the supervision of O. P. Chubbuck, superintendent of the general repair shops at Decatur, Ill. The coil winding unit which has been previously described, as well as the trolley wheel grinding machine, are shown in the accompanying illustration.

In connection with the trolley wheel grinding, it is of interest to note that the equipment includes an arrangement for saving the brass dust produced in this operation. This equipment includes two hoods beneath the grinding wheels, leading into a spout so arranged in conjunction with a blower that the dust is conveyed from the emery wheels to a barrel also especially made for receiving it. Generally this dust is wasted, but the high price of brass, even in normal times, makes it worth while to save the dust produced in grinding. When a sufficient quantity of dust has accumulated it is shipped to the general repair shops at Decatur, where it is used over again. At first it was rather difficult to keep the dust from blowing out of the barrel after being taken away from the emery wheel. An outlet had to be afforded for the air which blew the dust into the barrel, and this in turn carried the copper dust out of the barrel with it until an especially arranged cover was provided. This cover is made of sheet metal and is made to fit snugly over the top of the barrel by sealing it with a cloth cushion. In order to provide a barrel which would give an outlet to the air, and at the same time prevent the fine brass from blowing out of the barrel, the cover was pierced with an inner spout or tube which extends about 18 in. down into the barrel. The barrel and especially arranged cover are shown in one of the accompanying illustrations.

High-Power Incandescent Headlight

The St. Paul Electric Locomotives Are Equipped with 750-Watt Headlight Lamps Giving Approximately 250,000 Apparent Candle-power

On the electrified division of the Chicago, Milwaukee & St. Paul Railway the line traverses states whose statutes require an illuminant of 1500 unreflected candle-power for all locomotive headlights. This has made imperative the construction of a headlight for the electric locomotive which would accommodate a pendant-mounted 34-volt, 750-watt, focus-type, Mazda C lamp. Such a large headlight made necessary a rolled-up steel casing with a spot-welded back, classification number boxes projecting at angles of approximately 30 deg. being provided on both sides. Metal stencils stamped with the number of each locomotive, backed with opal suffusing glass and fronted with clear glass are carried in the number box doors, the numbers being illuminated by direct light from the lamp passing through slots in the reflector. The headlights are equipped with a ball-and-socket focusing mechanism and a solid case iron base, and they have 20-in., parabolic, silvered-metal reflectors.

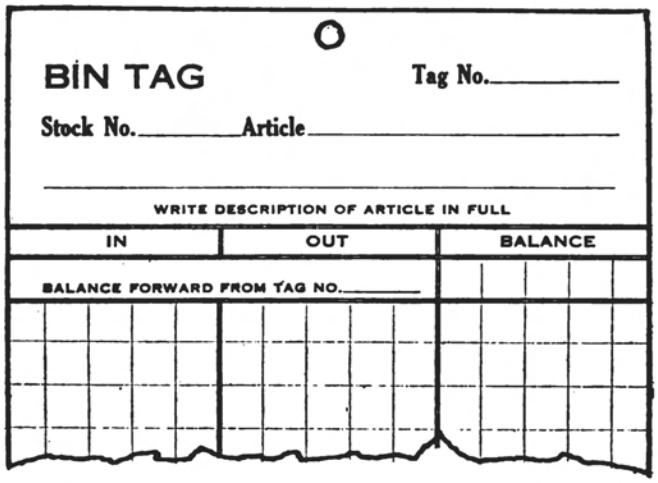
The heat radiated from the extremely high-powered lamp calls for special attention to ventilation and involves the use of a door pane of solid, heat-resisting glass, which will also withstand the severe mechanical shocks and the impact of birds which, becoming blinded by the intense light, fly against the glass like moths toward a flame. This headlight, when equipped with the 34-volt, 1500-cp. lamp, will give approximately 1,150,000 beam candle-power. It is, without question, the most powerful incandescent headlight in commercial operation to-day. Practically all of the apparent candle-power is exerted within an arc extending 5 deg. from the center of the beam, the maximum approximating 250,000 cp., being distributed within 1 deg. from the center of beam.

The current supply for the lamp is taken from slip rings on a 9-kw. control generator at 96 volts. It is then transformed to 34 volts, and a tap is provided on the transformer secondary to give one-half the voltage for dimming purposes.

Bin-Tag System Provides Perpetual Inventory

This Simple Method of Handling Stores Is Used by the Benton Harbor-St. Joe Railway & Light Company

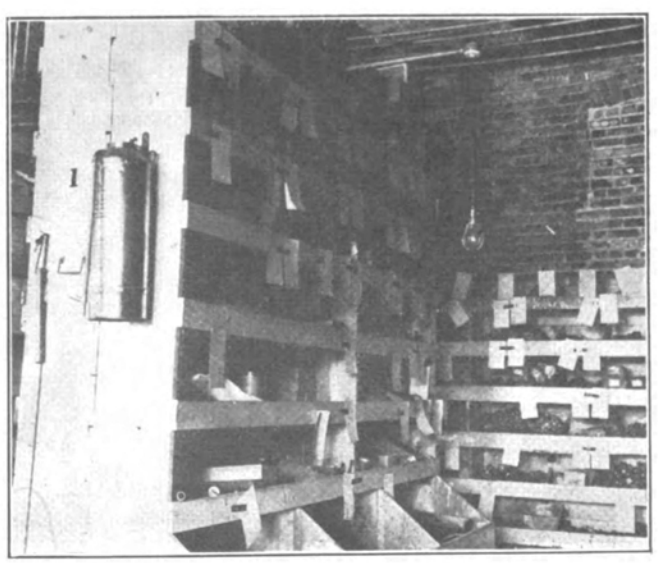
A stock record system must necessarily be employed in small storerooms if accuracy is to be obtained, because the quantity of stock handled annually does not warrant sufficient clerical help to keep up an elaborate system. With this idea in mind the storehouse of the Benton Harbor-St. Joe Railway & Light Company, Benton Harbor, Mich., has adopted a bin-tag system. This



SAMPLE BIN-TAG USED ON BENTON HARBOR-ST. JOE RAILWAY

forms a perpetual inventory, and is a positive check on the stock ledger. The form of bin tag employed is shown in the accompanying illustration. Each tag is given a number and on it the stock number and the name of the article are also shown. Three columns are provided for recording the quantities of material added to the stock from time to time, the lots taken out on requisitions and the balances remaining.

These bin tags are fastened to the sides of the bins



BINS IN A CORNER OF STOREROOM SHOWING TAGS ATTACHED BY CLIPS

Michael Sol Collection