

DISCUSSION.

Mr. Thos. J. Borden.—My experience with various sizes of centrifugal pumps has shown that the velocity usually prescribed by the makers through the pipes connected to such pumps, is too high for good results, especially if the point of delivery is at any considerable distance from the pumps.

I had a case where two pumps were located ten or twelve feet from each other, with a direct lift of about fifteen feet, and then flowing through five hundred feet of pipe on a descending grade, with a total fall from the highest point of ten feet. After using them for awhile, taking liquor from two separate machines, I had occasion to combine the operations of the two in one machine, and the pipes leading from the two, and running side by side within six inches of each other, were disconnected from the respective pumps and joined by long bend L's and a long turn T to one of the pumps. The two pumps were of the same size. After resuming work, with one of the pumps doing the work of the two, with no change of belt and apparently no increase in consumption of power, the one proved amply sufficient to do the work of the two, although the pipes as originally connected to each were larger than prescribed by the makers of the pumps.

The temptation is to connect pipes of the sizes of the inlet and outlet of the pumps. Unless the pipes are very short, much better results can be obtained by using piping materially larger than the inlet and outlet of the pump, and the closer to the pump these enlargements are made, the better are the results obtained.