

No. 647,560.

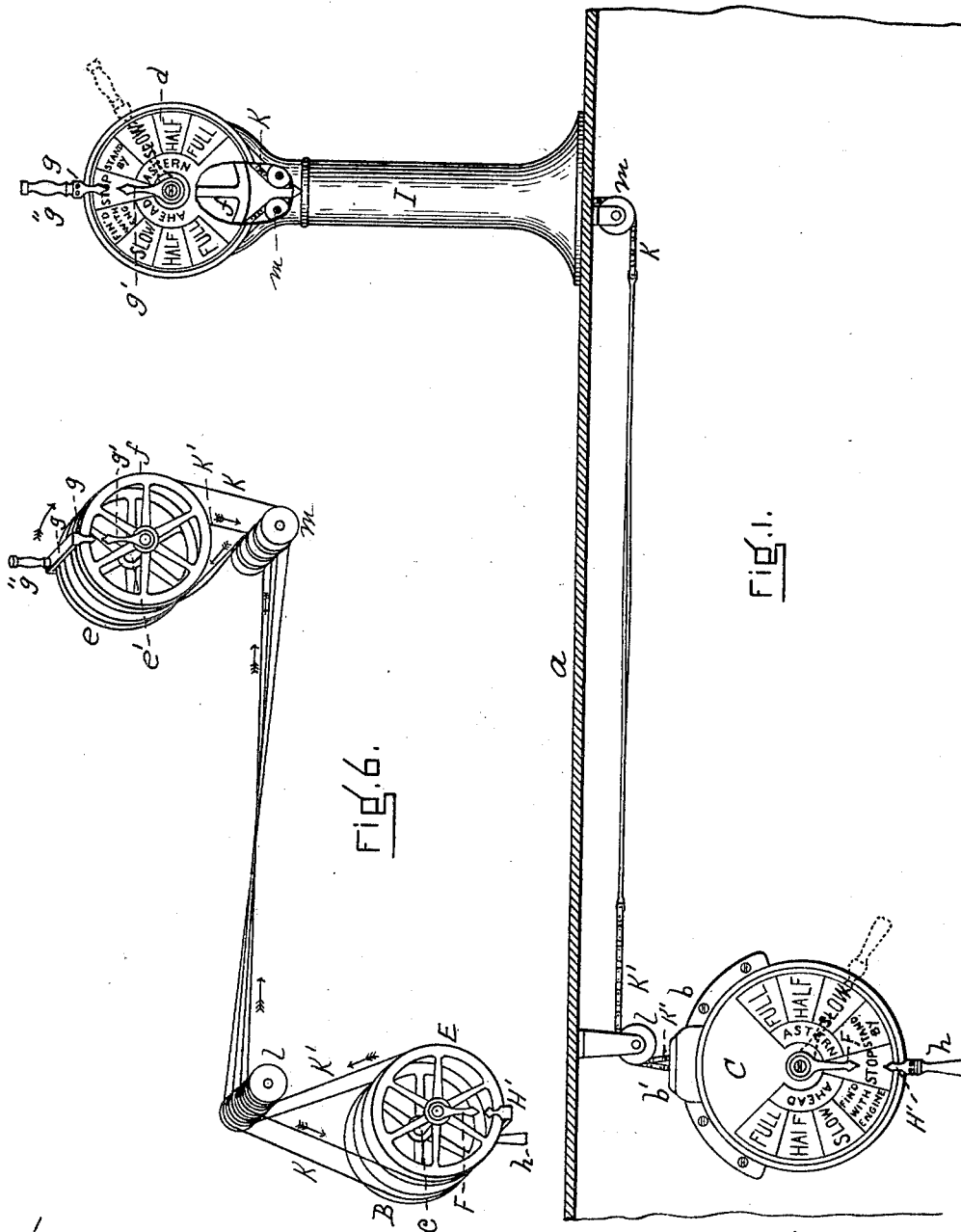
Patented Apr. 17, 1900.

O. E. EATON.
SIGNALING APPARATUS FOR VESSELS.

(Application filed Dec. 14, 1899.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

A. J. Bonney.
A. J. Bonney.

INVENTOR

Oscar E. Eaton,
By his Atty.
Henry W. Williams

No. 647,560.

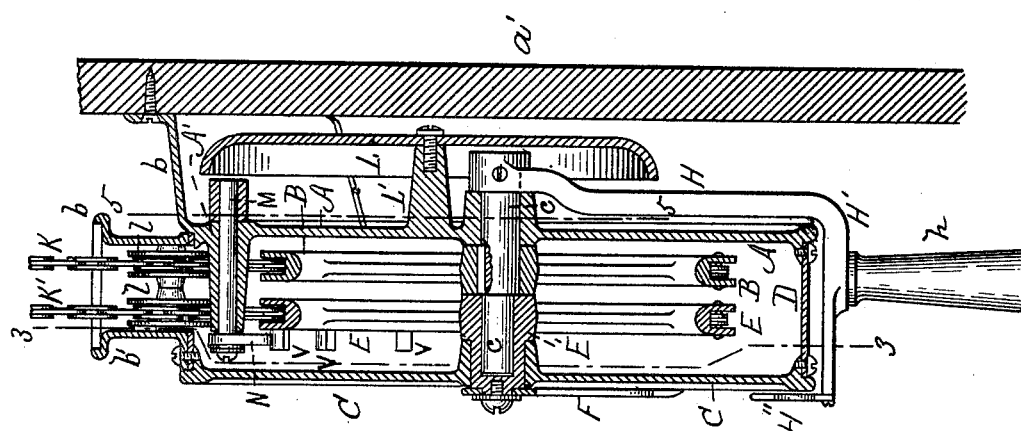
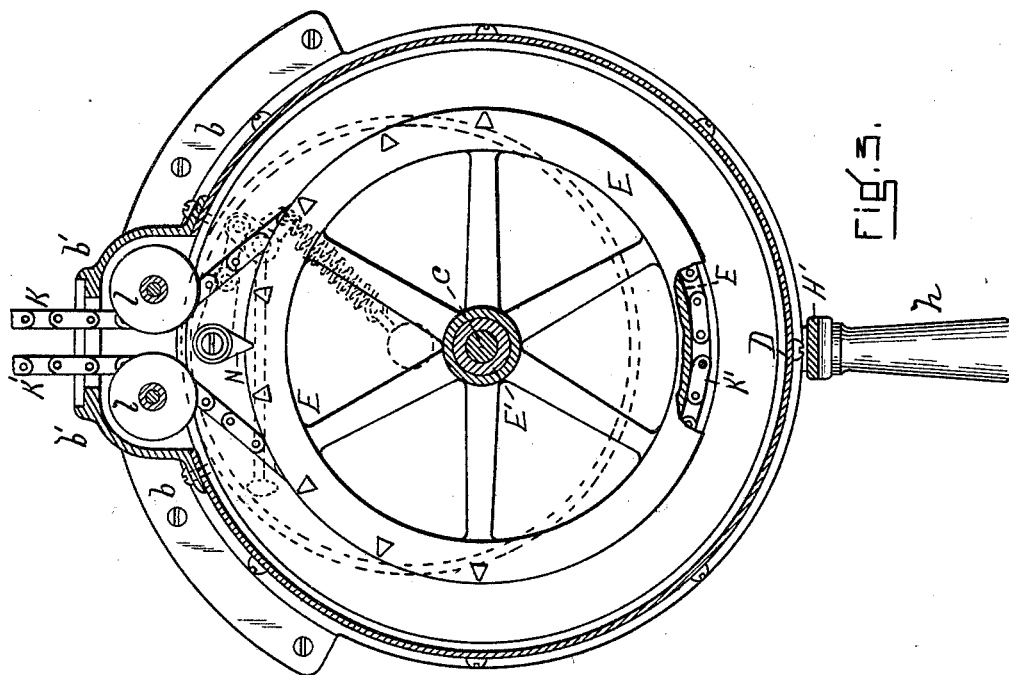
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WITNESSES

A. J. Boninay,
A. G. Bonney.

FIG. 2.

INVENTOR

Oscar E. Eaton,
By his Atty
Henry Williams

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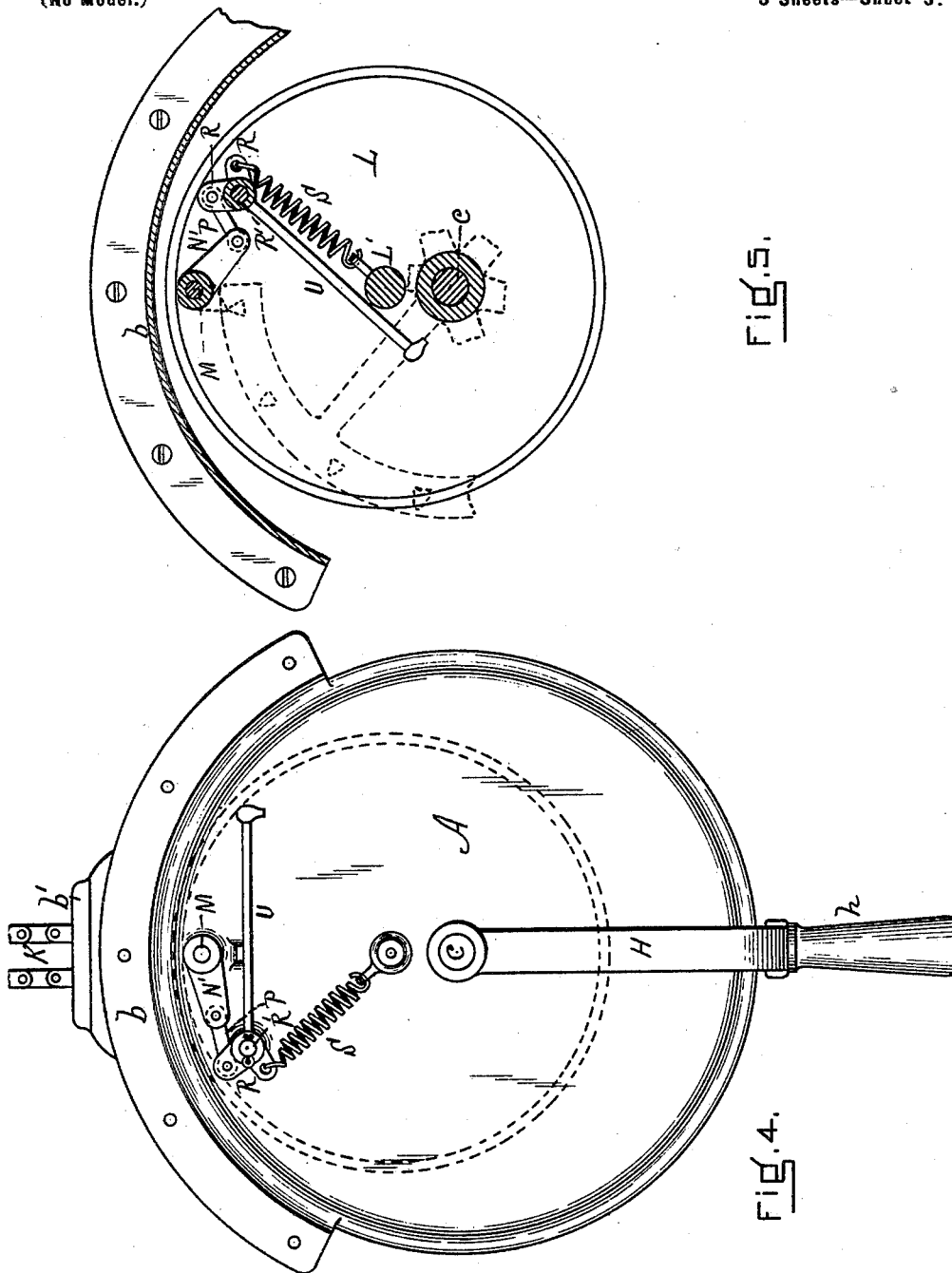
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3 Sheets—Sheet 3.



WITNESSES

A. J. Conway.
A. J. Conway.

INVENTOR

Oscar E. Eaton,
By his Atty.
Henry W. Williams

UNITED STATES PATENT OFFICE.

OSCAR E. EATON, OF BOSTON, MASSACHUSETTS.

SIGNALING APPARATUS FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 647,560, dated April 17, 1900.

Application filed December 14, 1899. Serial No. 740,305. (No model.)

To all whom it may concern:

Be it known that I, OSCAR E. EATON, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Signaling Apparatus for Vessels, of which the following is a specification.

This invention relates to that style of signaling apparatus for use on board ship commonly termed "marine mechanical telegraphs," and constructed to enable a signal to be transmitted from the bridge or pilot-house to the engineer's room.

The invention or improvement consists in the novel construction and arrangement of parts whereby the signal is transmitted to the engineer's room and returned therefrom, and the attention of the engineer is called to said signal by a peculiarly-arranged striking apparatus, all as fully described below, and illustrated in the accompanying drawings, in which—

Figure 1 is a view showing the two portions of the apparatus—that is, the portion located on the bridge and that located in the engineer's room—in front elevation, said portions being divided by a deck-floor in section. Fig. 2 is a cross-vertical section taken through the portion in the engineer's room. Fig. 3 is a section taken on line 3, Fig. 2, a portion being represented as broken out. Fig. 4 is a rear elevation of the portion shown in Figs. 2 and 3 with the gong removed. Fig. 5 is a section taken on line 5, Fig. 2. Fig. 6 is a diagrammatic view of the contrivance.

Similar letters of reference indicate corresponding parts.

a represents the deck of a vessel, and *a'* an upright wall in the engineer's room. The portion of the apparatus located in the engineer's room comprises a supporting-bracket *b*, integral with the rear plate *A*, in which the shaft or stud *c* has its bearings. Keyed to this stud (See Fig. 2) is the grooved wheel *B*.

C represents the front plate or dial, provided with the usual words or characters, such as "full," "slow," &c., said plate being connected with the rear plate *A* by the portion *D*, whereby the whole constitutes a case. Between the rear wheel *B* and the dial *C* is a grooved wheel *E*, whose hub *E'* is loose on the

stud *c* and extends through the dial. A pointer *F* is secured to this hub *E'* and extends radially over or in front of the dial for a short distance, as shown. The stud *c* has rigidly secured to it at its rear end a pointer, which consists of the arm *H*, bent forward at *H'* and with its front end provided with the hand *H''*, extending over the edge of the dial, as shown.

The construction of the sending portion of the apparatus is the same as that of the receiving portion above described, such portion comprising a case, the dial *d*, and the grooved wheels *e f*, the former fast on the stud *e'* and the latter loose thereon and free to rotate behind the dial. The stud *e'* is provided with a pointer *g*, exactly like the pointer *H H' H''*, and the hub of the front wheel *f* is provided with the pointer *g'*. The arms or pointers *H'*, *H''*, and *g* are provided with suitable operating-handles *h* and *g''*, respectively. An endless chain or band *K* connects the rear wheel *B* in the receiving portion with the front wheel *f* in the sending portion, and a similar endless chain or band *K'* connects the front wheel *E* in the receiving portion with the rear wheel *e* in the sending portion, said chains crossing each other and extending up through the open structure *b'*, over and under the rolls *l*, through the hollow post *I*, which supports the sending portion, and over the rolls *m*.

L, Figs. 2 and 5, represents a vertically-arranged gong supported by the horizontal post *L'*, which is integral with the rear plate *A*. This plate is provided near its upper end with an integral bearing *A'* for the shaft *M*, rigid on the forward end of which is a trip *N*, Figs. 2 and 3, and rigid on the rear end of which is a lever *N'*, Figs. 4 and 5, whose outer end is pivotally connected with a link *P*, pivoted at its opposite end to the bell-crank *R*, fast on the stud *R'*, which is supported by the rear plate *A*, the trip *N* overlapping the front surface of the wheel *E*, and the parts *N'*, *P*, *R*, and *R'*, being behind the rear plate *A* and between it and the inner surface of the gong. A spring *S* connects one end of the bell-crank *R* with the post *L'*, and a hammer *U* has its end rigid or integral with the stud *R'*.

The front face of the wheel *E* is provided near its periphery with a number of horizontally-extending studs *V*, corresponding with the spaces on the dial.

In practical operation when a signal is to be given from the bridge the handle g'' is moved down until the pointer g overlaps the word which indicates the desired signal, as shown in dotted lines in Fig. 1. This rotates the rear wheel e in the sending portion, and by means of the chain K' communicates corresponding rotation to the front wheel E in the receiving portion. The rotation of the wheel E causes a number of the studs V , corresponding to the desired signal, to act on the trip N the same number of times, each stud lifting the trip and swinging the lever N' , which by means of the link P operates the crank R and swings the hammer U against the power of the spring S , said spring when the trip is released causing the hammer to strike the rim of the gong. Thus if the handle g is swung into the position indicated by dotted lines in Fig. 1 the gong is rung three times, calling the attention of the engineer to the fact that a signal is given and notifying him what the signal is. At the same time the hub E' of the wheel E rotates to move the pointer F over the same signal which is indicated by the dotted lines in Fig. 1. The engineer is thus provided with both audible and visual information, not only that a signal has been given, but exactly what that signal is. The engineer acknowledges the signal by moving the pointer H'' over the space indicated by the pointer F , so that said pointers face each other, with the effect of rotating the rear wheel A in the receiving portion and transmitting similar movement to the front wheel f in the sending portion by means of the chain K , said wheel f moving the pointer g' over the signal given on the dial d , as indicated by dotted lines in Fig. 1. Thus the sender knows that his signal has been received by the engineer and knows that the engineer understands it.

Having thus fully described my invention; what I claim, and desire to secure by Letters Patent, is—

The herein-described improved signaling apparatus for vessels, consisting of the receiving apparatus comprising the front plate or dial C suitably inscribed; the rear plate A ; the portion D connecting said front and rear plates; the stud c supported by the plate C ; the grooved wheel E provided with the hub E' loose on said stud; the wheel B keyed to said stud; pointers F and H extending from the hub E' and stud c respectively; a similarly-constructed sending apparatus; the open structure b' extending from and connecting with the interior of the case of the receiving apparatus; the endless chain or band K connecting the rear wheel in the receiving portion with the front wheel of the sending portion; the endless chain or band K' crossing the chain K and connecting the front wheel in the receiving portion with the rear wheel in the sending portion; the studs V extending horizontally from the front wheel E in the receiving portion; the horizontal shaft M extending from a point in front of the wheel E to a point at the rear of the case of the receiving apparatus; a trip on the forward end of said shaft and adapted to be engaged by the studs V ; the gong supported by said case at the rear of the rear plate; the lever N' rigidly secured to the rear end of the shaft M ; the bell-crank R supported by the case; a link connecting said lever N' and bell-crank; a spring connecting the bell-crank with the case; the stud R' ; and a hammer extending from the stud, substantially as described.

OSCAR E. EATON.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.