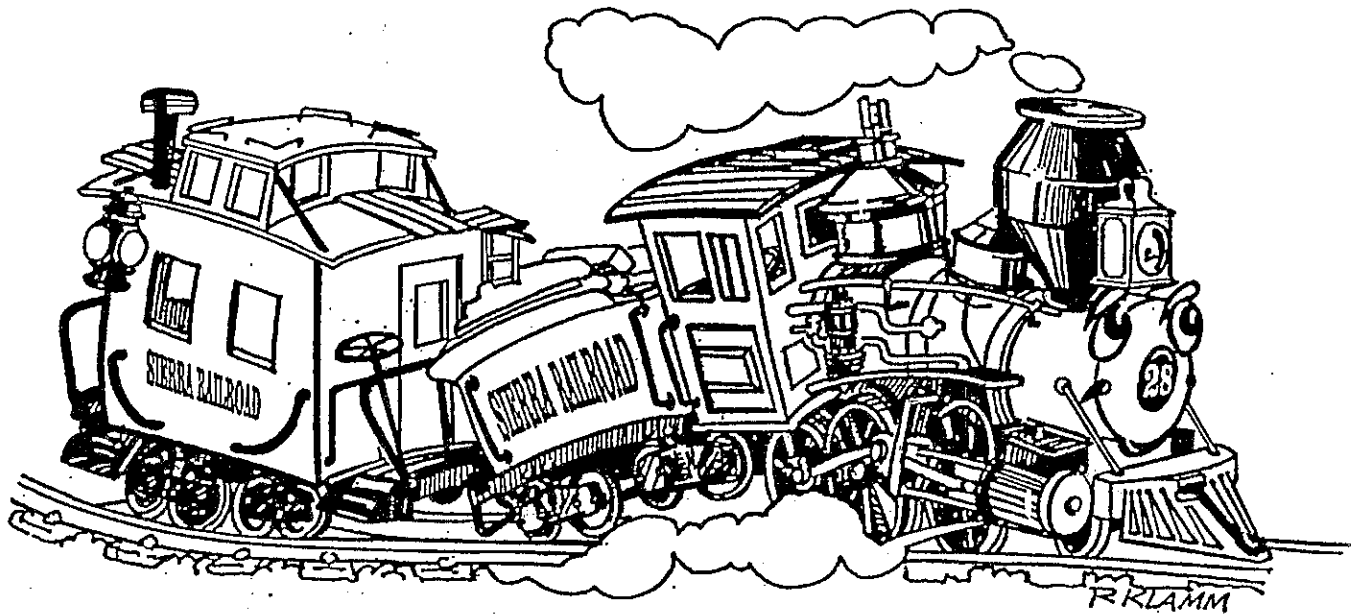


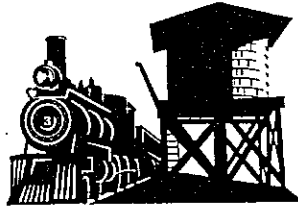
RAILTOWN 1897



KIDS FUN BOOK

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*Special thanks to Robert Boyle, Railtown 1897 Volunteer



RAILTOWN 1897

Historic Sierra Railroad Shops • Jamestown, California

"The Movie Railroad"

P.O. Box 1250 • Jamestown, CA 95327
209/984-3953 • FAX 209/984-4936

Dear Teacher,

The paid and volunteer staff at Railtown 1897 State Historic Park welcomes you and your class to "School Daze." In an effort to make your visit more enjoyable and informative for your students we have created this educational guide.

We would like to hear your suggestions and comments to improve the content of this material. Please take the time to complete the attached evaluation form and return it to us at:

Railtown 1897
P.O. Box 1250
Jamestown, CA 95327

If you have any questions before or after your visit, please feel free to call our "School Daze" coordinator Beverly Gulseth at (209) 984-3953. Thank you for bringing your class to Railtown 1897. We hope you enjoy your visit!

Sincerely,

The Railtown 1897 Staff

THE DEVELOPMENT OF TRANSPORTATION IN TUOLUMNE COUNTY

Before and during the Gold Rush, ox team cars and pack mule trains transported goods over the meandering trails of Tuolumne County. Several of these trails became recognized roads--including the Sonora Road, which ran "toll free" from Stockton to Sonora.

In 1853 Wells Fargo stage coaches began daily runs from Columbia and Sonora to San Francisco, stopping overnight in Oakdale, Stockton, Tracy, and Livermore. By 1875, four stages a day arrived at the new Southern Pacific Railroad spur lines in Milton and Oakdale. In 1878, after Wells Fargo discontinued service, local stage lines took over the routes, traveling the rough roads between settlements in the alternating muddy and dusty conditions.

Teamsters began daily trips (except in winter) down to San Joaquin Valley mills in the mid-1880s. Often their loads consisted of as much as 40,000 board feet of 2' to 10' diameter logs. Traffic was so heavy that if a teamster got out of line for any reason, he had to wait for an opening to re-enter the procession of wagons. The removal of lumber made it possible for the mining and marble industries to develop in Tuolumne County.

At this time, Thomas Bullock, a New York capitalist and former owner of the defunct 70-mile Prescott & Arizona Central Railway, arrived in Tuolumne and Calaveras counties to scout a new location for his rails and equipment. He encountered massive freight wagons grinding along rutted roads and passengers clamoring for space on stage coaches and springless buckboards. Bullock partnered with San Francisco banker William Crocker and wealthy French capitalist Prince Andre Poniatowski to form the Sierra Railway on February 1, 1897. They believed the Sierra Railway could provide a faster, more affordable, and more comfortable means of transporting passengers and freight throughout Tuolumne County.

SIERRA RAILWAY AND SIERRA RAILROAD

The Sierra Railway of California was incorporated February 1, 1897 by Thomas S. Bullock, William Crocker, and Prince Andrew Poniatowski. Railroad construction began in Oakdale in March, 1897, using recycled rails from Bullock's failed Prescott & Arizona Central Railway. (The Prescott & Arizona Central Railway [P&AC] failed when a competing railroad, the Santa Fe, Prescott & Phoenix, was built in 1893, stealing most of the P&AC's business.) The Sierra Railway also imported one of P&AC's locomotives, a 4-6-0 built by Rogers Locomotive and Machine Company of Paterson, New Jersey in March 1891. This locomotive was renamed the Sierra Railway No. 3, or the "three-spot," and is still used today. More than 300 men worked from dawn to dusk, seven days a week, laying track. They reached Oakdale in November, 1897, enabling the first revenue passenger train to pull into Jamestown on November 10, 1897.

Beginning in 1898, the Sierra Railway housed its general offices in a large depot next to the Hotel Nevills in Jamestown. "Captain" W. A. Nevills, a local businessman and owner of the Hotel Nevills, intended the 60-room hotel, then the largest in Tuolumne County, to fill the needs of wealthy businessmen and tourists. The Sierra's roundhouse and maintenance facilities were built a short distance from the Hotel Nevills.

Several groups protested against the railroad's proposed extension to Sonora. Nonetheless, the Sierra Railway prevailed, receiving permission to extend the line. On February 26, 1899, the first Sierra train reached Sonora's depot.

The Sierra continued to push its railhead further east, adding 16 miles of track to reach Tuolumne City. This extension completed the construction of Sierra's main line at a new depot, located near the Westside Flume and Lumber Company's new mill. Sierra's 57-mile main line opened for traffic on February 1, 1900.

Lumber hauls from the Westside Lumber Company mill at Tuolumne City and the mountain mills of the Standard Lumber Company provided the largest source of revenue to the Sierra during early 1900s. The Standard Lumber Company has been renamed Sierra Pacific Industries, but is still located in Standard, a short distance from Sonora.

The Sierra Railway, led by Chief Engineer, W.H. Newell, built a 19-mile branch line to Angels Camp which opened to traffic in 1902. The Angels Camp line began in front of the Hotel Nevills in Jamestown and wound along the "Mother Lode" vein. The steep grades, numerous switchbacks, and sharp curves along this line required the

Sierra Railway to use geared locomotives and special equipment. Two special short passenger cars, Number 5--a combination passenger and baggage car, and Number 6--a coach, were built specifically for this line. Both cars continue to serve the Sierra today.

The Sierra Railway benefitted from its link to other railroads. The Southern Pacific Railroad, the Hetch Hetchy Railroad, the Sugar Pine Railroad, and the Westside Lumber Railroad all connected directly to the Sierra's tracks.

Traffic peaked on the Sierra just before World War I when as many as ten regularly scheduled trains ran over the line every day. Two fires in 1915 and 1918 brought and end to the Hotel Nevills and the Turnback Inn at Tuolumne, causing a decline in tourist passenger travel.

During the 1920s, the Sierra extended its trackage to provide transportation for workers building the Don Pedro and Melones Dams. Construction began on the Don Pedro Dam in 1923. Material was hauled to the construction site along the Sierra's 8-mile branch line from Rosasco. Construction of the Melones Dam on the Stanislaus River required a 7-mile extension from the Sierra's main line at Jack's Siding.

The raising of the O'Shaughnessy Dam brought increased business to the Sierra Railroad during the 1930s using the 59-mile Hetch Hetchy Railroad which operated as a division of the Sierra. During the 1930s, the Sierra reached its record track length of 140 miles.

In 1935, the Angels Branch line was abandoned and passenger service declined sharply due to competition from automobiles. The last regularly scheduled Sierra Railroad (renamed Railroad instead of Railway in 1937) passenger train left Tuolumne City for Oakdale in 1939. From that time, the Sierra Railroad's revenue has come from the filming of movies and television shows, along with freight hauls now led by diesel-electric locomotives. Today, the Sierra Railroad operates three round trip freight runs a week between Oakdale and Standard.

Today, passenger trains run again on the Sierra Railroad. Every weekend April through October steam trains operate over approximately 3 miles of the Sierra Railroad's track from Railtown 1897 in Jamestown to the Hatler Rock Quarry.

THE SIERRA RAILWAY ROUNDHOUSE

A surviving, working steam-era roundhouse is a unique place. The original Roundhouse at Railtown 1897 was constructed in 1900. This 4-stall structure burned down in 1910 and was rebuilt the same year. The Sierra Railway added two more stalls on the building's west side in 1922. Since the 1922 expansion, the only additions have been a sprinkler system and fire sensors. Railtown's roundhouse is one of two original operating steam locomotive roundhouses left in the United States. The other is the East Broad Top Railroad located in Orbisonia, Pennsylvania. Because the Railtown facility is a working roundhouse, visitors are able to appreciate the sounds and smells of locomotives under steam in an authentic structure dating back almost 100 years. From the time it was built, this site has served its original purpose: storing, maintaining, and operating steam locomotives.

SHORTLINE RAILROADS

At one time, steam-powered, local (shortline) railroads were an important part of life in many small towns. Before highways were built and improved, these shortline railroads provided communities with their only means of reliable transportation, linking their citizens to the nation's main line rail system. Freight trains brought in goods and supplies (food, clothing, manufactured items) and carried out local industrial and agricultural products (lumber, gold ore, marble, apples). Passenger trains arrived and departed from the local depot, providing an affordable, fast, and comfortable mode of travel.

More often than not, these shortline railroads maintained and repaired their locomotives in a roundhouse and shop facility near the general office. Because the railroad required dozens of men to handle maintenance and operations, it was frequently the largest employer in the community. For these small towns, the railroad became more than an economic lifeline and transportation service--it became a way of life.

By the 1950s, advanced highway systems enabled trucks, busses, and automobiles to compete with the shortline railroads, causing significant changes in rural America. As a result, some shortlines were abandoned while others economized to compete.

Technological advancement in the 1950s led most railroads to convert from steam to diesel-electric power. Because diesel locomotives require much less work to maintain and operate than steam locomotives, railroads found them to be more efficient. Railroads sold off or scrapped their old steam locomotives so the iron could be reused. Shop facilities were either altered to accommodate diesels or torn down to build a more modern workplace.

Roundhouses and shop facilities rapidly disappeared from the American landscape. A few original complexes still exist, including the shops at Railtown 1897, one of only two surviving original shortline roundhouse complexes in the country.

When the Sierra Railway dieselized in 1955, it built a new shops facility in Oakdale, 41 miles west of Jamestown. The Sierra retained the Railtown site to store and maintain steam locomotives and rolling stock to support its business of renting older steam trains to Hollywood motion picture companies. At the completion of filming, the equipment would be rolled back into the roundhouse, awaiting its next curtain call.

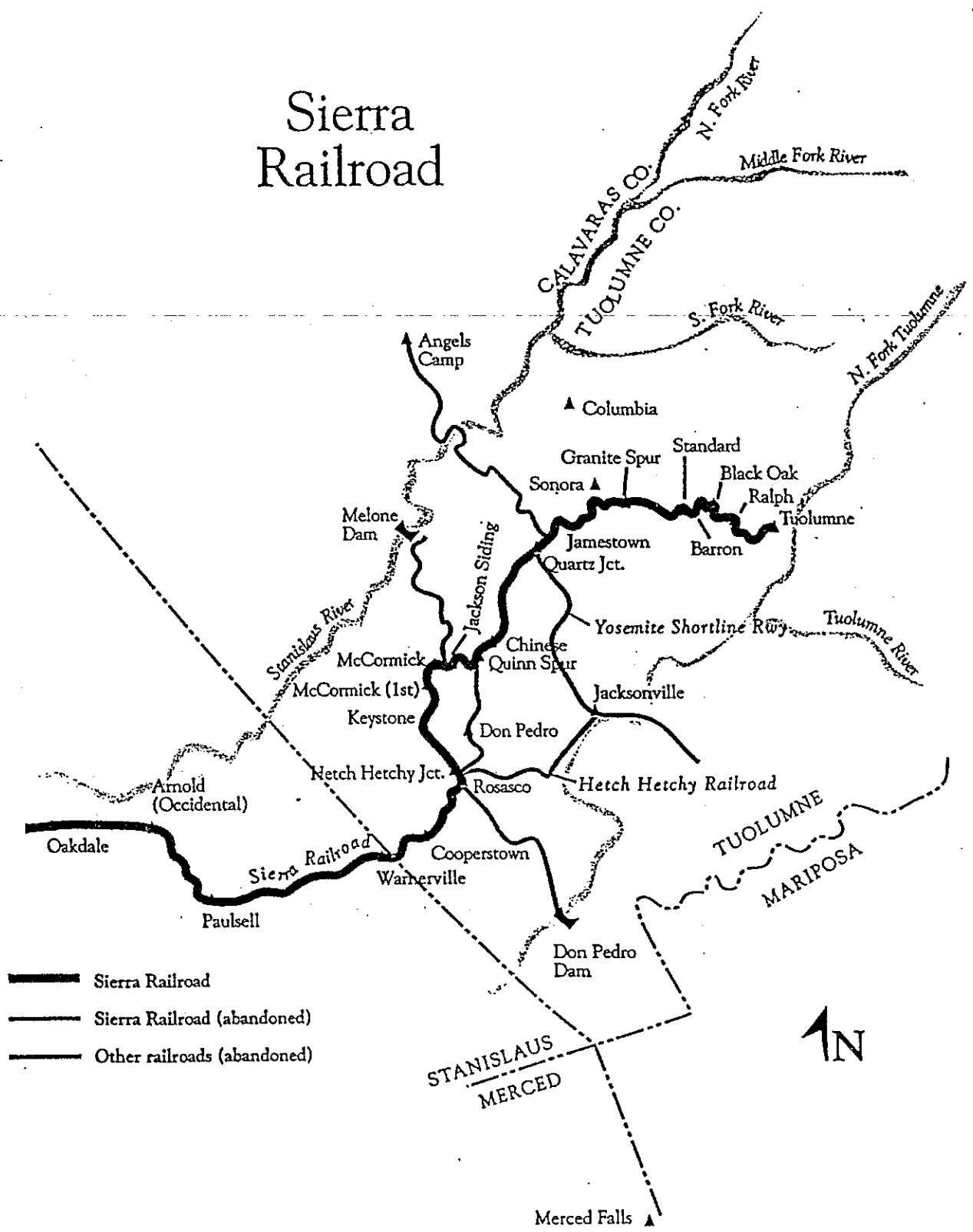
HISTORY OF THE SIERRA RAILWAY

- 1848 Gold discovered in Woods Creek; Jamestown is founded
- 1869 Completion of Transcontinental Railroad linking California with the eastern United States
- 1897 Sierra Railway incorporated; construction begins in Oakdale on March 24th. Rails reach Copperstown (Stanislaus - Tuolumne County line) on June 21st, Jamestown on November 8th
- 1898 Hotel Nevills opens in Jamestown with a Sierra Railroad Ticket office in the lobby; Sierra general offices open in March
- 1899 First train enters Sonora on February 26th; West Side Flume and Lumber Mill in Tuolumne City (now Carters) opens
- 1900 57-mile main line to Tuolumne City completed on February 1st
- 1902 Turnback Inn in Tuolumne opens in January; branch line to Angels Camp completed September 15th
- 1903 Standard Lumber Co. mill in Standard is completed
- 1904 A "Yosemite Short Line Railroad" is proposed to link Jamestown with Yosemite Valley
- 1906 The proposed "Yosemite Short Line Railroad" is abandoned due to losses by financial backers caused by San Francisco earthquake on April 18th
- 1910 Original roundhouse burns and is rebuilt
- 1913 General offices destroyed by fire May 1st and is rebuilt in three months; Empire Mill (Standard Lumber Company) burns in August
- 1914-1918 World War I

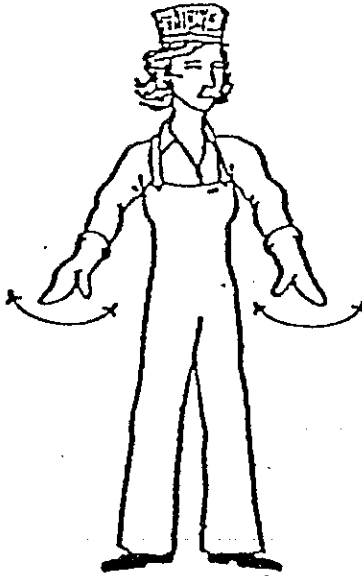
- 1915 Hotel Nevills burns down in August; Sierra Railway Ticket office moves into the general offices
- 1916 City of San Francisco begins construction of Hetch Hetchy dam with equipment leased from the Sierra Railway
- 1918 Turnback Inn in Tuolumne destroyed by fire
- 1920 The second Standard Lumber Mill is built at Standard
- 1923 Sierra Railway trackage extends 97 ½ miles with building of spurs for construction of the original Don Pedro and Melones Dams
- 1925 Hetch Hetchy Dam completed to original height
- 1929 Stock Market crash; beginning of the Great Depression
- 1932 Sierra Railway forced into receivership by bondholders in May
- 1935 Hetch Hetchy Dam raising of additional 85' begun; 59 mile Hetch Hetchy Railroad reconditioned and operated as a division of Sierra Railway. Sierra Railway track now reaches 140 miles; Angels Camp branch line is abandoned and track removed
- 1937 Sierra Railway reorganized as Sierra Railroad with new ownership structure
- 1939 Last regularly scheduled Sierra Railroad passenger train
- 1941-1945 World War II
- 1950-1955 Korean Conflict
- 1955 Diesel locomotives introduced on the Sierra Railroad; diesel maintenance facilities established in Oakdale; last steam powered freight train runs in April
- 1957 Crocker family begins operation of steam powered excursion trains; trains run through 1963

- | | |
|------|---|
| 1960 | West Side Lumber Co. ceases operation in Tuolumne City |
| 1962 | West Side Lumber Co. Mill in Tuolumne City burns |
| 1963 | Hollywood frequently films on the Sierra Railroad beginning this year |
| 1970 | Crocker family establishes "Rail Town" as a tourist attraction |
| 1971 | Inauguration of "Sierra Supper Specials" and "Wine and Cheese Specials" aboard Rail Town excursion trains |
| 1977 | Peak year for steam excursions at Rail Town |
| 1978 | Jamestown Depot and General Offices burn down |
| 1981 | Crocker family sells the Sierra freight business; a concessionaire is granted trackage rights to operate steam excursions on Sierra rails |
| 1982 | "Railtown 1897" becomes a California State Historic Park |
| 1992 | California State Railroad Museum takes over administration of Railtown |
| 1996 | California State Railroad Museum and Museum Foundation (a non-profit organization) assume all business, railroad and maintenance operations at Railtown |
| 1997 | The Sierra Railroad celebrates its centennial anniversary |

Sierra Railroad



HAND SIGNALS



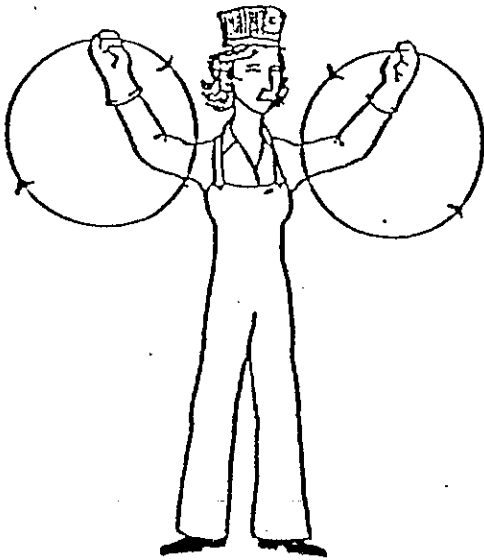
IN THE CLEAR
(no equipment, people, animals
obstacles, crossings, etc fouled)
hands to sides with slight
back and forth motion



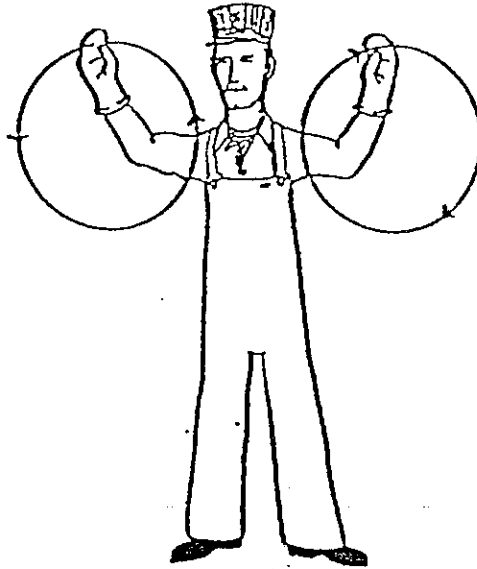
BEANS
(dinner/lunch break)
hands apart, thumbs down, moved
up and down towards mouth



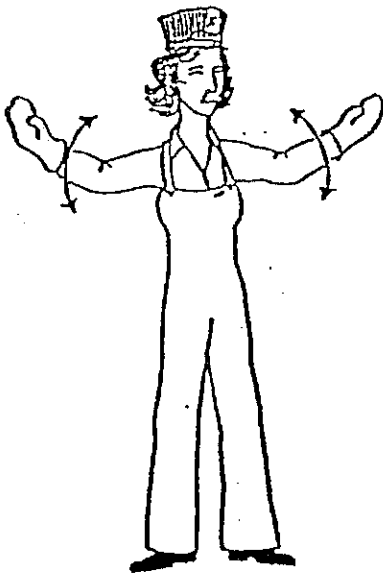
WATER
(locomotive take on water)
motion as if drinking from thumb



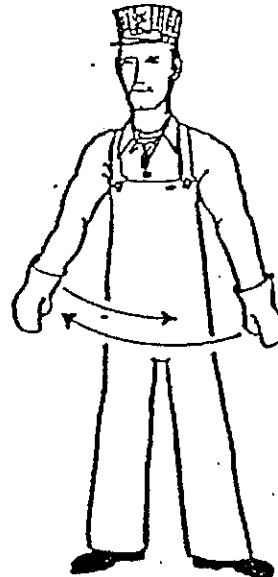
AHEAD
 (come to me)
 hands moved in circular inward
 motion in same plane as body



BACKUP
 (go away from me)
 hands moved in circular outward
 motion in same plane as body

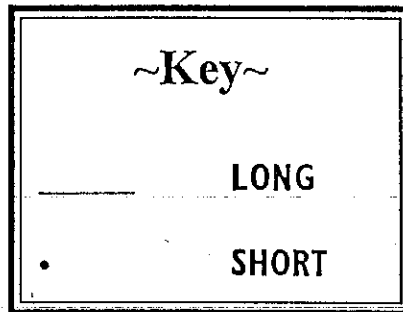


EASY
 (slow movement/move slowly)
 arms moved up and down as in a
 weighing motion



STOP
 (stop movement)
 easy stop
 hands swung slowly in a low arc
 emergency stop
 hands swung violently in a low
 arc

WHISTLE SIGNALS



Listen - How Many Will You Hear?

Whistle Pattern

Meaning

_____ • _____

Train approaching crossing

Station approach

...

Train backing up

..

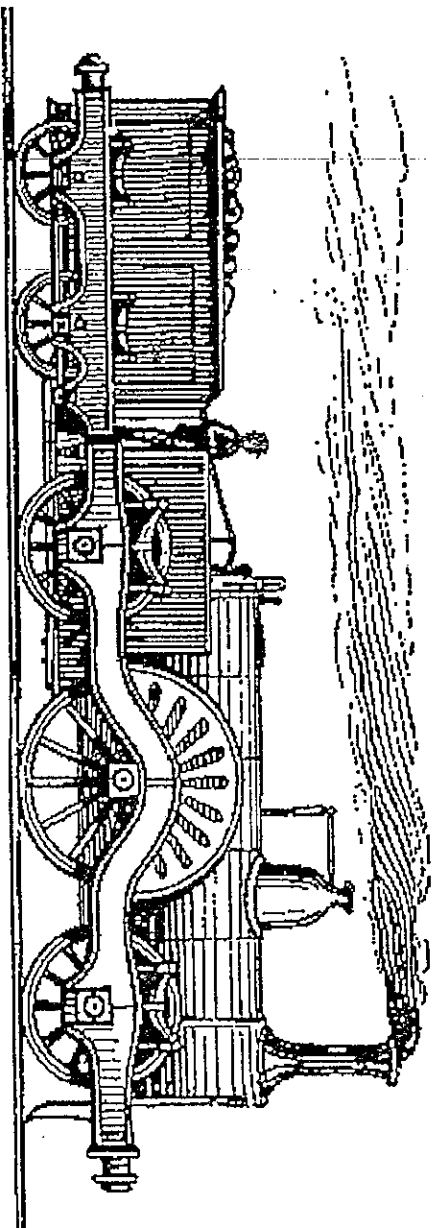
Train is moving ahead

....

Call for signals

•

Stop



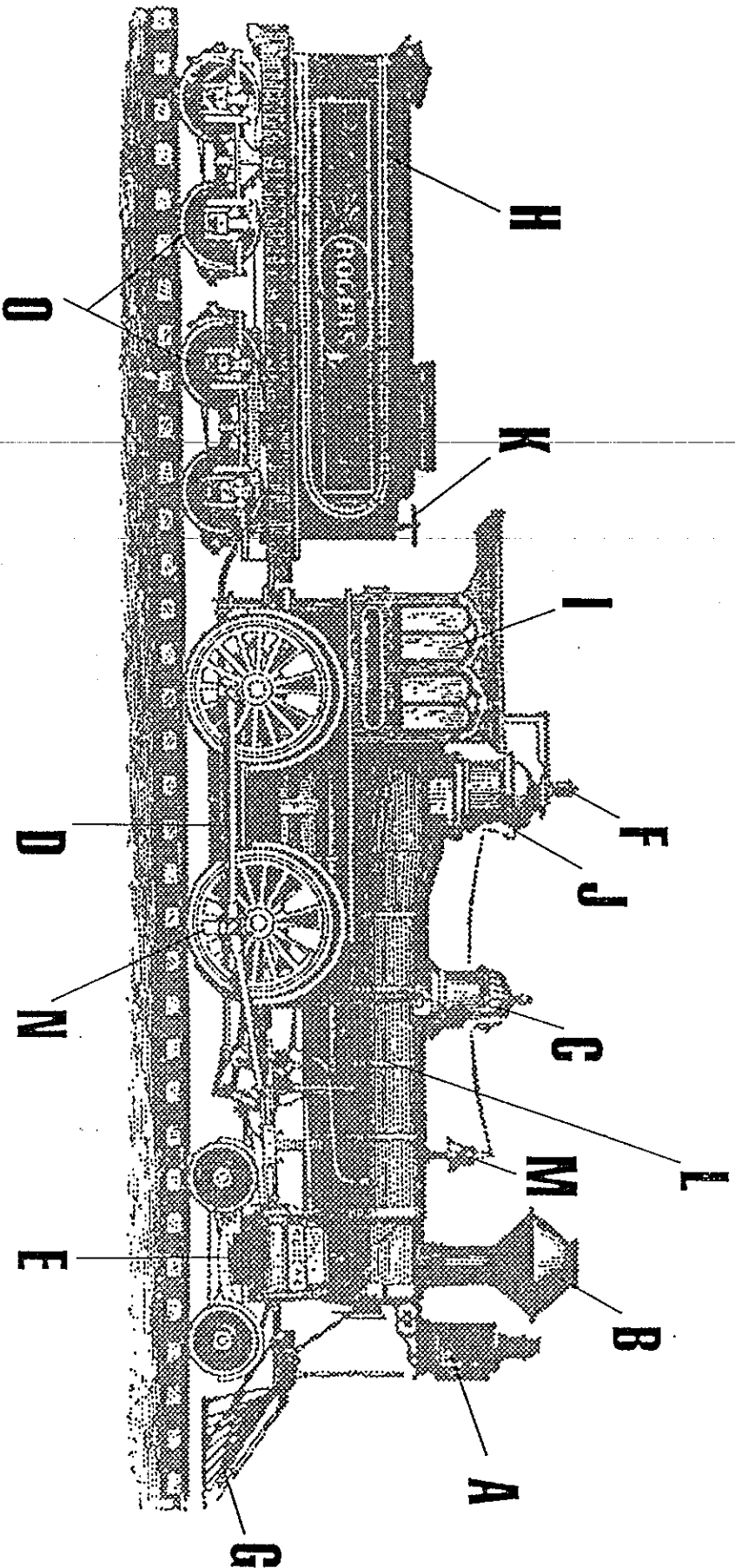
WHAT MAKES A STEAM LOCOMOTIVE GO

A steam locomotive is like a giant tea kettle. Water is stored in the tender and is heated by the fire in the firebox where the water turns to steam and is trapped under pressure in the boiler. The smoke from the fire passes through the smoke box and goes out the smoke stack.

When the engineer in the cab wants to make the locomotive move, he or she opens the throttle valve and lets some steam go through the pipes to the cylinders, where pistons move back and forth pushing and pulling the drive rod and connecting rods that make the driving wheels turn.

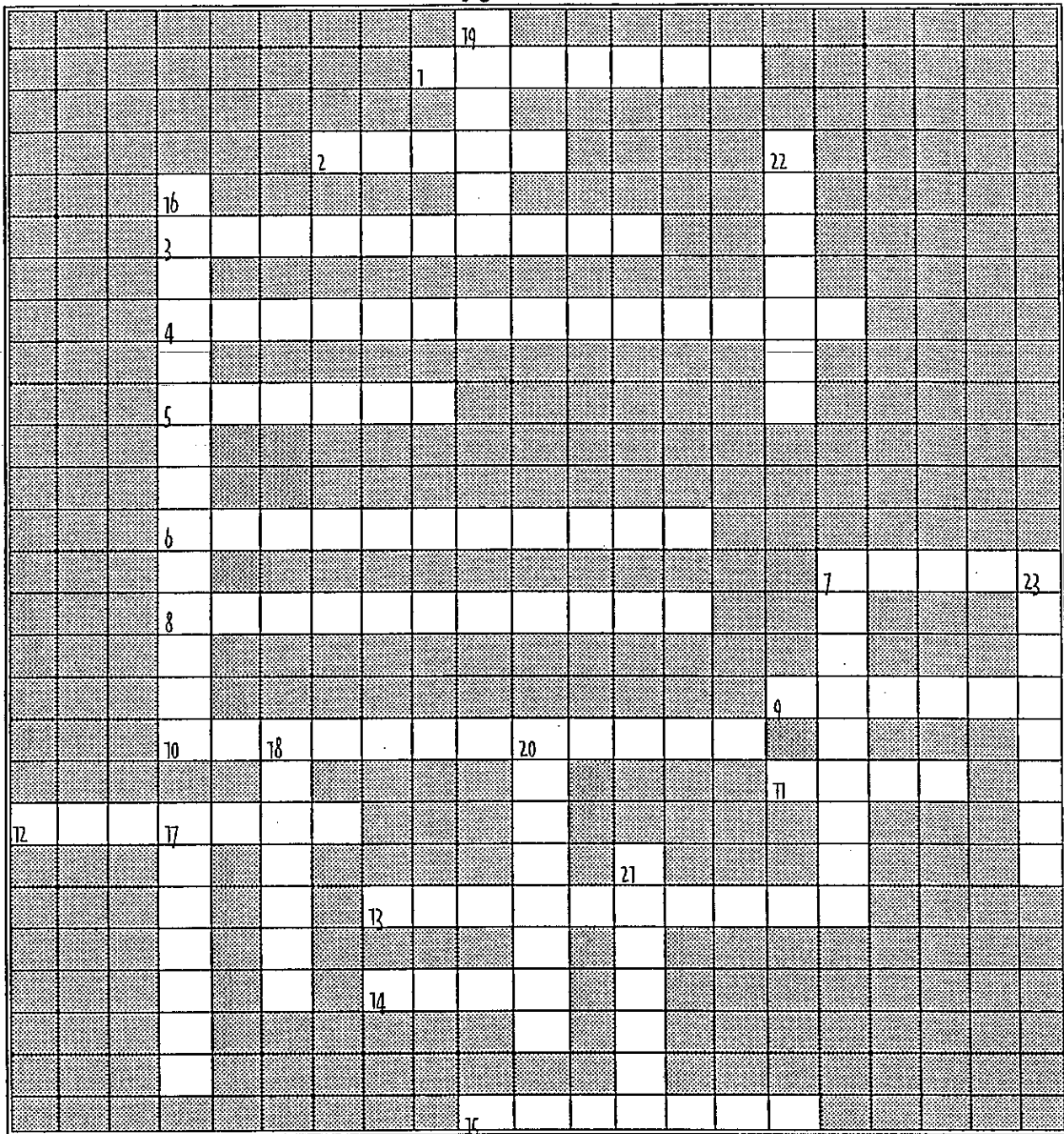
The steam whistle sits on the steam dome and is used for distant warning. The bell is rung by pulling a cord as the locomotive travels through the station. The headlight also warns of an approaching train.

NAME THE PARTS OF A STEAM LOCOMOTIVE



- | | | | |
|------------------------|------------------|--------------------------|---------------|
| _____ Boiler | _____ Smokestack | _____ Driving Wheels | _____ Tender |
| _____ Cowcatcher/Pilot | _____ Cab | _____ Sand Box | _____ Whistle |
| _____ Truck Wheels | _____ Headlight | _____ Tender Brake Wheel | _____ Bell |
| _____ Cylinder | _____ Steam Dome | _____ Driving Rod | |

RAILTOWN 1897 CROSSWORD PUZZLE



ACROSS

1. Hot Ashes
2. What comes out of the smoke stack
3. What pulls the train
4. Wooden cars are repaired here
5. Communication devices
6. Trains run on _____
7. Used to fix things
8. Type of locomotive
9. Not late

10. Another name for a coach
11. Holds water
12. Type of car that carries freight
13. Garage for trains
14. Not on time
15. Person who feeds the fire

DOWN

7. What you spin cars on
16. Where metal parts are made

17. Bridge
18. Depot
19. You buy this to ride the train
20. Who drives the engine
21. It goes toot toot
22. Rear cars
23. Timetable

CROSSWORD PUZZLE ANSWERS

ACROSS

1. Cinders
2. Smoke
3. Locomotive
4. Carpenter's Shop
5. Signal
6. Train tracks
7. Tools
8. Steam engine
9. On time
10. Passenger car
11. Tank
12. Flat car
13. Roundhouse
14. Late
15. Fireman

DOWN

7. Turntable
16. Blacksmith shop
17. Trestle
18. Station
19. Ticket
20. Engineer
21. Whistle
22. Caboose
23. Schedule

NAME THE PARTS OF A STEAM LOCOMOTIVE ANSWERS

- | | | |
|--------------------|-------|---|
| Boiler | _____ | L |
| Cowcatcher/Pilot | _____ | G |
| Truck Wheels | _____ | O |
| Cylinder | _____ | E |
| Smokestack | _____ | B |
| Cab | _____ | I |
| Headlight | _____ | A |
| Steam Dome | _____ | J |
| Driving Wheels | _____ | N |
| Sand Box | _____ | C |
| Tender Brake Wheel | _____ | K |
| Driving Rod | _____ | D |
| Tender | _____ | H |
| Whistle | _____ | F |
| Bell | _____ | M |

RAILTOWN FIELD TRIP Q & A

1. Locomotive No. 3 is known as "_____".
2. What is the tender on a train used for? _____
3. What is the name of your guide? _____
4. How many engines are in the roundhouse? _____
5. What year did Sierra Railway begin operating in Jamestown? _____
6. What passenger cars were built for zig-zag railroad tracks? _____
7. What is the area in the roundhouse called that is used to make repairs on the engines? _____
8. Where was gold discovered first in Tuolumne County? _____
9. Before trains carried or delivered supplies, how did the neighboring towns receive necessities? _____
10. From where did parts to repair the trains come? _____
11. The water tank is made of what materials? _____
12. What is the proper name for the "cowcatcher"? _____
13. Did you see the train crew use hand signals? _____
14. What information do you think the Conductor or Brakeman was trying to communicate to the Engineer? _____

15. What is a Roundhouse? _____
16. Why is the shape of the Roundhouse necessary? _____

17. On slippery rails, what is used for traction? _____
18. Where is it stored? _____
19. What do the locomotive burn to make steam? _____
20. What powers the brakes to stop the train? _____
21. The gear-driven locomotive used for logging, stored in the roundhouse, is called a _____?
22. How many degrees does the turntable move? _____
23. In the old days, how did the engineer communicate remotely with the crew? (Today they use two-way radios.) _____
24. What gauge (distance between the rails) is the Sierra Railroad?
Standard: 4' 8 1/2" or Narrow: 30" - 36" _____

GLOSSARY OF COMMON RAILROAD TERMS

Bad Order	Equipment in disrepair
Beans	Lunch or meal time
Bend the Iron	To change the position of a switch
Clearance Card	Authority to operate on the main line
Consist	The equipment make-up of a train
Crummy	A caboose
Deadhead	A non-revenue passenger or employee passenger. Also refers to an empty passenger car or locomotive being hauled to a destination
Double-head	To power a train with two or more locomotives
End man/Rear man	The rear brakeman on a freight train
Flat Wheel	A car with a wheel that has been worn flat in spots
Foamer	Commonly used term to refer to an enthusiastic railfan
Gandy Dancer	A track laborer
Green Eye	A clear signal or clear board
Highball	To run a train at speed; an all clear or go ahead signal
High iron	The main line or high speed track
Hog	A locomotive
Hoghead	An engineer
In the Clear	A train that has passed sufficiently through a switch or cross-over to allow the passage of another train
Iron	Railroad track
Light engine	A locomotive operating without cars
Main	Principal tracks, also known as main line, main iron or main stem

Old Head	A railroader with a lot of years of service
Pops	The safety valve on a locomotive or to release the valve, thus letting off steam and reducing the boiler pressure
Rail	Railroad employee
Rail Fan	Railroad amateur, collector or hobbyist
Red Board	Stop signal
Service Application	The gradual reduction of speed through use of the air brakes
Tie down	To set hand brakes, secure equipment
Varnish	A passenger car
Washout	Emergency stop signal
Wheel Configuration	Refers to the wheel arrangement on a steam locomotive. Wheels were arranged based on the number of axle on the lead truck, drive wheels and the trailing truck. The lead truck is at the front of the locomotive, followed by the drive wheels, with the trailing truck usually under the cab
Wye	Tracks laid in the patter of the letter "Y" for turning engines
Yard Goat	Switching engine

RAILTOWN 1897 FIND-A-WORD

L	T	V	X	S	I	E	R	R	A	H	A	R	E	X	S	N
O	O	I	T	H	O	C	A	B	O	O	S	E	M	L	A	T
C	C	E	E	A	B	P	I	H	G	G	O	F	T	M	R	U
O	A	A	G	Y	A	I	L	E	V	A	W	S	E	Y	E	R
M	O	D	E	L	T	L	T	B	R	A	H	R	D	J	E	N
O	N	R	A	D	C	O	O	I	K	E	I	A	N	O	N	T
T	Y	A	R	D	S	T	W	J	F	F	S	H	A	T	I	A
I	C	I	S	K	C	O	N	D	U	C	T	O	R	R	G	B
O	A	G	P	C	T	M	C	G	B	E	L	B	S	A	N	L
N	B	N	I	R	O	N	O	U	N	D	E	O	G	I	E	E
O	C	E	K	A	E	A	H	I	G	H	N	O	O	N	T	R
I	O	N	E	R	T	I	E	D	H	I	G	G	A	N	D	Y
B	A	C	K	T	O	T	H	E	F	U	T	U	R	E	L	L
E	L	B	R	A	K	E	M	A	N	N	R	E	T	S	E	W
L	R	O	U	N	D	H	O	U	S	E	H	O	S	E	B	E

SIERRA
STEAM
CABOOSE
BRAKEMAN
SHAY
YARD
GANDY
TURNTABLE
TRAIN
BACK TO THE FUTURE

GUIDE
CONDUCTOR
HIGH NOON
WESTERN
ROUNDHOUSE
LOCOMOTION
PILOT
RAILTOWN
WAVE
ENGINEER

TIE
MODEL T
HOG
IRON
GEAR
SPIKE
WHISTLE
COAL
FIREMAN
HOBO

CROSSWORD PUZZLE ANSWERS

ACROSS

1. Cinders
2. Smoke
3. Locomotive
4. Carpenter's Shop
5. Signal
6. Train tracks
7. Tools
8. Steam engine
9. On-time
10. Passenger car
11. Tank
12. Flat car
13. Roundhouse
14. Late
15. Fireman

DOWN

7. Turntable
16. Blacksmith shop
17. Trestle
18. Station
19. Ticket
20. Engineer
21. Whistle
22. Caboose
23. Schedule

NAME THE PARTS OF A STEAM LOCOMOTIVE ANSWERS

- Boiler_____L
Cowcatcher/Pilot_____G
Truck Wheels_____O
Cylinder_____E
Smokestack_____B
Cab_____I
Headlight_____A
Steam Dome_____J
Driving Wheels_____N
Sand Box_____C
Tender Brake Wheel_____K
Driving Rod_____D
Tender_____H
Whistle_____F
Bell_____M

FIND THE WORD ANSWERS

L			S	I	E	R	R	A	H				N				
O			T	H		C	A	B	O	O	S	E	A	T			
C		E		A		P	I			G			M	R	U		
O	A		G	Y		I	L	E	V	A	W		E	E	R		
M	O	D	E	L	T	L	T				H	R		E	N		
O			A			O	O	I			I			N	T		
T	Y	A	R	D		T	W			F	S	H		T	I	A	
I			S			C	O	N	D	U	C	T	O	R	R	G	B
O			P						G			L	B		A	N	L
N			I	R	O	N			U			E	O		I	E	E
	C		K					H	I	G	H	N	O	O	N		
	O		E		T	I	E	D					G	A	N	D	Y
B	A	C	K	T	O	T	H	E	F	U	T	U	R	E			
	L	B	R	A	K	E	M	A	N	N	R	E	T	S	E	W	
	R	O	U	N	D	H	O	U	S	E							

SIERRA
 STEAM
 CABOOSE
 BRAKEMAN
 SHAY
 YARD
 GANDY
 TURNTABLE
 TRAIN
 BACK TO THE FUTURE

GUIDE
 CONDUCTOR
 HIGH NOON
 WESTERN
 ROUNDHOUSE
 LOCOMOTION
 PILOT
 RAILTOWN
 WAVE
 ENGINEER

TIE
 MODEL T
 HOG
 IRON
 GEAR
 SPIKE
 WHISTLE
 COAL
 FIREMAN
 HOBO

Q & A ANSWERS

1. "The Movie Queen"
2. To carry fuel and water for the engine.
3. -----
4. Four (4)
5. 1897
6. Cars 5 and 6
7. The pit.
8. Woods Creek
9. Horses and freight wagons
10. They were made in the machine shop or taken from the parts yard.
11. Wood
12. Pilot
13. -----
14. -----
15. For storage and maintenance of the engines.
16. To aid engines entering and leaving the turntable.
17. Sand
18. The sand dome (above the boiler)
19. Oil
20. Air
21. Shay
22. 360
23. Whistle
24. 4' 8 ½"

EVALUATION OF MATERIAL

Please let us know your comments on *Railtown 1897's* educational guidebook and supplementary material. (Attach additional sheets if necessary.)

Grade _____ School Name _____
County _____ Your Name _____

General Comments: _____

Topics that need greater coverage: _____

Topics requiring less coverage: _____

Ideas for other material: _____

Was this material: too complex _____
 not detailed enough _____
 about right _____

Was there: too much material here _____
 not enough _____
 about right _____




Railtown 1897 thanks you very much for your comments!

Please return to: Railtown 1897
 Attn: Beverly Gulseth
 P.O. Box 1250
 Jamestown, CA 95327

3 Hand and Radio Signals

5.3.1 Hand Signals

The following diagram illustrates the hand signals for a train or engine to stop, proceed, or back up.

Description of Signal	Indication	Movement
1. Swung at a right angle to the track	STOP	
2. Raised and lowered vertically	PROCEED	
3. Swung slowly in a circle at a right angle to the track	BACK UP	

[Diagram A.]

Employees may use other hand signals only if all crew members understand the signals. When employees are not giving hand signals, they must not make any gestures or movements that may resemble a hand signal.

5.3.2 Giving Signals

Employees who give signals must:

- Make sure signals can be plainly seen.
- Give signals clearly so they can be understood.
- Give signals on the engineer's side of the track when practical.

5.3.3 Signal Disappearance

When using hand signals to control backing or shoving movements, stop the movement if the person giving signals or a light being used to signal disappears from view.

5.3.4 Signal to Stop

Any object waved violently by any person on or near the track is a signal to stop.

5.3.5 Acknowledge Stop Signal

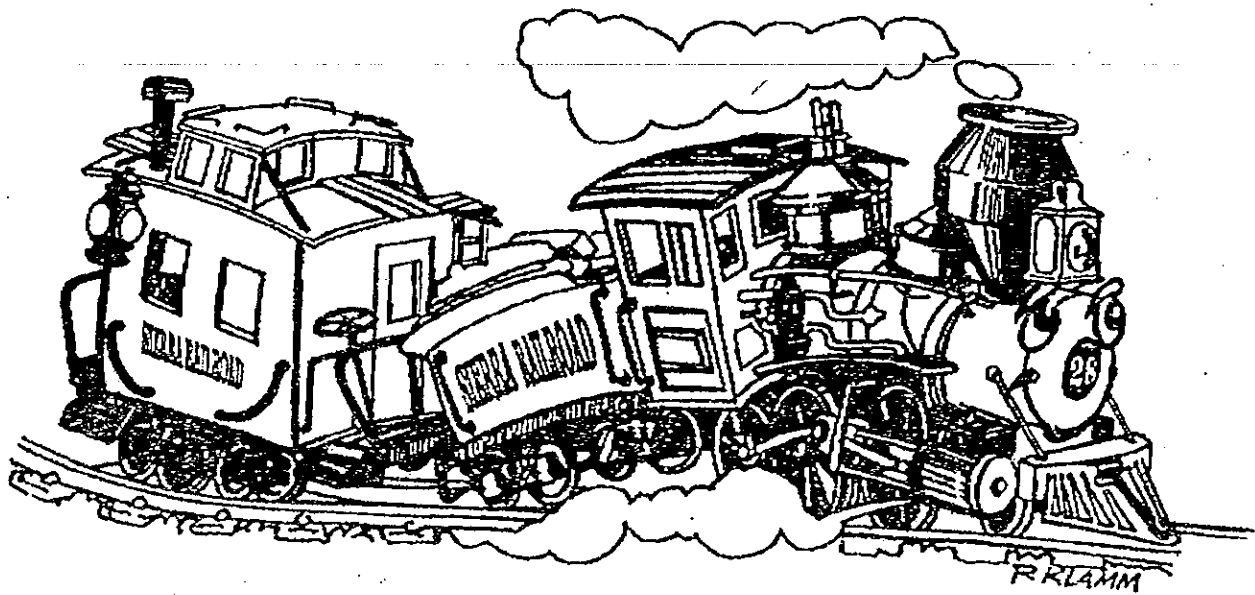
Except when switching, acknowledge hand signal to stop a train. When flagged, the engineer must obtain a thorough explanation from the flagman before proceeding.

5.3.6 Radio and Voice Communication

Employees may use radio and other means of voice communication to give information when using hand signals is not practical. Employees must make sure crew members:

- Know which moves will be made by radio communication.
- Understand that while using the radio, the engineer will not accept any hand signals, unless they are Stop signals.

RAILTOWN 1897



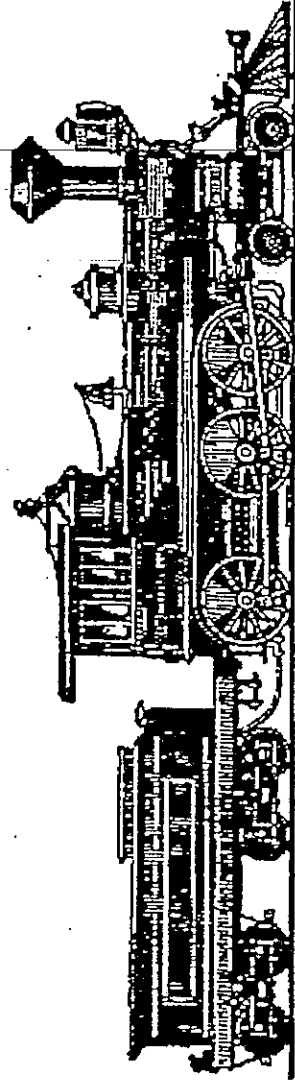
FUN BOOK

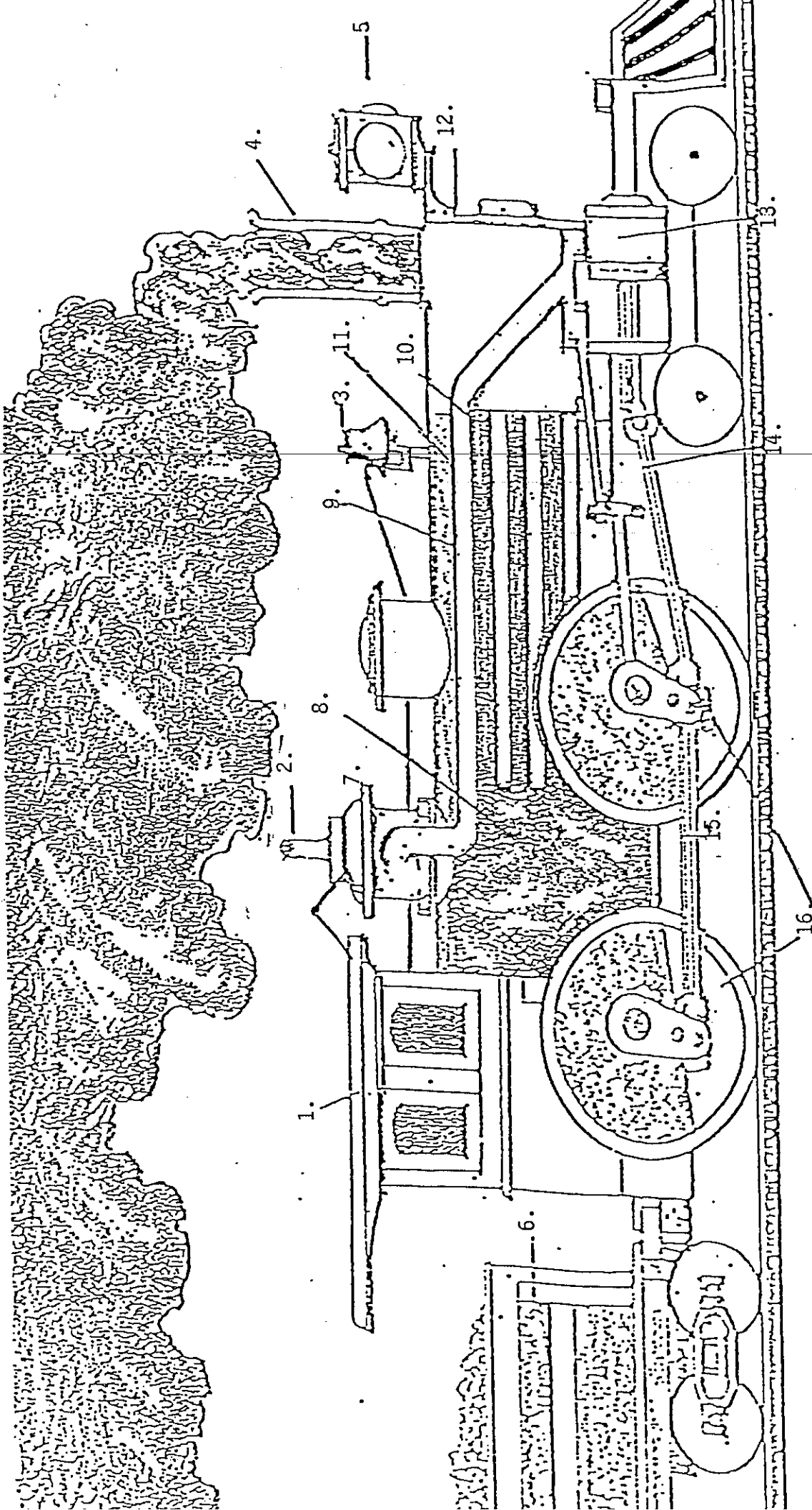
WHAT MAKES A STEAM LOCOMOTIVE GO

A steam locomotive is like a giant tea kettle. Water is stored in the tender (6) and is heated by the fire in the firebox (8) where the water (11) turns to steam and is trapped under pressure in the boiler (10). The smoke from the fire passes through the smoke box (12) and goes out the smoke stack (4).

When the engineer in the cab (1) wants to make the locomotive move, he opens the throttle valve and lets some steam go through the pipes (9) to the cylinders, where pistons (13) move back and forth pushing and pulling the drive rod (14) and connecting rods (15) that make the driving wheels (16) turn.

The steam whistle (2) sits on the steam dome (7) and is used for distant warning. The bell (3) is rung by pulling a cord as the locomotive travels through the station. The headlight (5) also warns of an approaching train.





- 1. CAB
- 2. WHISTLE
- 3. BELL
- 4. SMOKESTACK

- 5. HEADLIGHT
- 6. TENDER
- 7. STEAM DOME
- 8. FIREBOX

- 9. STEAM PIPE
- 10. BOILER TUBES
- 11. WATER
- 12. SMOKE BOX

- 13. PISTON
- 14. DRIVE ROD
- 15. CONNECTING ROD
- 16. DRIVING WHEEL

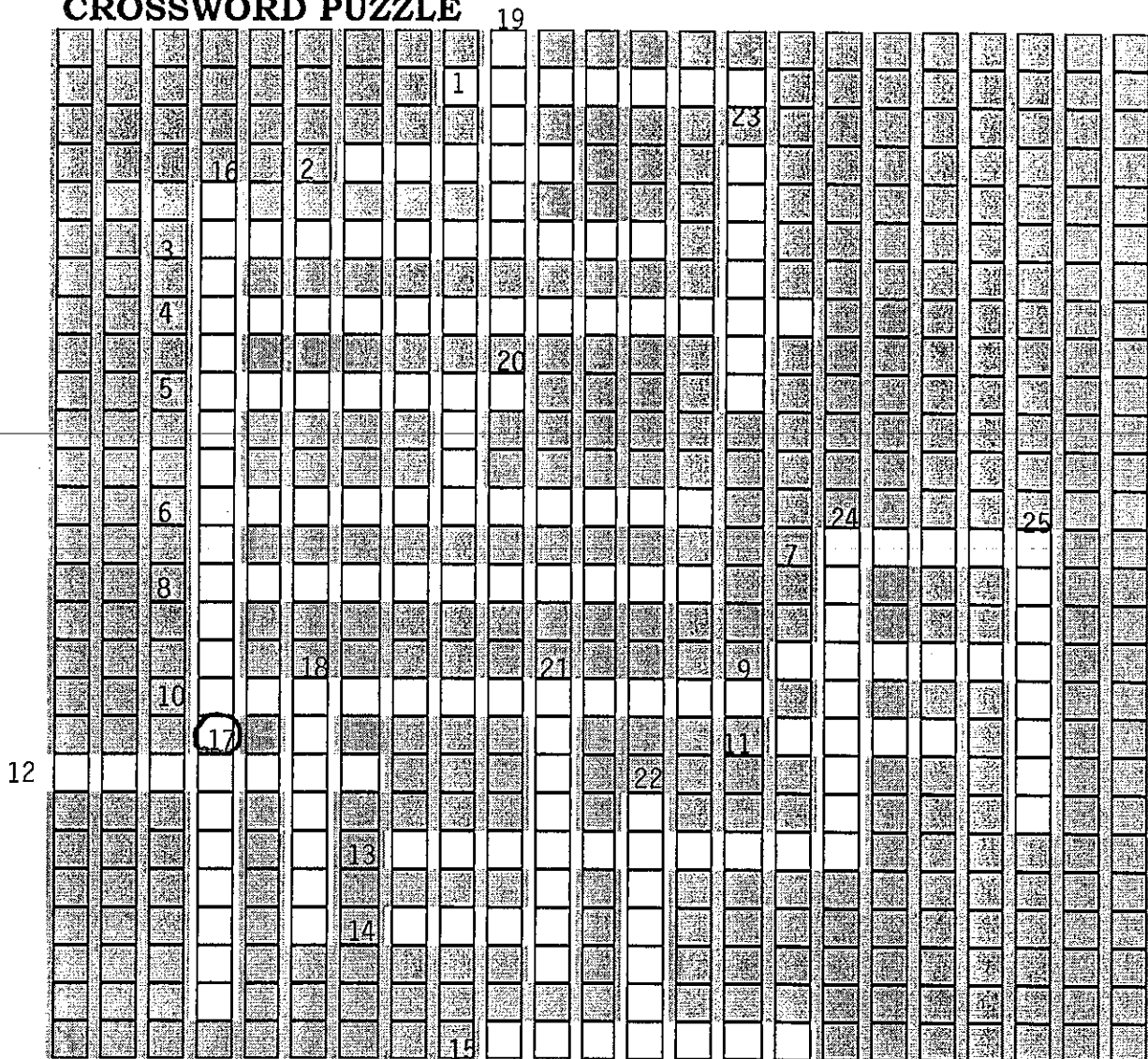
FIELDTRIP QUESTIONNAIRE

1. Locomotive No. 3 is known as "_____".
2. What was the tender on a train used for?
3. What is the name of your guide?
4. How many engines are in the roundhouse?
5. What year did Sierra Railway begin operating in Jamestown?
6. What passenger cars were built for zig-zag railroad tracks?
7. What is the area in the roundhouse called that is used to change wheels on the engines?
8. Where was gold discovered first in Tuolumne County?
9. Before trains carried or delivered supplies, how did the neighboring towns receive necessities?
10. From where did parts to repair the trains come?
11. The water tank is made of what materials?
12. What is the proper name for the "cowcatcher"?
13. Did you see the train crew use hand signals?
14. What information do you think the Conductor or Brakeman was trying to communicate to the Engineer?
15. What is a Roundhouse?
16. Why is the shape of the Roundhouse necessary?
17. On slippery rails, what is used for traction?
18. Where is it stored?
19. What do the locomotive burn to make steam?
20. What powers the brakes to stop the train?
21. The gear-driven locomotive used for logging, stored in the roundhouse, is called a _____?
22. How many degrees does the turntable move?
23. In the old days how did the engineer communicate remotely with the crew? (today they use two-way radios)
24. What gauge (distance between the rails) is the Sierra Railroad? Standard, 4' 8 1/2", or narrow, 30" - 36".

ANSWERS TO QUESTIONNAIRE

1. the Movie Queen
2. to carry fuel and water for the engine
3. _____
4. 4
5. 1897
6. cars 5 and 6
7. the pit
8. Woods Creek
9. horses and freight wagons
10. they were made in the machine shop or taken from the parts yard
11. wood
12. pilot
13. _____
14. _____
15. for storage and maintenance of the engines
16. to aid engines entering and leaving the turntable
17. sand
18. the sand dome (above the boiler)
19. oil
20. air
21. shay
22. 360
23. whistle
24. 4' 8 1/2"

CROSSWORD PUZZLE



ACROSS

1. HOT ASHES
2. WHAT COMES OUT OF THE SMOKE STACK
3. WHAT PULLS THE TRAIN
4. WOODEN CARS ARE REPAIRED HERE
5. INSTRUCTIONS
6. RAILS
7. USED TO FIX THINGS
8. LOCOMOTIVE
9. NOT LATE
10. COACH
11. HOLDS WATER
12. CARRIES FREIGHT
13. GARAGE FOR TRAINS
14. NOT ON TIME
15. PERSON WHO FEEDS THE FIRE

DOWN

- 16..WHERE METAL PARTS ARE MADE
17. BRIDGE
18. DEPOT
19. YOU BUY THIS TO RIDE THE TRAIN
20. SIDING
21. WHO DRIVES THE ENGINE
22. IT GOES TOOT TOOT
23. REAR CARS
24. SPINS CARS
25. TIMETABLE

FIND THE WORDS

L	A	C	D	S	I	E	R	R	A	H	N	G	I	L	B
O	Z	O	H	T	H	C	A	B	O	O	S	E	U	N	T
K	W	A	V	E	R	J	I	F	R	G	H	D	R	I	W
B	Y	L	O	A	T	O	L	I	P	A	T	R	E	A	S
F	I	R	E	M	A	N	T	L	Y	Y	K	I	Y	R	P
L	S	G	T	L	E	D	O	M	F	M	D	E	P	T	O
S	N	R	E	T	S	E	W	V	R	Y	C	N	M	L	H
P	O	O	W	T	U	R	N	T	A	B	L	E	A	A	V
I	H	L	O	C	O	M	O	T	I	O	N	A	E	G	N
K	N	O	O	N	H	G	I	H	L	G	U	I	D	E	B
E	B	A	C	K	D	A	Z	Q	I	U	P	R	H	W	K
T	O	T	H	E	N	C	O	N	D	U	C	T	O	R	C
H	E	F	U	T	U	R	E	I	I	I	N	Z	B	P	M
G	P	T	C	V	O	E	L	T	S	I	H	W	O	Q	R
H	E	A	Y	A	R	D	D	G	I	O	R	T	B	X	M

SIERRA

STEAM

CABOOSE

BRAKEMAN

SHAY

YARD

GANDY

TURNTABLE

TRAIN

ENGINEER

RAIL

GUIDE

CONDUCTOR

HIGH NOON

BACK TO THE FUTURE III

ROUNDHOUSE

LOCOMOTION

PILOT

HOBO

WAVE

HOG

IRON

TIE

MODEL T

WESTERNS

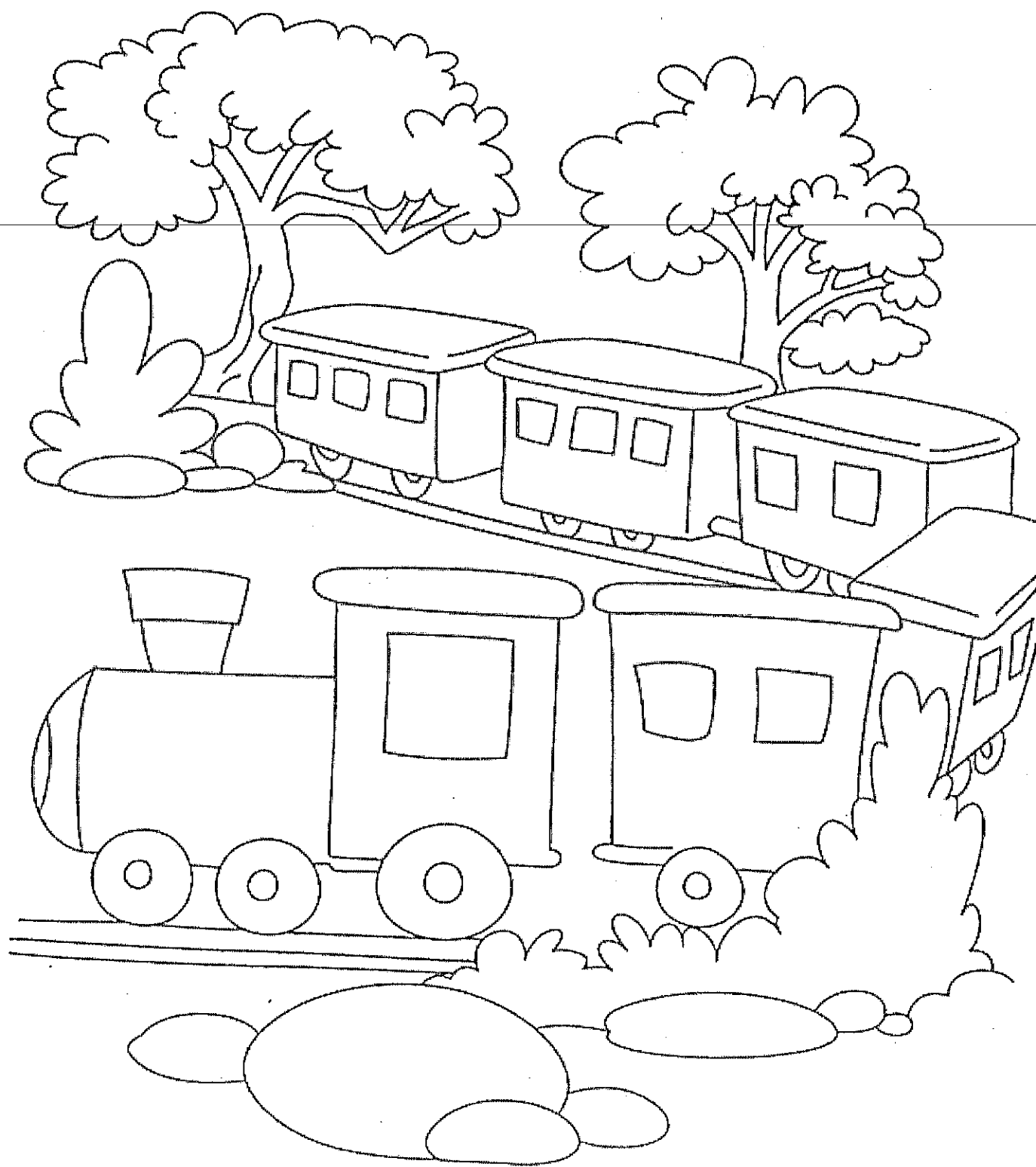
GEAR

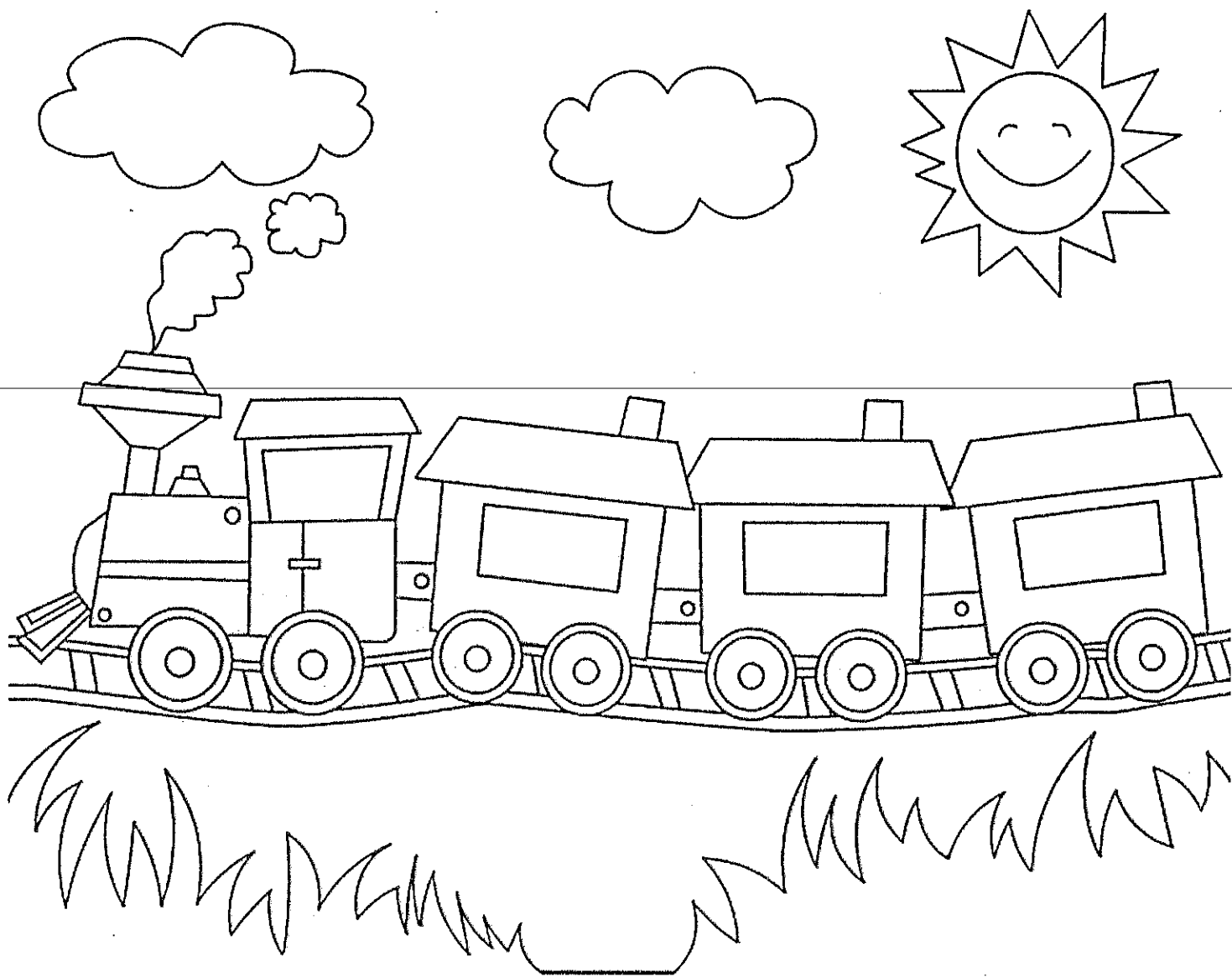
SPIKE

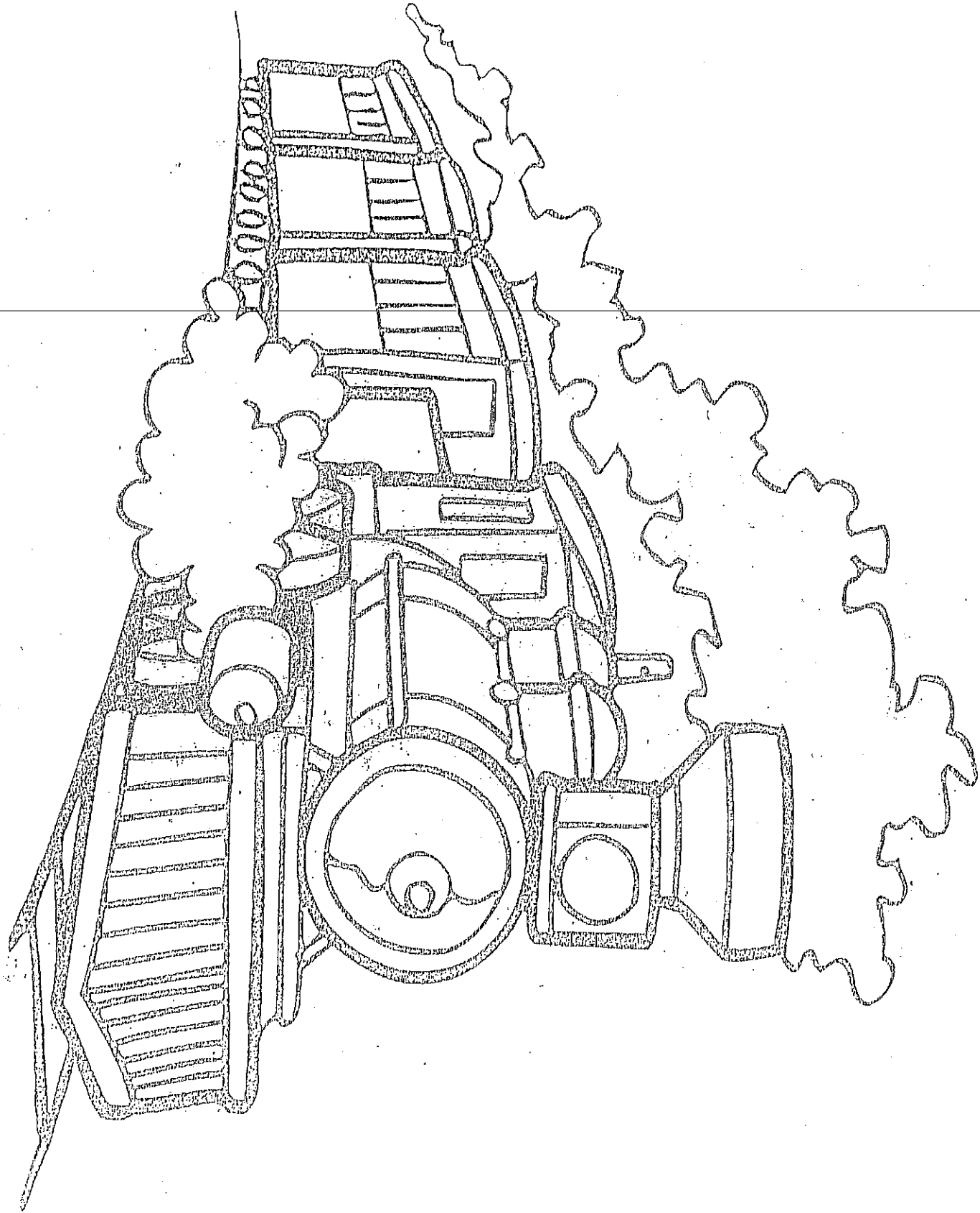
WHISTLE

COAL

FIREMAN







WHISTLE SIGNALS

LISTEN - HOW MANY WILL YOU HEAR?

_____ LONG . SHORT

___ . ___ Train approaching crossing

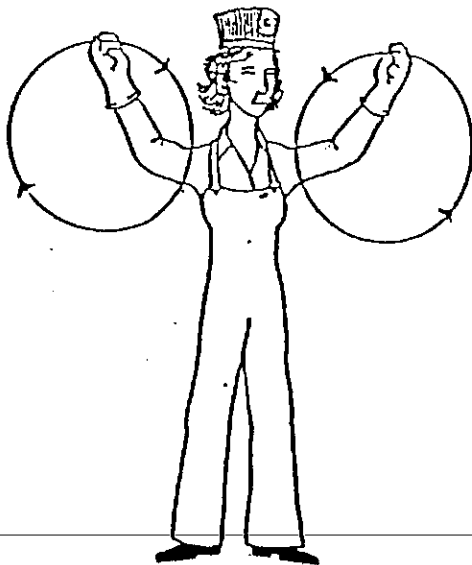
___ Station approach

... Train backing up

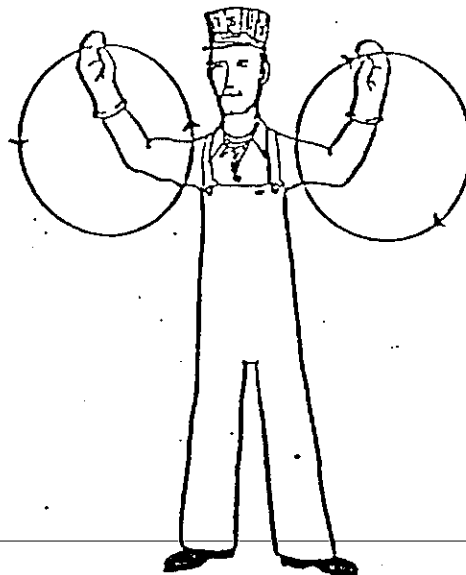
.. Train is moving ahead

.... Call for signals

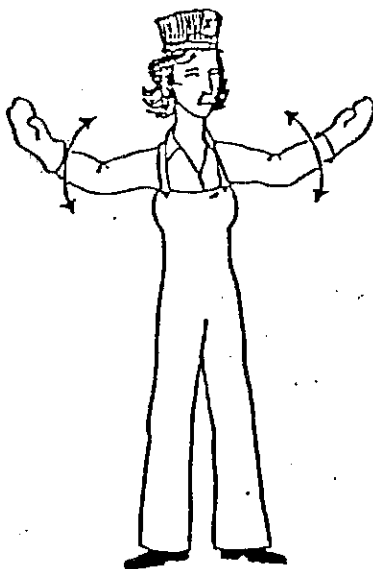
. Stop



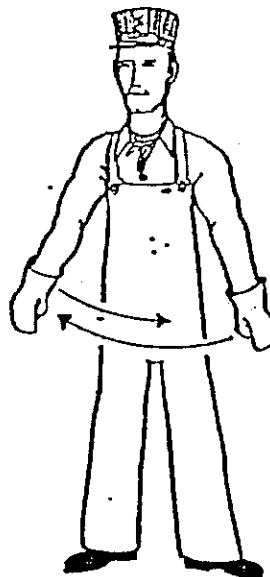
AHEAD
 (come to me)
 hands moved in circular inward
 motion in same plane as body



BACKUP
 (go away from me)
 hands moved in circular outward
 motion in same plane as body



EASY
 (slow movement/move slowly)
 arms moved up and down as in a
 weighing motion



STOP
 (stop movement)
 easy stop
 hands swung slowly in a low arc
 emergency stop
 hands swung violently in a low
 arc



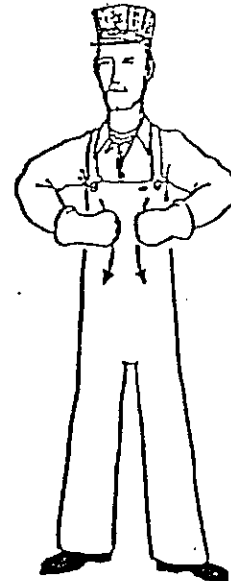
RUN AROUND
 (cut off engine and couple to
 opposite end of consist)
 circle head with fingers



MAKE A JOINT
 (couple cars)
 coupling motion with hands



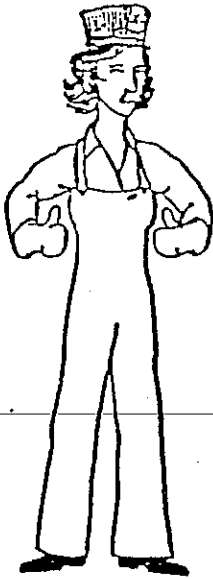
STRETCH
 (take out slack)
 palms turned inward moved
 in and out



CUT IN AIR
 (couple hoses/cut in air)
 fists moved downward in arc

HAND SIGNALS

(used between the engineer and the crew)



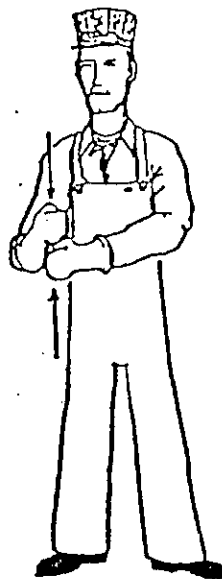
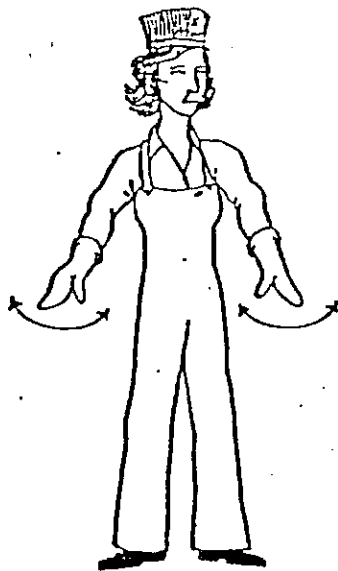
SPOT
(work pause)
hands apart thumbs up



BEANS
(dinner/lunch break)
hands apart, thumbs down, moved
up and down towards mouth

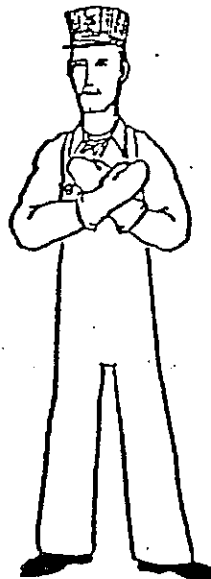
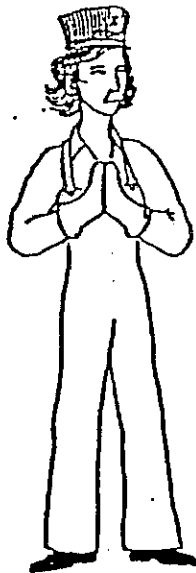


WATER
(locomotive needs water)
motion as if drinking from thumb



IN THE CLEAR
(no equipment, people, animals
obstacles, crossings, etc fouled)
hands to sides with slight
back and forth motion

BAD ORDER
(in disrepair)
fists hit together in up and down
motion



TIE UP
(end of scheduled work, secure
equipment and take engine to the
tie up track or barn)
hands together in a steeple

CROSSING
(vehicular/pedestrian crossing)
arms crossed in front of body