

No. 615,604.

Patented Dec. 6, 1898.

F. VIEIRA DE BEM.  
INDICATING CHART FOR MARINE SIGNALING CODES.

(Application filed Apr. 23, 1898.)

(No Model.)

2 Sheets—Sheet 1.

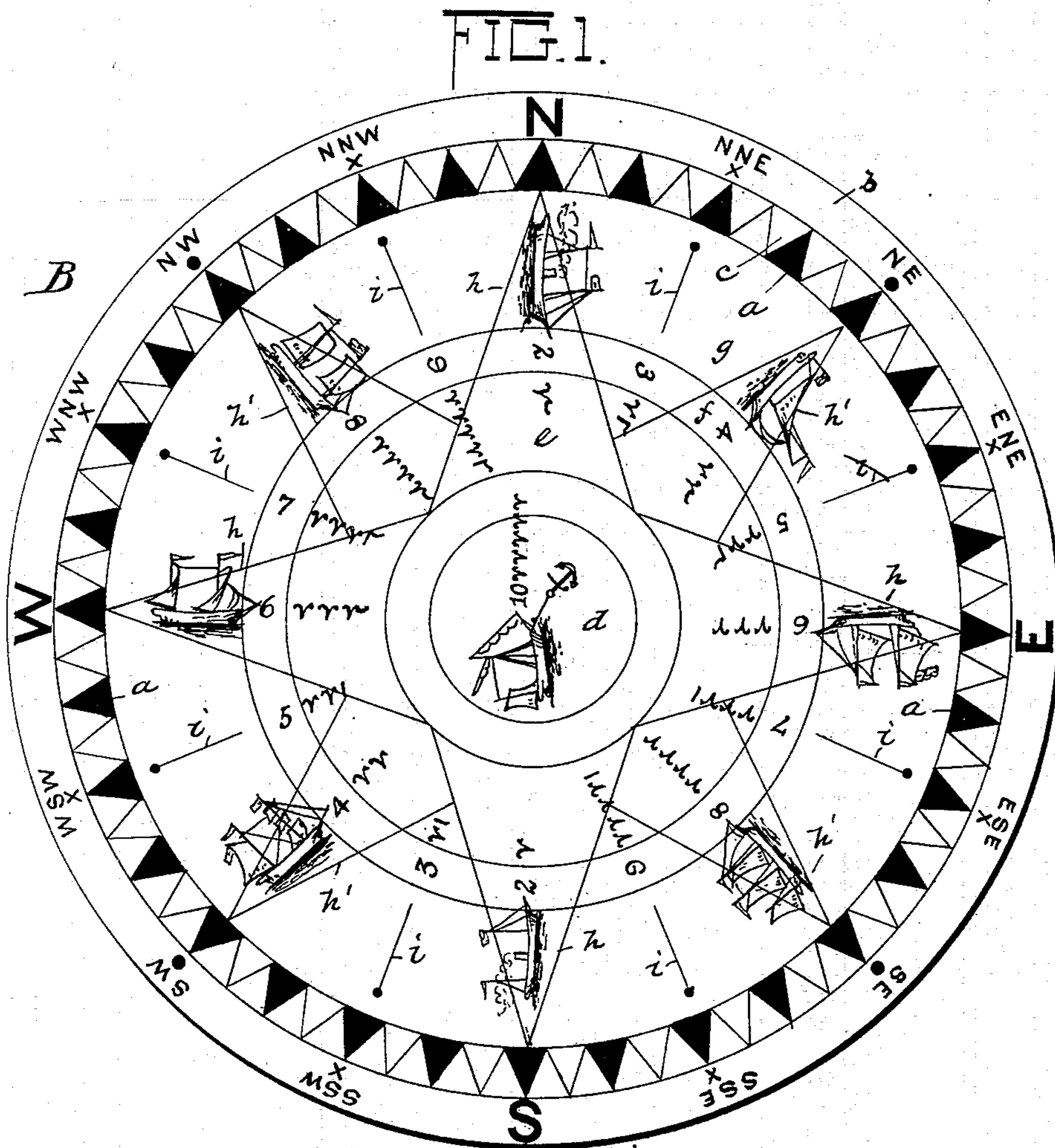


FIG. 2.

2	3	4	5	6	7	8	9	10
v	vi	vv	vyi	vvv	vvvi	vvvv	vvvvi	vvvvv

Witnesses:

*Saml R. Turner*  
*C. C. Hines*

Inventor:

*Francisco Vieira de Bem,*  
*By P. A. R. Roney,*  
his Attorneys.

F. VIEIRA DE BEM.

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2 Sheets—Sheet 2.

FIG. 2.

A		SIGNAL CODE.	
N, V. --- 2 Continuous blasts	S, V. --- 2 Continuous blasts		
NNE, VV. 2 --- " --- 1 Separate blast	SSW, VI. 2 --- " --- 1 Separate blast		
NE, VV. 4 --- " --- blasts	SW, VV. 4 --- " --- blasts		
ENE, VV. 4 --- " --- 1 Separate blast	WSW, VVI. 4 --- " --- 1 Separate blast		
E, VV. 6 --- " --- blasts	W, VV. 6 --- " --- blasts		
ESE, VVV. 6 --- " --- 1 Separate blast	WNW, VVV. 6 --- " --- 1 Separate blast		
SE, VVV. 8 --- " --- blasts	NW, VVV. 8 --- " --- blasts		
SSE, VVV. 8 --- " --- 1 Separate blast	NNW, VVV. 8 --- " --- 1 Separate blast		
		Anchored Vessel VVVVV, 10 Continuous blasts.	
		Port and starboard, usual code signals.	

Witnesses:

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Inventor:

*Francisco Vieira de Bem,*

*By R. H. Racy,*

*his Attorneys.*

# UNITED STATES PATENT OFFICE.

FRANCISCO VIEIRA DE BEM, OF GLOUCESTER, MASSACHUSETTS.

## INDICATING-CHART FOR MARINE SIGNALING-CODES.

SPECIFICATION forming part of Letters Patent No. 615,604, dated December 6, 1898.

Original application filed November 18, 1897, Serial No. 659,034. Divided and this application filed April 23, 1898. Serial No. 678,621. (No model.)

To all whom it may concern:

Be it known that I, FRANCISCO VIEIRA DE BEM, a subject of the King of Portugal, residing at Gloucester, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Indicating-Charts for Marine Signaling-Codes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved combined compass-card and code-instruction card or chart for marine signaling systems; and the present application is a division of my application for Letters Patent for an improved marine signaling - code, Serial No. 659,034, filed November 18, 1897, and allowed March 15, 1898.

The primary object of this invention is to provide a simple and convenient chart or card adaptable for use either as a code-instruction card or compass-card, whereby the signal-code may be under the inspection of the steersman or master of the vessel, who can determine at one and the same time the course of the vessel and the proper signals to sound to indicate said course.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatic view of the compass chart or card. Fig. 2 is a view showing a progressive group of marks representing the code-signals; and Fig. 3, a view of a reference-card explanatory of the code.

For ready reference and for the purpose of instruction the code-signal marks and their definitions may be printed upon a card A, as shown in Fig. 3, each code character "V" representing two almost continuous long blasts or full tones and each character "1" following thereafter a short blast or semitone, which is sounded after a proper interval of rest. The code-signal marks and the points indicated thereby, as shown in Fig. 3, are as follows:

### Signal Code.

2.	3.	4.	5.	6.	7.	8.	
V	VI	VV	VVI	VVV	VVVI	VVVV	50
			9.	10.			
			VVVVI	VVVVV			

### Explanation of Code.

N, V~.....	Two continuous blasts, last prolonged.	55
NNE, VI .....	Two continuous, one separate prolonged blast.	
NE, VV~ .....	Four continuous blasts, last prolonged.	60
ENE, VVI~ .....	Four continuous, one separate prolonged blast.	
E, VVV .....	Six continuous blasts.	
ESE, VVVI.....	Six continuous, one separate blast.	65
SE, VVVV .....	Eight continuous blasts.	
SSE, VVVVI ...	Eight continuous, one separate blast.	
S, V .....	Two continuous blasts.	
SSW, VI.....	Two continuous, one separate blast.	70
SW, VV .....	Four continuous blasts.	
WSW, VVI.....	Four continuous, one separate blast.	
W, VVV~ .....	Six continuous blasts, last prolonged.	75
WNW, VVVI~..	Six continuous, one separate prolonged blast.	
NW, VVVV~ ...	Eight continuous blasts, last prolonged.	80
NNW, VVVVI~.	Eight continuous, one separate prolonged blast.	

Anchored vessel, VVVVVV, ten continuous blasts. 85

Port and starboard, usual code-signals.

From this it will be seen that ten signals in all are included in the code, each signal having for its base or foundation part the character "V," representing two long blasts or full tones, and that said full tones indicate the cardinal points N, S, E, W and prin-

cipal intermediate divisions thereof, NE, SE,  
 SW, and NW, while the sequence characters  
 "1," represent short blasts or semitones fol-  
 lowing each full blast or combination of full  
 blasts, indicate the minor intermediate divi-  
 sions NNE, ENE, ESE, SSE, SSW, WSW,  
 WNW, and NNW. A short "tick" or exten-  
 sion on the terminal character, such as I<sup>-</sup>,  
 denotes a prolongation of the last note.  
 My improved compass-card and indicating-  
 chart B is shown in Fig. 1. This chart or card  
 bears upon its face the point characters enu-  
 merated above and the rhumb-point divisions  
*a*, arranged in two concentric circles *b c* at the  
 outer edge thereof, as usual. At the center  
 of the card is a circular space *d* and between  
 the same and circles *c* three concentric circu-  
 lar spaces *e f g*. Extending from the central  
 circle is a star-shaped figure having four main  
 points *h* radiating to the cardinal-point char-  
 acters and four auxiliary points *h'* radiating  
 to the principal intermediate points and di-  
 viding the chart into eight parts, as shown.  
 Radial division-lines *i* in the circular space *g*  
 between the star-points and leading to the  
 eight minor compass-points further divide the  
 compass into sixteen parts. The code-signal  
 marks are arranged in the circular space *e*,  
 and in the circular space *f* adjacent thereto  
 are numerals from 2 to 9, indicating the num-  
 ber of blasts each code-mark represents. The  
 said code marks and numerals are arranged  
 in two progressive sets at diametrically oppo-  
 site sides of the compass-cards, one set ex-  
 tending from N to SSE on the one hand and  
 the other set from S to NNW on the other  
 hand, the corresponding diametrically op-  
 posite points on the compass being repre-  
 sented by the same marks, and from this it  
 will be seen that a systematic and exceed-  
 ingly simple arrangement of the code-signal  
 marks is provided. For the purpose of in-  
 struction the circular space *g* may bear op-  
 posite the compass-points the representations  
 of vessels pursuing various courses, and in  
 the central circular space I have shown the

representation of an anchored vessel and  
 alongside the same the proper code-signal to  
 be sounded thereby. This compass chart or  
 card may in practice take the place of the or-  
 dinary compass-card in order that the code  
 may be under the inspection of the steersman  
 or master of the vessel.

For a fuller explanation of the signaling-  
 code reference is to be had to my former ap-  
 plication hereinbefore mentioned. It is to be  
 understood that the particular code charac-  
 ters herein shown are not essential to the pres-  
 ent invention and that different characters  
 may be employed to represent the sound-sig-  
 nals without departing from the spirit and  
 scope of the invention.

Having thus fully described my invention,  
 what I claim as new, and desire to secure by  
 Letters Patent of the United States, is—

An improved compass chart or card bearing  
 adjacent to its outer edge the cardinal points  
 and intermediate rhumb-points, a series of  
 four concentric circles between said points  
 and the center of the card, a star-shaped fig-  
 ure having main points extending from the  
 innermost circle to the cardinal points and  
 auxiliary points extending to the principal  
 intermediate rhumb-points, a series of radial  
 division-lines in the outmost circle leading to  
 the minor intermediate compass-points, and  
 series of code marks and numerals designat-  
 ing said points arranged in the two interme-  
 diate circles, said series consisting of two sets  
 of equivalent marks and numerals each ex-  
 tending around one-half of the compass, and  
 the same mark and its designating-numeral  
 in each case being placed adjacent to and rep-  
 resenting the diametrically opposite points  
 on each side of said compass, substantially

as described.  
 In testimony whereof I affix my signature  
 in presence of two witnesses.

FRANCISCO VIEIRA DE BEM.

Witnesses:

FREDERICK H. TARR,  
 MICHAEL J. MEAGHER.