FLOUR, LUMBER, AND IRON

Chapter 11
pg.156
INDUSTRIALIZATION

Big machines

Big businesses

Industries- branch of business that does one specific thing

Economy- produces and distributes goods/services for people to use
Grind wheat into flour
Had to be near water

Charles Pillsbury

Bought a failing flour mill...

1870s- went from 300 barrels of flour a day to 3,000 barrels
HOW DOES IT WORK?

Water turns turbines
Spin shafts
Power the grindstones

Sometimes accidents... lots of dust is easy to explode.
INGREDIENTS FOR A GOOD FLOUR INDUSTRY

Natural Resources:
- Good farmland for growing wheat
- Lots of farmers (and railroads to transport wheat)

Machines:
- Middlings purifier… removed brown flecks from flour
- Steel rollers… ground flour finer and faster than old millstones

People:
- High pay- workers who run the big machines… could lose an arm/hand
- Low pay- workers who caught flour in barrels/bags
- Low pay- workers who nailed barrels shut and swept the floor
LUMBER INDUSTRY
WORKING IN A LOGGING CAMP

4:00am- wake up and eat a HUGE breakfast

? - head out to the woods and get to work!

Noon - cooks bring lunch to the woods
Head back to camp for supper
Hang out in the bunkhouse

9:00pm- bedtime

Sunday = day off
WHAT ELSE DID THEY DO?

Went to church (sometimes… when the traveling preacher came)

Played cards

Wrote letters

Tried to get clean
  - Lice
  - Barber’s itch
COOK SHACK

Sinkers
- Sugar → Long sweetening
- Donuts → Sink to the bottom of the cup
- Sausage

Black Lead
- Biscuits → Doorknobs
- Pancakes ← Flappers
- Coffee

Cackleberries
- Eggs → Hen fruit
- Cranberries
- Fruit
JOBS FOR LUMBERJACKS

**Cruiser** - cruise the forest to see how much $$$ your boss will make

**Fitter** - cut a notch in the tree so it falls the right way

**Faller** - cut the tree down (opposite side of notch… TIMBER!)
JOBS FOR LUMBERJACKS

Swamper - cut branches off felled trees
Bucker - follow swamper and cut tree into logs
Skidder - drag logs to the lumber yard (use oxen/horses)
JOBS FOR LUMBERJACKS

**Hayman on the Hill** - put hay down on the path so it’s not slippery

**Teamster** - lead the sleigh to the river

**Scaler** - measure the length of logs… tell the boss how many ft. of wood are in each log

**Skybird** - arrange logs on the sleigh to fit the most
SEASON CHANGE

Winter
- Stack logs next to the river
- Use large sleds

Spring
- Ice melts, flooding the river
- Crews float logs downstream to sawmills

Log driving = dangerous, but paid well... $2.50/day

River pig-
follow the logs down the river
SAWMILLS AND BOOMS

Where logs were sorted and stored

Marker—put marks on the logs
INGREDIENTS FOR A GOOD LOGGING INDUSTRY

Natural Resources:
- **Rivers and waterfalls** to drive the logs down… Sawmills and towns pop up here
- **White pine forests**… 125ft tall, straight trunks

Machines:
- Crosscut saws, axes, hammers, hooks
- Hot-water pumps to keep water from freezing so mills could run all winter
- Steam-powered saws
- Railroads let logging camps start away from water

People:
- Lumberjacks = muscle
- Business owners = Frederick Weyerhaeuser… controlled every step to control costs

1900 = 400 lumber companies
MN = 3rd in US for lumber
CONSERVING RESOURCES?

1905- not many trees left
Big fires
People scramble to conserve trees and plant new ones... too late
Lumber companies move west
IRON ORE

Rock that contains iron
TYPES OF MINES

Open-pit Mines
Scrape up iron-rich surface soil for processing

Underground Mines
Dig shafts and blast out iron with dynamite
(1) Rock is blasted at the mine face

(2) Blasted aggregate is loaded into Euclids

(3) The aggregate is trucked to the primary crusher

(4) The crusher breaks down the aggregate into pieces small enough to be carried by conveyor

(5) The conveyor hauls crushed aggregate to the surface

(6) At the surface, the aggregate is sorted into different sizes
WORKING CONDITIONS

10 hours a day

Dangerous! Dark and dusty... mineshafts could collapse, esp. when using dynamite

Miners paid by amount of iron ore they produced

Had to bribe foremen to let them work where there was lots of easy-to-remove ore
LABOR UNION

Group of workers trying to get better wages/working conditions.

Workers go on strike!

No more work unless better pay and working conditions.

Companies bring in immigrants who work for cheap (scabs).

Newcomers need the jobs and won’t join the strike, so it doesn’t work.
Union workers who spoke their mind sometimes got a reputation as a troublemaker... got fired

Couldn’t find a new mining job anywhere
Mining companies provided for the workers and families:

- Housing
- Health care
- Recreation
- Education
INGREDIENTS FOR A GOOD MINING INDUSTRY

Natural Resources:
- NE part of MN= rich with iron ore less than 100mi from Lake Superior

Machines:
- Trains hauled ore from mines to the lake
- Ships hauled ore to mills in PA and OH
- **Steam-powered shovels and trains**... **electric shovels and diesel engines**

People:
- Merritt brothers (Duluth)
- John D. Rockefeller
- J.P. Morgan
- Andrew Carnegie

Rich Easterners... invested $ in lots of things, kept the $ they earned in the East
WHAT’D THEY DO WITH THE TACONITE?

MN State Fair video
How Stuff Works: Ore to Steel
Steel From Start to Finish