

No. 740,939.

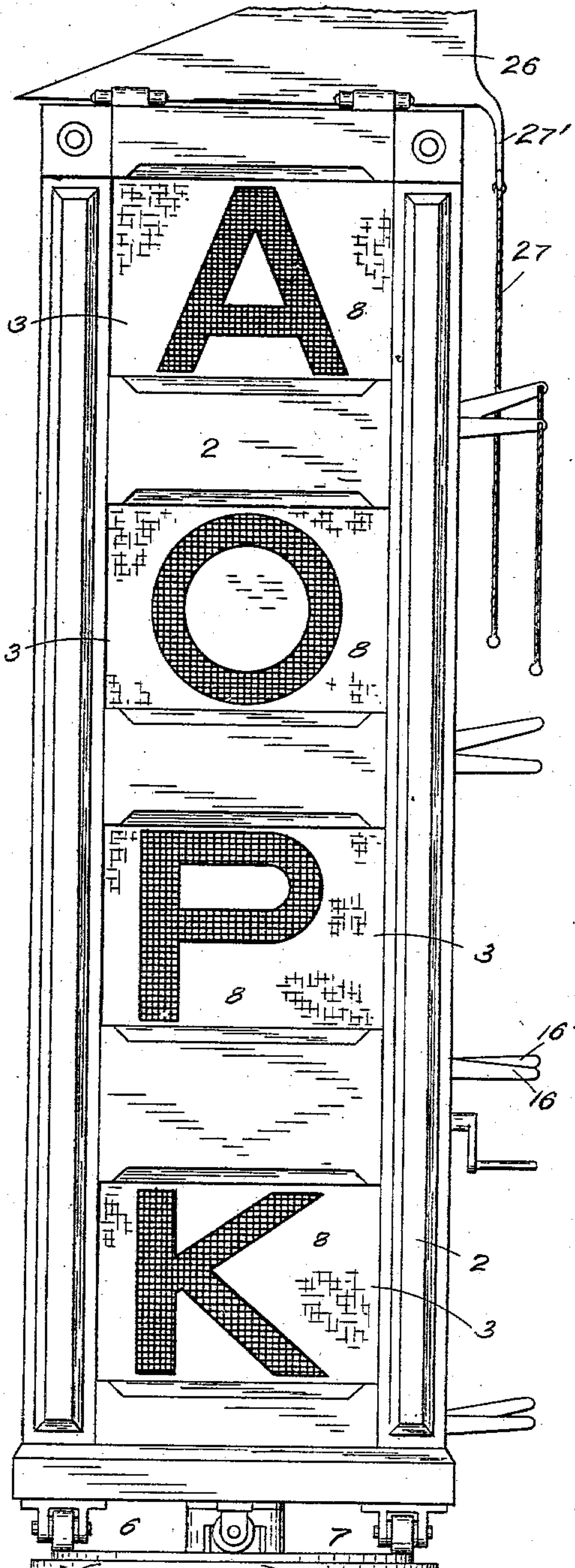
PATENTED OCT. 6, 1903.

W. J. SMITH.
MARINE SIGNALING APPARATUS.

APPLICATION FILED AUG. 20, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

FIG. 1.

J. C. Dormitzer
C. S. Eaton.

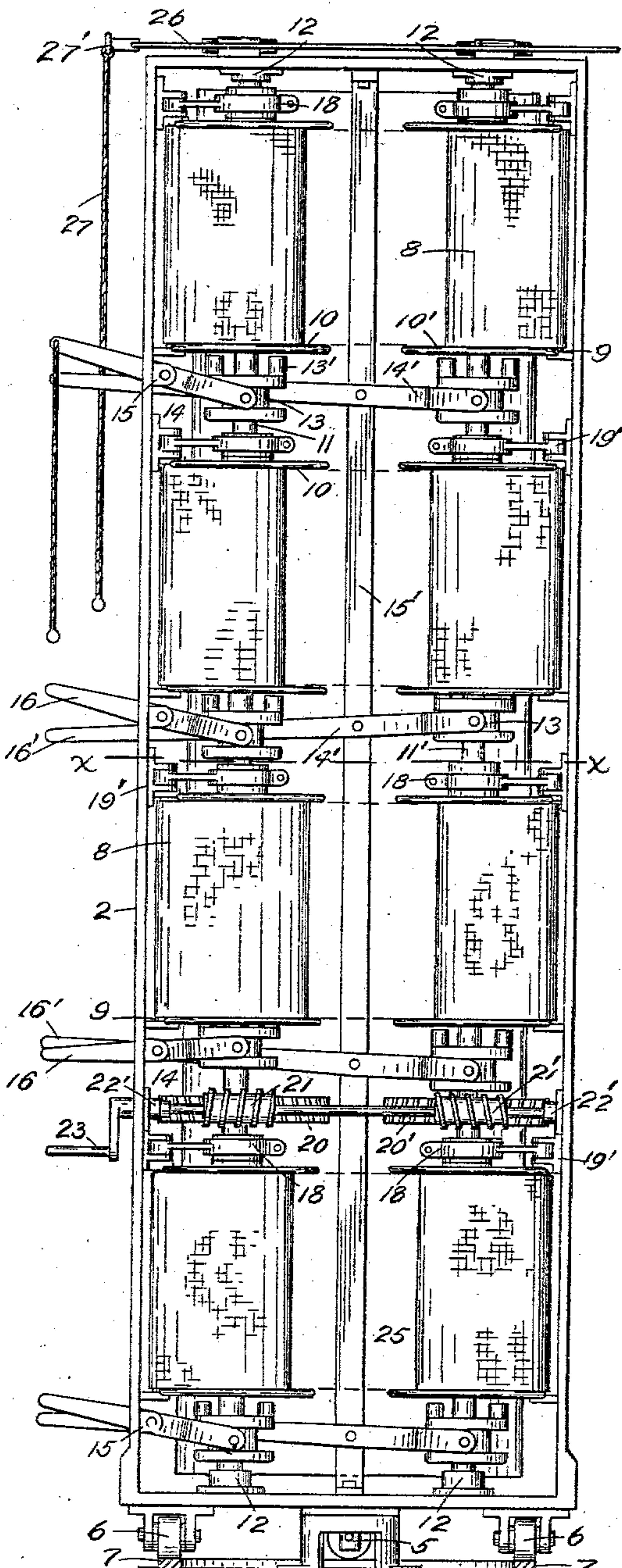


FIG. 2.

INVENTOR

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BY.

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2 SHEETS—SHEET 2.

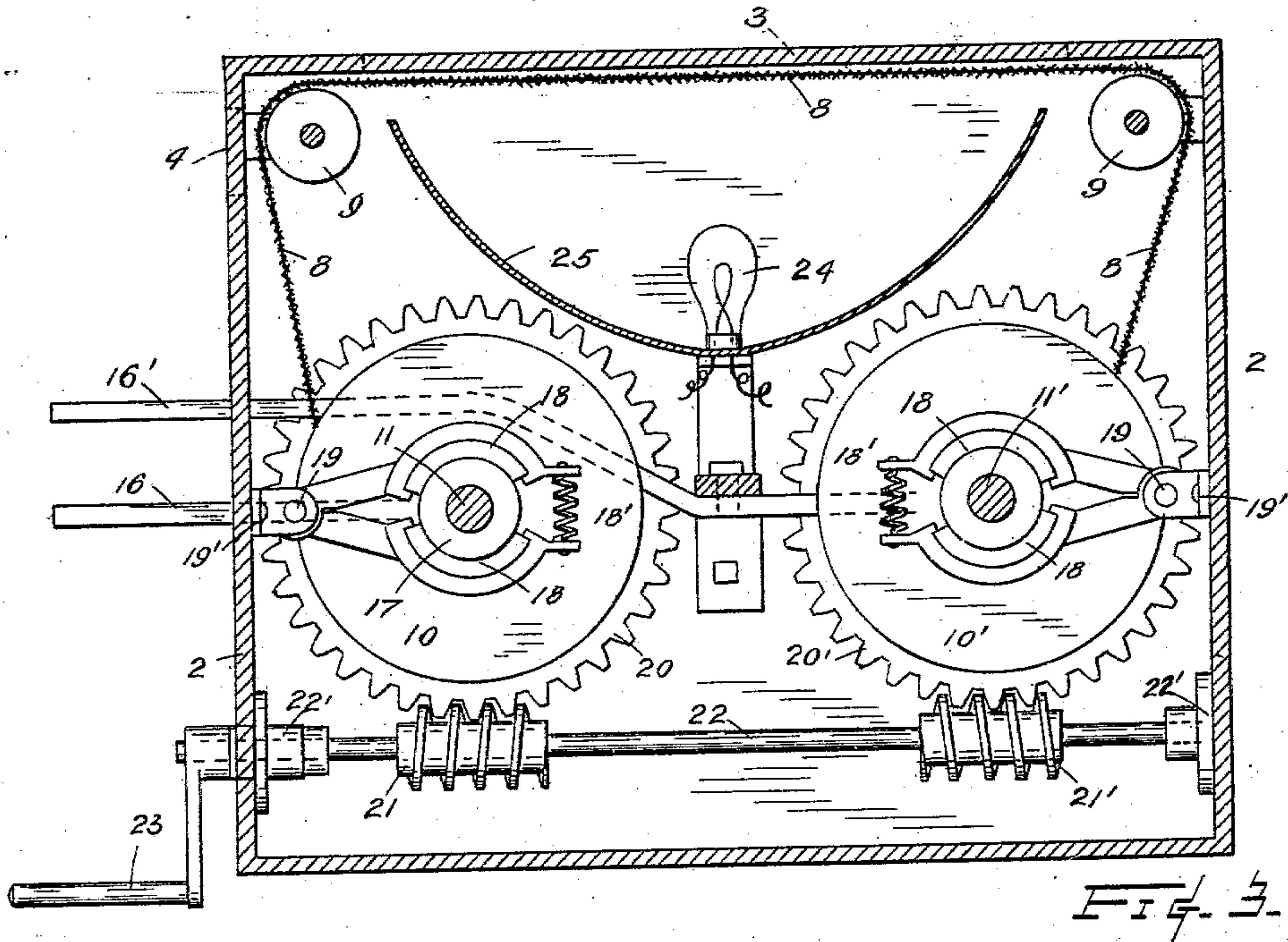


FIG. 3.

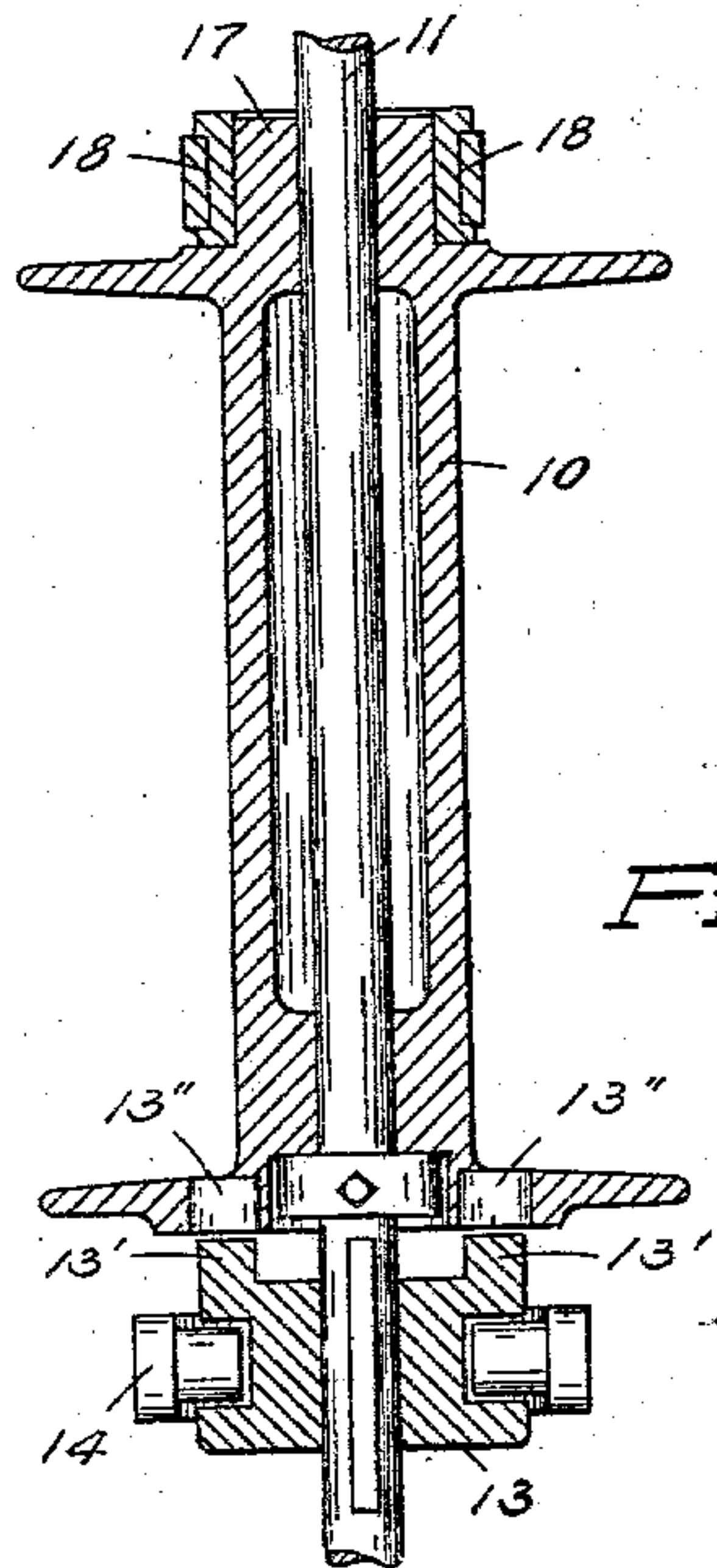


FIG. 4.

WITNESSES:
P. C. Dormitzer
C. A. Eaton

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UNITED STATES PATENT OFFICE.

WILLIAM J. SMITH, OF SEATTLE, WASHINGTON.

MARINE SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 740,939, dated October 6, 1903.

Application filed August 20, 1902. Serial No. 120,335. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. SMITH, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Marine Signaling Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to marine signals; and its object is to provide improved apparatus for changeably exposing to view alphabetic letters or other characteristic symbols, whereby messages may be quickly and accurately conveyed from vessel to vessel by certain combinations of letters or signs, according to a predetermined code of signals.

Flags which are commonly used for signaling frequently become wrapped around their supporting-halliards during calm weather or when a steamer is moving in the same direction as the wind. When the wind blows in a direction toward or from the vessel in sight, the signal-flags cannot be readily discerned and oftentimes the ships pass each other before a single sentence is made out or exchanged, and consequently a distress or "urgent" signal, though hoisted, is frequently illegible or misunderstood. In stormy weather the signal-halliard often breaks, the flags are torn or the wrong ones bent on, and the opportunity for conveying a message is lost as the ships separate.

To overcome the above-noted and other objectionable features, I provide a signal apparatus involving the elements of construction, the combination and arrangement of devices, and the principles of operation hereinafter set forth.

In the accompanying drawings, Figure 1 is a front elevation of a signal apparatus embodying my invention; Fig. 2, a rear elevation, the cover being removed to show the internal mechanism; Fig. 3, an enlarged horizontal sectional view on line *xx* of Fig. 2, and Fig. 4 an enlarged vertical substantially central section through one of the screen-spools and its connecting mechanism.

Similar numbers indicate corresponding parts in all of the views.

The numeral 2 denotes the containing-case, which may be of any suitable shape or construction and has a series of sight-apertures 3 in the front side and a like number of peep-holes 4 in the operating side adjacent to the front edge thereof. The case is rotatable on a trunnion 5 and provided with a number of casters or rolls 6, revolving on a concentric track 7 upon the supporting-platform or deck of the vessel, whereby the apparatus may be turned so that the front thereof will be directed toward the vessel being spoken. Translucent screens 8, having opaque letters or other distinguishing marks thereon, are arranged to be opposite the said sight-apertures and passing around lead-rolls 9 are wound upon drums or spools 10 10', which are loosely mounted upon vertical spindles 11 11', journaled in bearings 12. A coupling member 13, splined to said spindles, is provided for each of the spools and having horns 13', which engage with corresponding depressions 13'' of the spools to clutch the latter to their respective spindles. The coupling members are moved vertically or longitudinally of their spindles by means of forked levers 14 14', fulcrumed to suitable supports, such as 15 15', and have handles 16 16' projecting exteriorly of the case. A brake device is provided for each spool in order to exert a frictional pressure upon their hubs 17 and restrain the spools from unwinding too freely and insure the screens being taut between the rolls. These brake devices severally comprise a pair of jaws 18, openable against the action of contractile springs 18', upon pivots 19, supported by brackets 19', secured to the case.

Fixedly mounted to the spindles 11 11', respectively, are worm-wheels 20 20', which are coincidentally rotatable, but in opposite directions, by screws 21 21' of opposite-hand threads--that is to say, one to be a right-hand screw and the other a left-hand one. These screws are mounted on and turn with a transversely-disposed spindle or arbor 22, jour-

naled in bearings 22' and rotated, preferably, by a hand-actuated crank 23 upon the spindle extremity outside of the case. Incandescent electric lamps 24 for night signaling are provided opposite the said sight-apertures of the case and in rear of the screens. 25 denotes a reflector or reflectors adapted to focus or concentrate the illuminating-lights upon the aforementioned screen letters or characters, and which, being opaque, mask in part the translucent screens and make the said inscriptions very effective.

Positioned upon the top, preferably, of the case and hinged thereto, so as to be raised for exhibiting or turned down out of sight, as required, is a "code-pennant" 26, operated by any convenient means, such as line 27, attached to lever 27'. The code-pennant, however, instead of being placed above the case, as shown in the drawings, may be represented upon one of the screens 8, so that it can, similarly to the code-letters, be discernible during the darkest night.

The operation of the improved signal apparatus constructed as above described is as follows: The case is first turned on its trunnion to bring the front directly toward and at right angles to the observer with whom a communication is to be made. The code-pennant is then displayed and is answered by the same sign from the other vessel, and which symbol, it may be said, is used successively after each separate sentence to denote that the signal made has been understood. Notice having been drawn and acknowledged, as above mentioned, the operating mechanism is set in motion by one of the sailors turning the crank 23, which through the action of the screw and worm devices turns the vertical spindles 11 11' in opposite ways. Any of the several screens may now be moved in either direction across the sight-apertures by pressing down on the proper lever-handle 16 or 16' to engage with its respective spool, according to the direction it is necessary to have the screen traverse to bring the desired screen-letter into view. The changes may be made consecutively or simultaneously by a proper manipulation of the various aforesaid handles, and the exact or relative locations of the several letters may at any time be determined by scrutinizing the screen as it passes back of the peep-holes 4, wherein are seen key-letters similar to the adjacent exposed ones. For instance, if it is found by looking into any one of the said peep-holes that the letter "R" is exposed by that screen then as the letters are arranged in their common order a letter near the beginning of the alphabet would be brought into view by depressing the reverse handle, say 16', to couple the controlling-spool to its spindle and wind the screen until the key-letter similar to the one desired is discerned in the peep-hole, when the spool is disengaged by releasing the said lever-

handle and the particular screen is stopped; but in the event of one of the letters in an ascending direction being required one of the other (go-ahead) levers, as 16, would be used. It is obvious that all of the screens can be moved coincidentally by depressing one-half of the lever-handles simultaneously, either go ahead or receding; though ordinarily they would be moved in pairs, which would involve the use of both hands of a manipulator while a sailor continuously turns the crank 23.

It is apparent that the arrangement and construction of the present apparatus may be somewhat modified without departing from the spirit of the invention or sacrificing its advantages. For instance, the screens may be made with an opaque body and translucent characters, the operating mechanism may be driven by a steam or an electric motor, or the case placed horizontally instead of in a vertical position, as shown.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A signal apparatus, comprising a containing-case having sight-apertures in the front thereof, translucent screens having opaque characters marked thereon, lead-rolls for said screens, vertical spindles, spools loosely mounted on said spindles, clutch devices splined to said spindles and adapted to engage the said spools thereto, levers for actuating said clutch devices, worm-wheels on said spindles, another spindle arranged transversely to aforesaid spindles and having screws thereon adapted to engage said worm-wheels to rotate said first-named spindles; means to rotate the transverse spindle, a brake device substantially as described for each of said spools, lights positioned opposite said case-apertures in the rear of the screens, and a reflector.

2. In a signal apparatus, the combination with a containing-case, screens having sign characters marked thereon, spools for said screens loosely mounted on vertical spindles, means to rotatably engage said spools to said spindles, such means comprising clutch members splined to said spindles and having horns adapted to engage with corresponding recesses of the spools, and forked levers, of worm-wheels on said spindles, screws of opposite hand adapted to engage with said worms and mounted on a transversely-disposed spindle, and means to rotate said spindle whereby the said vertical spindles are driven in opposite directions.

3. The combination with the pair of spindles and the screens mounted thereon, of means for rotating the said spindles, and means for connecting one or more of the said screens with the spindles so that said screens may be wound as the spindles are rotated.

4. The combination with the rotatable case formed with sight-openings, of a pair of spin-

5 dles journaled in the said case, one to each side of the said sight-openings, a series of spools loosely mounted on each spindle at points above each other, clutch members carried by the spindles, means for operating said clutch members independently into and out of engagement with the said spools, screens carried by the said spools and extending

across the said sight-openings, and means for rotating the said spindles.

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

WILLIAM J. SMITH.

Witnesses:

PIERRE BARNES,
JOHN N. PERKINS.