under water and out of sight. The plan never was carried out. It might, perhaps, have failed from the covering of the track by sediment.

DUMPING CARS.

Two kinds of dumping cars were used. One style being provided with a turn-table for dumping the load at any point. The other and preferable kind dumped on rockers and required less attendance.

The cars were hauled back and forth by steam power. Part of the dirt was used to fill a vacant slip at the rear of the caisson. The bulk of the stone was saved and used subsequently for filling up the air chamber. The remainder of the material was dumped directly into the river and re-dredged by an Osgood dredge, this plan being found cheaper and more expeditious than direct dumping into boats. The cars several times fell into the shafts but were easily picked out by the dredges.

MANAGEMENT OF AIR PRESSURE.

Air was supplied from six double air pumps, located three hundred feet from caisson, a ten inch cast iron main leading therefrom; two rubber hose of six inches diameter introduced it directly into the caisson. When any lengthening out of the shafts had to be done, the air entered only by one hose, but even that was more than ample in size.

At the beginning, the air pressure was governed entirely by the tides and regulated itself according to their height. The tightness of the caisson was quite satisfactory, and it was soon found that during the falling of the tide it was practically unnecessary to run the pumps at all, the loss of head counterbalancing the leakage. But with a rising tide the pumps had to run at full speed. A declining pressure was always attended by thick fogs which lasted until the tide changed, then, the caisson would remain clear for the next six hours. These fogs were both disagreeable and detrimental to the work by the darkness they caused. They could at times be partly overcome by pumping in a large