estate for the term of seven years, not anticipating at that time that before the expiration of the lease I should have it in my power to become owner in fee simple of the whole or the greater part of the estate. Success, however, crowned my endeavors. A new and regular system was adopted by which the business of iron-works was made to resemble more a well-conducted manufactory than the scenes of confusion and disorder which had before that time prevailed in that business. During the continuance of the lease I made several purchases of lands contiguous to the estate, and in the year 1780 I purchased from John Dickinson, Esq., the one undivided third part of the Elizabeth Furnace and lands thereunto belonging, he having before that time become owner of all the estate and interest which Alexander Stedman held in the same. In the year 1784 I purchased out Mr. Charles Stedman, who also held an undivided third part of the estate. The remaining third part of the original estate was not purchased by me from Daniel Benezet until the year 1794, he either not being inclined to sell or asking more than I thought it expedient to give."

Within the same period and a decade later, Robert Coleman made these purchases: 1784, from his father-in-law, James Old, Speedwell Forge and lands. 1786, from Peter Jr., son of Curtis Grubb, 1/6 part of Cornwall Furnace, ore banks, and 9669 acres of land, and 1/3 part of the Hopewell Forges, 8500 pounds. 1798, from the estate of Curtis Grubb, 1/3 interest in these forges; and finally, in 1803, the remaining 1/3 from Henry Bates Grubb, thus giving Robert Coleman full possession of the property where he had his start as an ironmaster in 1766. By 1798, all of the Cornwall property was amassed, the Grubbs retaining 16/96th interest in the ore banks. He also had interests in Martic Forge, in southern Lancaster County, and for a time had operated Union Forge on the Swatara in Lebanon County.

In 1791 Robert Coleman built and operated Colebrook blast furnace on the Conewago, two miles west of Mt. Gretna.

All of the furnaces, Elizabeth, Cornwall and Colebrook, were cold blast charcoal furnaces. All the ore they used was the Cornwall banks. All their fuel from the woodland in the Furnace Hills.

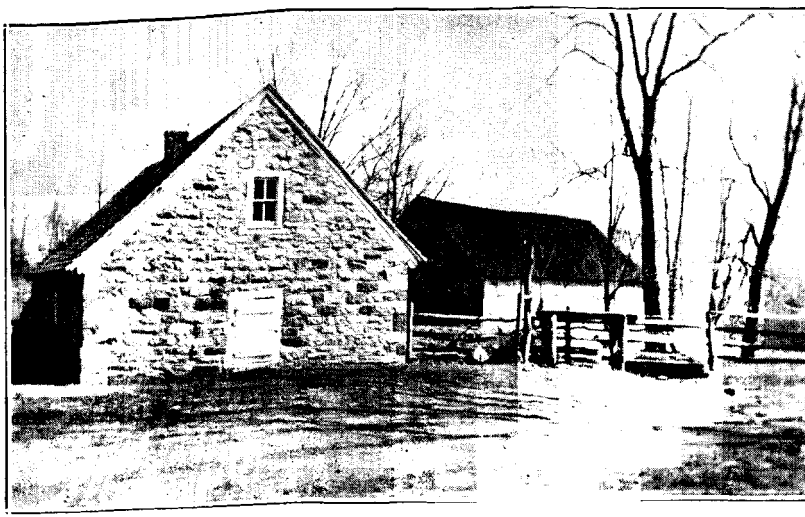
At the time of his death in 1825, Robert Coleman owned 22,000 acres, 15,000 in woodland, 7,000 in farm land. This included the Furnace Hills from east of the Big Swamp, north of Clay, to beyond Colebrook on the west, about 16 miles. Robert Coleman used Speedwell Forge as the place for his sons to learn the iron business. If he could successfully manage a forge he was considered capable of operating a furnace. Thus in 1797, William, the oldest son, was made manager of Speedwell Forge at 250 pounds a year. He remained there until 1801 when he was made manager of Cornwall Furnace while his younger brother, James, came to Speedwell. In 1809, when Robert Coleman retired, Speedwell Forge, together with Elizabeth Furnace and the Martic Works, was managed by James Coleman and Company.

Sometime between 1776 and 1790, according to the late George Dawson Coleman, 3rd, nearer the latter date, Robert Coleman built the large mansion adjoining the Stiegel house. As were all of the buildings at Elizabeth, it was made of Triassic red sandstone which had been laid down in a landlocked sea about 200,000,000 years ago. Unlike the stones of the Stiegel house and others which were cut with rough faces, the blocks of which the Coleman mansion were made were carefully dressed.

The terraced gardens with their ancient boxwoods adjoining the mansion, were probably laid out by the same French landscape gardener who, between 1800 and 1810, planned similar gardens at Cornwall mansion, immediately north of Cornwall Furnace. This mansion, though built by Curtis Grubb in 1773, after 1798 belonged to Robert Coleman and his oldest son, William, who lived there at the time. All of the ironmasters' mansions in southeastern Pennsylvania had their terraced gardens; none more elaborate and beautiful than the one at Elizabeth.

A large cattle barn, a wall of which still survives 100 yards west of the mansion, was probably built by Robert Coleman. This barn, on the night of January 14th, 1881, was the scene of Elizabeth's greatest tragedy, well remembered by the writer. It burned with a large herd of cattle and by persistent rumor of the day, an incendiary act of the manager. The late Charles Shirk, long time manager at Elizabeth, reported a man at Brickerville who, on his death bed, confessed to having set the barn on fire at the insistence of the manager, Cameron, who was in Lititz at the time.

The greatest project undertaken by Robert Coleman at Elizabeth was the construction of the Hessian Ditch. Furnace Run, in dry seasons, sometimes failed to furnish enough water continuously to run the wheel which drove the blast engine at the furnace. To improve this Coleman took advantage of the Hessian prisoners-of-war which were available. His account shows that the first of these, 22, came to Elizabeth August 14, 1777, Continental Congress to receive 32 to 45 shillings a month for each, the amount to be paid in iron. The total number of Hessians employed at Elizabeth was 70. An entry in the manuscript there of November, 1782, is: By cash, being the value of 42 German prisoners of war, at 30 pounds each, 1260 pounds. Again, June 1783: By cash, being the value of 28 German prison-



House at Elizabeth Furnace built about 1746 by John Jacob Huber. Charcoal house for furnace is in background.

ers of war at 30 pounds each, 840 pounds. In a footnote to these credits Robert Coleman certifies "on honour, that the above 70 prisoners were all ever secured by him, one of whom, being returned, is to be deducted when he produces the proper voucher."

This gang of 70 men, using many thousands of manpower hours, dug a canal about 6 ft. deep by 6 ft. wide, to bring the waters of the Saegeloch (Saw Hole) Run from the ravine on the east side of Cannon Hill, a mile and a third around the southern base of that hill, to re-inforce the waters of Furnace Run. This canal, which has always been called the "Hessian Ditch" with its surveying and men work, was a great engineering accomplishment. A remnant of the dam breast which impounded the waters of the Saegeloch to lead into the canal is still there, as is most of the great ditch which terminated above the dam breast of Furnace Run at Elizabeth. On the Hessian Ditch, at about the middle of its length, there is still a ruin of a two story stone house. This, according to the late Dr. J. L. Hertz of Lititz, whose grandfather, as a charcoal burner, had occupied it later, was the house where the superintendent lived when the canal was being dug.

According to Miss Fannie Coleman, the Hessians were lodged in the Belfry House. The only part of that building with sleeping quarters large enough for 70 men is the room with a cellar beneath. This room, as can be seen by present structures, originally had three stories — sufficient, though crowded, sleeping quarters for 70 men. One side has iron barred windows, the other lockable doors. Prisoners of war had to be kept together. This must have been their barracks. There is ample kitchen equipment adjoining the Belfry House to feed a hundred.

Besides the regular occupants of the tenant houses, a few slaves and, for a short period, Hessian prisoners (many of whose descendants still live in the region), Robert Coleman employed a few "indentured servants", immigrants who were bought at the Philadelphia dock who had to work off their cost of passage. One of these was a Thomas Brown, indentured to Elizabeth Crothers, who sold his service to Coleman.

Firm traditions to the contrary, there is no authentic evidence from his diary or elsewhere that Washington ever visited Elizabeth. He was in Lancaster five times, the last being July 4, 1791. In none of these journeys did he go into Northern Lancaster County. Without doubt, Robert Coleman was well acquainted with Washington for they were together in the Whiskey Rebellion of 1793. But, like the same tradition at Cornwall Furnace, Washington's visit to Elizabeth is a myth.

One of the notable visitors to Elizabeth was Ensign Thomas Hughes, a British officer prisoner of war at Lancaster from May, 1779 to November, 1780. His diary is complete throughout this period. His entry of August 14, 1779, is: "Went today on another party of pleasure to see some iron mills — were treated very politely by the proprietor with whom we dined. On our return pass'd through Lititz a small Moravian town, ..." From the route mentioned, the "iron mills" must have been Elizabeth Furnace. "Party of Pleasure" meant a party of girls, for two days before, Ensign Hughes had been at Wright's Ferry with a party of girls. Robert Coleman evidently was a good host to this "party of pleasure." Hughes saw the Hessian prisoners on that day.

When Elizabeth Furnace, after a cold interim in 1775, was put in blast by Robert Coleman, Stiegel, for a short period, was foreman in charge, until 1779. Speaking their language, he was a good man to guide the Hessians. His daughter, Elizabeth, was married to William A. Old, brother of Robert Coleman's wife, Anne, so Stiegel was connected to his boss by marriage.

While no records of the period exist, it is doubtful if Coleman's contract with the Quartermaster of the Continental Army included cannons. Cannon balls and grape shot, made at Elizabeth, are still there. The local contract for field and ship cannon was with the Grubbs at Cornwall. In 1809, Robert Coleman is quoted as saying, "I make annually 2000 tons of pig iron and 1100 tons of bar iron." This meant that about one-third of the product of his three furnaces was converted into more expensive bar iron at his two forges, Speedwell and Lower Hopewell on the Hammer Creek (which was named for the forge hammers its impounded waters lifted). Upper Hopewell Forge was not used after 1803. The heavy thud of Speedwell and Hopewell hammers, as late as 1854, could be heard in Lititz, five miles away (A.R.B.) The stoves made at Elizabeth Furnace by Robert Coleman and his son, James, were ten plates, three plate fire-backs, Franklin type fireplaces and after about 1815, Pennsylvania ovals. The fire-backs are still at Elizabeth as is a superb oval cast after the patterns of some master mold maker to commemorate Robert Coleman's friend, the late George Washington. The Colemans never made five plate and six plate stoves, which were the major products of Elizabeth Furnace prior to 1776.

Robert Coleman lived at Elizabeth until 1809 when he retired from active business and moved to Lancaster. He lived there on East King Street, one-half block from Penn Square, on the north side. He died August 14, 1825.

After 1809, the management of his vast iron industries went to his sons, William, James, Edward and Thomas Bird. From an estate valued at well over $1,000,000, James inherited $270,000, which included Elizabeth Plantation and 20/96th of the Cornwall mines. James Coleman, who had been born at Elizabeth, died there September, 1831. Having married Anna Dawson, daughter of George Dawson, his sons were Robert and George Dawson. Robert and George Dawson Coleman ran Elizabeth Furnace until 1856, not changing it from the cold blast, charcoal, waterpower furnace it always had been in its 99 years of active service. Even though it was a time when hot blast was replacing cold, anthracite coal was replacing charcoal and steam was replacing water power in blast furnaces. It was in 1856 when the Cornwall Furnace was rebuilt to continue as a cold blast, charcoal furnace until 1883. Robert and George Dawson Coleman erected hot blast, anthracite, steam furnaces at Cornwell several years before they discontinued Elizabeth Furnace.

The name of George Dawson Coleman, who died in 1878, lives on in the region as a man prominent in the improvement of iron making, notable in social affairs. A real memorial to him is the James Coleman Memorial Chapel at Elizabeth which was built by George Dawson Coleman and his wife, Deborah (nee Brown) in 1872 in memory of their son, James. This chapel replaced the smaller one which had been built in 1835 by his mother, Anna Dawson Coleman.

It was in the building of this chapel and the new barns on Elizabeth Farms that the building stones, which had disappeared from the furnace, casting house and other original structures at Elizabeth, were used. Since 1831, now 129 years, Elizabeth Furnace Plantation has been in the possession of the direct descendants of James Coleman's son, George Dawson Coleman.

ABOUT THE CONTRIBUTOR

Dr. Herbert H. Beck's last paper before his death in 1960 concerns a subject and area warm to his heart. This last work shows no loss in the author's command of his knowledge. Readers interested in the amazing life of Dr. Beck are referred to the JOURNAL, volume 64, pages 234-235.

H. Ray Woerner, who so kindly edited this paper, was a long-time associate of Dr. Beck. Mr. Woerner a member of the Board of Trustees of the Society, is a retired chemist.