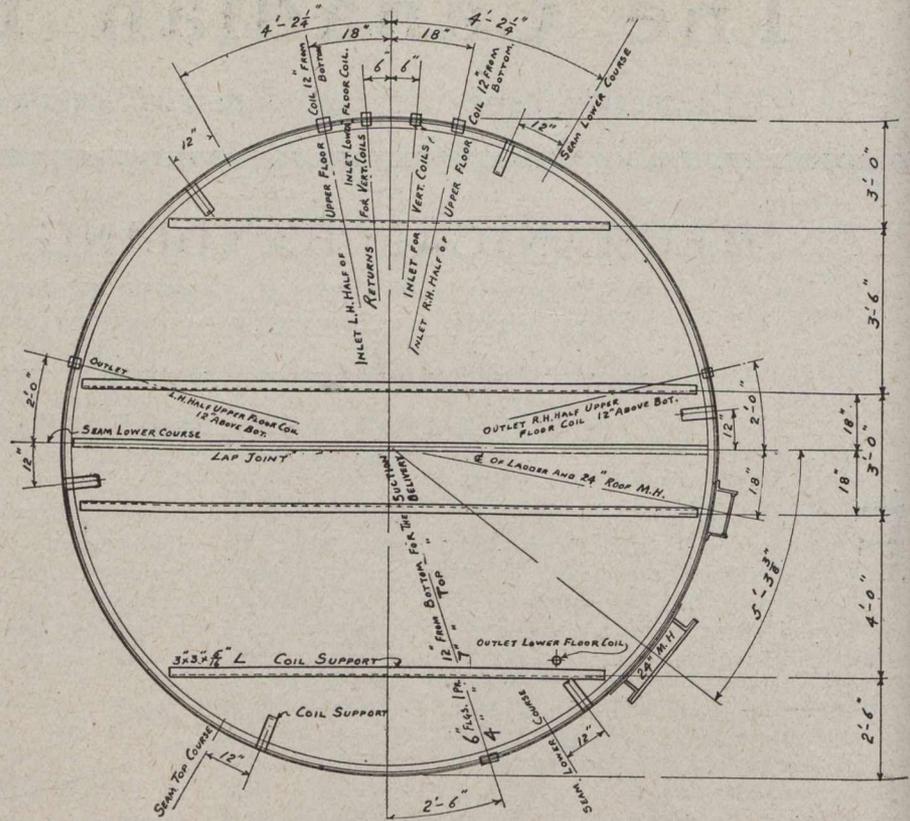


the outside of the tank, the space between being run up with asphalt, which allows for expansion and contraction and ensures a water-tight joint. The tank stands in the open.

Five sets of coils are used for heating, giving 512 sq. ft. of heating surface, two floor coils, the lower of 2-in. diameter pipe, the upper, which is in halves, with separate inlets and returns, of 1½-in. diameter pipe, and three vertical side coils, all of 1½-in. diameter. The lower floor coil is carried on small wood blocks with U-bolts 5 in. above the bottom at the inlet end and 3½ in. above the bottom at the outlet. The upper floor coil is carried on 3-in. x 3-in. x 5/16-in. angle supported by 2-in. x ½-in. flat steel 12 in. above the tank bottom. The side coils are carried by ½-in. diameter U-bolts through 2-in x 5/16-in. flat steel supported from the tank sides by 2-in. x ½-in. flat steel brackets. There are six of the vertical supports in halves, with two brackets to each half. Steam is led to the coils from the main boiler, a 100-h.p. horizontal type, each coil being fitted with halves to control the steam and condensate. The condensate from the coils is led to a common receiver and from there returned to the boiler by a No. 4 Cole automatic boiler feeder. An air-line is fitted to the steam coils to enable all the condensate to be removed by compressed air before the plant is shut down for the winter months.

Steam for heating the tank cars is taken from the



Sectional Plan of Tank Showing Location of Inlets and Outlets of Coils.

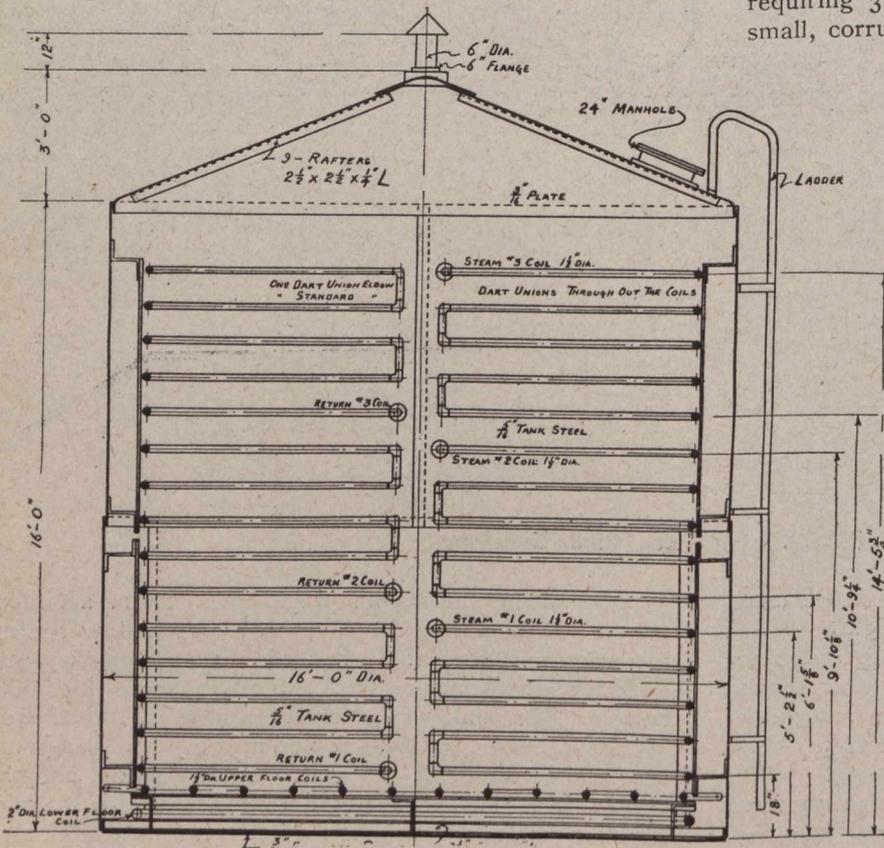
main steam line through a short length of flexible steel hose and the condensate is returned to the boiler with the condensate from the storage tank coils.

The asphalt is handled by a Bawden pump, 8-in. diameter steam, 7-in. diameter pump and 10-in. stroke, requiring 3 boiler h.p. to operate it. It is housed in a small, corrugated iron building by itself. The pump and strainer are steam-jacketed. The suction is 5-in. diameter and the delivery 4-in. diameter steam pipes on the outside, the whole being covered with 2 in. of magnesium and 24-gauge tinned sheet, the radiation being reduced to about 1 per cent. For a considerable length of the suction there is also the 2-in. steam pipe to the tank car and the condensate return pipe. The suction is connected to the car with a short length of flexible steel hose, the asphalt being pumped direct to the kettles or to the storage tank as required.

The tank cars vary slightly in load, averaging about 76,000 lbs., and take from 24 to 36 hours to melt, according to atmospheric conditions. The pump will handle the asphalt at 250° F., but 265° F. to 270° F. gives more satisfaction. Cars are emptied in 40 to 45 minutes.

A Thwing electrical pyrometer is fitted in the office, from which the temperatures in the tank can be read at 2 ft. and 8 ft. 6 in. from the bottom.

In conclusion, the writer would suggest having a steam jacket round the side and bottom of the tank in place of the floor coils and lower side coil, dishing the bottom and taking the suction from the centre. The initial cost would be greater,



Sectional Elevation Showing Arrangement of Coils.