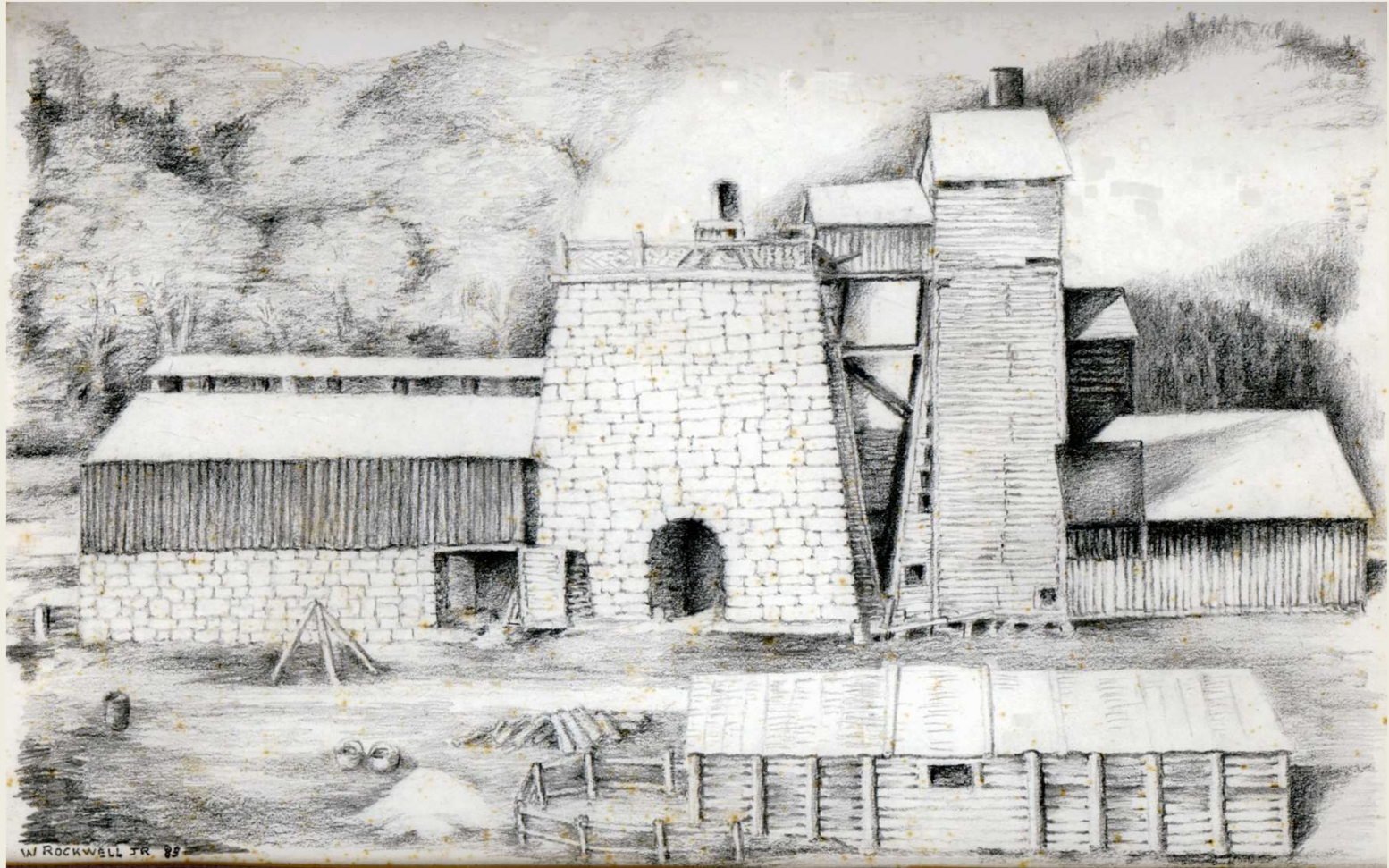


**WELCOME
TO THE
DUNBAR HISTORICAL
SOCIETY**

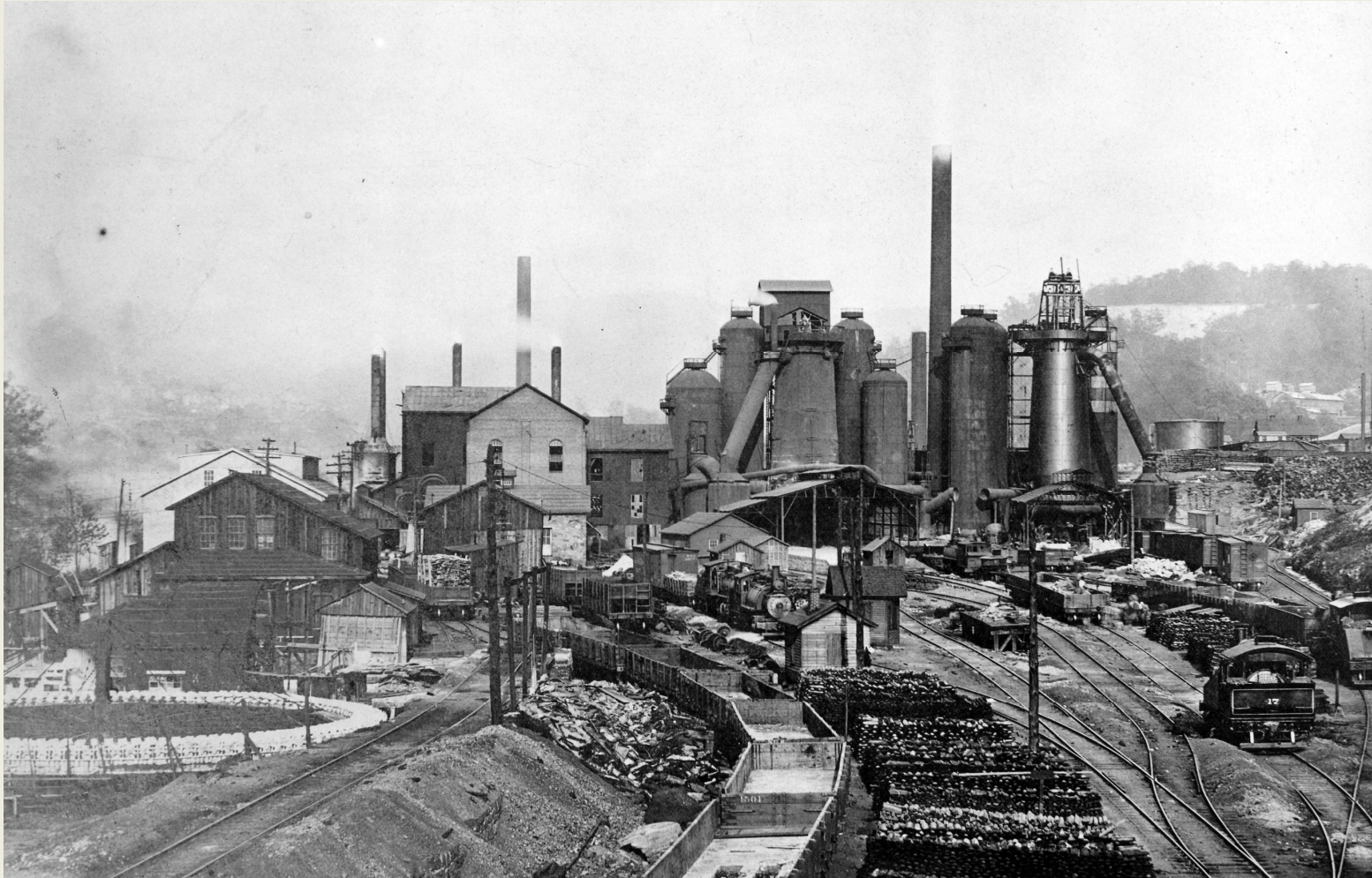
Dunbar, Pennsylvania

- Settled in the 1790s and Incorporated in 1883
- The town was named for Col. Thomas Dunbar, a British military man, who came to America with Gen. Braddock to try and retake Fort Duquesne from the French in 1755.
- In 1791, Isaac Meason started his Union Furnace on Dunbar Creek and enlarged it in 1793 at the same location.
- In 1844, Jones and Miller changed the name of the Union Furnace to Dunbar Furnace.

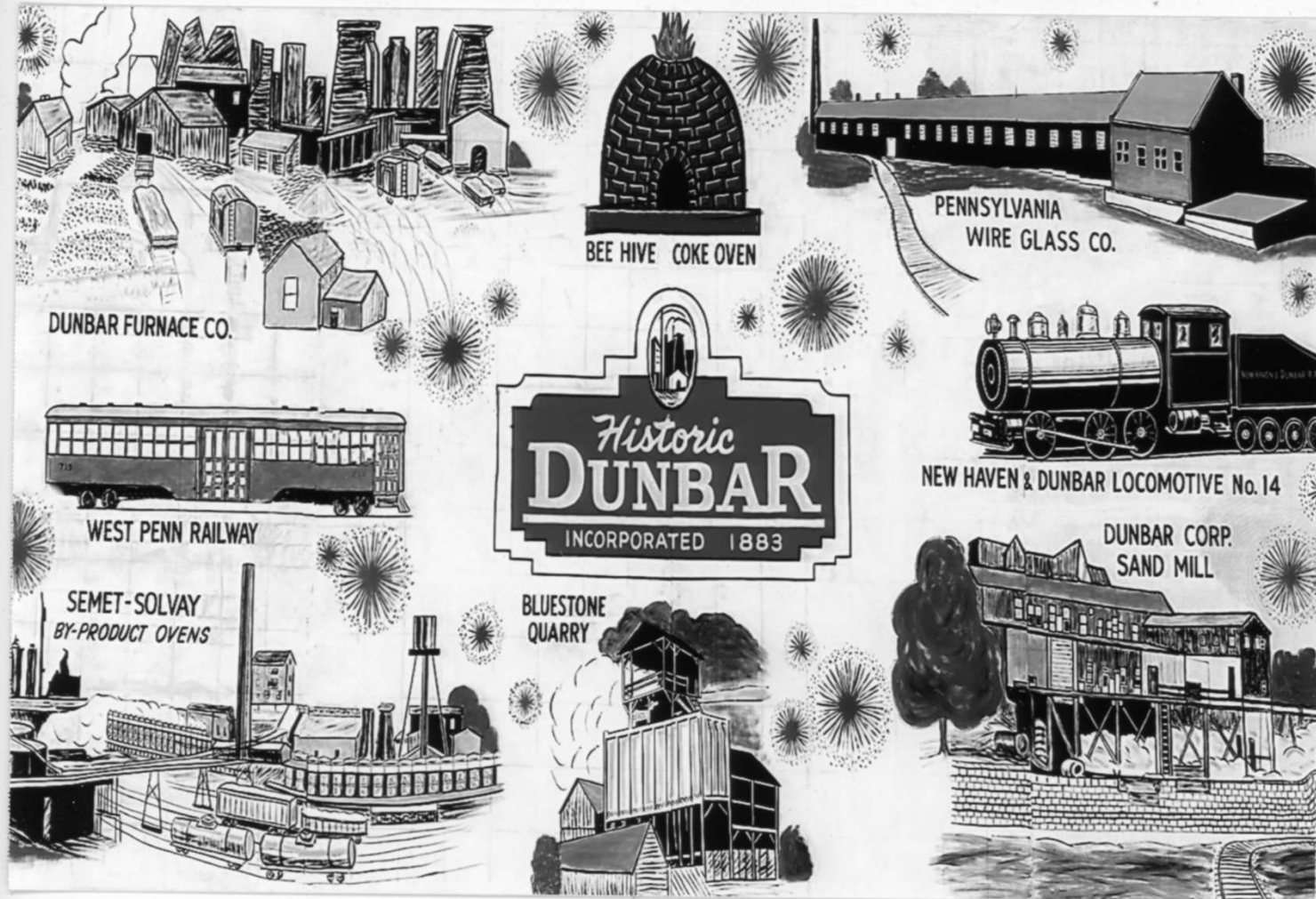
This is Dunbar native Bill Rockwell's drawing of the Dunbar Furnace in 1854.

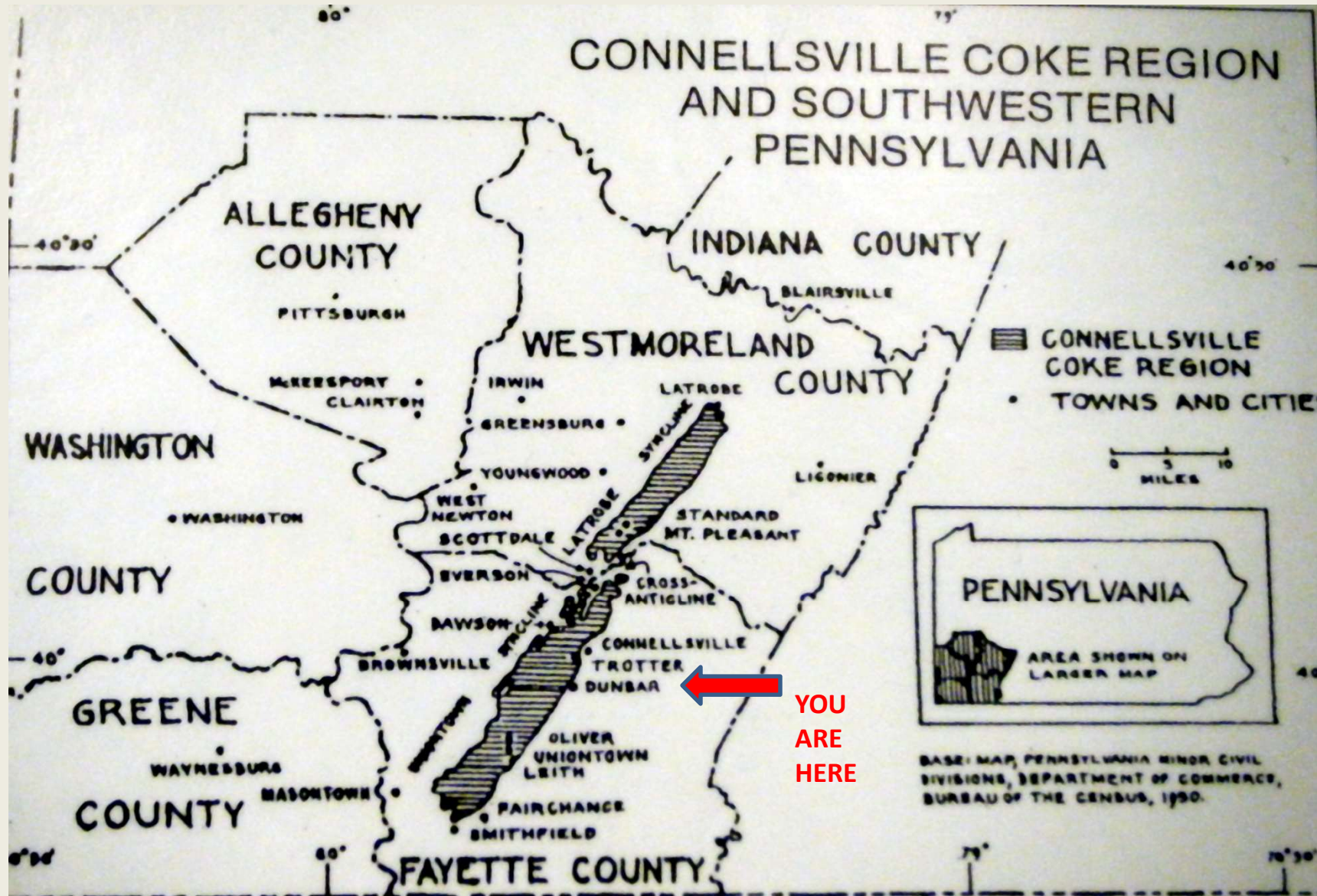


In 1860, Youghiogheny Coal and Iron Company moved the furnace about 300 yards downstream as seen in this photo.



Soon People were coming to town to seek work in the mines and coke works that supported the furnace. This mural shows the Dunbar businesses that helped to make the town prosperous.





MINING WAS A DIRTY AND DANGEROUS JOB AND MANY MEN AND BOYS WERE KILLED IN MINE EXPLOSIONS...SUCH AS THE HILL FARM MINE EXPLOSION ON JUNE 16, 1890 WHERE 31 WERE KILLED.



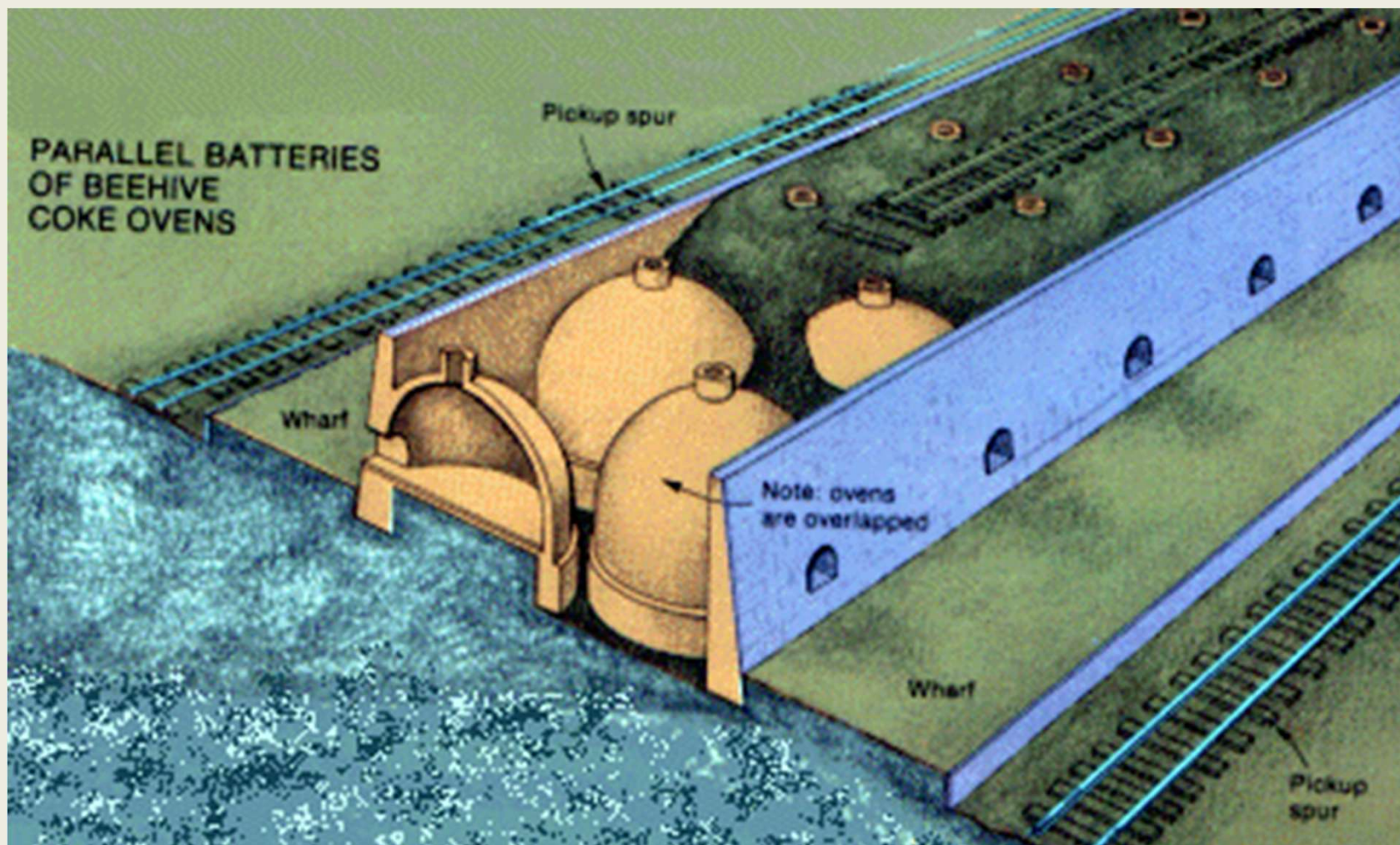
MINED COAL COULD NOT BE USED AS FUEL DUE TO
THE HIGH BY-PRODUCT CONTENT. BUT IT COULD BE
BURNED TO CREATE AN ALMOST PERFECT FUEL...

THAT FUEL WAS CALLED “COKE.”
OUR AREA HAD OVER 20,000 COKE OVENS
AROUND 1900.

COKE WORKERS REFERRED TO THE BURNED COAL
FROM THE BEEHIVE OVEN AS A
“COAL CAKE” AND SOON IT WAS
SHORTENED TO THE WORD “COKE”

HERE IS A SINGLE BEEHIVE COKE OVEN

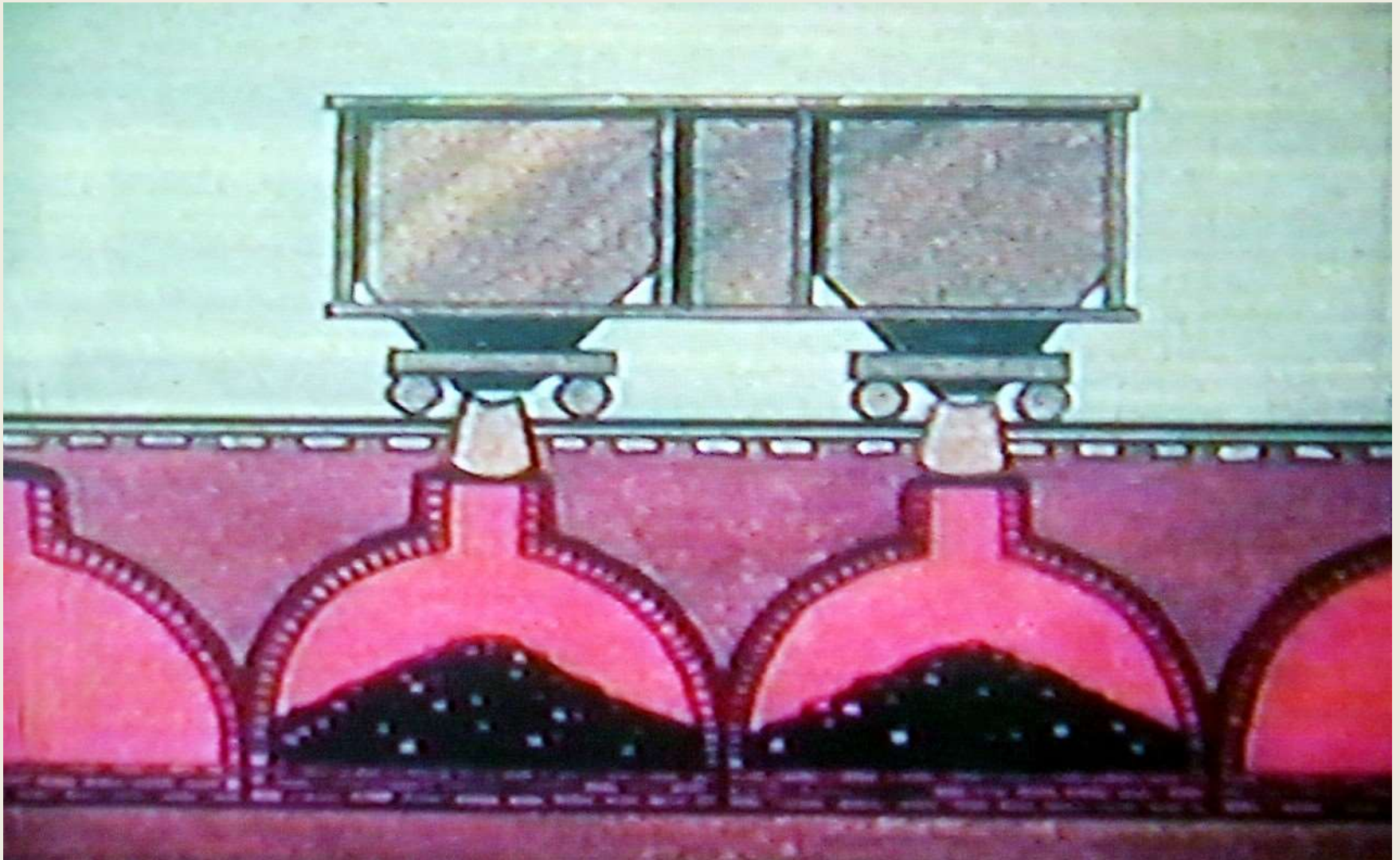


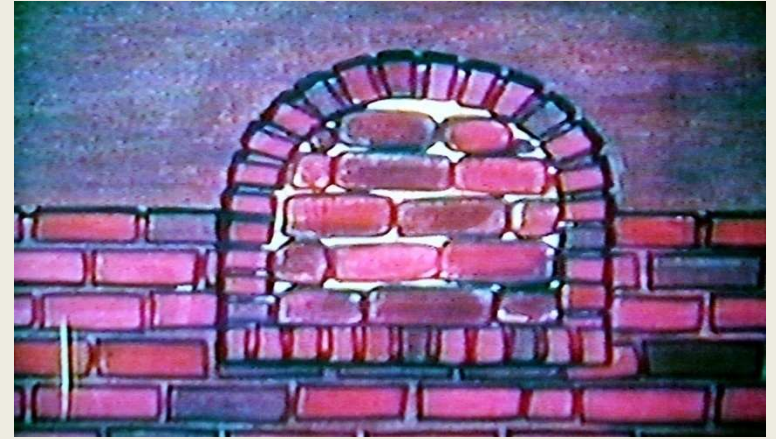


AFTER THE COAL WAS MINED, IT WAS LOADED ONTO LORRY CARS AND TAKEN TO THE COKE OVENS.

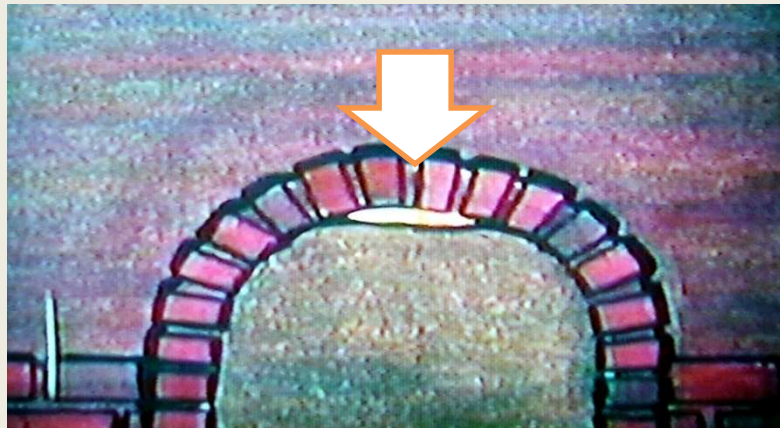


**THE COAL WAS DROPPED INSIDE THE OVEN
THROUGH THE TRUNNEL HOLE AT THE TOP.**

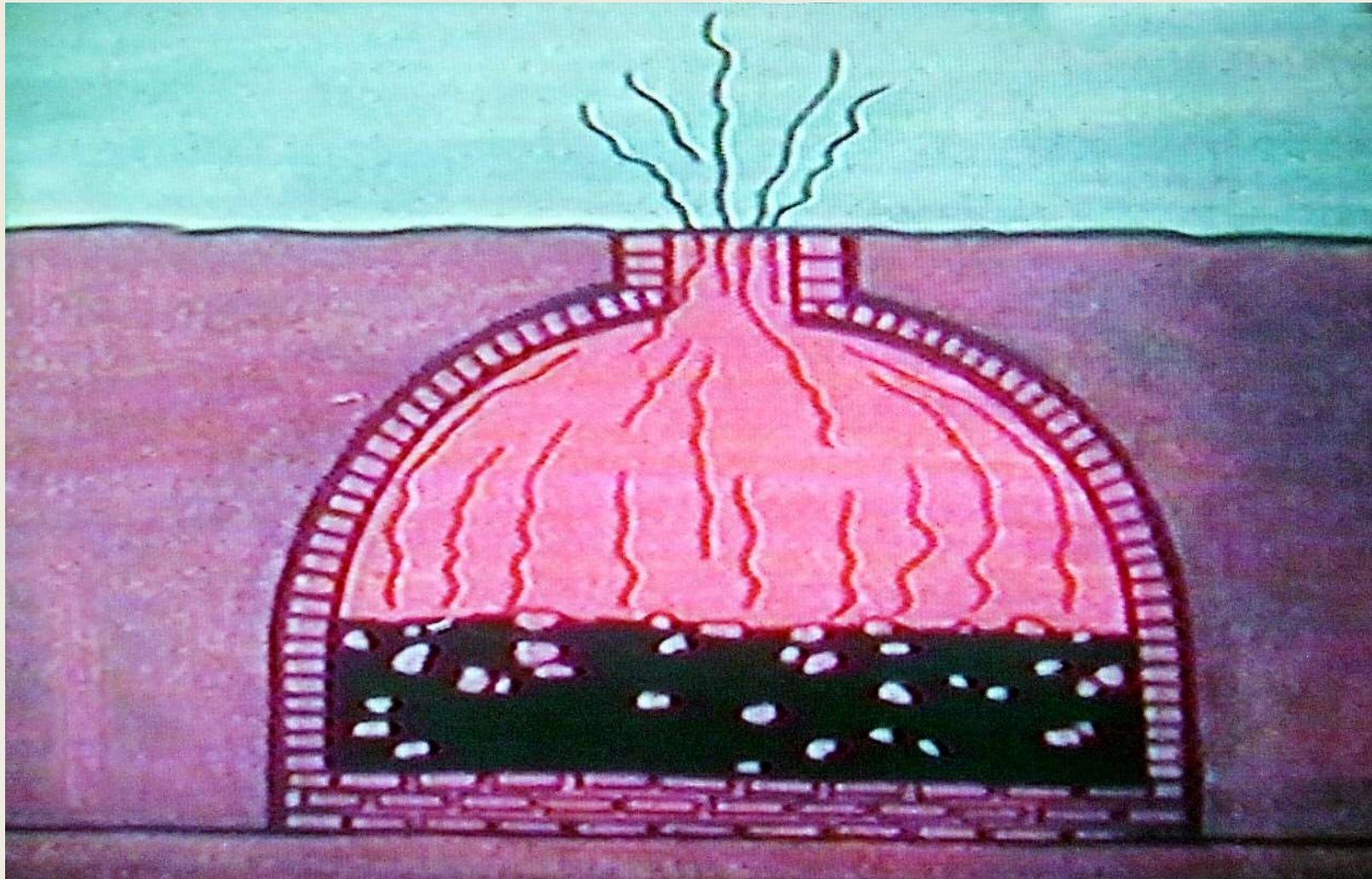




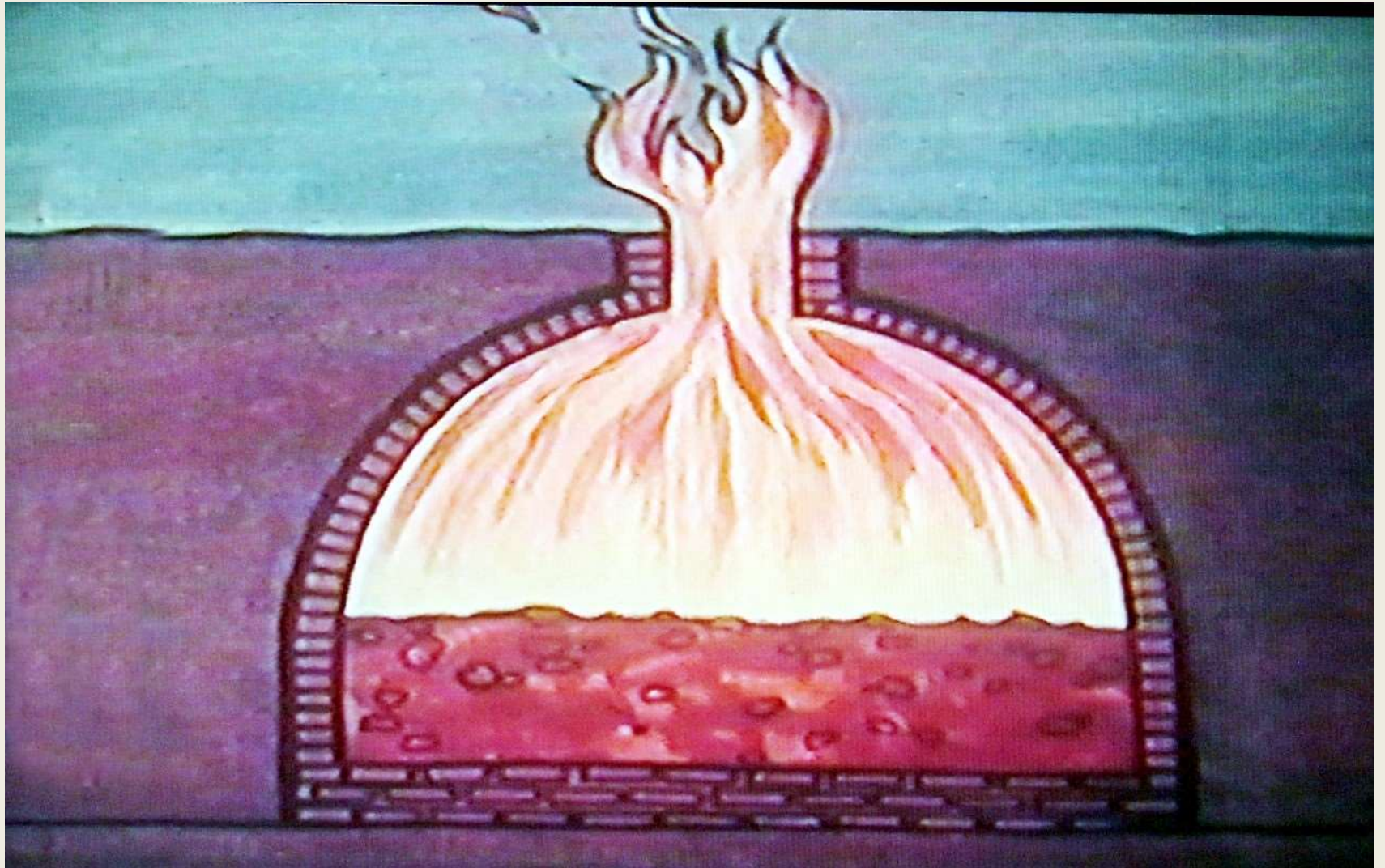
**AFTER THE COAL IS DROPPED INTO THE
OVEN, THE OVEN DOOR IS BLOCKED CLOSED USING DAUBER BRICKS
WITH ONLY A SMALL HOLE AT THE TOP TO LET IN A LITTLE
AIR SO THE COAL-BURNING CAN BE CONTROLLED**



THE HEAT IN THE BRICK WALLS OF THE OVEN FROM THE PREVIOUS COAL BURNING STARTS THE NEW LOAD OF COAL BURNING WHILE THE FIRE AND HEAT ESCAPE THROUGH THE TRUNNEL HOLE



**A ROARING FIRE INSIDE THE OVEN BURNS THE TAR, AMMONIA
AND OTHER BY-PRODUCTS OUT OF THE COAL, LEAVING ONLY THE COKE**





LOOKING FROM THE OUTSIDE

THE TRUNNEL HEAD IN USE



**THREE VIEWS OF THE
TRUNNEL HEAD...
THE HOLE AT THE TOP
OF THE COKE OVEN**



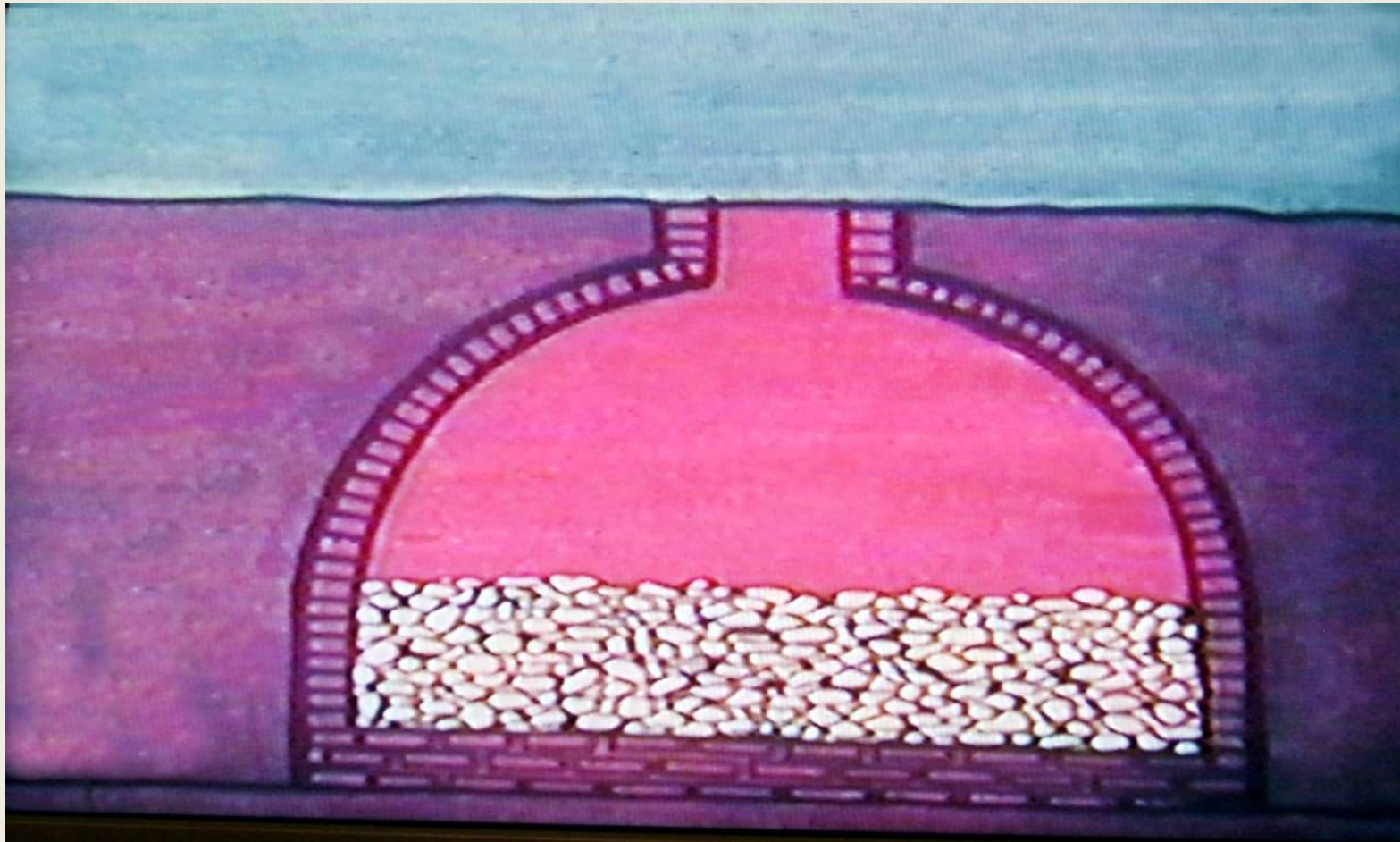
LOOKING FROM THE INSIDE

LEISENRING #1 OVENS IN BLAST WWII





**AFTER 48 TO 72 HOURS OF BURNING IN THE OVEN,
THE COAL (MINUS ITS BY-PRODUCTS) HAS BEEN BURNED
AND THE COKE WORKER ADDS WATER TO QUENCH THE FIRE
AND ALL THAT REMAINS IS THE SILVERY COKE WAITING TO BE PULLED OUT**



**A LOCAL POSTCARD SHOWING COKE BEING PULLED BY HAND
AND THE CAR ON TOP DUMPING COAL INTO AN OVEN**



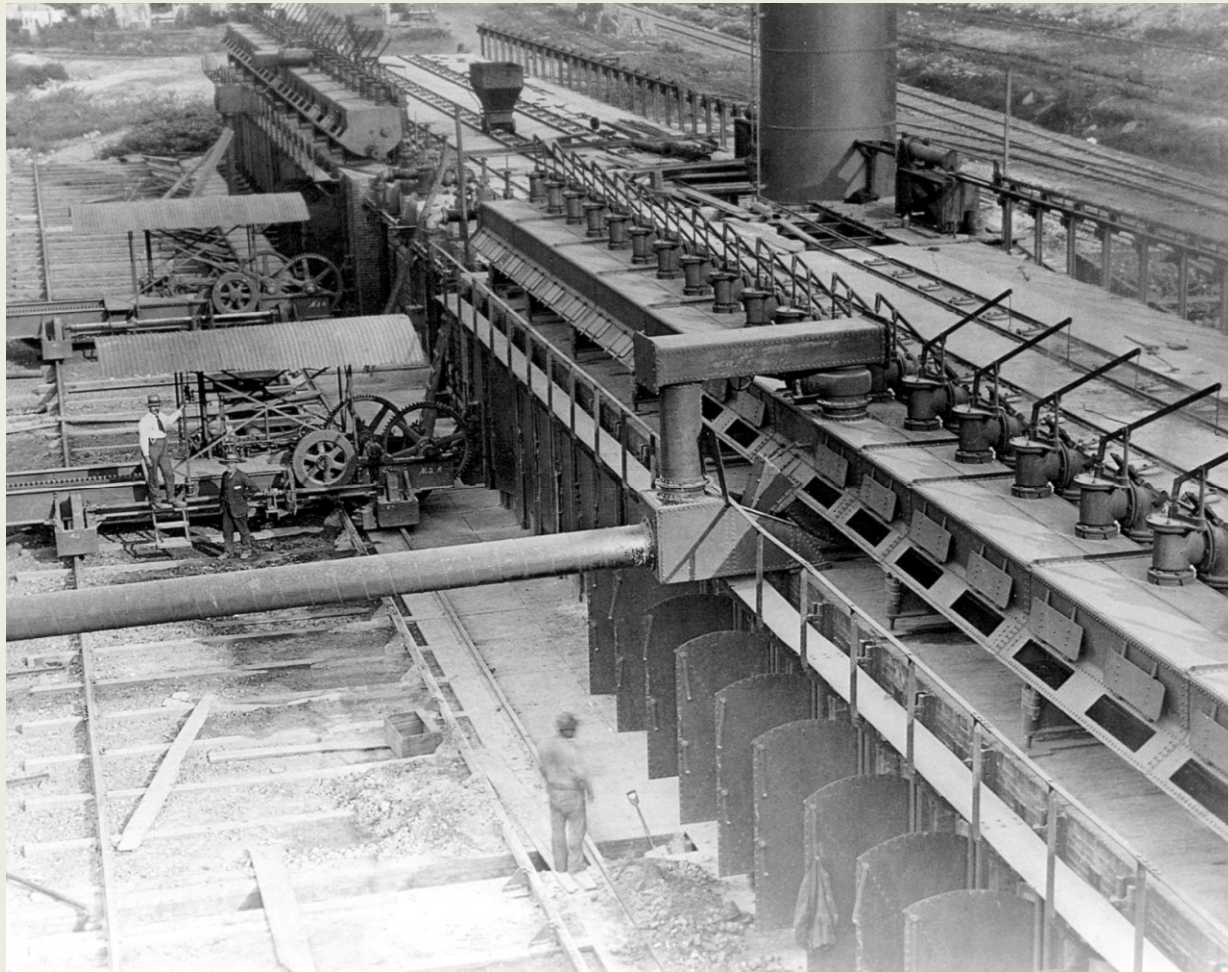




WITH THE INVENTION OF THE COVINGTON COKE DRAWING MACHINE IN APRIL 1903 COKE WAS ABLE TO BE DRAWN OUT OF 3 OVENS IN 45 MINUTES. IT TOOK A WORKER 3 to 3 ½ HOURS TO EXTRACT THE COKE FROM 1 OVEN. NEW TECHNOLOGIES MADE THE COKING PROCESS MORE EFFICIENT BUT IT ALSO ELIMINATED JOBS.



THE SEMET SOLVAY BY-PRODUCT OVENS WERE DESIGNED TO CAPTURE THE BY-PRODUCTS OF THE BURNED COAL. WHILE THEY DID RECYLCE, THEY WERE VERY EXPENSIVE TO BUILD. DUNBAR WAS THE FIRST PLACE IN THE UNITED STATES TO HAVE 50 OF THESE OVENS.



THE NEW TECHNOLOGIES RESULTED IN JOB LOSSES AND COUPLED WITH THE DEPRESSION MARKED THE END OF THE BOOM TIMES IN DUNBAR. OVENS LIKE THE MAHONING OVENS SEEN HERE EXIST TODAY ALL AROUND DUNBAR. AFTER THE COKE ERA ENDED IN THIS AREA OVENS LIKE THESE SERVED ANOTHER PURPOSE....



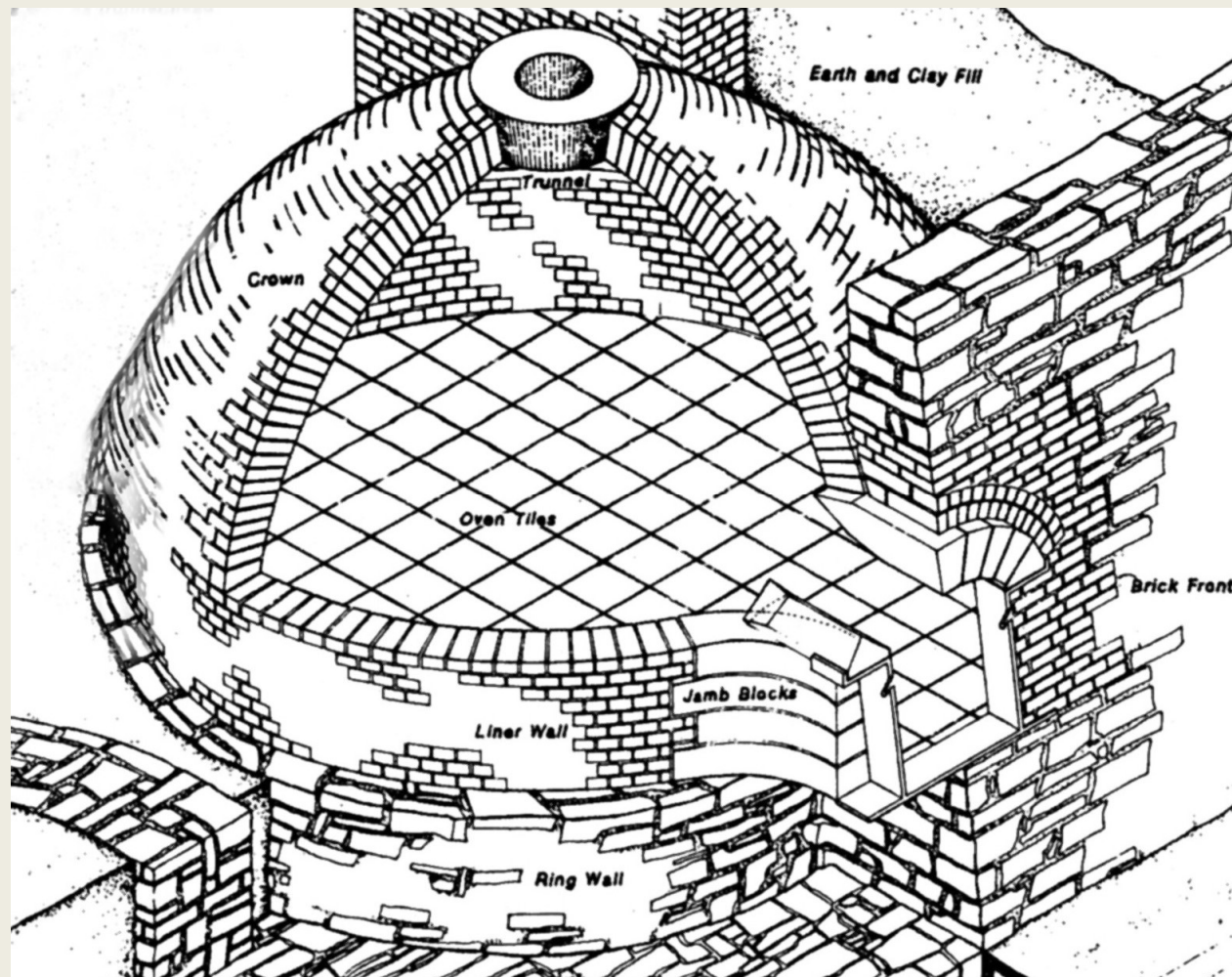
**WHEN TIMES WERE TOUGH,
THE COKE OVEN BECAME A HOME**



ANOTHER COKE OVEN BECAME A HOME



THE DUNBAR HISTORICAL SOCIETY IS BUILDING A COKE OVEN ACROSS THE STREET IN THE PARK. THIS DRAWING SHOWS THE TYPES OF BRICKS NEEDED IN THE CONSTRUCTION. THE SAGA OF OBTAINING THE BRICKS IS WORTH REPEATING!!



THREE TRUTHS ABOUT BUILDING A COKE OVEN:

- 1. USED COKE OVEN BRICKS CANNOT BE REUSED!**
- 2. COKE OVEN BRICKS AND MATERIALS ARE NOT READILY LOCATED!**
- 3. A COKE OVEN CAN NO LONGER BE BUILT FOR AROUND \$300.00!**

**AFTER TWO YEARS OF SEARCHING AND CONTACTING
COMPANIES AS FAR AWAY AS CHINA...**

**THE MATERIALS WERE LOCATED RIGHT HERE IN FAYETTE
COUNTY STOCKPILED INSIDE COKE OVENS AT TWO
CLOSED COAL AND COKE WORKS:**

SHAMROCK AND SHOAF!

SHAMROCK Circa 1900-1950s



SHAMROCK...TODAY!!





CLEARING THE PATH





DO YOU SEE WHAT I SEE??



THE BRICKS





LINER and CROWN BRICKS

LOCATING SKEWBACKS AND ARCHES





COUNTING THE BRICKS



**THE
H. C. FRICK
MATERIALS LIST
FOR THE
BUILDING OF
ONE
COKE OVEN**

**Plans Courtesy of the
Coal and Coke Heritage
Center at Penn State-Fayette,
the Eberly Campus**

— Quantities For One Block Oven —
H. C. Frick Coke Co. Standard 12'6" Dia. x 8'0" High Over

<u>— Dry Masonry —</u>		
Ring Wall	per vert. ft.	2.00 cu. yds.
Wharf "	" " " " "See Plan	1.97 " "
Oven Front	" " " " "	1.88 " "
Pier Base	" " " " "	0.56 " "
<u>— Lime Mortar Masonry —</u>		
Front Wall	(to 1'-0" below yard level)	13.58 cu. yds.
<u>— Cement Mortar Masonry —</u>		
Wharf Wall	(to 1'-0" below subgrade)	17.1 cu. yds.
<u>— Red Brick —</u>		
Oven Front		1250 Brick
Pier - 1- complete		2300 "
<u>— Fire Brick —</u>		
Liners		1050 Brick
Crown		3700 "
Tile		150 "
Arch Blocks - 1-Set complete		
Jambs	1- " "	
Trunnels- 2 (one silica and one clay)		
<u>— Tamping —</u>		
Inside Oven Ring	Per Vert. ft.	4.00 cu. yds.
Outside	" " " " "	0.80 " "
"	" " " from Oven Seat to S.L.	2.25 " "
<u>— Loam Filling —</u>		
Above Springing Line		26.0 cu. yds.
<u>— Miscellaneous —</u>		
1- C.I. Door Frame		
1- Set (4) Door Frame Anchors		
14.5 lin. ft. of C.I. Bowl Pipe		
1- C.I. Tie		
2- 18" x 18" x 1'-0" Cap Stones		
14.5 lin. ft. of 85* Carnegie Sect. "A" Rail		



WRAPPING THE BRICKS

MOVING THE BRICKS TO DUNBAR



ON-SITE

