

the sea, and so smooth the water at the anchorage. In passing between Bird and Anchor islands the master of a vessel must be careful to keep northward of this shallow ground.

Barrett bank with 10 feet water on it lies with its south end bearing W. by S. $1\frac{1}{10}$ miles from the west extremity of West Grant Island. To pass westward of this bank keep East hill at back of Thessalon in line with the north-east extremity of Bigsby island N.N.W. $\frac{3}{4}$ W.

To pass between Barrett bank and Horne rock keep Roberts hill a little inside the same extremity of Bigsby island N.W. $\frac{1}{4}$ N. The north end of East Grant island in line with the north side of Bird island E. $\frac{3}{4}$ N. leads northward of Barrett bank, and a vessel may approach the south side of the bank until the south points of East and West Grant islands are in line E. $\frac{3}{8}$ N.

Fisk reef with 2 feet water on it is a dangerous obstruction of solid rock and stones, 400 yards long south-west and north-east, situated with the first mentioned extremity bearing S. by E. $\frac{3}{4}$ E. $2\frac{1}{4}$ miles from the west point of Bigsby island. This shallow patch stands near the south end of a bank, which under 10 fathoms is $1\frac{1}{2}$ miles in extent. On this same bank there are two patches with not less than $3\frac{1}{2}$ fathoms on them.

A deep channel nearly 2 miles broad exists between Fisk reef and Bigsby island, and another $1\frac{1}{2}$ miles broad, to the eastward of it.

Care must be taken at night or in thick weather when passing the rock as 10 fathoms will be found only 200 yards off the south-west side. To pass southward of the shoal and northward of Barrett bank keep the north extremities of East Grant and Bird islands in line E. $\frac{3}{4}$ N. The south extremities of East and West Grants in line E. $\frac{3}{8}$ N. will lead over half a mile south of Fisk reef. The south ends of East Grant and Anchor islands in line with the north point of West Grant E. $\frac{1}{2}$ S. leads close northward of this reef. The East hill mark for leading west of Barrett bank also leads two-thirds of a mile eastward of Fisk reef, but over one of the $3\frac{1}{2}$ fathom patches about which however there need be no anxiety as it has been well examined.

The west fall of Hagan's hill in line with the east extremity of Bigsby island bearing N. $\frac{1}{8}$ E. leads west, and the opposite end of Bigsby island under East hill N.N. W. $\frac{1}{2}$ W., leads very close east of Fisk reef.

Anchorage under West Grant island.—Good shelter in westerly gales may be had north of the eastern part of West Grant, sheltered from the northward by Bird island from the westward by Anchor island and the spit from its south end, and by the shoals which break the sea between Anchor island and the west point of West Grant island. A vessel should anchor in 4 to $4\frac{1}{2}$ fathoms clay bottom, just sufficiently far off shore to swing clear of Anchor island spit (which is steep-to) and the shore of the main island. The steamer *Bayfield* in the prosecution of the survey