of inlet closure, which often occurs as a result of a single storm.

Fig. 1 illustrates an example of the long-term progression of an unstable inlet. Here, the littoral drift is predominantly in the direction of the arrow, and the tidal flow through the inlet is clearly insufficient to counter the growth of littoral spit in the direction of the drift. In Fig. 1 (a), a new inlet has been dredged across a barrier. Under the action of tidal flow and waves, a characteristic throat section (minimum flow area) has developed, as in (b). In (c), the littoral spit has extended itself and begun to constrict the throat and lengthen the channel. This has resulted in a corresponding increase in the overall resistance to flow and a reduction in the tidal prism. In (d) the situation has worsened. Jetties, channel dredging and/or sand bypassing may be required to maintain the inlet at this stage. The progression described in this sequence may occur in a few months or in a few decades, depending on the size of the inlet, bay, availability of sand, and the direction and intensity of the seasonal wave climate.

Example 1-1

Fig. 2 shows Indian Pass in 1873, and again in 1926. This pass was located south of Clearwater, Florida, connecting the Gulf of Mexico to a waterway called the Narrows. A predominant southerly littoral drift is observed to have considerably elongated the channel in the period of 54 years. A breach across the narrow barrier island is seen to have created a new inlet. The long channel had undergone considerable shoaling, and in 1929 the pass was closed by the Corps of Engineers inasmuch as it was unstable and contributed to shoaling in the Intracoastal Waterway at the Narrows.

Fig. 1 (e) illustrates the case of storm closure. In this situation,