



## ***How To: Make a Dolly for Turning and Handling***

By John M. Bailey

For those of us who do not have hydraulic turntables, turning and handling our motorcars can present a problem. This is especially true if the turning handles are locked in place and used to support a luggage rack as is the case with our motorcars. Turning can also be difficult when operating alone or with little assistance.

My solution was to design and build a small dolly that is swivel-mounted on the rear of the motorcar. Basically, the dolly consists of a short lever that has a clevis at one end to engage a swivel located on a bracket attached to the motorcar rear frame cross member. It also has a hole near its other end through which is placed an axle for two small wheels. A handle is attached near the center of the lever and perpendicular to it to tilt it downward. This is to lower the wheels and lift the rear of the motorcar for turning. The handle has a short piece of square tubing which can be clipped to the frame to hold the dolly perpendicular to the motorcar axis during turning. When the handle is raised to a locked position for travel, two capscrews are used as adjustable stops to hold the lever rigidly in place. An eyebolt is mounted on the rear end of the lever to provide a rear tow bar receptacle.

When it is desired to turn the motorcar at a grade crossing, the handle is released and lowered. This action swings the lever downward until the wheels contact the surface of the crossing. Further downward force causes the lever to pivot about the axle. This lifts the swivel and raises the rear of the motorcar until the rear wheel flanges clear the rails by about two inches.

Only moderate downward force is required to lift the rear of the motorcar. Depending upon the handle length, the device provides about a 6:1 to 9:1 mechanical advantage. The handle is then swung around, keeping it parallel to the ground, until it is perpendicular to the rails and then clipped to the motorcar frame. The rear of the motorcar can then be pulled around. The dolly wheels roll in an arc about the center of the front axle.

After turning, the handle is released and swung around while still lowered until it is again parallel to the track rails. The handle is then raised to lower the rear of the motorcar. If the motorcar wheels do not exactly engage the rails, the handle can again be lowered and the rear of the car lifted and steered to permit rereiling. The handle is then moved to its full upward position with the dolly wheels clearing the rails by two to three inches. It is securely locked in this position for travel.

I have used the dolly for about two years and have found that I can readily turn our 1,250-pound MT14 motorcar without

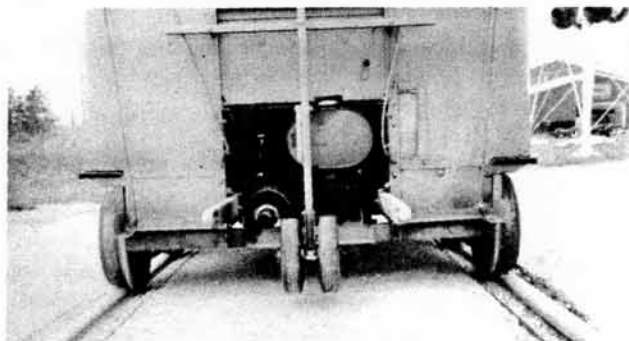
assistance. I also have found that the dolly is very handy to guide the motorcar down a road and for positioning it at the trailer ramps for loading. Use of the dolly has permitted us to operate without assistance (with permission) on some very interesting tourist and museum railroads that would otherwise have been impossible.

Although turning has to be conducted at a grade crossing, unlike a hydraulic turntable, I find that there are some advantages compared with the more conventional unit in addition to lower cost. For example, the turning dolly can be moved for use on a different motorcar by loosening and reattaching one nut and lock. "M" and "MT" type motorcars need only have additional brackets mounted on their rear cross members.

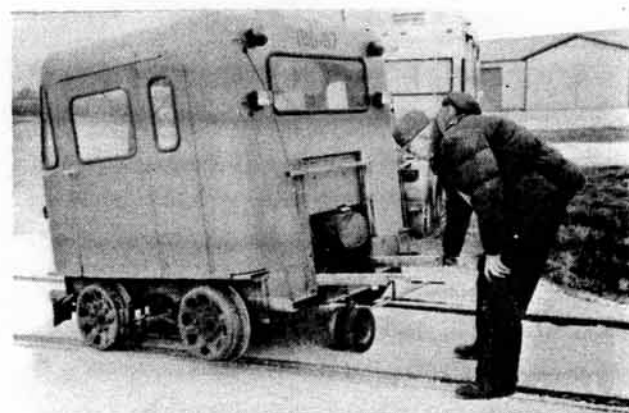
The motorcar dolly structural parts (lever, handle, bracket, axle) contain several relatively large holes and require a number of welds. Consequently, I made blueprints and had these parts made by a local weld/machine shop. The entire dolly assembly, including the fasteners heavy-duty wheels, swivel, etc., cost me about \$100.00.

If anyone would like to make a turning dolly for use with their motorcar, I will be glad to send copies of the blueprints, a bill-of-materials with information concerning sources of special parts, advice for mounting the dolly assembly on one's motorcar and suggested tips and precautions regarding its use. While there is no charge for the information, I do request that you send a large (8 1/2" by 11") self-addressed envelope and enclose a \$4.00 check to cover postage and copy costs.

Anyone interested in obtaining the blueprint package should contact me at 13105 North State Route 91, Dunlap, IL 61525; telephone (309) 243-7949.



***Dolly secured in raised position for travel.***



***Dolly being used to turn a motorcar.***

Photos by John M. Bailey