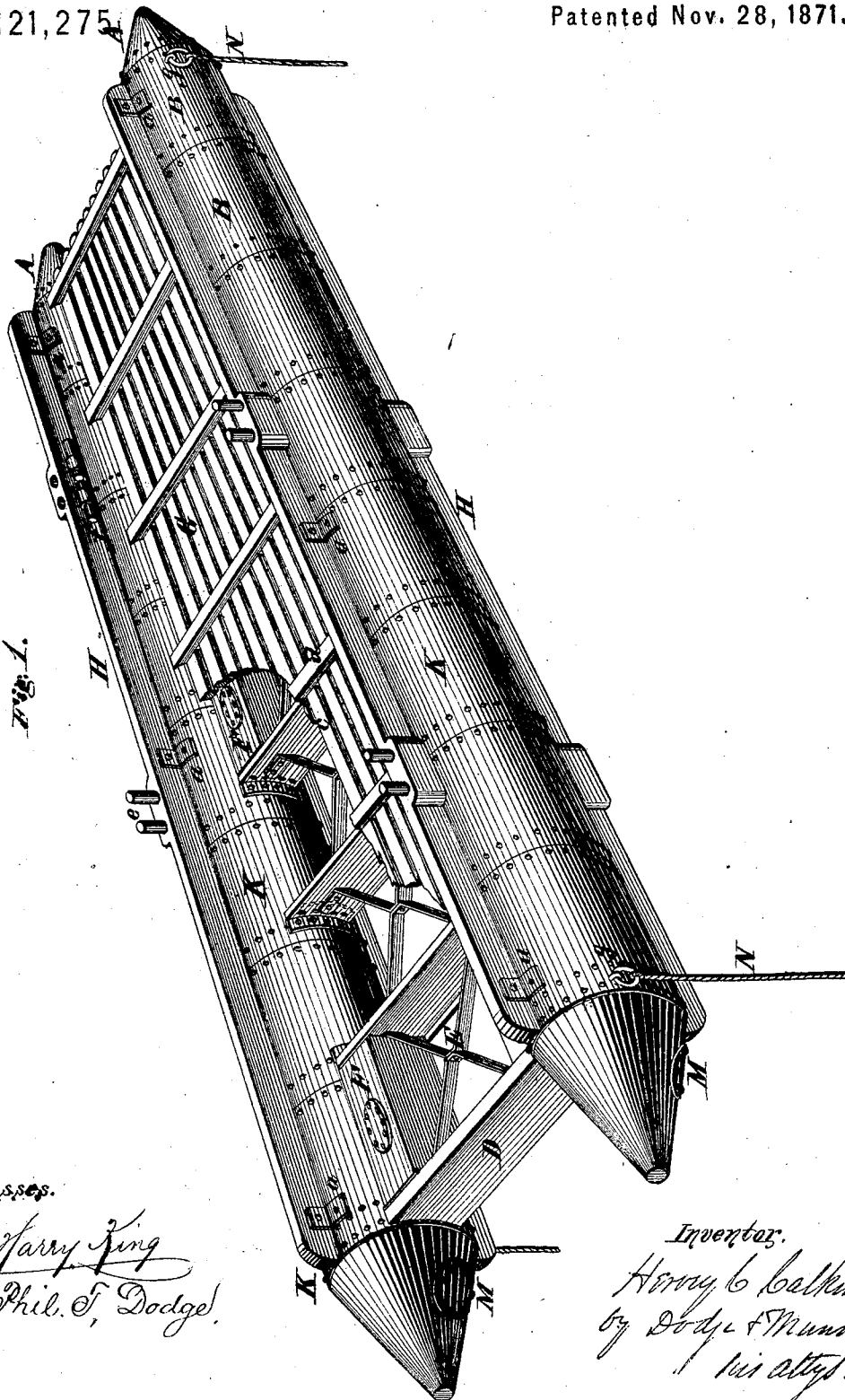


HERVEY C. CALKIN.

Improvement in Life Rafts.

No. 121,275

Patented Nov. 28, 1871.



Witnesses.

Harry King
Phil. T. Dodge

Inventor.

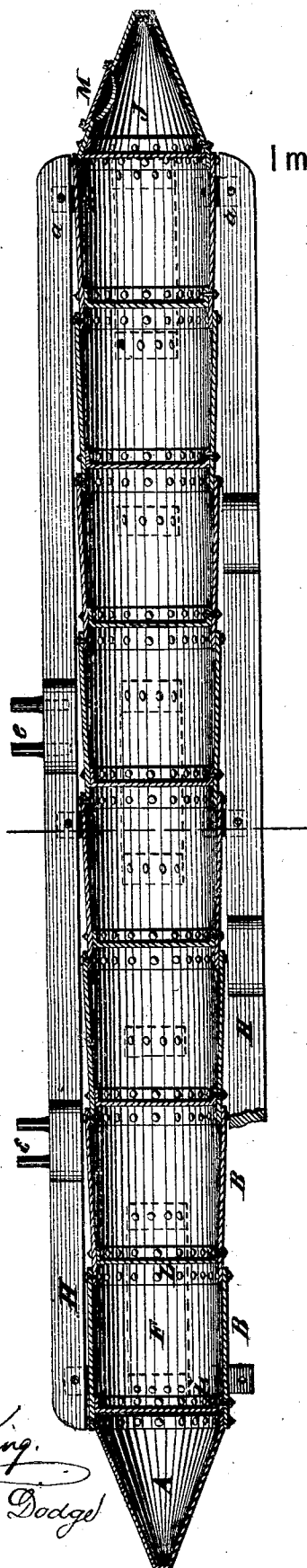
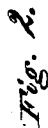
Hervey C. Calkin
by Dodge & Munro
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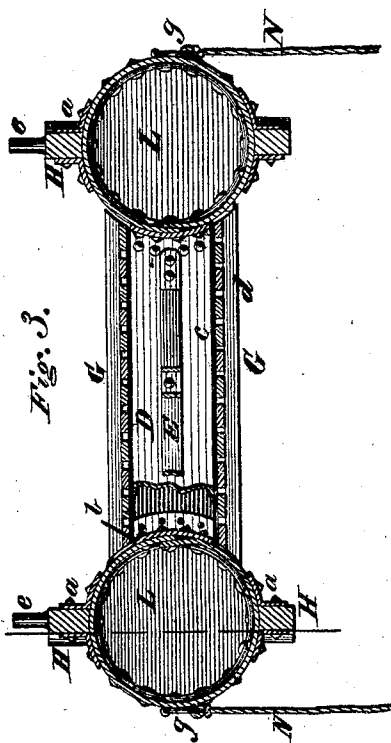


Fig. 3.

Inventor.

Henry C. Calkin
by Dodge & Munroe
his attys

UNITED STATES PATENT OFFICE.

HERVEY C. CALKIN, OF NEW YORK, N. Y.

IMPROVEMENT IN LIFE-RAFTS.

Specification forming part of Letters Patent No. 121,275, dated November 28, 1871.

To all whom it may concern:

Be it known that I, HERVEY C. CALKIN, of the city of New York, in the county of New York and State of New York, have invented certain Improvements in Life-Rafts, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to life-rafts; and consists in a novel construction of the same.

In the drawing, Figure 1 is a perspective view of my life-raft, with a portion broken away. Fig. 2 is a longitudinal vertical section of the same on the line *xx* of Fig. 3; and Fig. 3 is a cross-section on the line *yy* of Fig. 2.

The object of this invention is to produce a life-raft that will always be ready for use in any emergency; that can be launched and used in the roughest seas; that can be cheaply made, and yet, from the peculiar manner of its construction, cannot be separated or torn apart by the elements so as to entirely destroy its buoyancy.

To accomplish this object I construct two hollow cylinders, K, of any size desired, and out of ordinary boiler-iron or other suitable material, and in precisely the same manner. In constructing them I make cone-shaped ends A, and to these ends rivet a section, B, of the cylinder, in such manner as to be perfectly water-tight; then in the inner end of this section insert and rivet a head, L, so as to be water-tight, as shown in Fig. 2; then to this section B rivet another similar section, and in its inner end secure in like manner another head, L, and so on until the cylinders are made of the desired length, when I finish them by attaching cone-shaped ends. For the purpose of riveting these finishing-ends fast and securing a head therein, they are provided with a man-hole, M, which is closed when the cylinders are completed. In the process of constructing these cylinders, angle-irons, *a*, in pairs, are firmly secured on opposite sides of the same and at suitable distances apart, to receive and hold longitudinal pieces H, of strong timber, as shown in Figs. 1 and 3. Also, in the process of constructing these cylinders other angle-irons, *b*, are secured to their sides and at equal distances apart, as clearly shown in Figs. 1 and 3, and in dotted lines in Fig. 2. The cylinders K

thus constructed are then connected by flat iron cross-pieces or ties D, which are bolted to the angle-irons *b*, as shown in Figs. 1 and 3, and then between these cross-pieces are secured cross-braces E, also of iron, for the purpose of stiffening and strengthening the whole structure. Between the braces and cross-pieces, but to the sides of the cylinders, water-tight compartments or boxes F are secured, by means of the angle-irons attached to the cylinders in the process of their construction. These boxes F are for the purpose of storing away water and provisions, and are provided with openings having water-tight covers so each side, so that they may be accessible, whichever side of the raft is uppermost. Upon the cross-pieces D, and between the cylinders, a strong open wooden floor or bottom, G, consisting of longitudinal strips *c* and cross-bars *d* are secured, one on each side of the cross-bars, so that whichever side of the raft is uppermost, there will be a floor thereon. In the longitudinal bars or timbers H, thole-pins *e* are inserted, and these pins when not in use are secured in sockets *f*, on the inside of the timbers H, as shown in Fig. 1. The sides of the raft are provided with rings *g*, to which life-lines N are connected, as shown in the same figure. By this construction of raft, it will be seen that the two cylinders are constructed with a series of water-tight compartments, and in such a manner that any injury to one of the compartments, will not result necessarily in any injury to the others; that there are no parts requiring adjustment, but that the whole forms a strong, compact, and thoroughly connected whole, ready for use at any and all times; that when required for use there is nothing about it that has to be fixed or arranged, but that it can be launched into the sea either side up; and when in the sea can only be broken or rendered useless by sundering its bolted and riveted parts.

Having thus described my invention, what I claim is—

1. In a life-raft, the cylinders K, consisting of the cone-shaped ends A, the short cylindrical sections B and heads L, when constructed, arranged, and united in the manner and for the purpose herein shown and described.

. The combination of the cylinders K, angle-

irons *b*, cross-pieces D, and braces E, when constructed and arranged substantially as and for the purpose set forth.

3. In combination with the cylinders K, the angle-irons *a*, and bars or timbers H, when constructed and arranged substantially as and for the purpose set forth.

4. In combination with the cylinders K, angle-

irons *b*, cross-pieces D, and braces E, the open floors or bottoms G, when constructed and arranged substantially as and for the purpose set forth.

HERVEY C. CALKIN.

Witnesses:

J. MCKENNEY,

H. B. MUNN.

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