

(From "Treatise upon the Semaphoric System of Telegraphs" by John R. Parker, Boston. No date of publication given but pen correction inside indicates the document was in active consideration in 1836. Copy said to have been owned by John Quincy Adams. Probably printed in 1835.) Harvard College Library.

"The telegraphic science is yet in its infancy in this country. Very few have turned their attention to it. In theory it appears to have made great progress but in practice little has been done. Its practice and use was not unknown to nations of antiquity and is traced back to a very early period. The manner of communicating is variously stated, by fire signals, flags, shutters and arms fixed upon a post, displaying a variety of positions denoting the several letters of the alphabet. . . . . We hear little more of telegraphs till 1663 when the Marquis of Worcester describes a species of day and night lettering plan. Above 40 years afterwards, Monsieur Amontons recommended the holding up of large letters to be viewed by telescopes and communicated from station to station.

Little more was done until the French invented their indicators, which were semaphoric wings which could be put into seven distinct positions, and this originated a variety of semaphores, all differing from one another in principle of motion, degree of power, and mechanical contrivance. Guided by principles laid down by Doctor ~~Hook~~ Hook in 1684, Dupuis in France invented a telegraph, improved by an ingenious monk of the order of Citeaux in 1781. Milli, Condorcet and Dr. Franklin recommended it to the French government. Monsieur Chappe modified the principle of this invention, which with others was made use of during the revolutionary period.

Dr. Hook was the first person who proposed the idea of a telegraph similar to those now in use. His mind was turned to the subject during the siege of Vienna by the Turks in 1683, and in the following year he communicated a paper to the Philosophical Society containing the result of his deliberations. His plan is full and ingenious and though not so perfect as the ones now employed, would have been attended with good effects. For the stations, he says: "If they be far distant it will be necessary that they should be high and exposed to the sky. There must be a convenient apparatus of characters consisting of as many distinct characters as there are necessary letters in the alphabet. (These were to be hung up one after another on a frame erected at the stations, in such order as to spell the communications to be made.) If they are to be used in the day time they may be of deal boards, and of a size convenient for the distances -- any one of which characters may signify any one letter of the alphabet; and the whole alphabet may be varied ten thousand ways, so that none but the two extreme correspondents need to be able to discover the information conveyed. If the characters are for the night, they may be made with links or lights, disposed in a certain order, which may be covered or uncovered according to the method agreed on."

Notwithstanding the sufficiency of the plan proposed by Dr. Hook, it does not appear that this valuable invention was brought into practice for more than a century after. It was during the French revolution that a report made to the Convention in August 1794, by Barrere, ascribes the invention of the telegraph they were using to "citizen Chappe". The machine consists of an upright post with a bar of wood on the top connected to the post by a joint; and at each end of the bar is another piece of wood attached by a hinge; so that at one position the telegraph is a perfect representation of the letter T. The little arms at the end of the bar, and the bar itself, are susceptible of being placed, by cords and pulleys, in many different positions; and each position conveys some separate meaning. The great objection to it is its complication. It is still made use of in France.

Among the numerous plans of telegraphs which have been devised we find that the shutter telegraph originated in Sweden. It consisted of 9 boards and was found to

Kempfenfelt born  
1718, drowned 1782

Capt. Brett - Signalling - " Towards 1780 Admiral  
Kempfenfelt devised a plan of flag signalling which was the parent  
of that now in use. Instead of indicating differences of meaning by  
varying positions of a solitary flag, he combined distinct flags in  
pairs. About the beginning of the 19<sup>th</sup> century Sir Home Popham  
improved a method of conveying messages by flags proposed by  
R. Hall Gower (1767-1833) and greatly increased a ship's power  
of communicating with others.

succeed remarkably well for low situations where a back horizon could not be obtained. This Shutter Telegraph was introduced into England by Lord George Murray in 1793, and simplified by the use of 6 boards or shutters only. It was used at the Admiralty until 1816, and was hung in a frame and turned by pulleys, connected with cranks below, so that they may either present their whole surface or only an edge, to view. It was capable of making 63 signals, and practised upon the lettering plan.

In 1816 Sir Home Popham of the British Navy invented what he called the Semaphore Telegraph, which was immediately adopted by the Board of Admiralty, and continues in use to the present time. It consists of an upright post or mast, with two arms moving vertically on their respective centers, one at the top of the mast and the other half way down, each arm being made to perform an entire revolution, and being turned with facility and despatch so as to take any position that may be required; differing however from each other in principle of motion, degrees of power, and mechanical contrivance. These arms expressed letters or numerals according to the system agreed on.

(Note by T.H.R. The Britannica says Home Popham was "the author of the code of signals adopted by the Admiralty in 1803 and used for many years.")

Enc. Britt. says of Claude Chappe - "Born 1763 Aid 1805.  
French engineer. With his brother Ignace invented an optical telegraph widely used in France until superseded by the electric telegraph. The device consisted of an upright post on top of which was fastened a transverse bar, to whose ends 2 smaller arms moved on pivots. The position of these bars represented words or letters & by means of machines placed at such intervals that each was distinctly visible from the next, messages could be conveyed through 50 leagues (150 miles) in a quarter hour. The machine was adopted by the Assembly in 1792, & in 1793 Chappe was appointed ingénieur - télégraphe; but the originality of his invention was so much questioned that he was seized with melancholia & committed suicide in Paris Jan. 23, 1805.

Enc. Britt. says of signalling in England - "semaphore stations, each with its tall mast & signalling arms, linked London with the south coast while Napoleon's Grand Army waited at Boulogne (1805). They could spell out any message & have given its name to more than one Telegraph Hill in the south of England.

Enc. Britt. says in the 19th century Sir Home Popham introduced the system of flag boards in the British Navy.