single stout wire the sinker, an inverted kite, called the “sentry,” can be towed steadily for any length of time, at any required vertical depth down to 40 fathoms with the red kite and 30 fathoms with the black kite; should it strike the bottom, through the water shallowing to less than the set depth, it will at once free itself and rise to the surface, simultaneously sounding an alarm on board, and thus giving instant warning. The vertical depth at which the sentry sets itself when a given length of wire is paid out is not changed by any variation of speed between 5 and 13 knots, and is read off on the graduated dial- plate on the winch. One set of graduations on the dial indicates the amount of wire out; the other two sets refer to the red and black kites respectively, and show the depth at which the sentry is towing. By this machine single soundings down to 40 fathoms can be taken at any time while the ship is under way. The sentry being let down slowly, the gong will indicate when the bottom is touched, and the dial corresponding to the kite used will show at once the vertical depth at the place where the sentry struck.

By removing the kite and substituting a lead, with atmospheric sounder or other automatic depth gauge, flying single soundings up to 100 fathoms can be obtained in the ordinary manner without stopping the ship. The winch is secured to the deck a short distance from the stern ; the towing wire passes from the drum under a roller fairlead at the foot of the winch, thence through an iron block with sheave of large diameter, suspended from a short davit on the stern rail and secured to the sling of the sentry. The dial being set to zero with the sentry at the water’s edge, the ship’s speed is reduced to 8 or 9 knots, and the wire paid out freely until the kite is fairly in the water, when the brake should be applied steadily and without jerking, veering slowly until the required depth is attained, when the pawl is put on the rachet wheel and the speed increased to 12 knots if desired when using the black kite or 10 knots with the red kite.

The kite in its position when being towed is indicated in fig. 3. The point of the catch C, passing through a thimble M in the short leg of the sling, is slipped into the hole at the top of trigger T, which is hinged at K and kept in its place by the spring S attached to the hook H. On the trigger striking the bottom the catch is released, the short leg of the sling slips off, and the sentry, which then rises to the surface, is left towing by the long leg. The winch is fitted with two handles for heaving in the wire; one gives great power and slow speed, and the other, acting on the drum spindle direct, winds in quickly. The wire supplied with the machine has a steady breaking strain of about 1000 lb. Using the black kite at a speed of 7 knots, the strain on the wire is about 150 lb, and at 10 knots about 300 lb. The red kite increases the strain largely. (A. M. F.\*)

**SOUSA, LUIZ DE** [Manoel de Sousa Coutinho] (1555-1632), Portuguese monk and prose-writer, was born at Santarem , a member of the noble family of Sousa Coutinho. In 1576 he broke off bis studies at Coimbra University to join the order of Malta, and shortly afterwards was captured at sea by Moorish pirates and taken prisoner to Argel, where he met Cervantes. A year later Manoel de Sousa Coutinho was ransomed, and landing on the coast of Aragon passed through Valencia, where he made the acquaintance of the poet Jaime Falcão, who seems to have inspired him with a taste for study and a quiet life. The national disasters and family troubles increased this desire, which was confirmed when he returned to Portugal after the battle of Alcacer and had the sorrow of witnessing the Spanish invasion and the loss of his country’s independence Between 1584 and 1586 he married a noble lady, D. Magdalena de Vilbena, widow of D. John of Portugal, the son of the poet D. Manoel of Portugal, to whom Camoens bad dedicated his seventh ode. Settling at Almada, on the Tagus opposite Lisbon, he divided his time between domestic affairs, literary studies and his military duties as colonel of a regiment. His patriotic dislike of an alien rule grew stronger as he saw Portugal exploited by her powerful partner, and it was ultimately brought to a head in 1599. In that year, to escape the pest that devastated Lisbon, the governors of the kingdom for Philip II. decided to move their quarters to his residence; thereupon, finding his protest against this arbitrary resolution unheeded, he set fire to his house, and to escape the consequences of his courageous act had to leave Portugal. Going to Madrid, he not only escaped any penalty, owing no doubt to his position and influence at the Spanish court, but was able to pursue his literary studies in peace and to publish the works of his friend Jaime Falcão (Madrid, 1600). Nothing is known of how he passed the next thirteen years, though there is a tradition that, at the instance of a brother resident in Panama, who held out the prospect of large commercial gains, he spent some time in America. It is said that fortune was unpropitious, and that this, together with the news of the death of his only child, D. Anna de Noronha, caused his return home about 1604. In 1613 he and his wife agreed to a separation, and he took the Dominican habit in the convent of Bemfica, while D. Magdalena entered the convent of the Sacramento at Alcantara. According to an old writer, the motive for their act was the news, brought by a pilgrim from Palestine that D. Magdalena’s first husband had survived the battle of Alcacer, in which he was supposed to have fallen, and still lived; Garrett has immortalized the legend in his play *Frei Luiz de Sousa.* The story, however, deserves no credit, and a more natural explanation is that the pair took their resolution to leave the world for the cloister from motives of piety, though in the case of Manoel the captivity of his country and the loss of his daughter may have been contributory causes. He made his profession on the 8th of September 1614, and took the name by which he is known as a writer, Frei Luiz de Sousa. In 1616, on the death of Frei Luiz Cacegas, another notable Dominican who had collected materials for a history of the order and for a life of the famous archbishop of Braga, D. Frei Bartho- lomew of the Martyrs, the task of writing these books was confided to Frei Luiz. The *Life of the Archbishop* appeared in 1619, and the first part of the *Chronicle of St Dominic* in 1623, while the second and third parts appeared posthumously in 1662 and 1678; in addition he wrote, by order of the government, the *Annals of D, John* *III*., which were published by Herculano in 1846. After a life of about nineteen years spent in religion, he died in 1632, leaving behind him a memory of strict observance and personal holiness.

The *Chronicle of St Dominic* and the *Life of the Archbishop* have the defect of most monastic writings—they relate for the most part only the good, and exaggerate it without scruple, and they admit all sorts of prodigies, so long as these tend to increase devotion. Briefly, these books are panegyrics, written for edification, and are not histories at all in the critical sense of the word. Their order and arrangement, however, are admirable, and the lucid, polished style, purity of diction, and simple, vivid descriptions, entitle Frei Luiz de Sousa to rank as a great prose-writer. His metaphors are well chosen, and he employs on appropriate occasions familiar terms and locutions, and makes full use of those charming diminutives in which the Portuguese language is rich. His prose is characterized by elegance, sweetness and strength, and is remarkably free from the affectations and false rhetoric that characterized the age. In addition to his other gifts, Frei Luiz de Sousa was a good Latin poet. There are many editions of the *Life of the Archbishop,* and it appeared in French (Paris, 1663, 1679 and 1825) in Italian (Rome. 1727-1728), in Spanish (Madrid, 1645 and 1727) and in English