



Side Dump Serendipity

by David K. Gast

THE DICTIONARY definition* just can't do justice to one of the most desirable accidental discoveries in recent model railroading—a side dump car kit that is easily modified for use in three different scales (HO, S, and O) in narrow gauge and standard gauge forms. This side dump serendipity requires no scratchbuilding or special skills. All you need is a Model Engineering Works HO scale 12 Yard Side Dump Car Kit plus a few parts, depending on your scale and gauge, and you can follow this tale of model railroading serendipity.

Once upon a short time ago there lived three railroad modelers who, like the Three Princes of Serendip, had the faculty of making desirable but unsought-for discoveries by accident. Actually, they also had the faculty of making unsought-for undesirable accidents, but that is another story. Anyway, these three railroad modelers, Dave Grandt, Sheldon Schwedler, and Dave Gast, by name, all came upon the same side dump serendipity simultaneously but inde-

pendently of one another. All of which goes to prove, perhaps, that railroad modelers are far more creative, resourceful, and self-sufficient than old Ceylonese princes.

At any rate, Grandt, Schwedler, and Gast made the happy discovery that the M.E.W. HO scale 12 yard dump car kit made a very realistic scale O narrow gauge dump car with very little alteration. After brief personal exultation, each of the modelers discovered the other had made the same discovery within the same month. Instead of dampening any spirits, the simultaneous serendipity of the narrow gauge trio gave way to a no-ideas-barred contest on all possible variations and modifications of the M.E.W. kit. The results were much fun, with plenty of easy-to-make but unique variations of the model in HO, S, and O scales. (This is all very amazing in light of the fact that Grandt and Schwedler have never heard of HO or S gauge.) We are going to share the fun of making some side dump car variations, but before we do let's briefly consider the prototypes.

Model Engineering Works' side dump car can be used in HO and also in S and O narrow gauge, in most cases with a bare minimum of scale conversion.

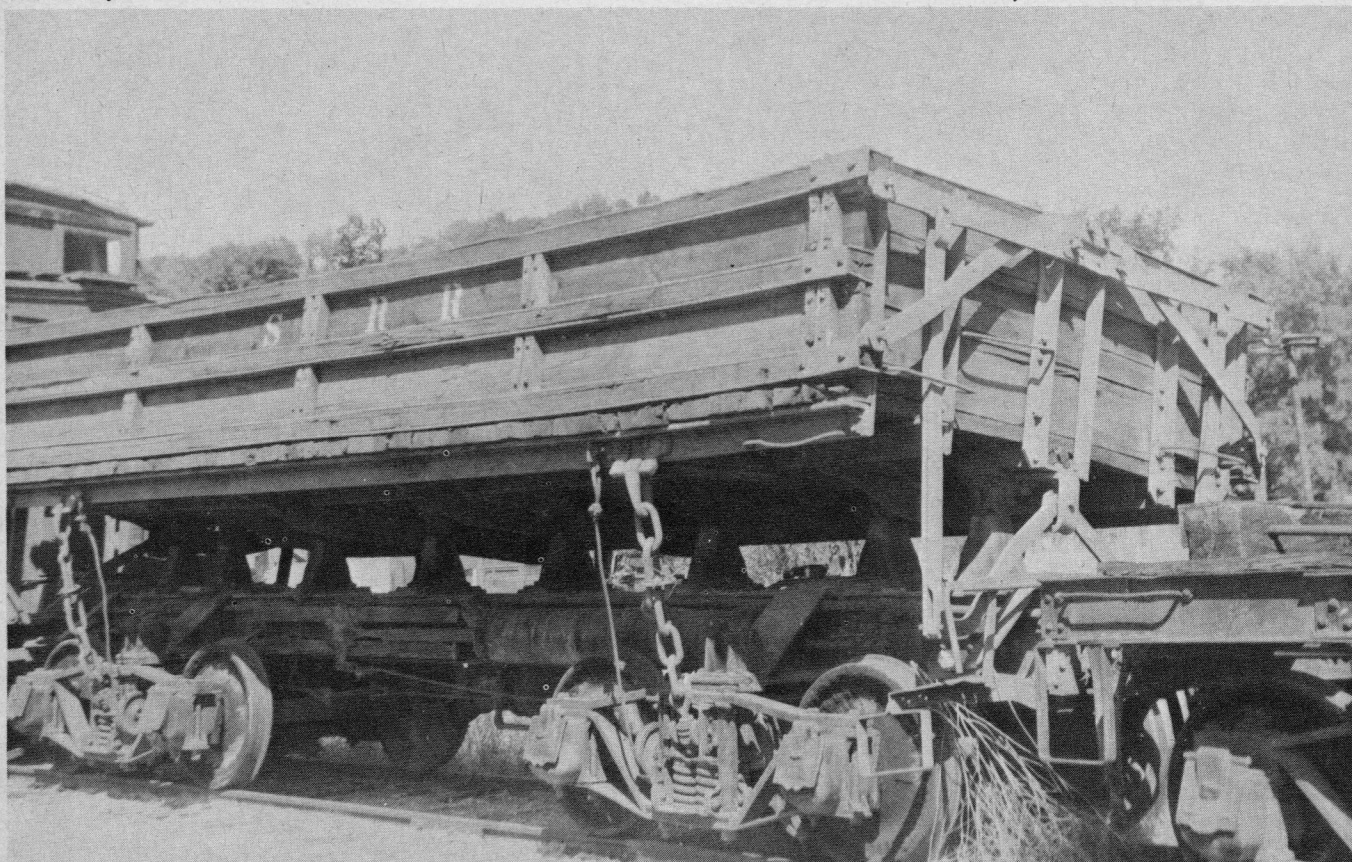
Prototypes

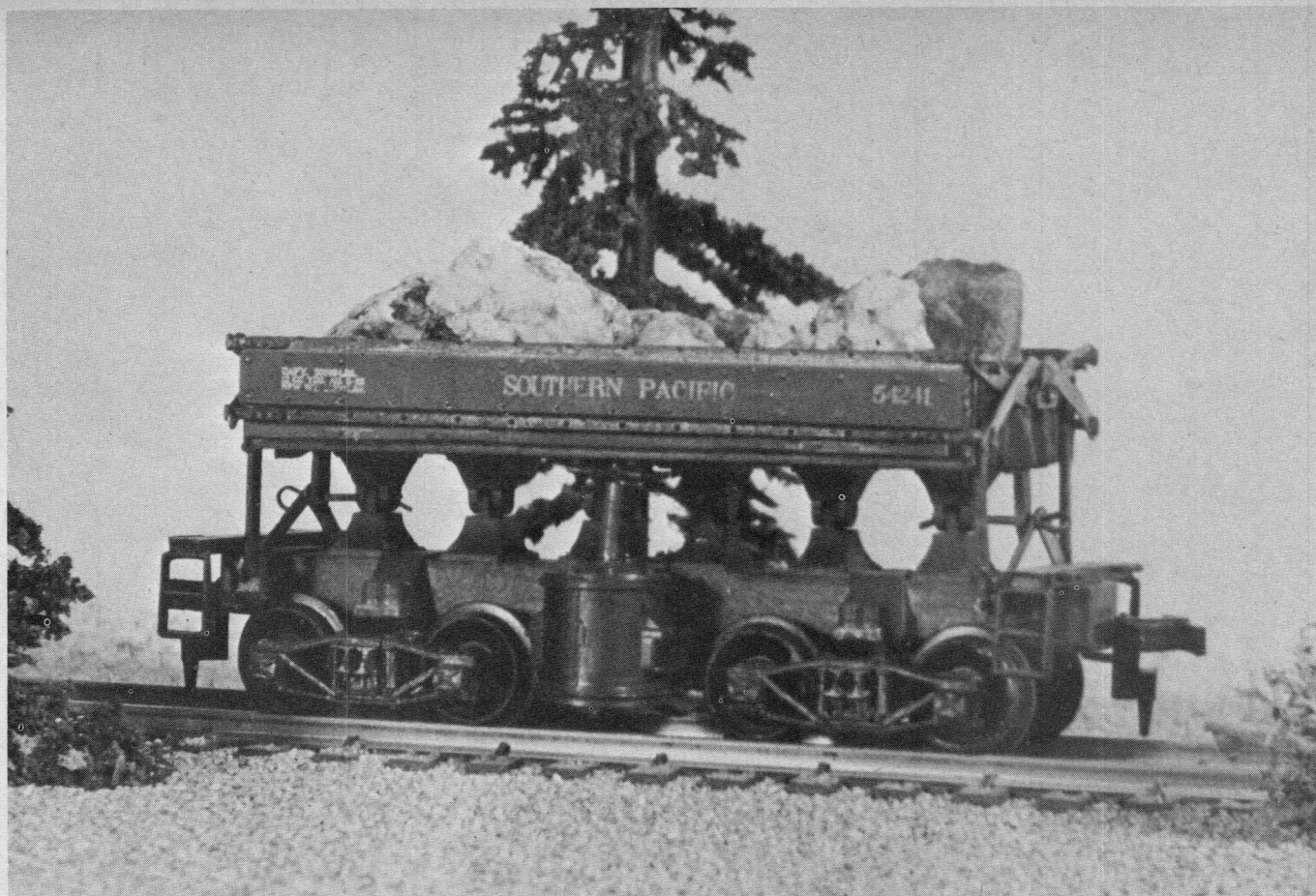
The side dump probably strikes many modelers as being a special purpose car, which in a way is unfortunate. It is true that the side dump car was used primarily for construction work, but it has far more utility than is apparent by its popularity on construction projects. The side dump has also been used in mining, maintenance of the way, quarrying, smelters and steel mills, refuse disposal and lumber mills. Prototypes vary from the huge modern fifty-foot cars of 50-yard capacity, down to tiny four-wheel mine "tunnel" cars that hold only a few yards.

Side dumpers have been manufactured for many years and early ones were made with wooden bodies as the accompanying picture of the Sierra Railroad side dump car so well illustrates. More modern cars have been of all-steel construction. Many companies have manufactured side dump cars; the most common coming from the Differential Steel Car Company and the Austin-Western Company and its predecessor, the Western

*side dump car, n, a railway car that is self-emptying by means of a tiltable body with geometrically operated side boards.
serendipity, n, the faculty of making desirable but unsought-for discoveries by accident. Derived from the legend of the Three Princes of Serendip (the old name for Ceylon) who had this faculty.

Early wood bodied side dump car on the Sierra Railroad. Note how body is chained to trucks to prevent tipping. Lettering on such equipment is often meager or non-existent on industrial lines.





Straight HO model as built from M. E. W. kit of dump car without any modifications. Prototypes were ruggedly built to withstand heavy loads and rough handling, in quarry, M-O-W, other work.

Wheeled Scraper Company. Many smaller firms have produced diminutive side-dumpers for mining use.

The Model Engineering Works' kit that we will build and modify is based on the popular prototype 12-yard dump car manufactured by the Western Wheeled Scraper Company. The prototype was only 23 feet long, but its short wheelbase accounted for its popularity because it was particularly adaptable to the very rough track which is so often found on construction sites and industrial railways. For many years this car was used for practically all movements of large quantities of material such as rock, dirt, sand, and gravel on major construction projects. Today, heavy-duty rubber-wheeled earth moving equipment has largely replaced this prototype and has relegated it to use in heavy industry and railroad maintenance of way. The side dumper continues to be popular in industry because of its self-clearing ability. Some dumpers were manufactured without air cylinder which meant they could be manually dumped very easily because of their center balance design. Although the kit we will build and modify is HO scale, the fact that similar side dump cars were made in a wide variety of sizes for both narrow and standard gauge use, make this kit adaptable and authentic in O and S scales as well as HO. Before we get to building the car let's look at the various uses the modeler can make of the side dumper.

RAILROAD MODEL CRAFTSMAN

Dumpers In Action

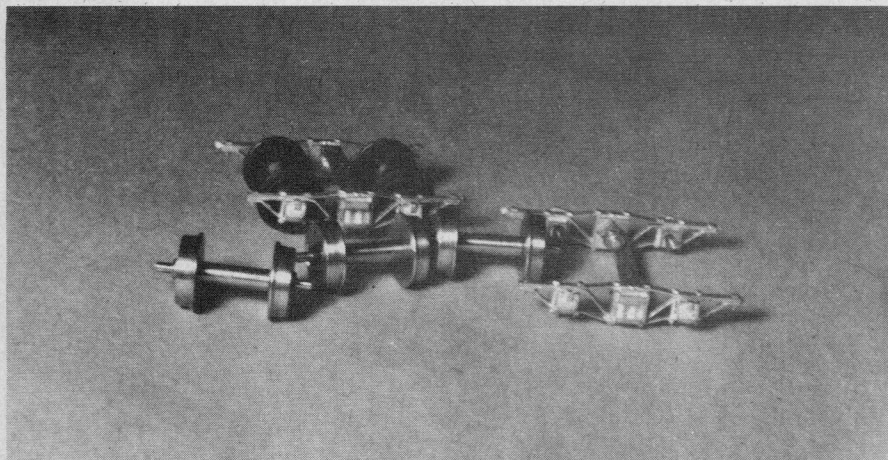
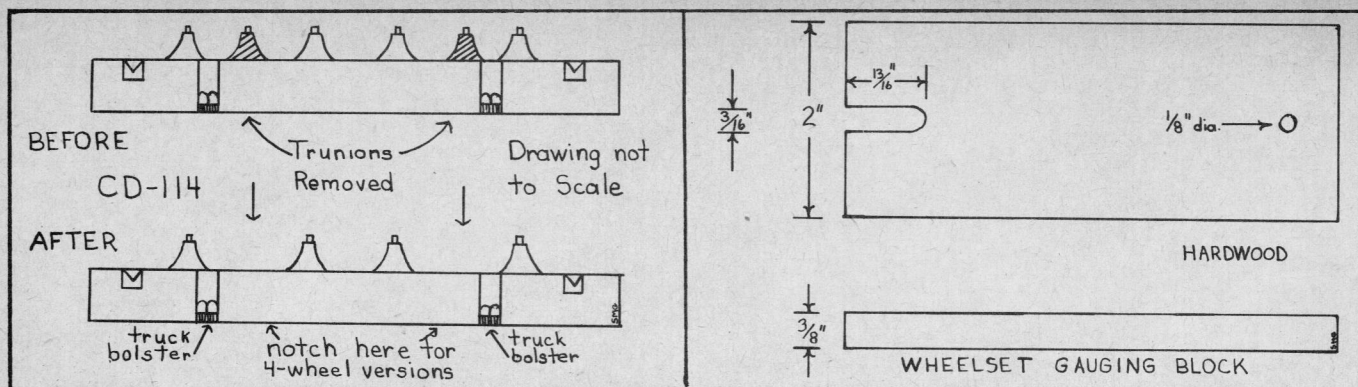
If you are not cranked up by now with all sorts of ideas on how to put a side dumper to use, just consider the following plans for the use of the dumper on your existing pike or on that new layout you're going to build.

Construction work. Seldom do we find a model pike that is finished. Something is always being built or added so that construction and model railroading are practically synonymous terms. But how often have you seen a pike where the brass hat has thought of adding to his fun by actually making his model operations correspond to the building program he is carrying out? The side dump car was one of the major pieces of equipment in new railroad construction so why miss the fun of adding model realism to the actual building of a new branch or siding? The side dumper will help you haul rock and dirt away from the cuts and take material to the fills. But railway construction should not be our only consideration. What about the wonderful heyday of railroad built and railroad supplied construction projects, before the advent of large, rubber-wheeled earth moving equipment?

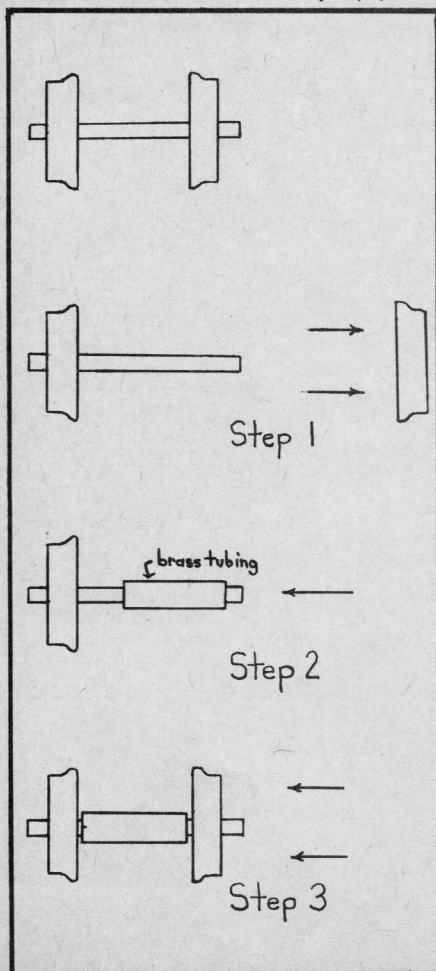
Highways, canals, dams, and breakwaters were all built at one time by the use of railroads that were temporarily and sometimes permanently built to haul men and materials to

and from construction sites. Just flip through any pictorial history showing early-day construction work, such as Hank Johnson's *The Railroad That Lighted Southern California* (Available through Model Craftsman Publishing, Corp. P. O. Drawer C., Ramsey, New Jersey, 07446) and you'll wonder why you haven't seen a heavy construction project as the central theme around which a layout is built. Talk about a neglected facet of model railroading! Consider the building of a large dam and hydroelectric plant in remote areas such as the High Sierra or Grand Canyon. First, a rail line had to be built to the site. Often it was a standard gauge branch built by the nearest major railroad if the revenue potential seemed to warrant. Sometimes it was a separate short line like the San Joaquin and Eastern built by the promoters of a hydroelectric project to connect the site with a major rail line. Boom towns and company towns were erected at the site.

Supplies for the workers and for the project employed every kind of freight equipment imaginable: box cars, gons, reefers, flat cars, hoppers, drop-center heavy duty cars, and tank cars. Look what had to be brought in: food, people, oil, cement, sand, gravel, wood, penstock sections, furniture, huge generators, and the construction equipment itself. Regu-



Gilpin prototype side frames for On2 with 1/4 AAR wheelsets are now offered by Coronado Scale Models. Maine On2 archbar trucks are also available from Scale Railway Equipment Company, of St. Louis.



lar passenger service was often instituted on a small scale to such sites.

At the site, light, temporary railways often of narrow gauge were built to haul the building materials to the spot where they were to be used. This is where the side dump car was in its element. These cars carried rock, sand, earth fill, and gravel to the sites and carried away unwanted material from cuts and excavations. An old photo in my collection shows a dinky narrow gauge two yard side dumper loaded with loose mud and leaking at the seams. In standard or narrow gauge and in four wheel or double truck versions, the side dumper was pushed and pulled over the rough trackage by locos typical of construction work.

Popular construction locos were the geared type like the Shay, Heisler, and Climax, and the conventional small saddle-tankers. Quite often the contractors would use old and decrepit hand-me-down locos that had seen better days on regular lines, which gives the modeler a prototypical excuse for running vintage locos on a modern pike. By the 1920's, gas mechanical locos had arrived on the scene and even before that time, electric railways were built for surface and tunnel use in construction.

The HO modeler has a wide selection of locos to choose from that would be appropriate to such a pike. Pacific Fast Mail's "Little Joe" saddle-tanker and Plymouth Industrial

switcher would provide reliable yet inexpensive motive power. Many good saddle tankers and diesel switchers are on the market. Personally I would use Shay geared locos, but then again, I have a strong Shay bias. Locos like M.E.W.s 44 ton, double truck diesel put the steamers out of business on many such projects and one should not overlook the small brass electric locos of M.E.W. and Ken Kidder. The box cab versions could be run as early diesels if you removed the trolley poles and pantographs and added a simple flat roof-mounted radiator made of wire. O and S scale operators will have to buy or build suitable locos in standard or narrow gauges.

Kemtron's O scale Shay is available in kit form and can be made in standard or 3-foot narrow gauge forms. Sheldon Schwedler's prize-winning scratchbuilt two cylinder Shay may be seen in an accompanying photo with an On3 version of the M.E.W. dump car. Modelers of On3, On2 1/2, and On2 can follow suggestions for motive power offered in the December, 1960 R.M.C. in which a simple Athern Hustler conversion as offered by Lee Klaus and in the September, 1964 R.M.C. in which I described some more possibilities. (Back issue R.M.C.'s are in short supply so send to the above address of this magazine in care of Back Issue Department). Many On loco conversions can be done for as little as \$10.00 total cost, parts and loco. Well, how about it? Ready to begin a pike based on the construction theme?

Mining, milling, and smelting. The mining theme for model railroad pikes has become increasingly popular, what with new models on the market and a growing interest in narrow gauge. In my way of thinking, the side dump is the most fascinating prototype for ore haulage and many modelers of mining operations are missing a bet by not using the M.E.W. car. These cars are commonly found in open-pit operations, but they'd also be a natural for mine to smelter runs of any type. Even in HO they are short cars and a string of them would look good and take up little operating room.

In S scale they would probably represent 9 yard capacity cars, while in O scale they'd be about 5 or 6 yard

cars. ("yard" refers to cubic yard capacity of a single car). They make ideal On2, On2½, and On3 mining cars above or below the ground. They have another use, in the metals industry, that isn't too well known. They have been used to haul away the residual waste by-products of the smelting and milling processes. Power? Suit yourself to your favorite period and prototype.

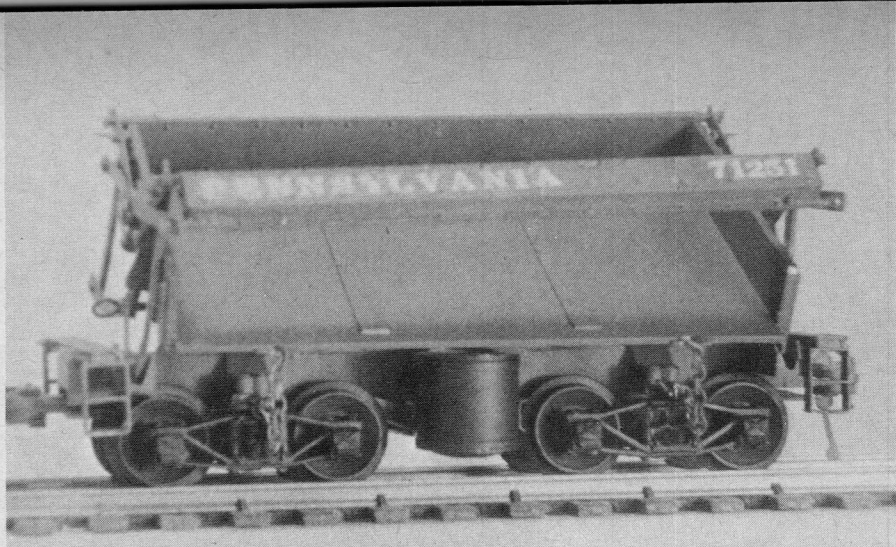
Maintenance of the way and quarrying. Every pike should have maintenance of way equipment and the side dump car is the car for hauling ballast, carrying debris from slides, and doing various railroad improvement work. HO'ers will use the kit as built and so will the S gaugers with a change of trucks. The car would even look good in 4-wheel form on O standard gauge. This type of car should not be overlooked by O scale trolley modelers as a prototype that will negotiate sharp streetcar trackage. Narrow gauge pikes need maintenance too, and the M.E.W. car, modified, will do the job. For the ultimate in smallness and simplicity, refer to the picture of the D&RGW three foot one-way tipper.

Quarrying is actually a form of mining that is often tied in with maintenance of way and construction. If a modeler wants the side dump for quarry use, he doesn't have to dig a pit in his layout. A siding built next to a cut will do the job. Don't forget to check the dime stores for cheap toy power shovels in sizes near to your scale. Some of these toy shovels look quite plausible when given a little attention, especially some painting.

Dumper in HO Scale

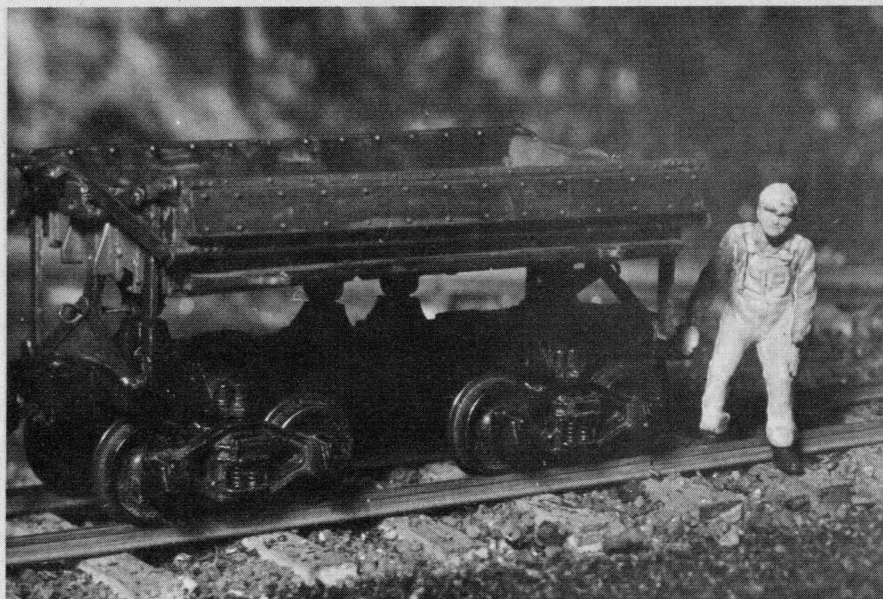
OK, HO modelers, your job is easy. The kit is designed for you; even comes pre-lettered for Pennsy, Baltimore and Ohio, Santa Fe or Southern Pacific. Pick up one or more (you might as well buy more as you'll end up doing it eventually and you can build the cars on the assembly line basis faster than one at a time) kits at your local hobby store or direct from M.E.W. You'll need the following tools: small screwdriver, small center punch, modeler's hammer, and modeler's files. You'll also want to have a small wooden block for tapping, a couple of rubber bands, and Ambroid White Glue. Needle nosed pliers would be good to have around but they aren't really necessary for the job.

Now, we're not going to run through the whole procedure of construction because you can read the kit plans, but there are some points of construction and modifications that should be called to your attention. Your first decision is whether you wish to build the kit as the air actuated prototype or as the manually operated type without the air cylinders. Leaving the cylinders off will make the job easier and generally will give the appearance of an older model dumper. You will eliminate



HO version of M. E. W. car, as built from kit, shown in dump position. Compound action of end levers automatically lift side boards when body is tipped. Car can dump in either direction.

Gast's On2½ side dump car, converted from M. E. W. HO model takes on new look next to scale O man. Changes include sprung trucks, and removal of center trunions and large underbody air tanks.



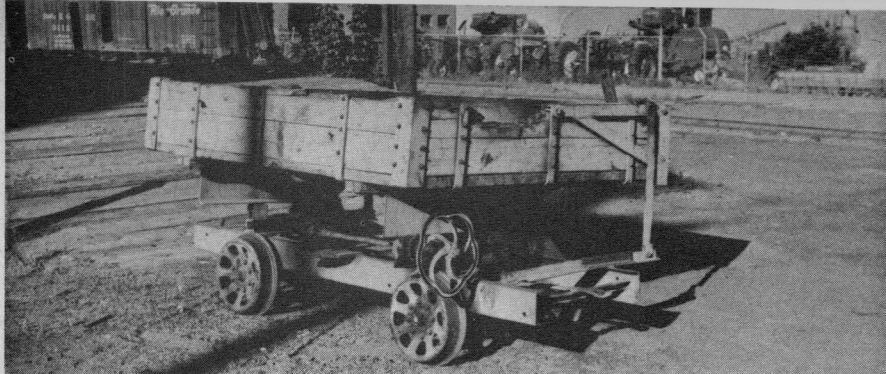
several steps in the plans, they are: "Sub-Assembly 1A and 1D" and you will simplify "Sub-Assembly 1B" greatly. Horn couplers are provided but the coupler pockets will take most popular types.

If you really want to make it a vintage piece of rolling stock use the High Ballers Link and Pin couplers available from M.E.W. for 69 cents. These are plenty of fun to use and are good for S and On scales as well as HO. The trucks that come with the kit are unsprung archbars. These are well-detailed and serviceable, but you may want to get fancy and install sprung trucks. If you want a more modern type car you would install the Bettendorf type truck and build the car with the air cylinders. The lever assembly which lifts the doors by compound action does take a bit of patience but I've put 'em together and I'm notoriously short of this virtue. Although this kit can be made up for use in Sn and On gauges it is just too wide for HOn3 and is

not stable on HOn3 trucks—it has already been tried and it doesn't work.

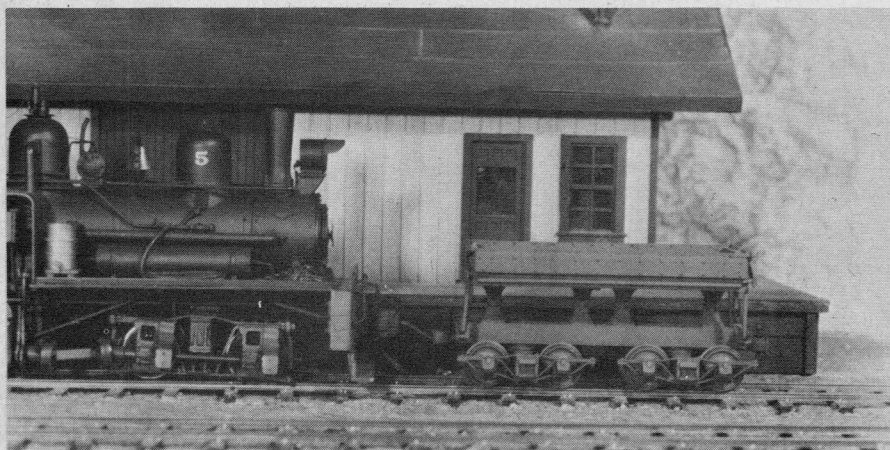
Dumper in S and Sn

S gaugers will have no more work than the HO modelers. Have the same tools available and get ready to build a side dumper that will measure 16½ feet long and 8 feet wide in S scale. If you want a standard gauge S scale car, you build the kit as directed leaving off the air cylinders. Northeastern S scale Gould trucks mount perfectly in place of the regular HO trucks. The stabilizers on the car's underframe rest snugly upon the bolster pads of the S gauge trucks just like the change was meant to be. For S scale standard modelers who want a 4-wheel side dumper, check under the On conversions below. Now, for S narrow gauge conversions. Sn3½ is becoming popular as an easy to build narrow gauge because HO trucks and modified HO locos are used. Sn3½ modelers will make the side dump kit as per in-



Three foot gauge one-way side dump used in m of w service, in D&RGW Durango yard. 4 wheel side dump can be made from M. E. W. kit.

Sheldon Schwedler's On3 prize winning Shay coupled to a M. E. W. On3 side dump conversion equipped with Gilpin sideframes, link and pin couplers, and modifications which included removal of excess center trunions. Note angle of coupler links. Car tracks well.



structions having the option of air cylinder operation. Sn3 modelers can make the kit as is and only have to twist the wheels in on the axles to be in the right gauge. M.E.W. wheelsets, like many of the others on the market, are unshouldered, which means that you can adjust the gauge.

Dumper in O and On

When you were promised at the beginning that no scratchbuilding or special skills were to be involved, the promise was meant to be kept. However, if you want a more plausible O scale conversion such as the On3 job pictured with the Shay loco, or the author's On2½ shown in an accompanying photo, there will be some work to do, although it's easy work. But keeping to the promise, if you model in On3, On2½, or On2 you can build the kit as is or with the air cylinder option and you'll only have to change trucks (for On3), or regauge the given wheelsets (for On2), or run it as is (for On2½) depending upon your narrow gauge. However, to make this kit more authentic in O scale you should consider the following alterations.

Before you build the kit, take the frame casting (part CD-114) and remove the second trunions in from each end. These are the shaded trunions shown in Figure 1. The best way to remove these is by sawing in on them from two sides with a razor saw. You will be sawing crosswise to the frame on approximately 45 de-

gree angles. Do not saw below the face of the frame. If you are reasonably careful in each case, you will have two small protrusions in the place of one trunion. These small protrusions can then be easily filed away with modelers files or any small fine-toothed file. Having removed the trunions from the frame, turn your attention to the matching trunions on the body casting (part CD-111) and repeat the process. You'll find this whole operation will take very little time and will improve the appearance of the O scale conversion. It should be mentioned that the removal of the trunions will in no way affect the assembly procedure.

The assembly of the car then continues as per the plans although it would be wise to forget (part CD-115) the two running board-step assemblies that mount at each end of the car as they will detract from the O scale version's appearance. O narrow gauge builders will probably want to leave the air cylinders off unless they want to depict a modern prototype. As for choice of trucks, On3 modelers will probably want to use Kemtron's short - wheelbase D&RGW archbars (part TK-479). On2½ modelers can use the archbars that are provided in the kit but Kadee's T-2 HO sprung archbars as shown on the author's On2½ dumper will look better. On2 modelers can regauge their choice of existing HO archbars or they can buy Gilpin pro-

totype sideframes and use the Valley Car Works 2 foot gauge wheelsets. As can be seen in the accompanying photo, these make a nice truck, and are offered by Coronado Scale Models. For the On2 truck information and a host of On parts write to Coronado Scale Models, 1544 E. Cypress Street, Phoenix, Arizona 85006. Be sure to enclose a stamped envelope for the list.

For the four wheel dumper you will want to eliminate the trunions as outlined before. Before you do anything with the castings look at Figure 1. The anti-sway bolsters that are a part of the frame (part CD-114) must also be eliminated. These can be easily sawed off flush with a razor saw, the sides of the frame then being filed smooth. Select two wheelsets of your gauge (remember, you will want to use a larger diameter wheel on a 4-wheel version than you would in the trucks of a double truck version) and using the easy-to-make hardwood wheelset gauging block shown in Figure 2, remove one of the wheels on each axle. You'll want in addition to the gauging block shown, a modeler's anvil.

Brass tubing, which is available at most hobby stores in a display rack, is then cut slightly shorter than the back-to-back distance of the properly gauged wheels. For most HO wheelsets the ⅛" outside diameter tubing will do, but check your axles with the tubing in store and choose the right size for a free, but not sloppy fit. Look at Figure 3. After you file the ends of the tubing free of burrs, slip the tubing over the axle and replace the wheel using the wooden wheelset block. You now have a wheelset with its own sleeve bearing.

To make the 4-wheel dumper, decide what your wheelbase should be (between four and five feet is best) and then mark off the locations of each axle on the underside of the frame equidistant from the ends. Using a file, make notches where the axles will go, being careful that they are on a 90-degree angle to the length of the frame. In each case, a drop of epoxy glue will hold the brass tube bushings which you have centered up in the notches and then your side dump car will be a 4-wheeler. Be sure you file the notches in the frame before you mount the body. In this fashion the M.E.W. dumper can be an O scale 4-wheel model in On2, On2½, or On3 or O standard gauge. The standard gauge version might require some bracing of the axle bushings for the sake of appearance. S scale modelers can use the same technique for a 4-wheel car. To finish the car, O scale modelers will want to use their favorite couplers. Kadee HO couplers are popular for working On draft gear and the High Ballers link and pin couplers made for HO are also widely used among On modelers for an authentic vintage equipment appearance.