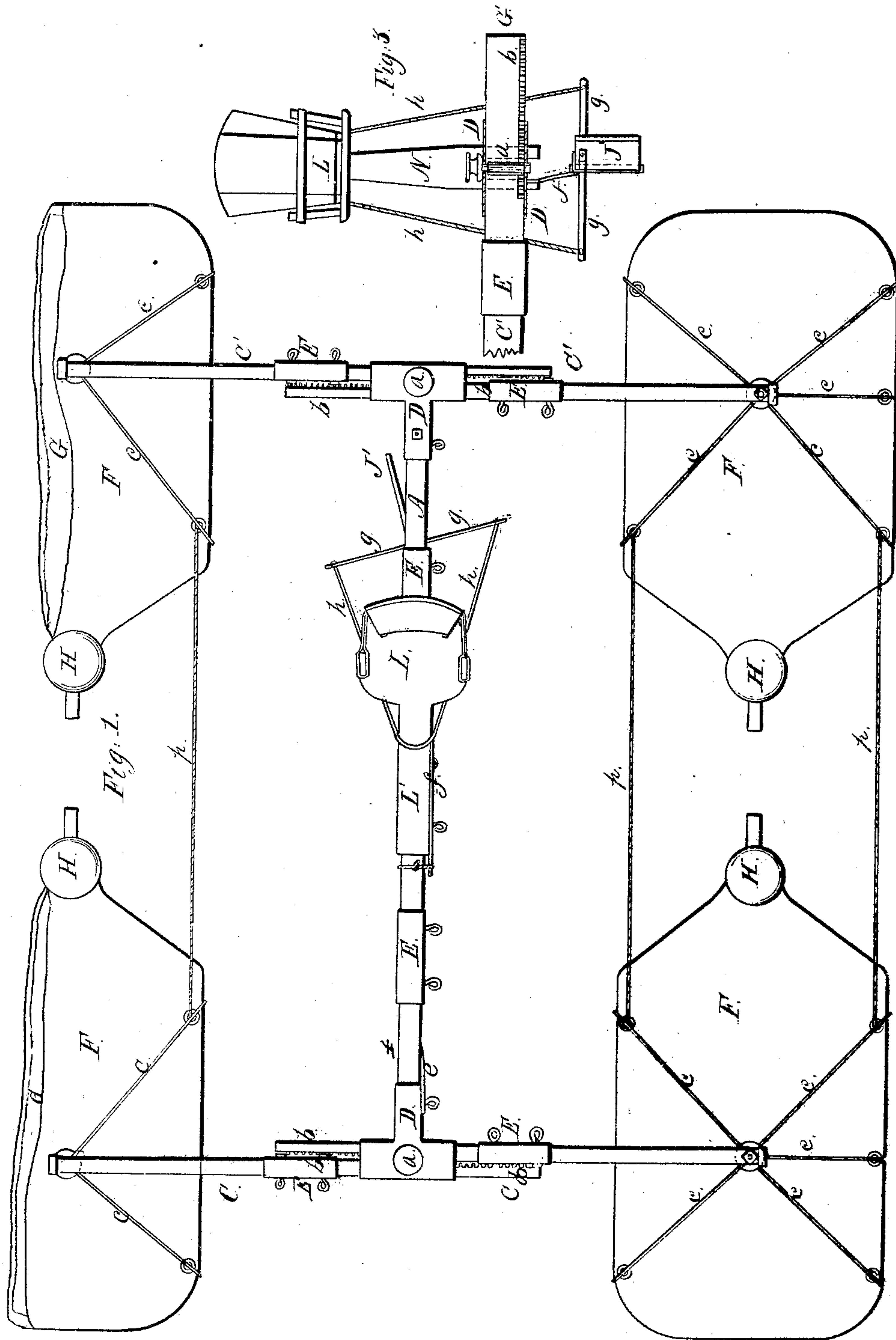


A. Baker.

Life Raft.

N^o 26,825.

Patented Jan. 17, 1860.



Witnesses:
H. A. Souders
Charles Baker.

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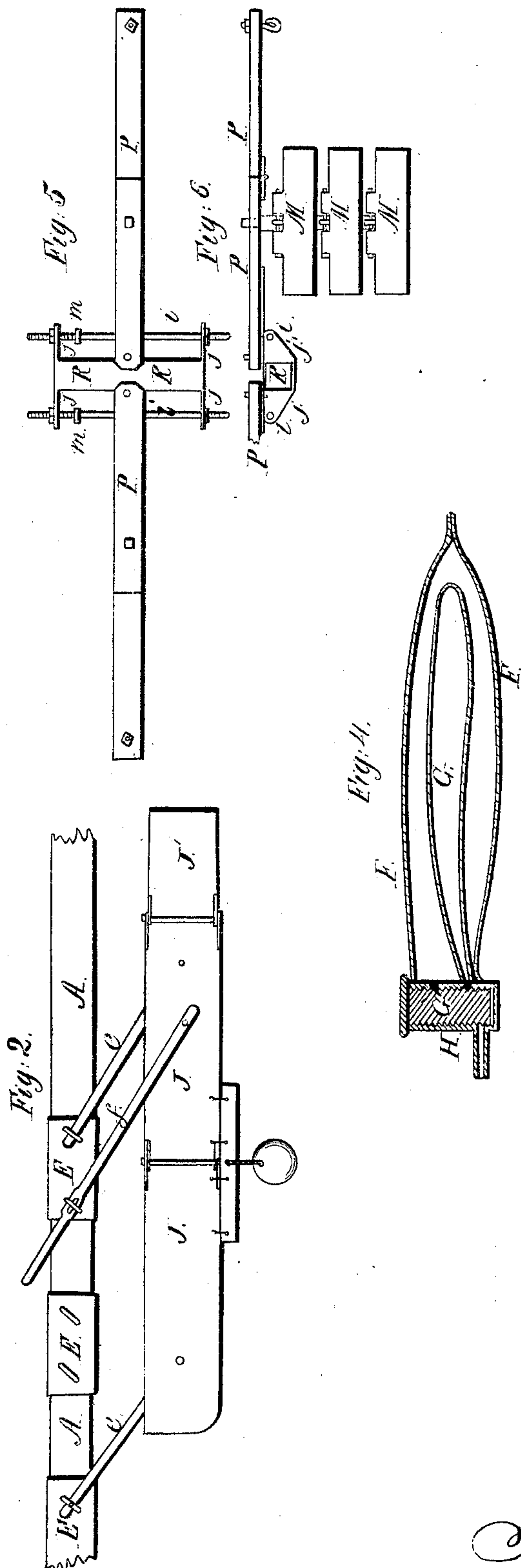
Inventor:

Albert Baker

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Inventor:
Alfred Baker

UNITED STATES PATENT OFFICE.

ALBERT BAKER, OF APPLETON, WISCONSIN.

LIFE-PRESERVING RAFT.

Specification of Letters Patent No. 26,825, dated January 17, 1860.

To all whom it may concern:

Be it known that I, ALBERT BAKER, of Appleton, in the county of Outagamie and State of Wisconsin, have invented certain
5 new and useful Improvements in Life-Preserving Rafts; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part
10 of this specification, in which—

Figure 1 represents a plan view of my raft with all the parts forming the same in their respective positions—the raft being ready for launching. The bags or buoys in
15 this figure are supposed to be in an inflated state and the tubes used for their inflation removed. The device for propelling the raft is not shown in this figure. Fig. 2 is a view of the adjustable keel and a detached portion of the central supporting beam of the
20 raft. This figure shows the manner of elevating and depressing the keel; the rudder is attached by hinges to said keel and operated by a tiller rope. Fig. 3 is a rear elevation of a portion of Fig. 1 showing the
25 rudder and the arms extending out on either side therefrom to which the tiller ropes are attached. In this figure the pinion is shown for operating the transverse beams of the
30 raft, for distending them for increasing the superficial area of the raft. Fig. 4, is a longitudinal vertical section taken through a bag or buoy of the raft showing the construction of the same, and the faucet for
35 preventing the escape of air or gas therefrom when they are filled. Fig. 5, is a plan view of one form of propeller which is intended for the feet of the person sailing the
40 raft. When used this device is attached to the central beam of the raft and operated by an alternate motion of the legs. Fig. 6 is an end elevation of Fig. 5 with one of the bars broken off, that which is shown has
45 attached to it hinged flaps or wings for acting upon the water in its movement backward. A buoy similar to those shown by Fig. 1 is to be attached to either end of the bars for maintaining a horizontal position of the propellers when in use.

50 In these several figures similar letters of reference indicate corresponding parts.

This invention is a portable life preserving or pleasure raft, to be used in time of emergency, at sea, in which instance the raft
55 can be put together and launched in a few minutes and its floating capacity may be

greatly augmented either by using light gas, or by filling suitable receptacles attached to it with ordinary air using for this purpose suitable air pumps. The raft may be con- 60
structed of a very light material and the entire raft is to be so made that it can be folded up in an exceedingly compact and portable form; and when a raft is intended
65 for pleasure purposes, it may be folded up and packed away in an ordinary valise, and carried about in the hand. Such a raft will be found useful for pleasure purposes, for emigrating parties, for army service, and,
70 on a larger scale, for ocean service where its compactness and portability and the facility with which it can be put together combined with its devices for propulsion and steering will all recommend its use and
75 adoption.

The propelling power will be optional with the owner of the raft, but for pleasure purposes, or rafts of small size, I have invented a peculiar constructed paddle which is to be attached to and operated with the
80 feet after the manner of walking. This device may be used in time of a calm, and when wind can be expeditiously employed, I propose to hoist ordinary sails or to use an umbrella-shaped sail, which will serve also
85 for a shelter in rainy weather.

The raft is so constructed that it may be contracted or extended laterally so as to increase or diminish its superficial area.

To enable those skilled in the art to fully
90 understand my invention I will proceed to describe its construction and operation.

A, represents the central beam, and C, C, the transverse beams, which are attached to the ends of beam A, and held together by T- 95
shaped ferrules, D. In the center of the transverse portion of each ferrule is a vertical pinion *a*, as shown by Fig. 3; and upon the inside of the beams which pass through this portion of the ferrule are rack teeth 100
b, b, which engage with the teeth of pinions *a a*. Suitable cranks are fixed to pinions *a a* which, by turning the beams C, C, may be moved in the direction of their length, and in this manner the raft may be extended or
105 contracted as circumstances require. The beams are constructed of short lengths and are united by tubes E, and eye bolts as shown by Figs. 1 and 2, which pass through the beams and receive nuts on their ends; the
110 joints are in this manner united and strengthened. The beams may then be disconnected

and folded up in short lengths and stored away for future use.

On the extreme ends of the transverse beams C, C, are hung flat bags, F, of gutta percha cloth, or other suitable water-proof material. These bags are made to serve as buoys for the raft, by inflating them with air or light gas, and when thus inflated the raft is supported some distance above them by metal rods *c, c, c*, which are connected to a plate and diverge, and are connected to the edges of the bag so that the ends of the beams will be supported directly over the center of flotation. The bags are each composed of an outer, F, and inner bag, G; both bags communicate with a vertical two-way cock H, Fig. 4, and can be filled simultaneously by opening the cock entirely, which is done by unscrewing the stem G; now should the outer bag leak or get accidentally torn, the inner bag will still preserve its buoyancy and the outer bag serve as a protection for the one inclosed. When all the air is removed from both bags they may be detached from the beams and rolled up in a very compact shape for packing away.

The drawings represent only four bags or buoys F, F, F, F but if a greater buoyancy is found necessary, these buoys may be multiplied to any desirable extent by attaching them to different parts of the beams in the same way as those described. The bags are steadied by ropes or cords *p, p*, passing through eyelets in their ends as shown by Fig. 1.

For the purpose of steering the raft I arrange under the central beam A an adjustable keel, J, and rudder, J', this keel is attached to swinging arms *e e* which are pivoted to the central beam in the front and rear of the same. There is also attached to this keel J a rod, *f*, having its fulcrum on the side of beam A, this rod is used for elevating or depressing the keel and with it the rudder J' which is hinged to it. The rudder has two arms *g g* projecting out from either side, to the ends of which are attached the tiller rope *h*, which passes forward and is connected in a convenient place, to the seat L which is mounted upon two standards N proceeding up from the central beam A. In front of the seat L proceeds a striding board L', the object of which will be hereinafter stated.

Figs. 5 and 6 represent a device for propelling the raft, which is to be operated by the motion of the legs. It consists of two jointed reciprocating bars P, P, jointed, merely to admit of their being folded up for packing away. These bars have metal tubes secured to their under side through

which pass the guide rods *i, i*. These rods are connected to wings *j, j* of a metal box R and are parallel with each other and with said box, the two ends of the jointed bars P, P, rest upon the top of the box R, which serves as a support for these ends during the reciprocating motion of the bars—nuts *m m* are for the purpose of regulating the motion of the bags upon the guide rods *i, i*. From the bottom of bars P, P, project stationary rods and to these rods are hinged flaps or paddles, M, as many as may be desired, these open so as to present no resistance in moving forward in the water, but as they are moved in the opposite direction to the motion of the raft, they all close and serve as paddles for propelling the raft through the water. The person in operating this contrivance sits astride of the board L' and has his feet attached to sandals, not shown, fixed to the bars P, P, and by properly steadying himself he moves his legs backward and forward as in the act of walking and thus paddles himself along.

On the extreme ends of the bars P, P, are hung buoys similar to those represented and described which serve to steady the bars and keep them always in a horizontal position, and their inner ends, down upon the metal box or tube, which serves to connect the two inside pieces of the central beam together.

It is optional with the owner of my raft, whether the leg propellers be used or some other device; an ordinary paddle, or oar, will answer, or a paddle wheel may be used in some instances advantageously.

A sail may be erected in the fore part of the raft when it can be usefully employed. Where such a raft is intended for marine purposes, and to be used in case of shipwreck a flooring must be used which may consist either of thin boards lashed securely to the transverse beams, or canvas of a strong texture may be used which is still more portable and which will serve all necessary purposes in times of emergency.

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

The combination of extension beams C, C, with central beam A, ferrules D, D, racks *b, b*, pinions *a*, for operating each pair simultaneously, arranged in the manner and for the purposes herein set forth, the whole being buoyed up out of the water by suitable bags F, as described.

ALBERT BAKER.

Witnesses:

H. A. SCUDDER,
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