

ing it is proposed to transfer vessels from one reach to the other—a difference in level of 65 feet—by means of an hydraulic balance lock, the contract for superstructure of which *has been awarded* to the Dominion Bridge Company, of Lachine. By this lock the time required for passing from one level to the other will be reduced from 97½ minutes—required for an ordinary lock—to less than 15 minutes.

Passing along the line the work consists of earth cutting and embankment in about equal proportions for about one mile. The Norwood road is carried across the canal on a high level bridge and the Warsaw road by means of a swing. A small creek at the Warsaw road is carried below the canal by means of a cast iron pipe 5 feet in diameter. From above the Warsaw road the canal is formed by means of a flooded reach to almost the end of the section at Nassau. At Nassau a light rock cutting was required to be made before entering the river. There are no structures from the Warsaw road to Nassau except a waste weir for emptying the reach. At Nassau the highway and the G. T. Ry are carried across the canal on swing bridges.

From Nassau to Lakefield, a distance of about 5½ miles, is under construction by Messrs. Brown, Love & Aylmer. On this section the river has been canalized by means of dams and locks. There are five locks and dams. All the structures rest on rock foundations. The dams are the ordinary timber dams with stop log openings with a wall of concrete along the upper face of the foundations of the dams. The locks are entirely of concrete. The gates are of solid timber with the valves for filling and emptying the lock in them. The gates are opened and close by means of a stiff, built-up girder which is fastened to the top of the gate. A wire cable is fastened to each end of this girder and passes around a corrugated drum which is attached to a capstan placed in a recess below the coping of the lock. The capstans, at present, are worked by hand power with bars which are attached to a vertical shaft on the coping and have a horizontal motion. It is proposed that they be worked by electricity when the canal is completed. The lifts of the locks on this section are 16, 14, two of 12 feet and one 10 feet. At Lakefield the highway is carried across the canal on a high level bridge.

After leaving Lakefield there is a navigable stretch from Lakefield to Balsam Lake of about 65 miles and on which there are about 24 steamers. From Lakefield the route is through Katchewanooka Lake to Young's Point, a distance of 6 miles, where there is a lock and dam with a 7-foot lift. From Young's Point the route passes through Clear and Stony Lakes to Burleigh, 10 miles. At Burleigh there is a double lift lock of 25 feet rise and three dams. Passing through Lovesick Lake, (1½ miles), a lock with a rise of 3 feet is reached. There are five small dams here to retain the water on the reach above.