

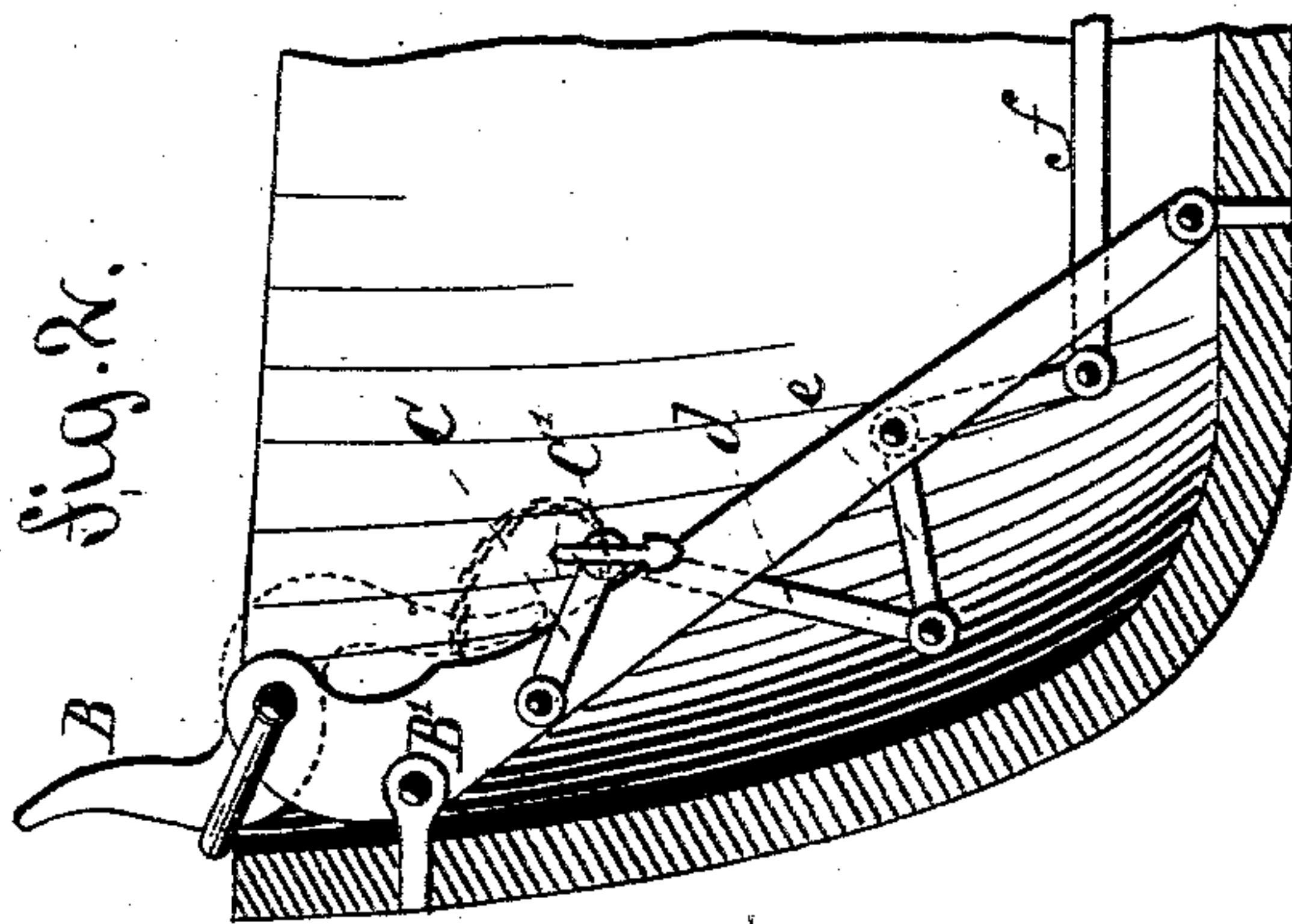
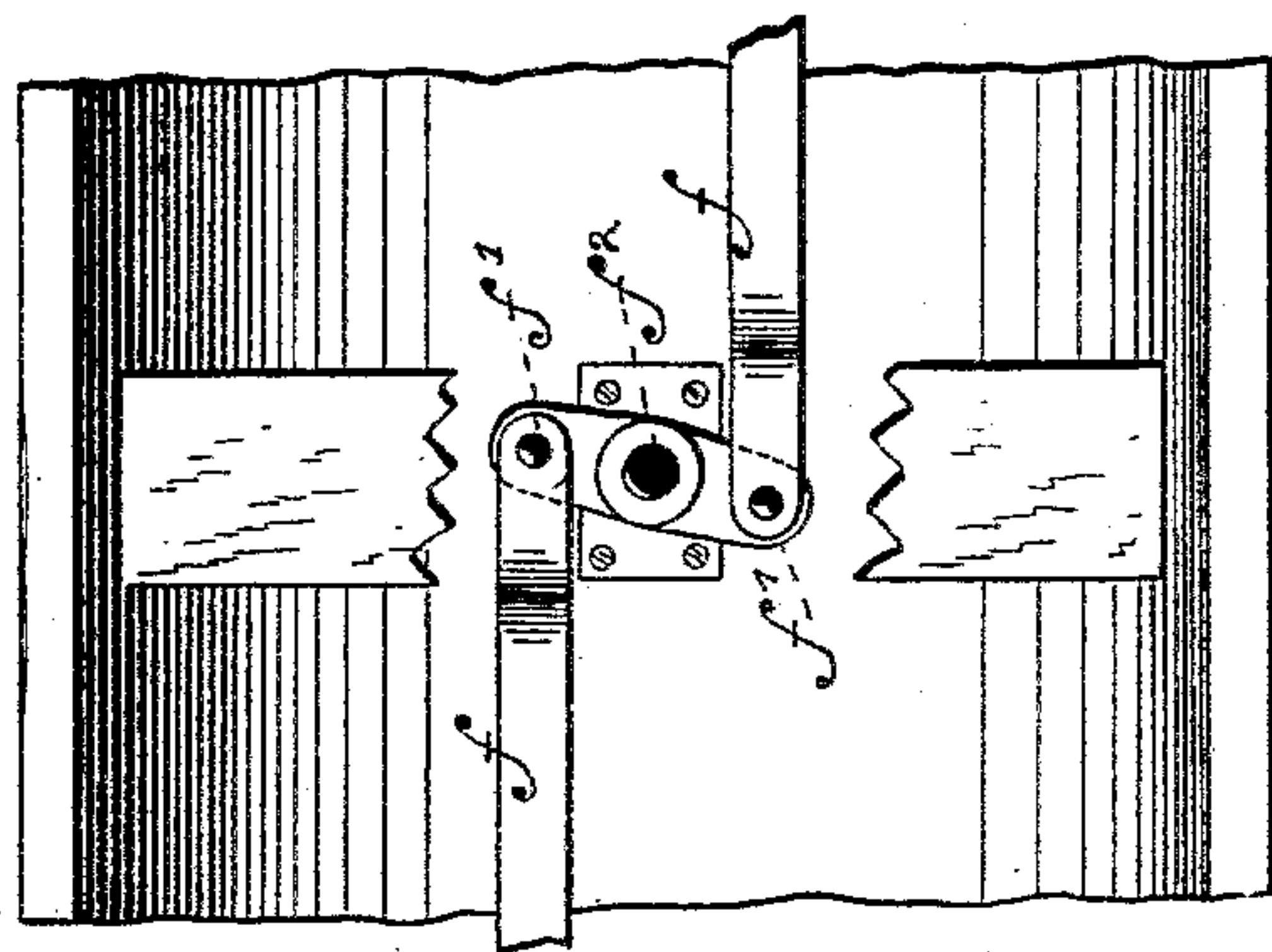
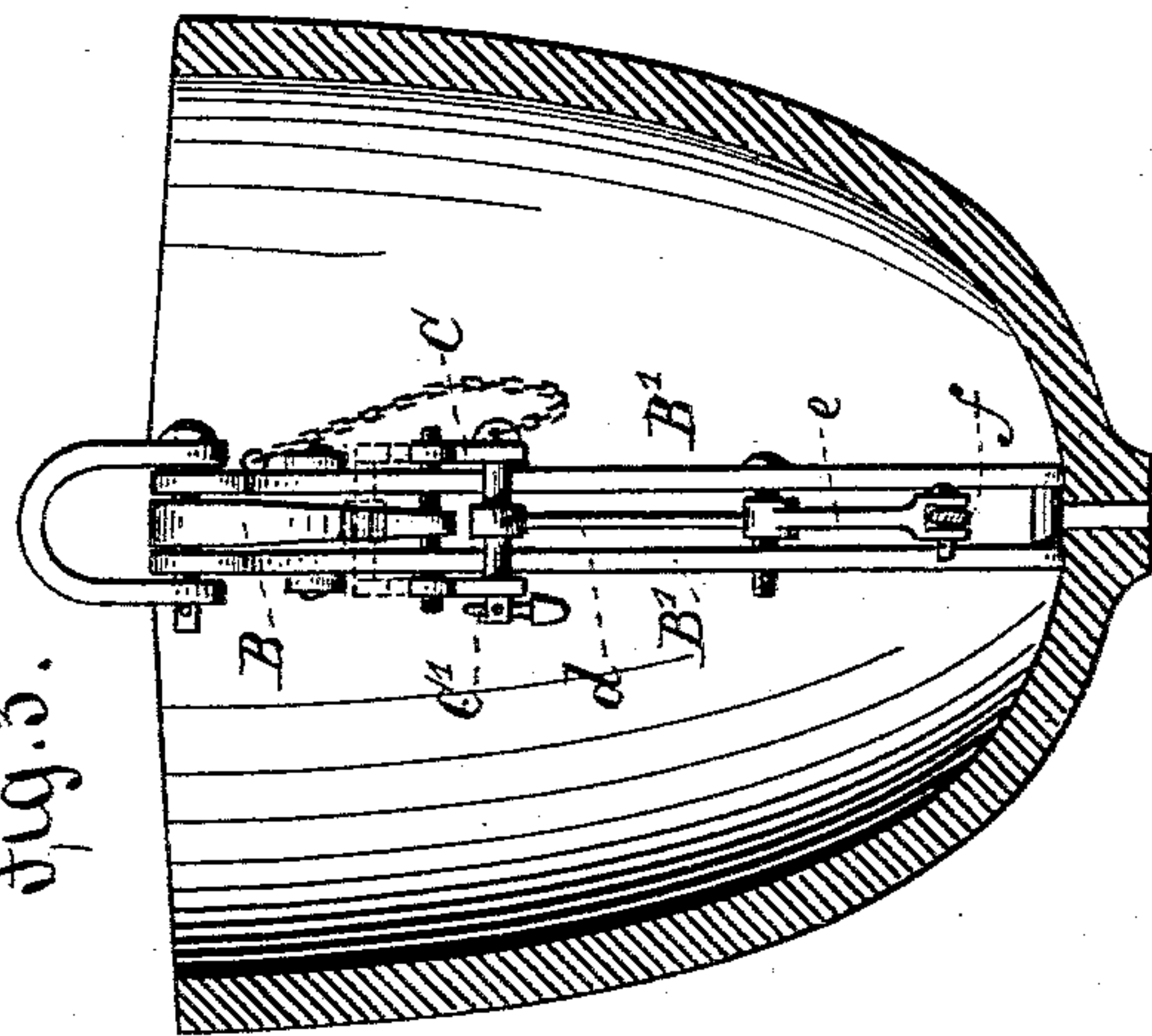
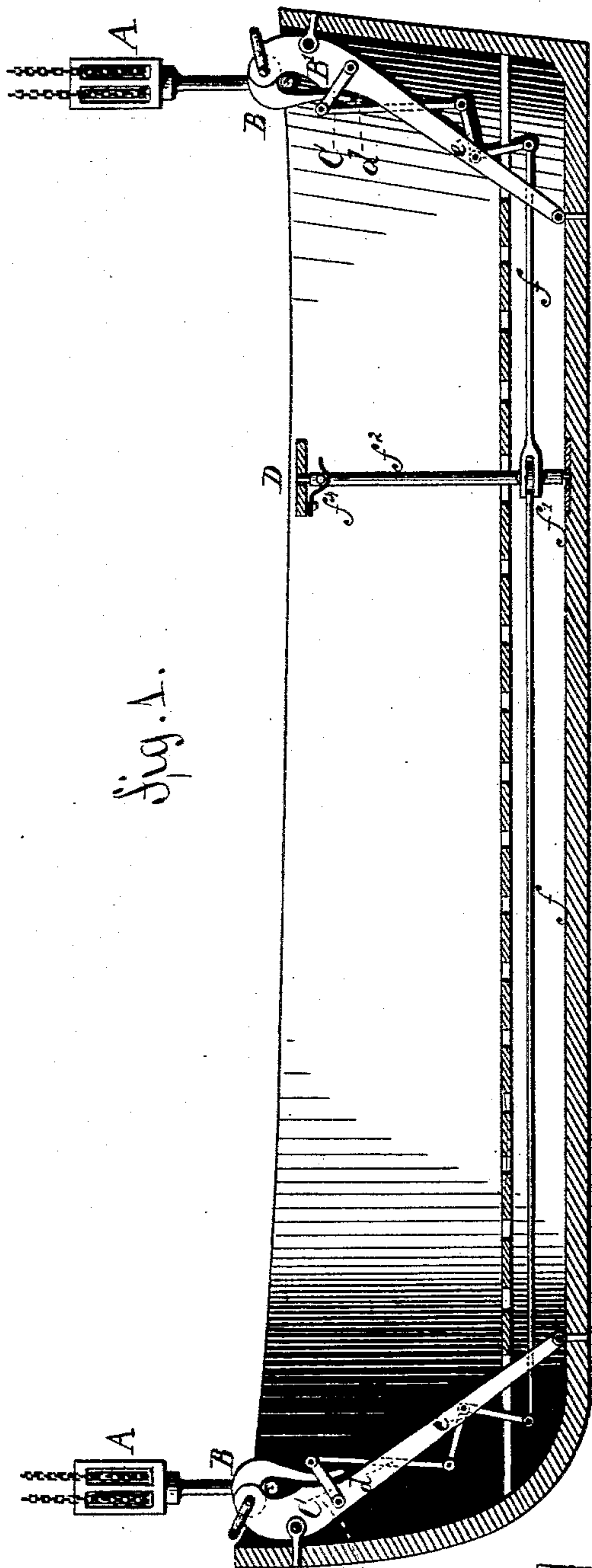
(No Model.)

H. BRUNS.

DETACHING APPARATUS FOR BOATS.

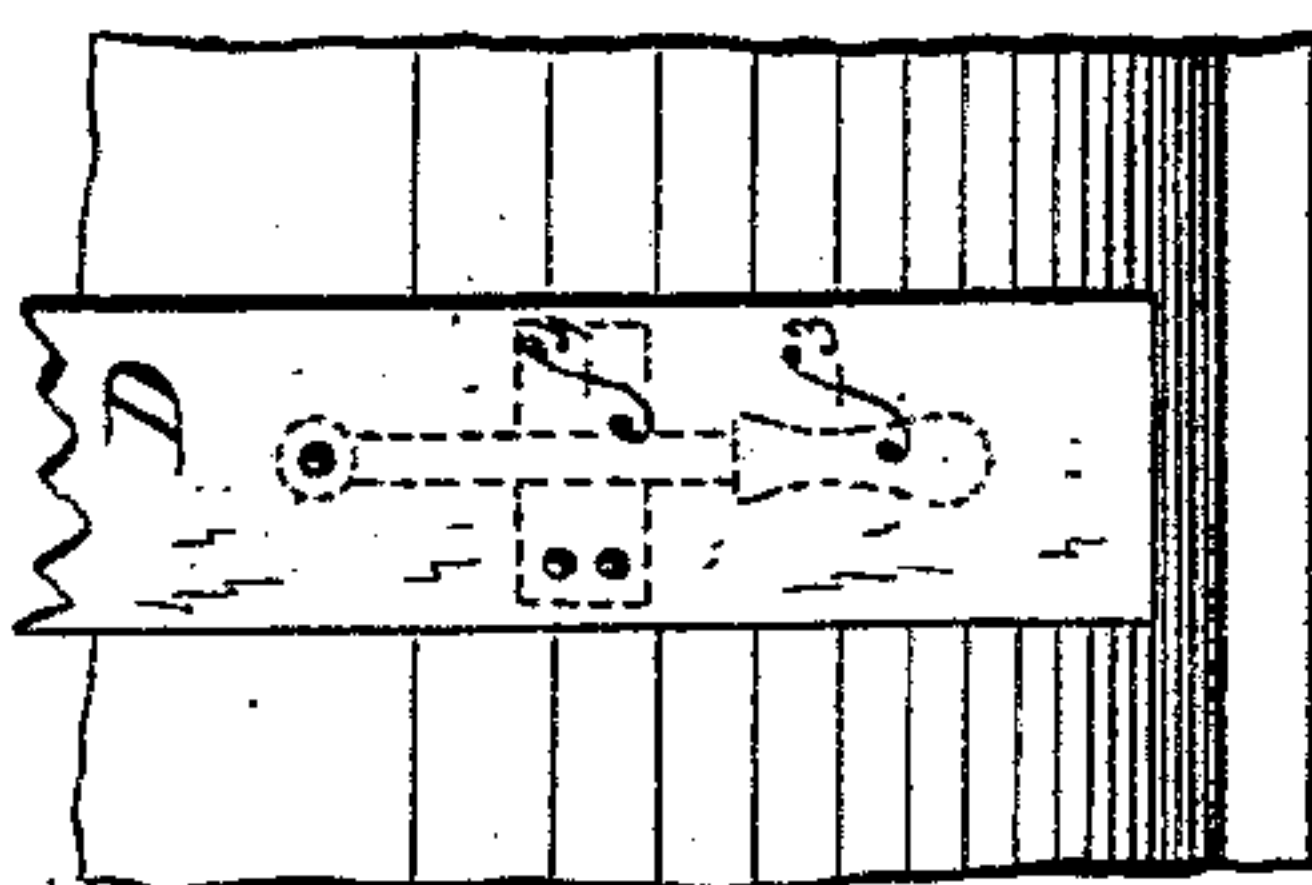
No. 300,566.

Patented June 17, 1884.



WITNESSES:
J. H. Rosenbaum.
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Fig. 5.



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UNITED STATES PATENT OFFICE.

HINRICH BRUNS, OF BREMERHAVEN, GERMANY.

DETACHING APPARATUS FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 300,566, dated June 17, 1884.

Application filed March 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, HINRICH BRUNS, of Bremerhaven, in the Empire of Germany, have invented certain new and useful Improvements in Detaching Apparatus for Boats, of which the following is a specification.

This invention has reference to an improved device for detaching boats from the fall-blocks of the davits simultaneously at both ends; and the invention consists of inclined brace-irons that are rigidly secured to the keel, stem and stern posts, and provided at their upper ends with pivoted hooks that engage the mousing-hooks of the fall-blocks. Below the hooks are pivoted locking-links having detachable transverse bolts, said locking-links being simultaneously released by connecting-lever mechanisms operated by a vertical crank-shaft supported below one of the seats of the boat, and having a hand-lever that is locked in normal position by a spring or other fastening device.

In the accompanying drawings, Figure 1 represents a vertical longitudinal section of a boat provided with my improved detaching apparatus. Fig. 2 is a detail side view of the detaching mechanism at one side of the boat; Fig. 3, an end elevation of the same, and Figs. 4 and 5 are plans of the lever mechanism for operating the detaching mechanisms at both ends of the boat from an intermediate point.

Similar letters of reference indicate the same parts throughout the several views.

A in the drawings represents the eyes or mousing-hooks of the davit fall-blocks of the davits, which are engaged by hooks B B, which are pivoted to inclined brace-irons B' B' at the stem and stern of the boat, said irons B' B' being secured at the lower ends to the keel and at the upper ends, respectively, to the stem and stern posts of the boat. By thus connecting the inclined irons B' B' at two points, they are adapted to resist the strains exerted thereon in a higher degree than when the connection is simply made with the stem and stern posts.

Below the hooks B B are pivoted to the brace-irons B' B' the locking-links C C, which are closed by detachable bolts C' C', having an eye at one end and an articulated piece at the other end. The eye of the bolt C' is attached by a chain to the iron B' or the boat, so that when the bolt C' is withdrawn it is suspended by the

chain, ready for use when required, without getting lost. The articulated end of the bolt C' is placed in line with the shank of the bolt when the latter is to be withdrawn, but drops down when the bolt is in its position, as shown in Figs. 2 and 3, so as to prevent the playing loose of the bolt C' from the locking-link C. The bolt C' is passed through the eye of a connecting-rod, *d*, which is pivoted to one arm of a bell-crank lever, *e*, fulcrumed to the inclined iron B'. The other arm of the bell-crank lever *e* is connected by a lever-rod, *f*, extending longitudinally above the keel to a suitable point between the stem and stern posts, to a crank, *f'*, of a vertical shaft, *f*², that turns in a step-bearing of the keel and a bearing of one of the seats D, as shown in Fig. 1. The shaft *f*² is provided below the seat D with a hand-lever, *f*³, which, when in normal position, is retained by a stout spring-catch, *f*¹, as shown in Figs. 1 and 5. A second crank *f'* of the shaft *f*² connects with a second crank-rod *f*, bell-crank *e*, and connecting-rod *d* of the locking-link C at the opposite end of the boat. By turning the lever *f*³ clear of the spring-catch *f*¹, the intermediate mechanisms lower both locking-links C C, so that they liberate the hooks B B, which release thereby instantly the mousing-hooks of the fall-blocks and detach the boat simultaneously at both ends from the same. The reattaching the boat to the fall-blocks can be accomplished in two ways: first, by the joint action of three men, of which one is at the seat, the others respectively at the stem and stern of the boat. The latter take hold of the fall-blocks, pass the hooks B B through the mousing-hooks of the fall-blocks, and lower them into a downwardly-inclined position. As soon as this is accomplished, the third man returns the lever into normal position, so as to be retained by the spring-catch, which causes the locking-links to engage the ends of the hooks, as shown in Fig. 1 and in dotted lines in Fig. 3. If three hands are not available, the boat can be reattached by one man, who places the lever first in normal position, so as to raise the locking-links. The transverse bolt of one link is then withdrawn, the hook B passed through the mousing-hook of one fall-block, turned down into its lowered position between the link, when the bolt C' is

replaced. The same operation is then accomplished at the other end of the boat, so that the detaching apparatus is ready for action whenever required.

5 The advantages of my improved boat-detaching apparatus are—

First. The rigid connection of the hooks by the inclined irons, which are attached to the keel and stem and stern posts, respectively, prevents the tearing out of the hooks, which has frequently happened heretofore, so as to cause the capsizing of the boat.

Secondly. The detaching devices cannot release themselves, either automatically or by the action of the waves, but only when the releasing mechanism is operated.

Thirdly. It will not detach at one end only, but always at both ends simultaneously. It is thereby more reliable than the so-called "automatic" detaching devices, which frequently detach at one end when the boat hugs the water at one end only without clearing the other end, which causes accident and loss of life.

Fourthly. The operating mechanism is located at the bottom of the boat, and protected so as not to get out of order.

I am aware that boat-detaching tackle in which the fall-blocks of the davits are connected to hooks or links attached to the bow and stern of the boat, said links being released by suitable lever mechanism, either automatically when the boat arrives on the surface of the water or by operating said lever mechanism by hand, have been used heretofore, and I do not claim these features, broadly.

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

1. The combination, with the mousing-hooks of the davit fall-blocks, of hooks pivoted to inclined brace-irons secured at their upper ends to the stem and stern posts of the boat and at their lower ends to the keel, locking-links pivoted below the hooks, and connect-

ing-lever mechanisms operated and arranged substantially as described, whereby both hooks are simultaneously released from the fall-blocks, substantially as specified.

2. The combination of inclined brace-irons secured at their upper ends to the stem and stern posts of a boat and at their lower ends to the keel, hooks pivoted to the brace-irons, locking-links pivoted to the brace-irons below the hooks, lever mechanisms connecting the links with a crank-shaft at a point between the stem and stern posts, and a retaining device for locking the crank-shaft and detaching devices in normal position, substantially as set forth.

3. The combination of inclined brace-irons secured at the lower ends to the keel and at the upper ends to the stem and stern posts, respectively, hooks pivoted to the upper ends of the brace-irons, locking-links pivoted below said hooks, said links having transverse detachable bolts, a crank-shaft supported in bearings of the keel and seat of the boat, and intermediate lever mechanisms by which the crank-shaft is connected with the locking-links, substantially as set forth.

4. The combination of inclined brace-irons B' B', secured at the lower ends to the keel and at the upper ends to the stem and stern posts of the boat, pivoted hooks B B, engaging the mousing-hooks of the fall-blocks, locking-links C, pivoted to the brace-irons below the hooks, connecting-rods *d d*, bell-crank levers *e e*, longitudinal lever-rods *f f*, crank-shaft *f*², lever-handle *f*³, and spring-catch *f*⁴ of the seat, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HINRICH BRUNS.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN.