

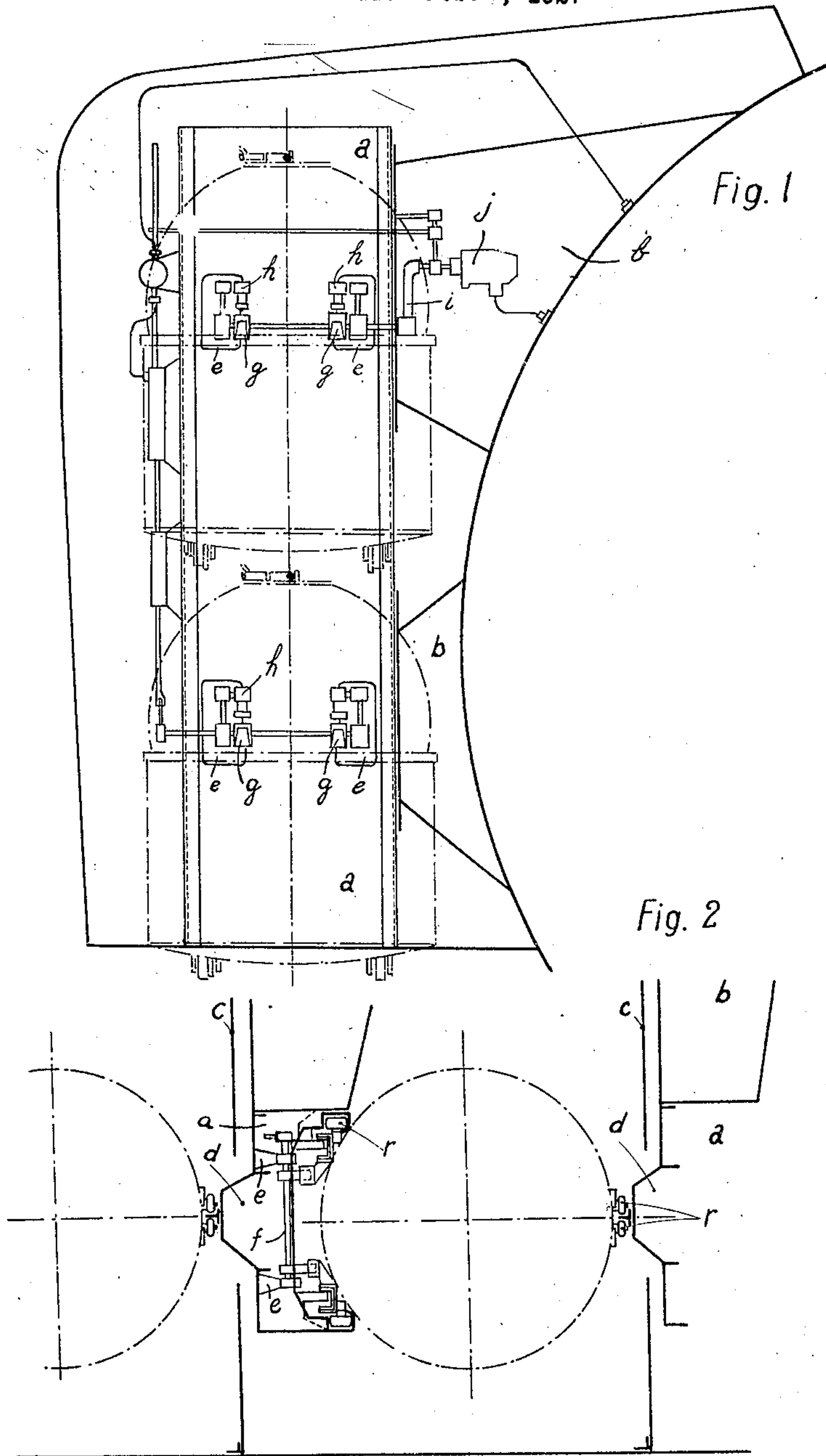
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MINE RECESS OF MINE PLANTING SUBMARINES

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MINE RECESS OF MINE-PLANTING SUBMARINES.

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The present invention relates to arrangements for holding the mines which are disposed in the lateral recesses of a mine-planting submarine, and it has for its object to provide a suitable construction by which the fixed or movable parts adapted to secure the mines in position will be made independent of all deformations of the light shell and of the parts securing it to the heavy outer hull, it being understood that such deformations remain within the limits in which no prejudice is offered to the navigation.

Such deformations may be occasioned for instance when the vessel is brought alongside a wharf with excessive violence, or when it is navigating amid ice.

The appended drawings, which are of a diagrammatic nature, show an embodiment of the present invention.

Fig. 1 is a diagrammatical vertical section through a lateral recess of a mine-planting submarine provided with the arrangements according to the invention.

Fig. 2 is a corresponding diagrammatical cross section showing two recesses together with the several beams and partitions.

The invention has for its object, to dispose the mines, not according to the known method in which the mines are placed on the transverse partition of the recesses which partition is secured to the steel plate of the light external shell, but to dispose these mines upon a supporting beam *a b*, Figs. 1 and 2, which is distinct from said transverse supporting partition, which latter is so disposed that it may be subjected to a considerable deformation without making contact with any part of the beam *a b*.

The said transverse partition may consist of steel plate, which is considerably cut out at various places to offer passage for the members securing the T shaped beam (Fig. 2) which serves as a guide for the front rollers of the mine (or mines) disposed in the adjacent recess situated rearwardly of the one considered.

The said partition might consist of steel plate which is optionally stiffened by angle pieces, or of a simple rider of trelliswork construction which makes connection be-

tween the angle piece bracing the light shell, and the heavy outer hull.

The supporting beam *a b* may consist of steel plate or of trelliswork structure, and in either case the beam may be divided into several parts one of which *a*, carrying the guide rails for the mine and also the mechanical parts employed for planting the mines, may be readily separated from the part *b* which is riveted to the heavy outer hull, so that the part *a* may be adjusted at the factory and may then be placed upon the flat part *b* which serves as a base therefor.

The stationary structure *b* may consist of a single element having the requisite height, or it may be divided into a plurality of separate elements.

In the diagrammatic figures which are given by way of example, it is supposed that the beam *a b* consists of a removable part *a* and two fixed half-portions *b b* which serve as a base for the part *a*.

In the same figures, the cross partition which connects the external shell with the heavy outer hull is represented by the steel plate *c* which is cut out in various places to offer passage for the member *d* attaching the T iron beam (Fig. 2) which serves as a guide for the front rollers of the mine.

As shown, two mines are arranged in superposed relation in each recess and for each mine are provided two bearings *e*, in which rotates a horizontal shaft *f*: on each shaft *f* are keyed two fingers *g* engaging two lugs carried by the mine proper. Located laterally of each bearing is a spring-catch *h*, which allows of the mine being inserted in position, but protrudes immediately after so as to bear on the mine lugs and prevent all oscillations of the mine when it is in the water.

The horizontal shaft *f* carries at its outer end a lever *i* the extremity of which is held in position by the end of the rod of the air-pressure piston *j*.

To set the mine free, the piston *j* is actuated in such manner that the end of the piston rod releases the lever *i* which turns on its horizontal axis.

The difference between the own weight of

the mine and the thrust corresponding to its motion actuates the fingers *g* and rotates the shaft in its bearings: the mine is accordingly set free, and slides away through the under end of the recess.

Claims:

1. A mine recess for mine-planting submarines, provided between the heavy hull of the submarine and a light shell exterior to the hull, comprising a cross-partition between the hull and the shell, and a mine supporting beam fixed to the hull, distinct from the cross partition, and unaffected by the deformations of the cross partition.

2. A mine recess as claimed in claim 1,

wherein mine guiding means is arranged within the recess and in operable relation with respect to the cross partition and beam, and the cross partition being cut out to allow passages to the mine guiding means.

3. A mine recess as claimed in claim 1, wherein the mine supporting beam consists of a stationary structure riveted to the hull and a removable structure serving as a base for the stationary structure, guiding rails carried on the removable structure, and a mechanical device for planting the mines also carried on the removable structure.

In testimony whereof I affix my signature.

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