desired to mould on to the wheel, the thicker the ring to be fitted into the groove. The disc is attached to the wheel by clamps around the spokes and drawn up tight to the face, when the babbit is poured through a lipped hole $\frac{1}{2}$ in. diam. at the top.

Welding Fire Hole Door Frame.

The accompanying illustrations from photographs show a pneumatic fire door frame before and after the welding at G.T.R. shops, Point St. Charles, Montreal. The edges of the broken parts were first chamfered to an angle of 45 degrees, as



shown in the accompanying sketch, the metal adjacent to them was cleaned, and then set up in a position to weld. The whole frame was then preheated in a charcoal fire until it assumed a cherry red heat all over; it was then ready to weld, brake department, at Vancouver, which was furnished by T. Spence, General Car Foreman there. This attracted the attention of N. Marple, General Car Foreman, Michigan Central Rd., St. Thomas, Ont., who advises us that as a result of the publication of the article a similar rack has been built in the St. Thomas shops.

Experimental Rail Fastenings.

The use of hooked tie plates with screw spike and through bolt fastenings is being tried on the Delaware, Lackawanna & Western Rd. as a development in track The two types of confor heavy traffic. struction are laid on certain test pieces of track, and are shown in the accompanying drawing. The tie plate has a shoulder on each side of the rail seat, and one of The tie plate has a shoulder these shoulders is formed as a hook or lip to engage the edge of the rail base. plate is laid with this hook on the inner or gauge side of the rail. With spike fas-tenings, each plate is held to the tie by screw spikes, and the rail is held by one drive spike $\frac{1}{8}$ x6 in. on the outer side. With bolt fastenings, each plate is secur-ed to the tie by two % in. through bolts (at diagonally opposite corners), the heads being beneath the tie and prevented from turning by means of a channel shaped washer or brace which engages both bolts. The rail is held on the inner side by the hook of the tie plate and on



Fire Door Frame Before Welding.

Rack for Holding Triple Valves.

As an instance of the value of matter published in Canadian Railway and Marine World, under "Railway Mechanical Methods and Devices," may be mentioned an article in the October issue describing a rack for holding triple valves built in the C.P.R. passenger car shop, air

Fire Door Frame After Welding.

the outer side by the head of a screw spike. This screw spike is held in the tie by means of a Tenax split sleeve. Bolt fastenings for rails and rail chairs have been used for many years in Europe, and this present design of through bolt fastenings for tie plates has been developed by A. J. Neafie, Principal Assistant Engineer of the railway, who has great hopes for its use in permanent construction. He believes that as railways are now using treated ties and expensive tie plates under heavy traffic, especially on curves, they can well afford to go into the question of bolted fastenings. This should be an ideal construction also for subways and tunnels, where it is difficult to apply new material in maintenance work. The modern construction consists of treated materials, heavy tie plates. screw spikes, etc., which material should have a minimum life of at least 14 years, according to Mr. Neafie's estimate. He considers that the question of applying bolts is not a serious one, and they need be applied only in new work and renewals.

One serious condition in track is that of corrosion of rails and metal fastenings, and prior to the design of this bolted construction the engineering department had gone into the matter carefully, spraying the fittings with oil once or more per year if necessary in order to prevent any trouble from corrosion. On the test loca-





tion of the new fastenings, all bolts have been greased and the bolt holes filled with grease. The bolts are fitted with special nut locks, each of which represents a compression of 2,000 lb., making a total compression of 8,000 lb. on the tie plate, and thereby reducing the mechanical wear that takes place when tie plates are loose on the ties. It is believed that fastenings of this type will be adopted on heavy permanent track construction.

The hook shoulder tie plate with screw spike rail fastenings has not developed any great amount of noise due to contact between the rail and hook. The tie plates fit the rail base very tightly, but there is no wedging of the rail under the hook. Even where there is a loose fit between the tie plate and base of rail there is no apparent rattling or noise.

American Wood Preservers' Association.—Following are the officers for the current year, elected at the recent annual convention at New York: John Foley, Pennsylvania Rd., Philadelphia, Pa., President; M. K. Trumbull, Kansas City, Mo., First Vice President; J. B. Card, Chicago, Ill., Second Vice President; F. J. Angier, Baltimore and Ohio Rd., Baltimore, Md., Secretary-Treasurer; V. K. Hendricks, C. M. Taylor, members of the executive committee. It was decided to hold the next meeting in Chicago.

Passenger Shelters at Double Track Stations.—The Board of Railway Commissioners has before it for consideration the matter of requiring railway companies to provide a shelter opposite a passenger station at busy points where trains may be going in opposite directions on different tracks at the same time, and has asked the railway companies to submit their views. The matter was brought to the board's attention by a resident of Perth, Ont., where there are six passenger trains each way daily.

House of Commons Committees.—The following have been elected chairmen of the committees named: Railways, R. Blain, M.P. for Peel, Ont.; Marine and Fisheries, C. Jameson, M.P. for Digby, N.S.; Forests and Waterways, G. Brabazon, M.P. for Pontiac, Que.