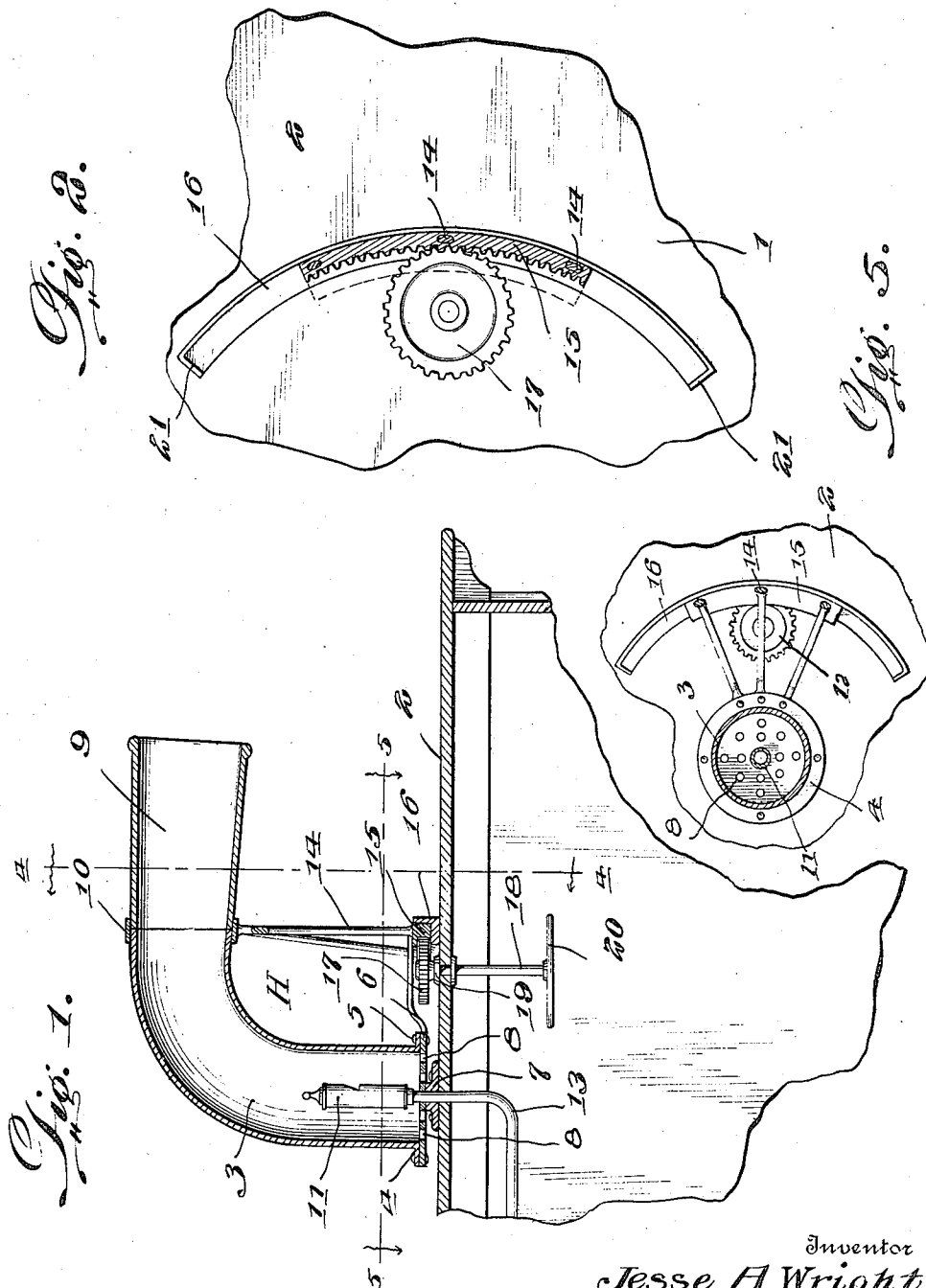


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 APPARATUS FOR SIGNALING.
 APPLICATION FILED JAN. 6, 1915.

1,183,708.

Patented May 16, 1916.
 2 SHEETS—SHEET 1.



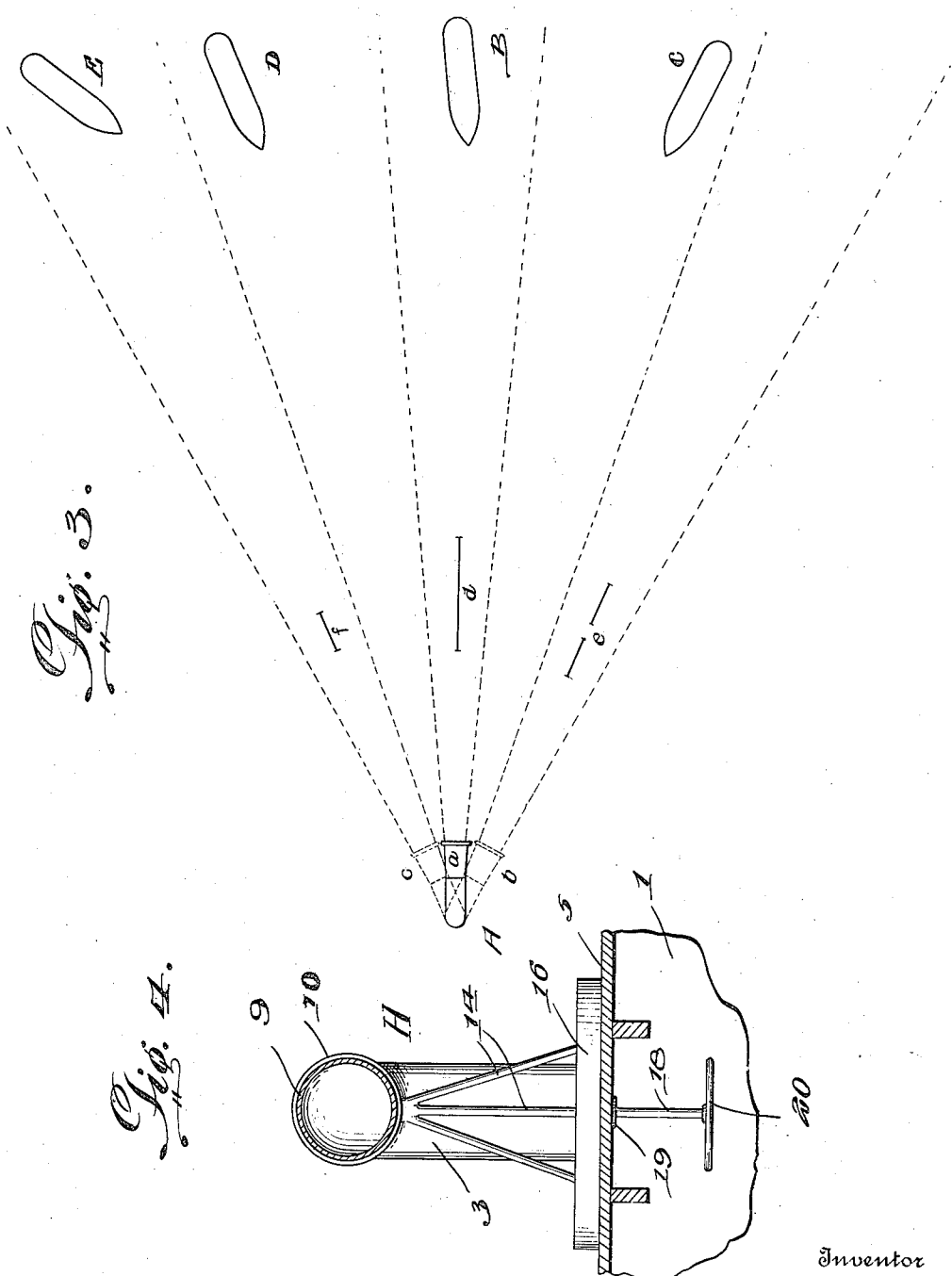
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR SIGNALING.

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Specification of Letters Patent.

Patented May 16, 1916.

Application filed January 6, 1915. Serial No. 855.

To all whom it may concern:

Be it known that I, JESSE A. WRIGHT, a citizen of the United States, residing at Seaford, in the county of Sussex and State of Delaware, have invented new and useful Improvements in Apparatus for Signaling, of which the following is a specification.

This invention relates to apparatus for signaling, the object in view being to produce novel means whereby a vessel may signal other vessels as to the course of the vessel on which the primary signal is given, whereby an observer or other vessel within range of the sounds produced by the signaling apparatus may determine the direction of the course of the vessel and alter its own course accordingly.

The apparatus embodies means whereby concentrated sound waves may be directed straight ahead and in other lines of direction at opposite sides of and equidistant from the direct line of course of the vessel, the sounds being of different characters so as to facilitate determining the course of the vessel by observers or other vessels in line with or adjacent to the course of the primary vessel.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts, as will herein be described, illustrated and claimed.

In the accompanying drawings: Figure 1 is a vertical sectional view showing the apparatus of this invention applied to the deck or roof of a pilot house. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a diagrammatic view illustrating the method of use of the apparatus. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a section on the line 5—5 of Fig. 1.

Referring to the drawings 1 designates the pilot house of a ship or vessel, on the roof or deck 2 of which the apparatus is shown as mounted.

The apparatus comprises a horn or megaphone designated generally at H and comprising a main section 3 shown in the form of an elbow preferably slightly less than ninety degrees in order that the sound waves emitted therefrom may be directed toward the surface of the water at a suitable distance in advance of the vessel. The section 3 of the horn or megaphone is provided with a base flange 4 secured by bolts

5 or their equivalent to a base plate 6 which is supported upon a spacing disk or plate 7 interposed between the base plate 6 and the roof of the pilot house, thereby leaving an air space underneath said base plate so that air may be admitted through a plurality of air inlet openings 8 in the base plate 6 to avoid the formation of a partial vacuum in the member 3.

9 represents an extension of the horn or megaphone which is slightly flared toward its outer end and connected to the main section 3 by any suitable coupling means 10 which enables a longer or shorter extension 9 to be employed as may be found desirable. In the lower portion of the section 3 is arranged a whistle 11 to which leads a steam pipe 13 proceeding from any suitable source of supply, the pipe 13 extending centrally through the members 6 and 7 and being coincident with the axis of turning or oscillatory movement of the sound directing device.

The overhanging portion of the horn or megaphone is supported by means of a combined bracket and actuating device embodying a downwardly expanding frame 14 to the bottom of which is attached an arcuate rack 15. The rack 15 rests upon and works back and forth in an arcuate guide 16 which may be fastened to the roof or deck 2, said guide being preferably formed of angle iron or being substantially L-shaped in cross section. The arcuate rack 15 is actuated by means of a gear 17 on the upper end of a vertical shaft 18 which is journaled in a bearing 19 on the deck 2, the shaft 18 extending through the deck and having fast thereon within the pilot house 1, an operating hand wheel 20 by means of which the shaft 18 may be turned for the purpose of swinging the sound directing member to one side or the other of a line indicating the course of the vessel. Stops 21 are provided to limit the turning movement of the sound directing device, said stops being located a distance apart which will only permit said device to be oscillated through an arc the equivalent of four points of a compass. This permits the horn or megaphone to be positioned accurately two points of the compass to each side of the course of the vessel.

Referring now to the diagrammatic view. A represents the vessel on which the sound

directing device is mounted, and *a*, *b* and *c* the three positions in which the device is used.

B, C, D and E represent other vessels in 5 or adjacent to the course of the vessel A. It will be understood that the apparatus of this invention is designed particularly for use in foggy weather, the sound directing device being used for the same purpose as 10 the ordinary fog horn.

The method of using the apparatus may be described as follows: The horn H is moved into direct line with the course of the vessel as indicated by the position *a*. A 15 long blast represented by the line *d* is then delivered, the sound of which is of course directed straight ahead. The horn is next turned to the position *b* and two shorter blasts are given as represented by the lines 20 *e*. The horn is next turned to the position *c* and a single short blast is given as represented by the line *f*. The two short blasts are directed four points to the right of the single long blast, and the single short blast 25 is directed four points to the left of the single long blast.

The vessel B which is directly in line with the vessel's course will first hear the long blast, followed at intervals by the two short 30 blasts and the single blast, the last two blasts being of equal intensity. The boat B therefore signals the boat A with either one blast or two blasts and changes its course accordingly so as to pass either to the right 35 or left of the vessel A. To the vessel C, the two short blasts are of much greater intensity than the single short blast so the vessel C merely changes its course to pass to the left of the vessel A, at the same time giving 40 the appropriate signal. To the vessels D and E, the single short blast is of the

greatest intensity and they therefore alter their courses to pass to the right of the vessel A, at the same time giving the proper 45 signals.

The apparatus hereinabove described, and the method herein disclosed enable vessels to navigate in foggy weather with a much greater degree of safety than has heretofore 50 been possible. It is of course proposed to equip each and every vessel with the signaling system or apparatus hereinabove described so that each vessel may make use of the apparatus and the signaling system, all 55 of the vessels thus mutually contributing to the safety of navigation. The signaling apparatus may also be used by light houses for signaling the proper course to vessels in the vicinity thereof.

I claim:— 60

In a signaling device, the combination of a sound concentrating and directing member, and means for oscillating said member, comprising an arcuate rack fixedly attached 65 thereto, a gear wheel meshing with and adapted to actuate said rack, a stationary arcuate guide for said rack, and stops at the opposite ends of said guide with which the extremities of the rack are adapted to come 70 in contact for accurately limiting the oscillatory movement of said sound directing member to points equidistant from and on opposite sides of a central point, whereby 75 blasts may be directed with accuracy in directions separated by a predetermined and equal number of points of the compass.

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

JESSE A. WRIGHT.

Witnesses:

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