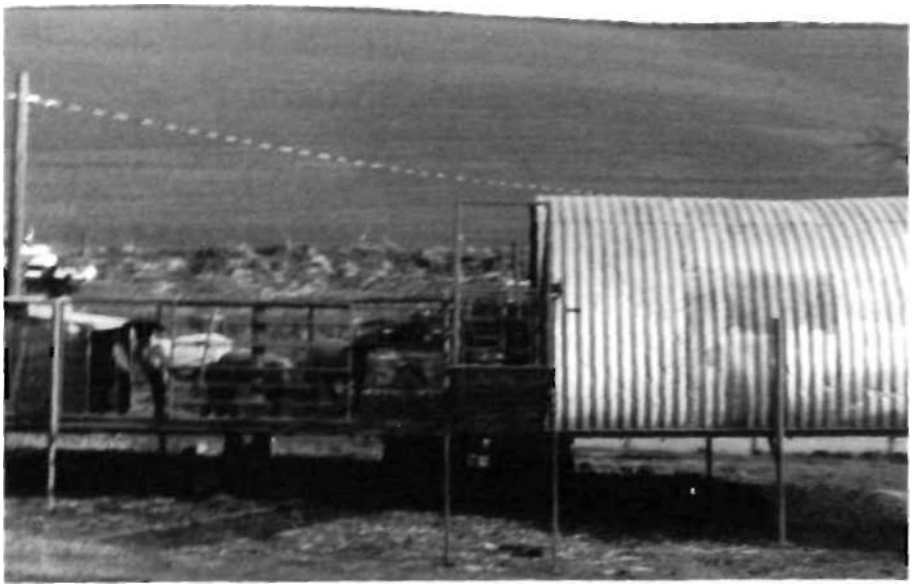
Portable Feed Lot



Bill of Materials

Quantity	Description
318.3'"	1-1/2 x 1-1/2 x 1/8" angle i
69'	1-1/2 x 1-1/2 x 1/4" angle i
15.6'	1 x 1 x 1/8" angle iron
218.42'	1-1/4 x 1-1/4 x 1/8" angle i
408 sq. ft.	#9 expanded metal
13 sq. ft.	16 gauge sheet metal
39.05'	1 x 1/4" flat strip
6'	1 x 1/8" flat strip
171.94'	1 x 1 x .065 sq. tubing
8.51'	3/8"rod
3.75'	1/2"rod
1.75'	3/4" standard black pipe
3.81'	3/8" standard black pipe
9.96'	1-1/2" standard black pipe
9.5'	1" standard black pipe
2.15'	1-1/2" standard black pipe
1'	4 x 1/2" flat bar
r	4 x 3/8" flat bar
60	3/8 x 1-1/2" bolts
6	3/8 x 2" bolts
10	5/16 x 1" bolts
8	1/2x1" bolts
4	camper jacks

Step 1) Use the frame of a trailer house with axles included. Depending on the trailer, extend the width to twelve feet. Use 1-1/2 x 1-1/2 x 1/8" angle iron to add crossmembers. Place the iron no more than 16" apart.

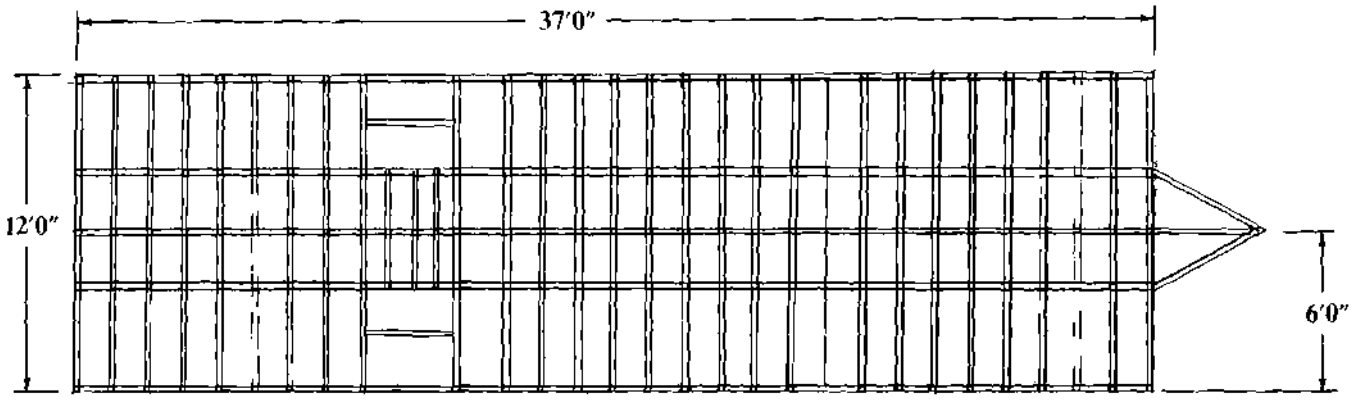
Cut into the frame to embed the angle iron. Weld at each cut on all sides. Do this for the full length of the frame.

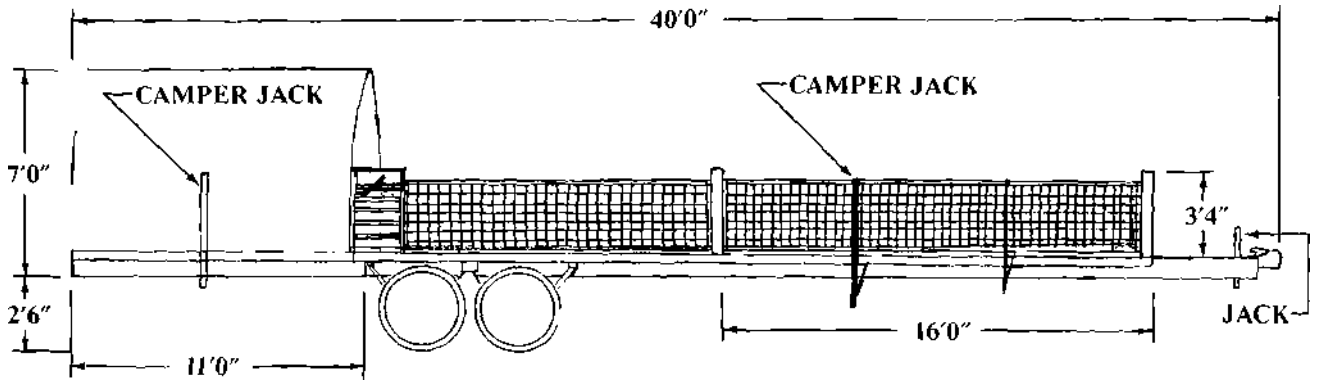
Next use 1-1/2x 1-1/2 x 1/4" angle iron to run down the sides of the trailer and to square the corners.

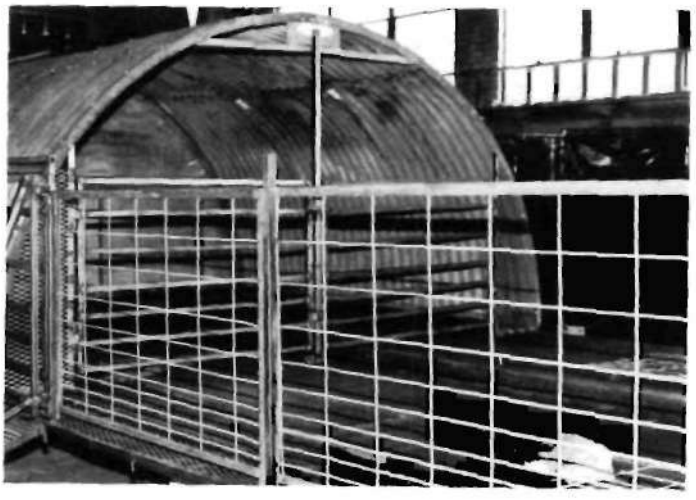
Step 2) A 4 x 8 sheet of #9 expanded metal is laid down in the front corner and tacked on. Take a second sheet and lay it along side of the first one. Carefully weld the two sheets together and tack the second sheet on. The third sheet will complete the twelve feet width and the first eight feet in length. Splice the third sheet to the second and tack it on. When all three sheets are tacked on, weld every four inches where the expanded metal touches the frame. Continue this process until the whole bed is in place.

Step 3) Fenders are optional, depending on the type of trailer used. This type is removable for transporting or cleaning. Pulling one pin removes the whole assembly.

Step 4) Depending on the use and location of the trailer, the shed is also optional. This shed was placed on the back end of the trailer. The two gates in front can be used to lock an animal inside or used for sorting. Using a short panel, the gates can be







opened up to load out onto a truck or pickup. The gates can be opened from either end and will swing a full 180°

Step 5) Using 1-1/4 x 1-1/4 x 1/8" angle iron, build a frame for the wire hog panels. Use 1-1/4 x 1-1/4 x 1/4" square tubing for the posts. Bolt the post to the floor of the trailer. Next bolt the panels to the post leaving a 1-1/2" space between the panel and the floor. This will make cleaning a little less complicated. When the entire fence is in place, use 1-1/2 x 1-1/2x 1/8" angle iron and bolt to the panel and the floor, leaving 6" below the floor. Brace the bottom of the angle iron by bolting another piece of angle iron to the bottom of the angle iron, and welding the other end to a cross member.

Step 6) The loading chute is designed to be able to load from the ground to any height, up to eight feet. Build a rectangular frame for the floor. Use **1-1/4** x **1-1/4** square tubing to build the frame.

The sides are built to hinge. Use 1 x 1 x .065 square tubing, 70 inches long. Drill a 9/32 hole as close to the end as possible. Cut a 1-1/4", 3/8" piece of pipe and place in the hole. Weld around the pipe, being careful not to burn through the pipe. Next take a 2-1/2", l x l x l/8" flat strip and drill a 3/8" hole at one end. It will take two pieces to finish the hinge. Place a 3/8" rod, 1-1/2" long, inside the pipe. Place the strip, with the end with the hole in it, over the rod and weld around it. Next cut a piece of square tubing 40" long and lay it in front of the first piece with the piece of flat strip over it. Weld the strip to it and flip the unit over. Place a second strip on the rod and follow the same procedure. Do this for both sides.

Put hinges at each end and on the outside of the outer side of the square tubing. Mount to the trailer and instead of welding the pins solid, bend one end of the pin like an "L" and leave loose. The chute can then be used for either side of the trailer or can be completely taken off.

Step 7) Placing camper jacks ten feet from the corners on the sides adds stability.

The legs for the chute can be put on the very edge of the chute or brought in 28" so when loading with a pickup, the tailgate will go underneath and the chute will be flush with the racks.

Bill of Materials

1-1/2" angle iron (20 feet)
1" square tubing (20 feet)
1" pipe (5 feet)
1/2" rod (5 feet)
l/2"x 1-1/2" bar steel (3 feet)
2 springs
4 eyebolts
1 U-clamp
4 5/8"x 6" bolts with double nuts
4 3/8"x 2" bolts with double nuts
1 l/2"x 1-1/2" bolt with nut
1 10' piece of white rope

Angle Iron Frame

The first step was to cut the major pieces for the frame. This consisted of the top sides and the pieces down the front. Angle iron was used for the four pieces. The top pieces were 50 inches long, and the front pieces were 42 inches long. After cutting the pieces to size, the front ends of the top pieces were notched to allow the angle iron to meet flush. The top and the front pieces were checked to fit at a perfect 90 degree angle. The pieces were then welded on the underneath side.

Gates

The gates are made out of one inch square tubing. Each gate is ten inches wide and 40 inches high. The pieces were placed in position on the floor and the corners squared. After each corner was squared, they were welded in position. When all corners were welded, the center pieces were positioned and welded in place.

Hinges

The next step was to put on the hinges. There are two hinges on each gate. 1-1/2"x 2-1/2"x 1/2" bar steel pieces were cut to use as spacers. The spacers were welded onto the front of the frame 12 inches from the bottom. Two pieces of one inch pipe cut 2-1 /2 inches long was welded, (on both sides) onto the spacers. The gates were placed in position, to mark where the pieces of pipe should be placed on the gates. The pieces of pipe were then welded flush onto the gates. After the pipes were in place, a six inch long bolt was inserted through the pipes. At this point, the gates were tested to see if the weight was correctly distributed. Hand filing was done until everything was even.

Top Sides of Frame

Two pieces of one inch square tubing were cut 14-3/4 inches long to be placed at the top front and back. In order for the outside width to be 15 inches, the two pieces had to be cut 14-3/4 inches long. The frame was turned upside down on the floor and one piece of tubing was placed at the front to be squared off, then the bottom was welded on the right and left sides.

The same process was used to insert the back tubing. Finishing that step, the frame was stood upright. The frame was then welded. After welding all four corners on all sides, a piece of scrap metal was tack welded on the bottom of the front frame to brace it at 15 inches.

Mechanical Devices

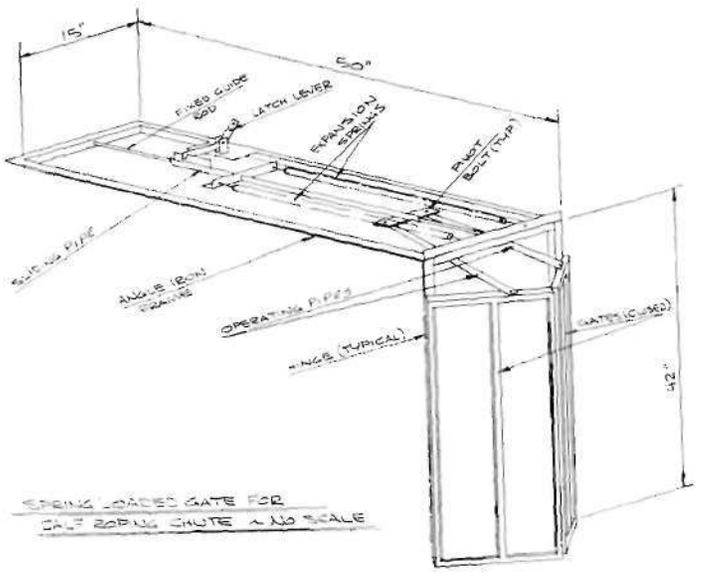
When the frame was completed, and the gates and hinges were done, it was time to construct the mechanical devices that would open the gates.

Fixed Guide Rod

A half inch rod was cut 48 inches long to be placed down the center of the top part of the frame. The center on both ends of the frame was marked, and the rod placed at the front mark and welded in place. Another piece of scrap metal was tack welded underneath the rod to each side of the frame, to support the back of the rod. The back of the rod was not welded so that the pipe could be slid on and off.

Sliding Pipe

The pipe was cut 43 inches long. Another piece of bar steel was cut to eight inches long, and welded to one end of the sliding pipe. A 25/64" hole was drilled on each end of the bar steel, two inches from the end of the bar. The sliding pipe was placed on the rod with the bar steel toward the front. The holes in the bar steel were used for connecting the operating pipes from the gates to the sliding pipe. A 25/64" hole was drilled three inches in from the disconnected end of each gate.



SPRING LOADED GATE FOR CALF ROPING CHUTE — NO SCALE

Operating Pipes

Pine was used to connect the gates to the sliding pipe In order to use the pipe, opposite ends of each piece had to be flattened. The one inch pipe was cut into two pieces, each 14 inches long. One end of each pipe was heated, placed on the anvil, and flattened with a ball-peen hammer. A 25/64" hole was drilled on each piece, in the center of the flattened area. The other end of both pieces was flattened on the opposite sides. The flattened pipe was then bolted to the bar steel on the sliding rod. With the gates in an open position and the sliding pipe all the way forward marks were placed where the holes should be drilled on the other end of the pipe. In order to attach it to the gates, 25/64" holes were drilled in the pipe ends. The pipes were then bolted in place.

I atch Lever

The sliding pipe was removed and a piece of metal l"x 12"x 1 /4" was welded on the back of the sliding pipe in an upright positon. This is used to keep the gates closed and is where the latch slides back to the notched position. After welding the piece on both sides, the sliding pipe was placed back on the fixed guide rod. A piece of 1 /4 inch metal 5"x 10" and a piece of 1-1 /2 inch angle iron ten inches long, were cut to make the latch platform. The piece of *IA* inch metal was welded on top of the angle iron. Two pieces of bar steel four inches long were cut and a 15/32" hole was drilled in each, one inch from the top. Two more pieces of bar steel were cut, one 12 inches long and the other five inches long, with one end cut at a 45 degree angle. These two pieces were welded together to form the latch. A 15/32" diameter hole was drilled in the latch at the point where it is to pivot. Two 1 *IT* holes were drilled on the short angled piece where a rope could be placed for pulling the lever to open the gates. The four inch pieces of bar steel cut were then positioned side-by-side in the center of the latch platform, and welded in an upright position, leaving enough room for the latch to work freely. The completed latch platform was then positioned on the frame and welded in place,

Expansion Springs

A piece of angle iron 17-3/4 inches long and another piece ten inches long were cut. On the 17-3/4 inch piece, a 25/64" hole was drilled 5% inches from each end. On the ten inch piece, a 25/64" hole was drilled one inch from each end. Eyebolts were placed in these holes. The 17-3/4 inch piece was welded to the front of the frame. The ten inch piece was placed on the sliding pipe with a U-clamp. This was done by drilling two holes on the bottom of the angle iron. To compensate for the size of the U-clamp, a piece of bar steel was added as a spacer. The springs were placed on the eyebolts and tightened. Double nuts were put on the bolts used at the pivoting points. All nuts and bolts were then tightened. When everything was completed, (except for welding the back of the rod) it was tested to see that everything worked correctly. After twenty test runs, the fixed guide rod was welded in position.

Finishing Steps

The final step was to add the finishing touches. The unit was wire brushed and two coats of red paint were applied. It was then time to position it in place on the wooden part of the chute that was already constructed. Two inch wooden screws were used down the front and carriage bolts along the top. This completed the total project and it is now ready for use.