



Fig. 4.—Essex Sea-wall

troublesome portion of the bar. In a small harbour, it frequently happens that a few feet of water more or less at low tide make all the difference to its effectiveness in respect of the navigation to be catered for, and that after gales the bar, being heaped up as a narrow ridge, limits efficiency. By somewhat reinforcing the power of the ebb current, this tendency may often be successfully kept under.

**Thames Estuary Walls.**—Fig. 4 represents a typical section of the river walling or clay embankments on the Essex shore of the Thames. There is difference of practice in detail, the relative thickness of the chalk and stone pitching varying. Some engineers carry the stone pitching of the face to the crest of the wall, but commonly such walls are only pitched to 3 feet from the crest. Walls of this type protect many miles of marsh land from inundation. Along frontages of special exposure sheet piling is added at the toe of the sea slope. The embankment of the Thames through London has resulted in a quicker and stronger tidal force in the lower river.

One curious feature in connection with some of these walls is the fact that the clay of which they are composed appears to differ from that now to be dug in the vicinity. The Romans are believed to have commenced the reclamation of tidal lands in the estuary