(No Model.)

M. BRABAW.

COURSE INDICATING APPARATUS.

No. 574,474. Patented Jan. 5, 1897.

Fig. 1.

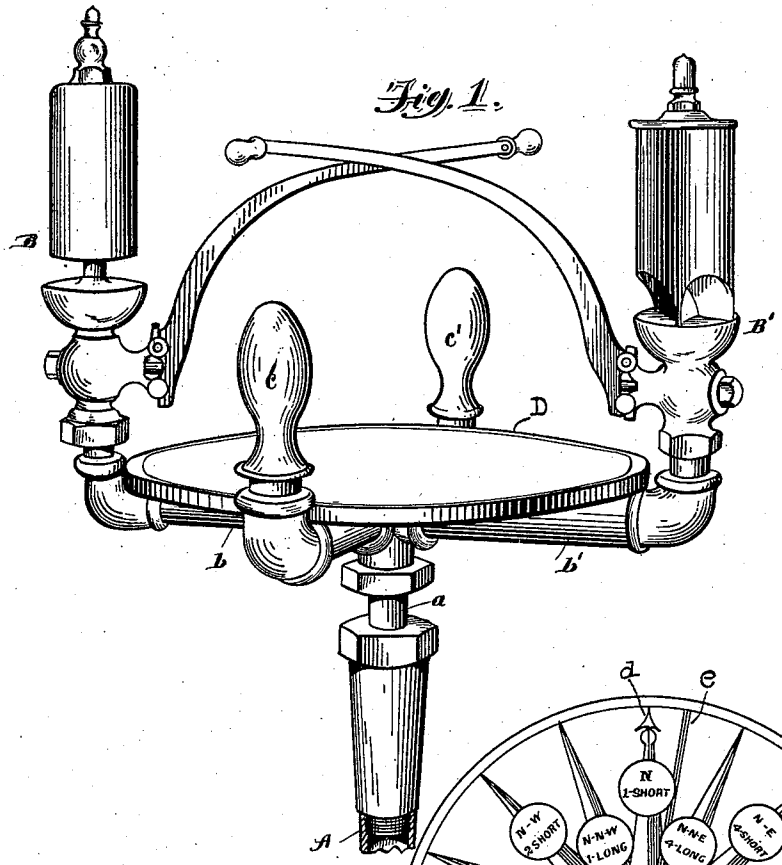
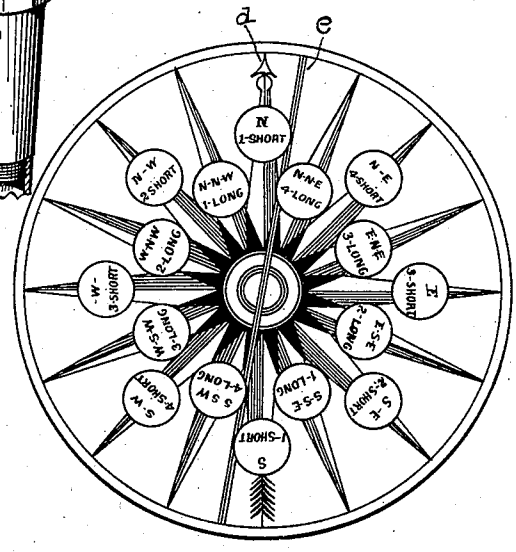


Fig. 2.



WITNESSES

Virginia M. Clough.

W. F. Bradford

INVENTOR

Michael Brabaw

By Parker & Burton

Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MICHAEL BRABAW, OF DETROIT, MICHIGAN.

COURSE-INDICATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 574,474, dated January 5, 1897.

Application filed May 23, 1896. Serial No. 592,783. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL BRABAW, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Marine Compasses and Fog-Signals; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to fog-signals, and has for its object an improved signal to be used on shipboard for the purpose of indicating to a distant ship the direction of travel of the ship on which the signal is used.

The signal consists of two steam-whistles, one of which preferably sounds a plain note and the other a compound note or chord, and is of the class of steam-whistles known as "chime-whistles." Two such whistles are sufficient for the signal, as one can be used to indicate progress on easterly courses and the other can be used to indicate progress on westerly courses, and this, taken in connection with the fact that it can generally be told by the hearer whether the sound that he hears is to the right or left of him, and from his own compass the hearer can determine whether the sound heard by him is to the north or south or to the east or west, as the case may be; and this, taken in connection with the fact that my signal indicates to the hearer the direction in which the vessel on which the signal is located is progressing, he can at once know whether it is necessary to take precautions to avoid the vessel whose whistle he hears or not.

Figure 1 shows the signal in perspective. Fig. 2 shows a plan view of the chart as it appears when removed from the frame.

By the term "easterly courses" I designate all courses from about one point eleven degrees fifteen minutes east of north to one point west of south.

By the term "westerly courses" I designate all courses from about one point west of south to one point east of north.

A indicates a steam-pipe, on the upper end of which is a joint that permits the rotation of the extension-pipe *a*. The extension-pipe *a* leads into diverging pipes *b b'*, one of which, *b'*, supports on its upturned end the steam-chime B', and the other of which, *b*, supports on its upturned end the plain whistle B. The pipes *b b'* are intended to be placed parallel with the ship's axis, but with one or the other of the whistles toward the bow, in accordance with a prearranged code. Thus if the vessel were sailing easterly courses the chime B' would be placed at the bow end, and it would always be understood that when the chime was sounding the vessel was on an easterly course, while if the vessel was on a westerly course the signal would be reversed and the plain whistle B brought to the bow end.

For the purpose of turning the signal on the pipe A, I provide the two cross bars or pipes with their handles *c c'*. The cross thus formed by the pipes *b b'* and the cross-bars with their handles *c c'* forms a support for the chart, which is suitably protected in the frame D and suitably glazed, and this chart has its indicating-points arranged and disposed with reference to the whistle that is to be used. The chart itself is divided in substantially the same way as the chart of a compass.

The chart and its holding-frame are rotatable on an axis and may be operated manually from time to time as the course of the vessel is changed, bringing the arrow-point *d* to the north corresponding to the compass-needle, thereby rendering error or confusion in reading the chart less liable to occur. It will also be seen that this same result would obtain by the use of a magnetic needle in connection with the chart, as commonly seen in a marine compass, and for which reason it is thought unnecessary to illustrate.

I find that with two whistles I can arrange a code of signals, dividing the chart into sixteen points, and by using a repetition of blasts and a long and a short blast can have a very simple code which will indicate the direction that a boat is proceeding on, and the listener can always tell on which side of himself the signaling boat is located.

In Fig. 2 is shown a chart adapted to be employed with the signal from which the user can tell at a glance which whistle to use and what blast to give. It is intended as a guide

and a reference for both the operator and the listener, in order that an interpretation of the sound made may be absolute and without dependence upon the memory. The points are divided by the line *e* into two sets, the south and easterly and the north and westerly sets, the first named being indicated by a repeated short or long blast of the chime-whistle, while the second is indicated by similar blasts of the single-toned whistle. Thus if the vessel is pursuing a southeasterly course the chime should be turned toward the bow, and in the event of it being necessary to indicate to a neighboring vessel your course, and to be absolutely certain as to the correct signal or number of blasts, it is only necessary to turn the chart on its axis until the arrow *d* points to the north. The number of blasts to be given will then be clearly indicated upon that point in the chart which lies in the direction and toward the bow of the vessel. In this particular instance it will at once be seen that this signal would be two short blasts upon the chime-whistle. Now should the vessel head on a westerly course the whistle B is immediately turned to the bow. Then upon swinging the chart until the arrow again points to the north the correct signal will be indicated in the same manner as above described. Thus the user always sounds that one of the signals which is on the bow side of the machine when the arrow *d* is pointing to the north and he gives the number and kind of blasts indicated on the chart-point next to the signal to be sounded.

It will be readily seen that as the operator becomes familiar with the chart and the sounds of the whistles which indicate the various points of the chart it will not be necessary to turn the arrow *d* to point to the north, as the course and number of blasts are clearly printed upon each point of the chart and can be clearly read by an observer when standing in any position.

What I claim is—

In combination with a plurality of steam-whistles sounding different notes, a revoluble frame carrying said steam-whistles adapted to be actuated to bring any one of said steam-whistles to a given point with respect to the vessel, whereby the whistle to be sounded is indicated, a chart revolubly secured on said frame and adapted to bring a given designating-character thereon into juxtaposition to any one of said whistles, and thereby indicate by such juxtaposition the signal to be given, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

MICHAEL BRABAW.

Witnesses:
CHARLES F. BURTON,
MARION A. REEVE.