



## SYNCHRONOUS SIGNALLING.

(Extract from "*The Nautical Magazine*", Glasgow, February, 1928, pages 136-139.)

Already a number of stations of synchronous signalling are in operation and it is being used by the *Spurn* Lightship, as well as *Coningbeg* L. V. on the Irish Coast.

Special code machines for controlling the emission of both wireless and submarine signals have been made. These machines are of two types, one being the simple dog-wheel type used for simple codes repeated at short intervals, whilst the other is provided with pneumatically operated contacts, actuated somewhat similarly to that of a pianola music roll which will regulate the emission of elaborate codes.

It is observed that the recent oscillator has a range of audibility two or three times greater than its predecessor which produced signals by means of submarine bells.

The time taken for the underwater sound waves to reach the observer may be measured by a stop watch or clock, and as the travel rate of sound under water is 0.8 sea miles per second, the time in seconds multiplied by 0.8 gives the distance of the point from which the submarine signal has been transmitted.

To obviate the necessity for using a stop watch, there has been a special system of signals devised in which the synchronised wireless signal is followed by a series of wireless dots spaced 1.25 seconds apart. With this system it is only necessary for the observer to count the number of dots heard until the submarine signal is received, to ascertain the distance of the signalling source in sea miles without calculation. After a brief experience the observer will be able to determine the distance to the fraction of a mile.

Some 20 stations have been equipped, by various Governments, with the oscillator working in conjunction with radio. Thus the navigator is not only enabled to get a bearing but also to "fix" his position by synchronous signals.

