New Things for Electric Railways

PORTABLE VISE AND PIPE BENDER

A very convenient portable vise stand and pipe bender, which can be used without being fastened in place, has been put on the market by H. P. Martin & Sons, of Owensboro, Ky., and is now in use on several railroads. It is adapted for use wherever a stand is required on which pipes or conduits may be bent, threaded or cut.

Vise Stand Folded

Stand Equipped with Chain Vise

The device is light, weighing only 45 lb., and can be readily assembled and dissembled and makes a very compact bundle. One of its chief uses is for the cutting and threading of pipe. For cutting or threading pipe, the work, which is fastened in the vise, rests in the bending attachment. This always keeps the pipe rigid and in line.

The front legs of the stand are placed so as to brace it thoroughly against the twisting motion necessary in cutting or threading, and they are so placed that short thimbles can be threaded with ease. The rear legs of the stand are placed at an obtuse angle so that great pressure may be exerted downward on any pipe that is being bent without tilting or upsetting the stand. The legs are arranged so that they are not in the way when short nipples are being threaded.

The bending attachment used is a special device which will bend pipe or conduits of all sizes from ⅛ in. to 2 in. in diameter easily and without kinking. The bending device is always ready and no adjustments are required to be made before bends are made in the pipe.

This portable vise and pipe bender does not have to be fastened in any manner to the floor, wall or ceiling, and no bolts, screws or braces are necessary. In assembling, all that is necessary is to insert the legs in the sockets and it may be stationed any place where there is a space of 6 x 8 ft. The stand part is made throughout of No. 16 sheet iron, thoroughly riveted and reinforced with special malleable iron castings. The legs are made of ¾-in. pipe and slip into the sockets easily. The side braces provide a convenient place for tools. Either hinged or chanied vises can be supplied. If desired, any part of the complete outfit can be supplied separately.

AXLE GENERATORS FOR ST. PAUL LOCOMOTIVES

One of the novel features used on the Baldwin Westinghouse locomotives being built for the heavy passenger service of the Chicago, Milwaukee & St. Paul Railway is the axle-driven-generator. There are two of these generators, each one being mounted on the trailing axle of the four-wheel guiding trucks. The generators are mounted and geared to the axle in the same way as the ordinary street car motor. From outside observation, they look like small sized railway motors. However, their purposes are entirely different. The axle-driven generators are used entirely for generating current, and they form not only a source of excitation for the fields of the main motors during operations, but they are of the source of power for the auxiliary motors such as compressors and blowers, during the remainder of the running time.

The generators are regulated for a normal voltage of 100 and it is regulated for this during the period, that they are furnishing current for the auxiliary motors. During the period of regeneration the voltage of the machine varies from 25 to 100 volts.

The generator fields are excited from a storage battery circuit and the voltage is controlled by a power-operated rheostat automatically controlled during the time the machine furnishes current for the auxiliary motors, and manually controlled by the engineer during the time when the locomotive is regenerating.

It is possible to control a train on a down grade with the power off the line, since these axle-driven generators, separately excited from a storage battery, will furnish current to drive the compressor motors, which furnish the air for the brakes. Due to the heavy grades which the locomotives have to pass, this is regarded by the railway company as one of the important characteristics of the axle generator. The fact that the auxiliary apparatus on the locomotive is operated at low voltage, which is practically independent of the line current, is also a great advantage.

TOOL RECORD SYSTEM

A simple device which has proven very effective has been put into use in a number of tool rooms at the shops of the larger electric railway companies. The device consists of a brass tool check, which is given to the man in charge of the tool room by the laborer taking the tool out for use. In this way, a complete record of the tool and its location in the shop are maintained in the tool room at all times. This system of checking out tools not only prevents loss, but facilitates the taking care of the tools, inasmuch as the laborer knowing that the tool is charged to him will take much better care of it while in his charge.

The checks for this system are made by the American Railway Supply Company, 134-136 Charles street, New York City.

NEW COMMUTATOR RESURFACER

The Ideal Commutator Dresser Company, of Chicago, Ill., has developed a new commutator resurfacer, which it now being placed on the market. It is designed for use when the commutator to be resurfaced is running under regular load.

This resurfacer is an abrasive material in block form, conveniently mounted on a handle. It is non-metallic, non-copper collecting, and therefore will not cause short-circuiting or wear smooth. When held against the revolving commutator, it cuts down high mica bars and high spots, and leaves the commutator in perfect condition.

"RED DEVIL" CORRUGATED LOCK WASHER

There are six points of contact—three engaging the nut and three engaging

"Red Devil" Lock Washer