

of copper since that was the easiest to form and best of all we had the material available. The dish shape of the heads was formed in a press and a strip was added to represent the drawn flange. The pieces were positioned and soldered into place. We did not make this a functional tank.

248 DEAD LEVER BRACKET

I argued with myself for quite a while over whether to make a pattern for this small part and the foundry cured the argument. I had applied several small parts to a match plate and I seldom got them with my orders. When I checked on a recent order, I found that they didn't think that little bit of mold flash was important. So we cut and formed the several pieces of this bracket, then silver soldered them together to make a reasonable "casting."

254 BRAKE CYLINDER BRACKET

This is a part that you should plan on assembling into the frame early. Check the width between the frames and make the same mistake on this part to get a close fit.

260 BRAKE CYLINDER BACK

This part is similar to 283 that you made for the Locomotive Brake group. Some additional pads, bosses and ears make up, with silver solder, into a nice looking "casting."

261, 384 BRAKE CYLINDER LINK AND ROD

Here you have some more blacksmithing to duplicate. Joggle two pieces of sheet metal and join them to the rod with silver solder, file to contour and drill to complete. The piston end was designed to suit the automotive brake cups that we used.

295 BRAKE SLIDE BAR

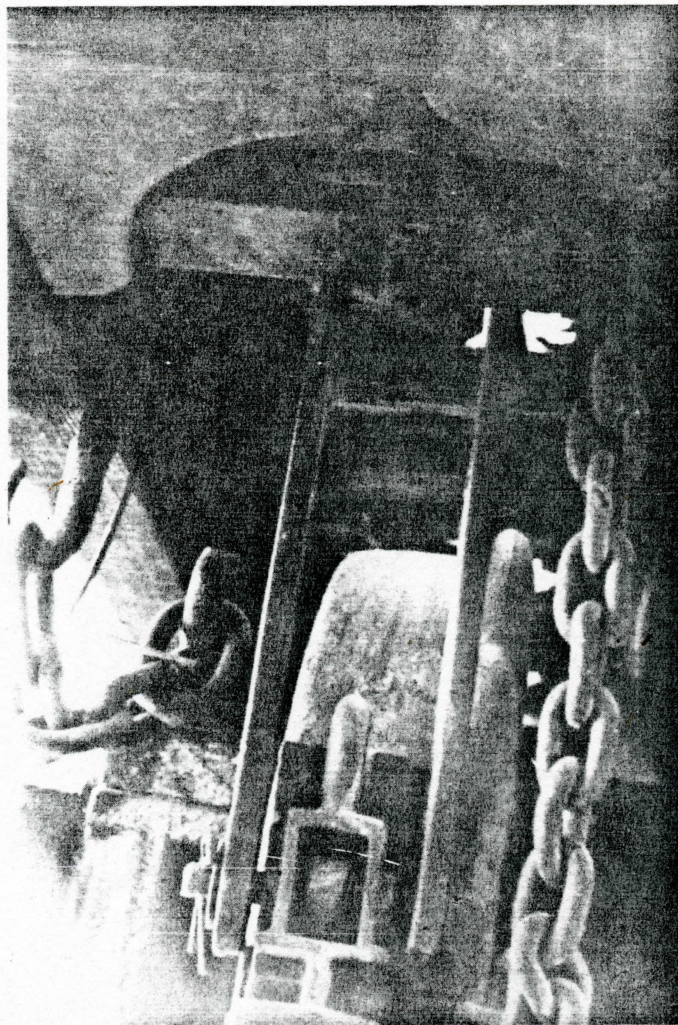
If you make this the way the "big boys" did, then the hardest part is to make the two bends on the end. We took a flat strip and heated and bent and flattened and heated and bent and... and... and... Hind-sight is to lay out the part on a larger piece of stock and cut to shape. The "T" part is slotted, formed and soldered in place.

341 BRAKE BEAM HOOKS

These are nice little extras to hang a safety chain onto to hold the Brake Beam up in case the Brake Hanger failed. Just when this safety "bandaid" was added is unknown to this writer, but the use of these redundant parts is evident all over the locomotive and tender. Roll the .062 meter wire over a mandril so that the free inside diameter comes out .375. (.187 R.) Silver solder to the flat stock, shape and drill the mounting holes.

344, 345, 362 BRAKE LINK

Joggle some sheet metal as we did for the



Left. Looking up into the right front corner of the tender frame showing the Hanger Brackets for the Brake Shoe.

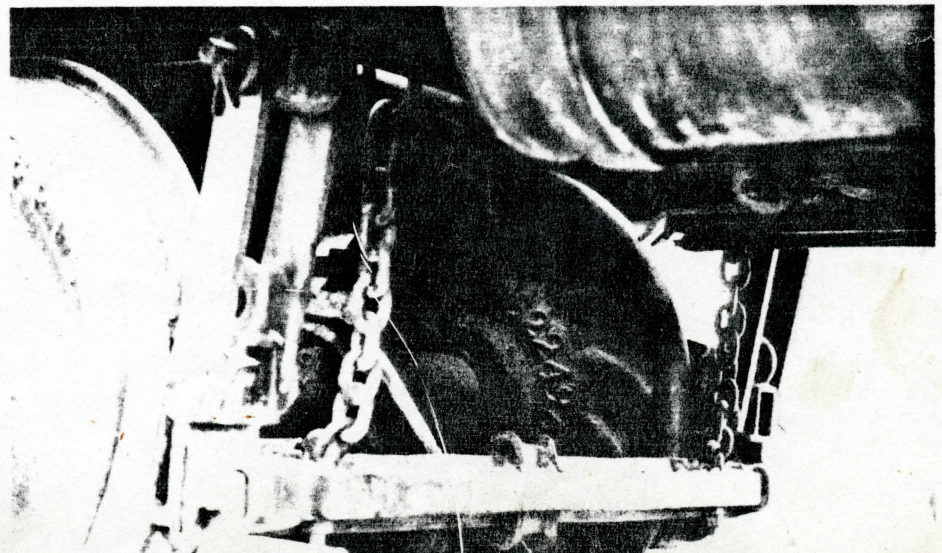
Below. A detail of the Brake Shoe and Beam.

385 BRAKE SHOE

These castings are designed for 1/2" high rail. They are not the true height of the prototype but they are close. Open the casting to fit the rail and press fit the rail into the casting. Grind the contour of the

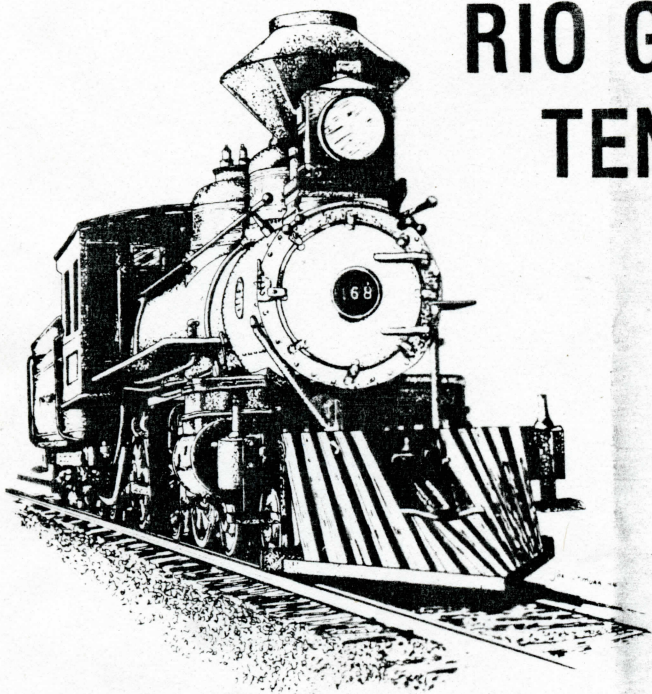
wheel tread to match.

This completes the story of building our T-12 Ten Wheelers. It has been a most gratifying experience and Gail and I hope it will bring as much pleasure to each of you.



Finalize construction with the tender brakes in

RIO GRANDE'S T-12 TEN WHEELERS



by Warren K. Weston
and Gail O. Gish

PART 25

PHOTOS FROM THE COLLECTION OF WARREN K. WESTON
DRAWINGS BY JERRY WILLIAMS FROM DESIGN BY WARREN K. WESTON

Below. A bottom view of the brake system under the tender. The hose in the middle is a necessary concession to model needs.

Upper right. The brake cylinder on #168 showing the mounting brackets to the frame.

Far upper right. A different view that shows the linkage from the cylinder.

This month we finish up the construction of our D&RCW Ten Wheeler with work on the Tender Brake group. My personal plans are to someday have steam actuated, or more properly hydraulically actuated, brakes. Pressure available is much more effective than vacuum systems. The biggest drawback is the wisp of steam escaping from the weep holes in the cylinders and the expensive steam loss. Someday a small diameter, flexible metal tube will again be available as once was from Cole's Power Models. Until that day, I've got operable tender brakes and very satisfactory operation from the locomotive brakes. The techniques used this time are very similar to those we used for the locomotive brakes (see **MODELTEC**, January, 1986, and February, 1986).

236, 359 and 360 BRAKE HANGER

The easy way to get the curl around the pin is to find a piece of commercial piano hinge made from 1/8" hinge pin and cut it to correct width. It is important for all the fits to be quite loose or sloppy since the Brake Shoes will have to follow the truck

