

(No Model.)

2 Sheets—Sheet 1.

C. J. PIGEON & L. J. T. LACROIX.  
TUBULAR FLOATING MATTRESS.

No. 381,813.

Patented Apr. 24, 1888.

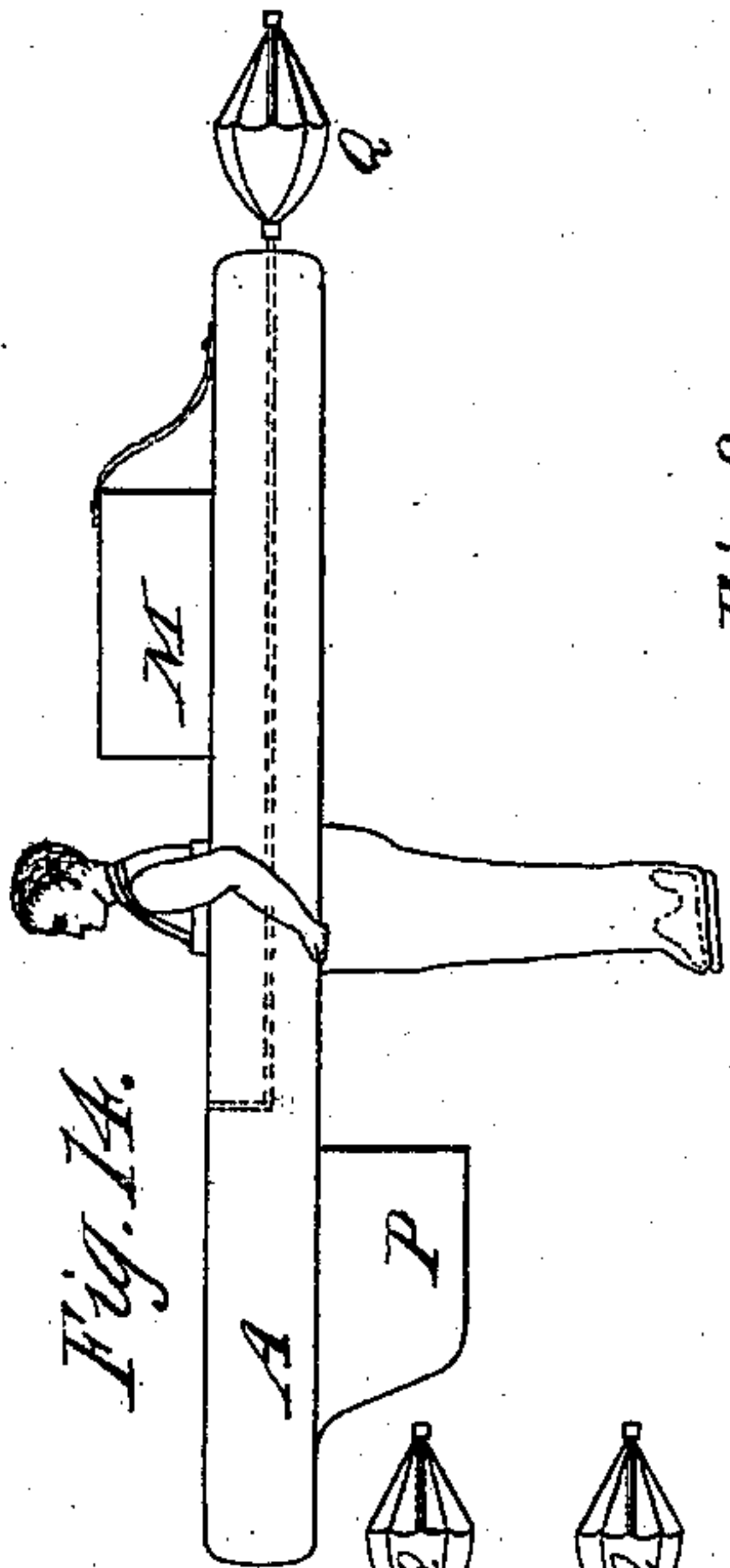


Fig. 14.

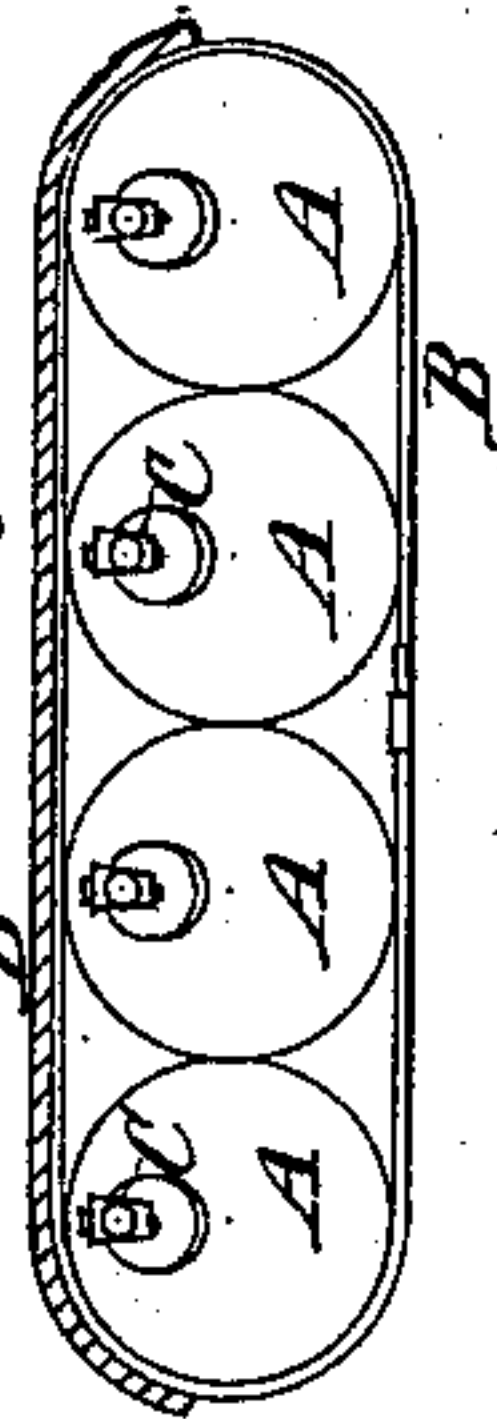


Fig. 2.

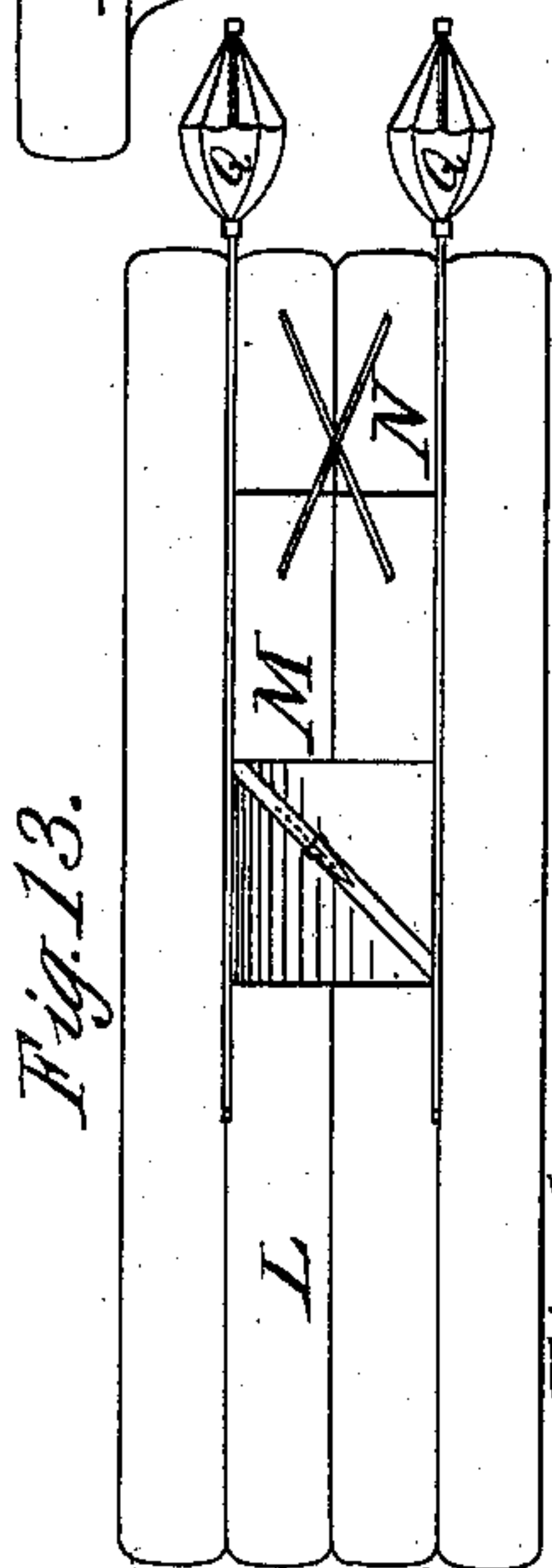


Fig. 13.

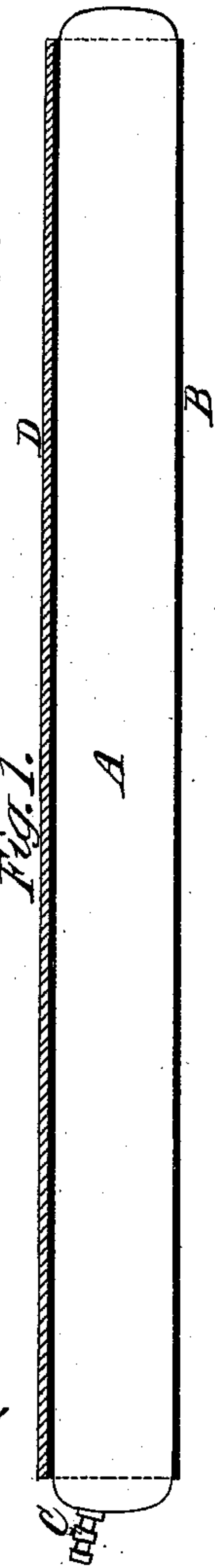


Fig. 1.

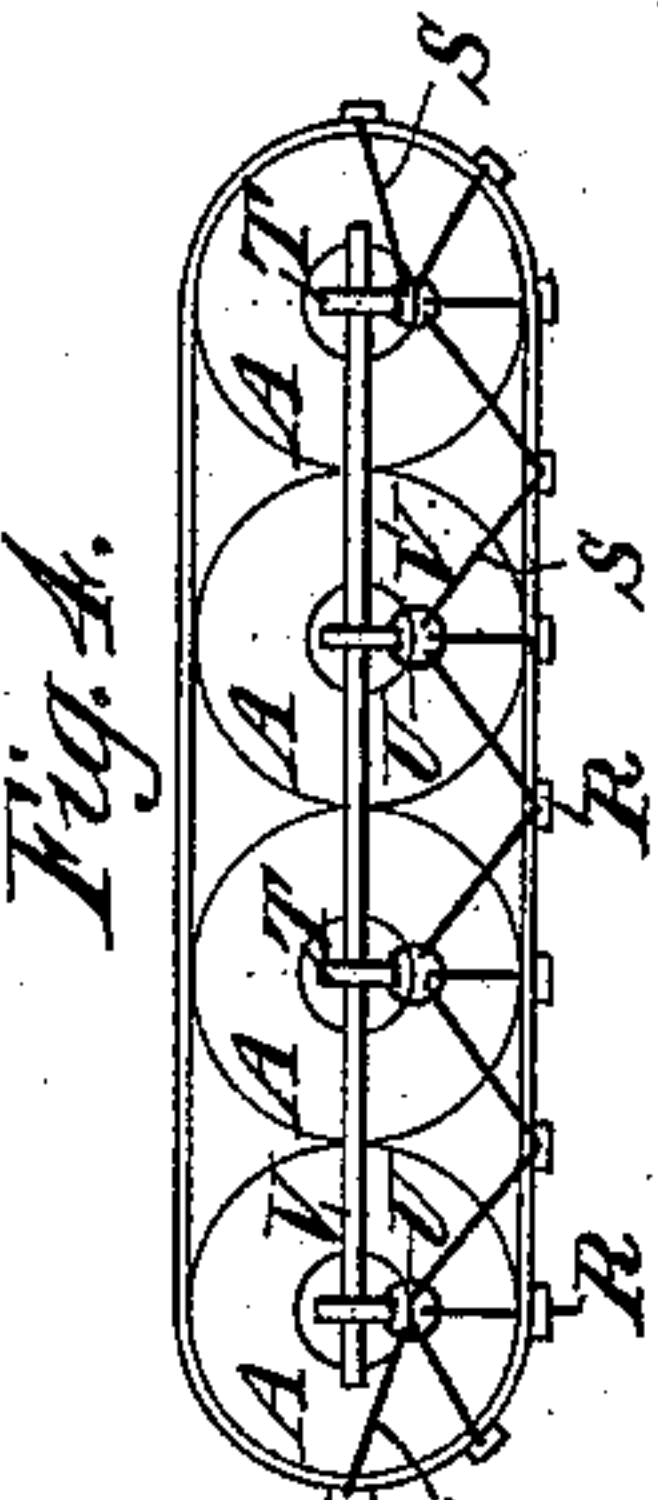


Fig. 4.

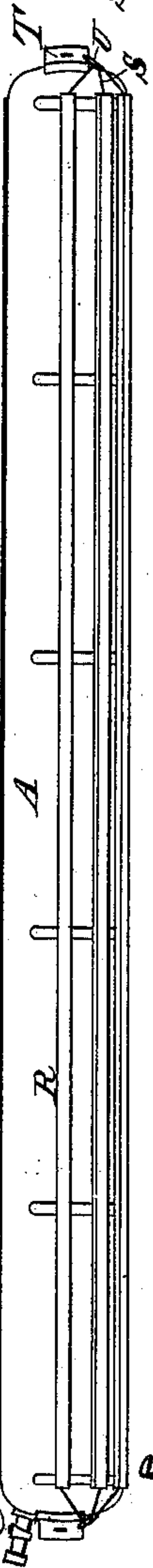


Fig. 3.

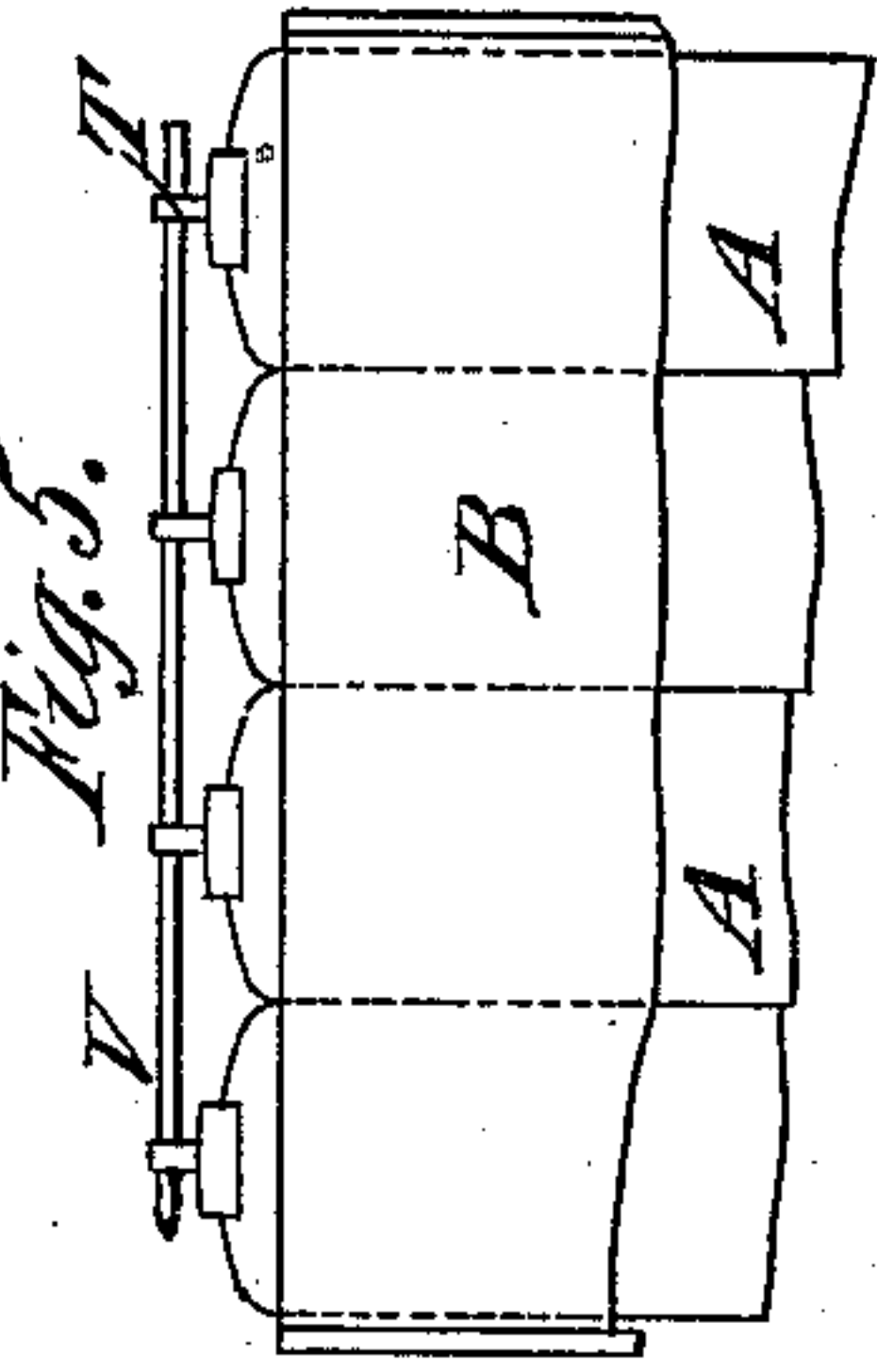


Fig. 5.

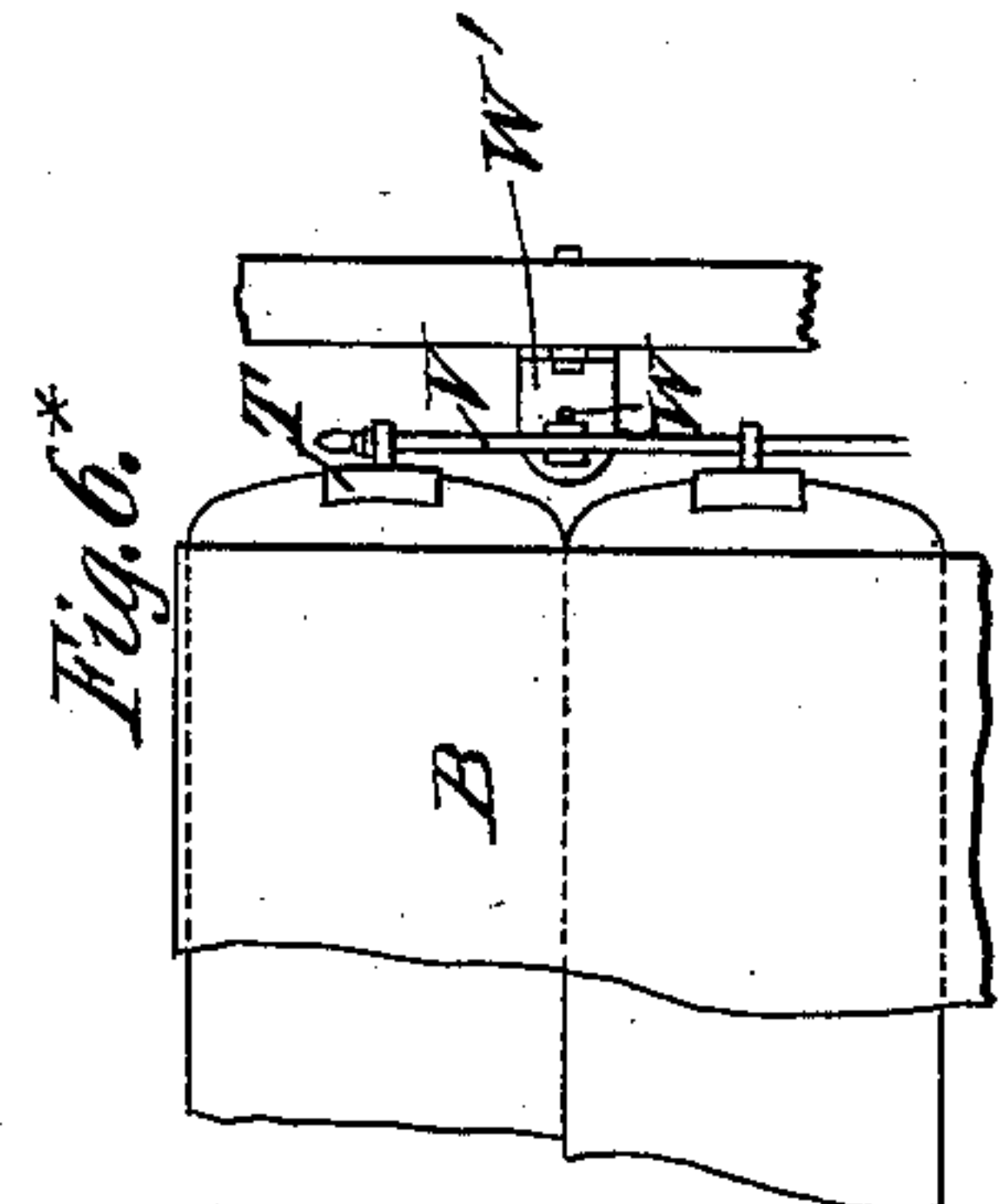


Fig. 6\*.

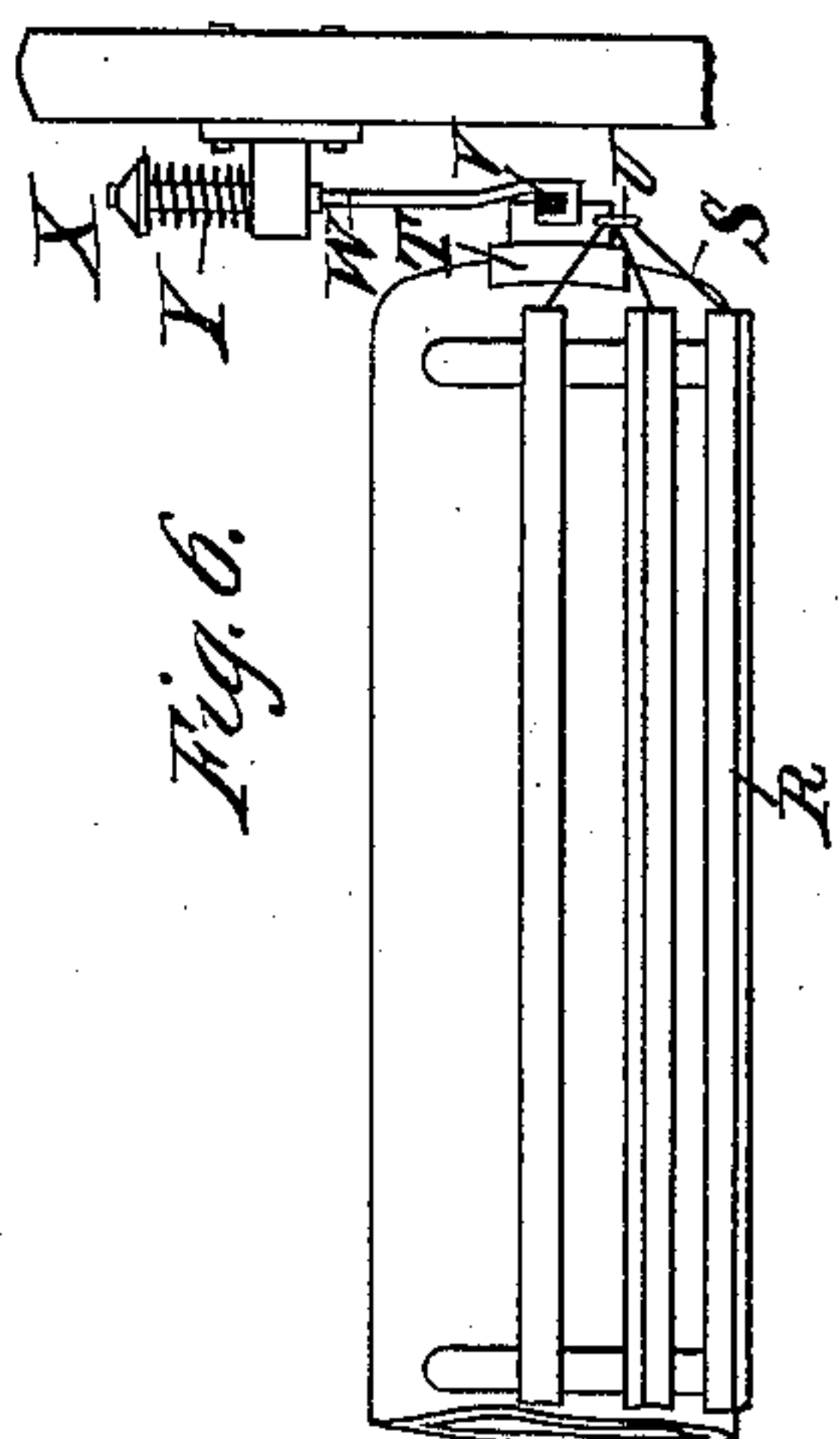
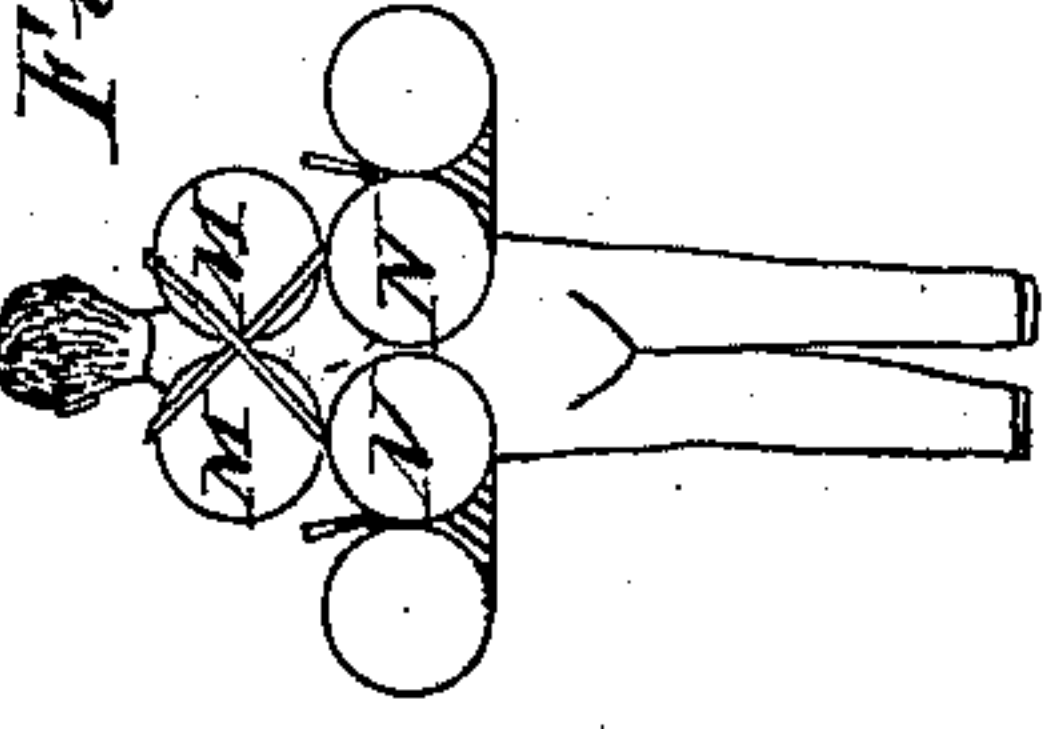


Fig. 6.

Fig. 12.



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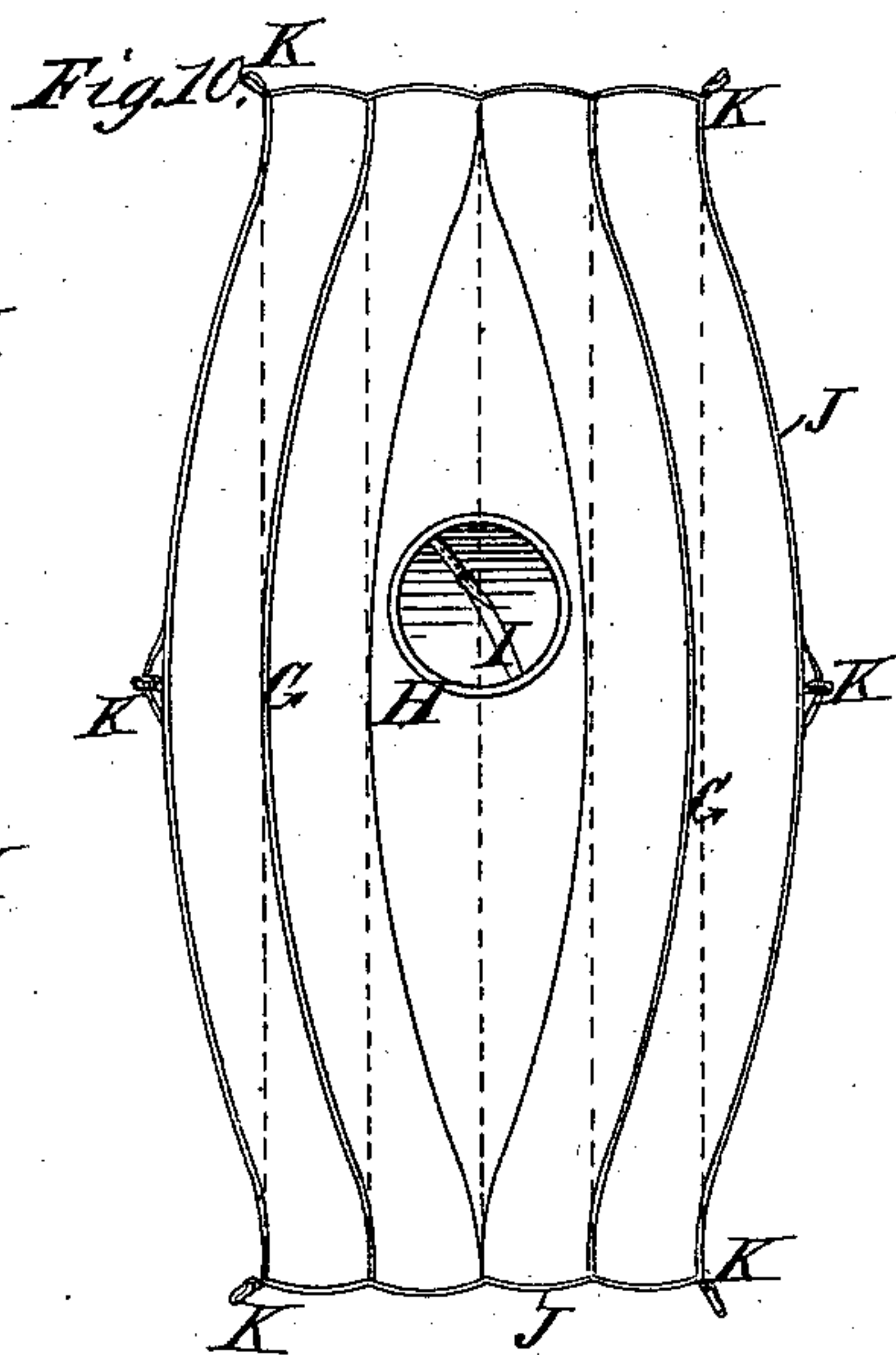
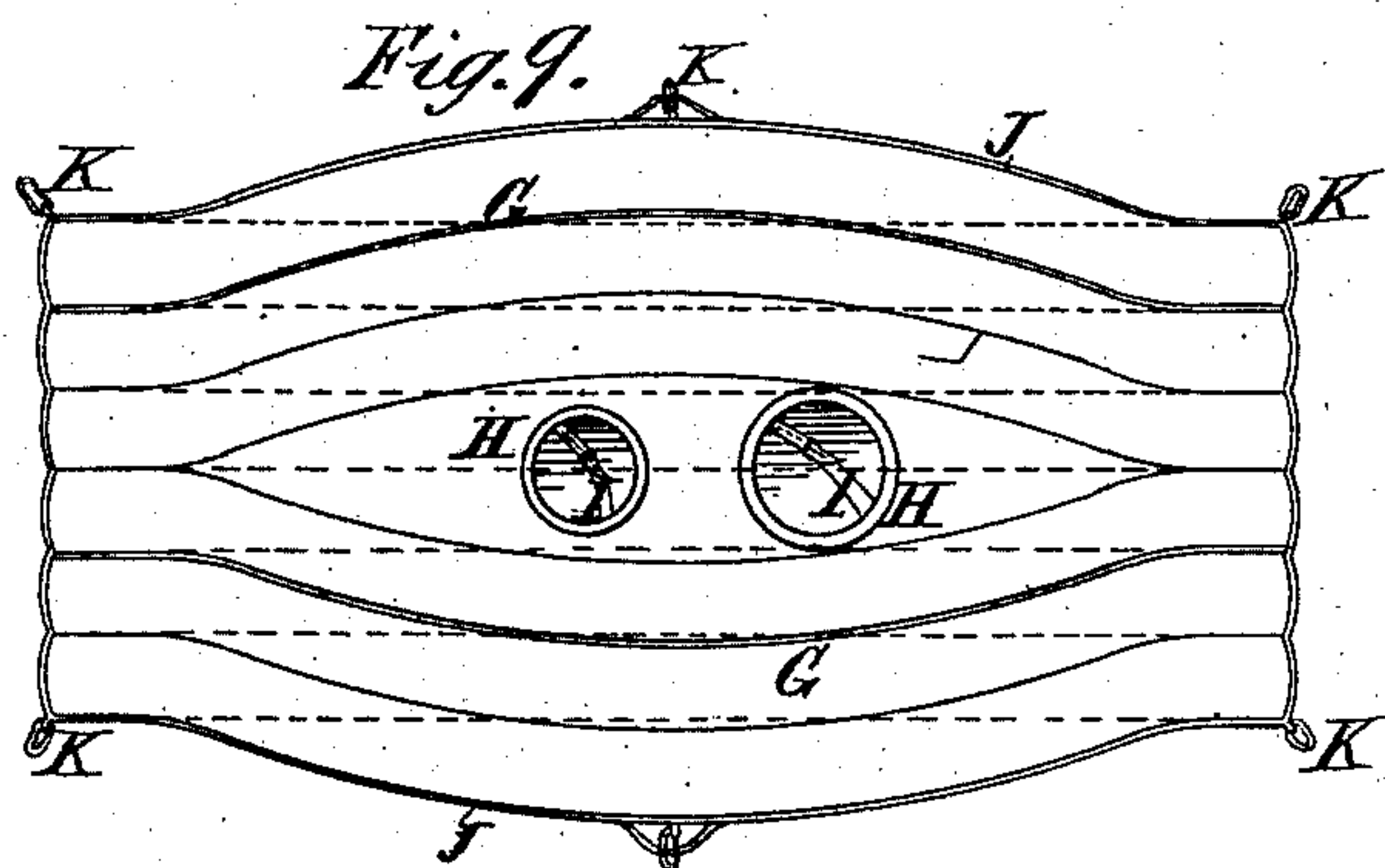
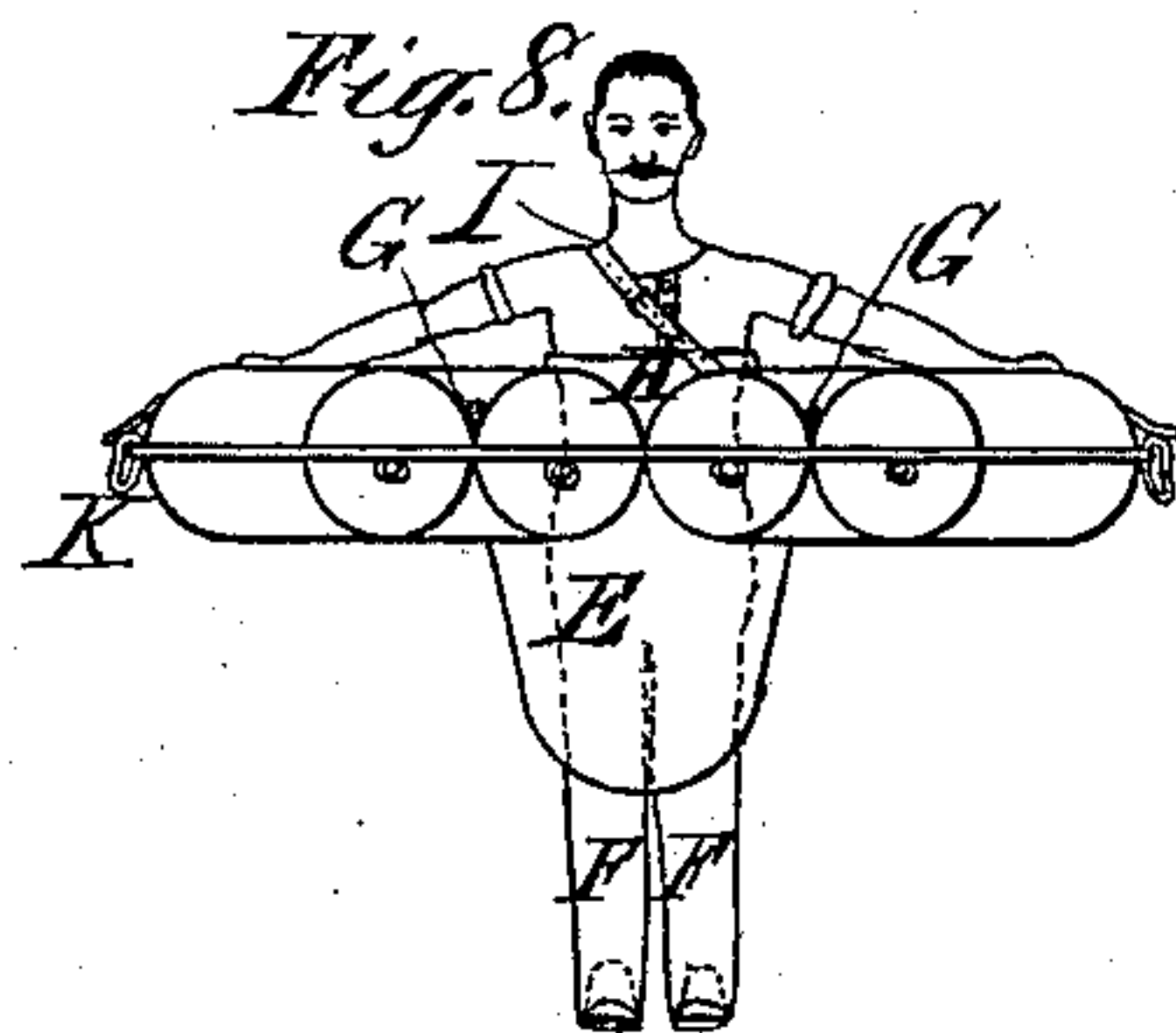
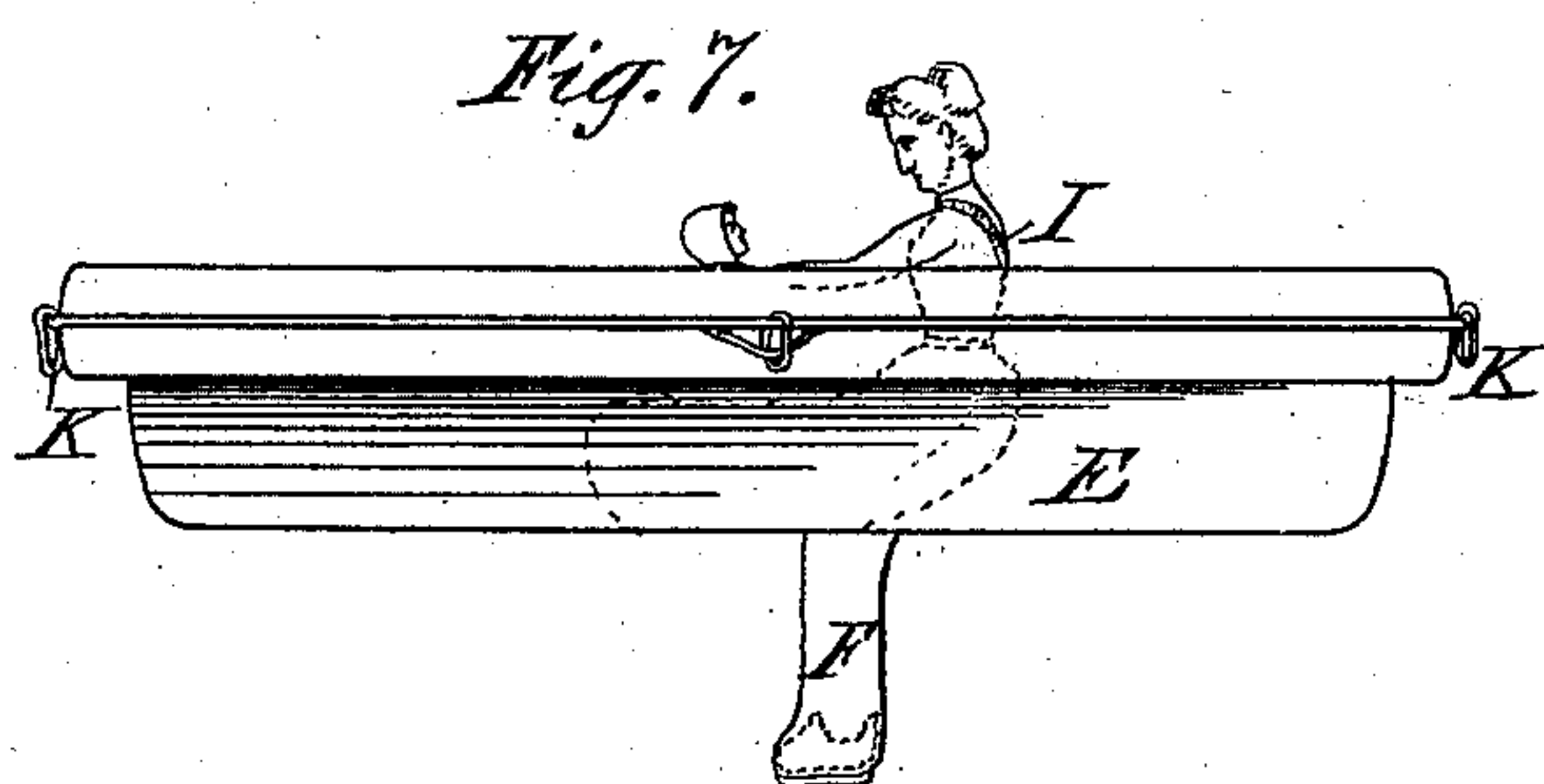
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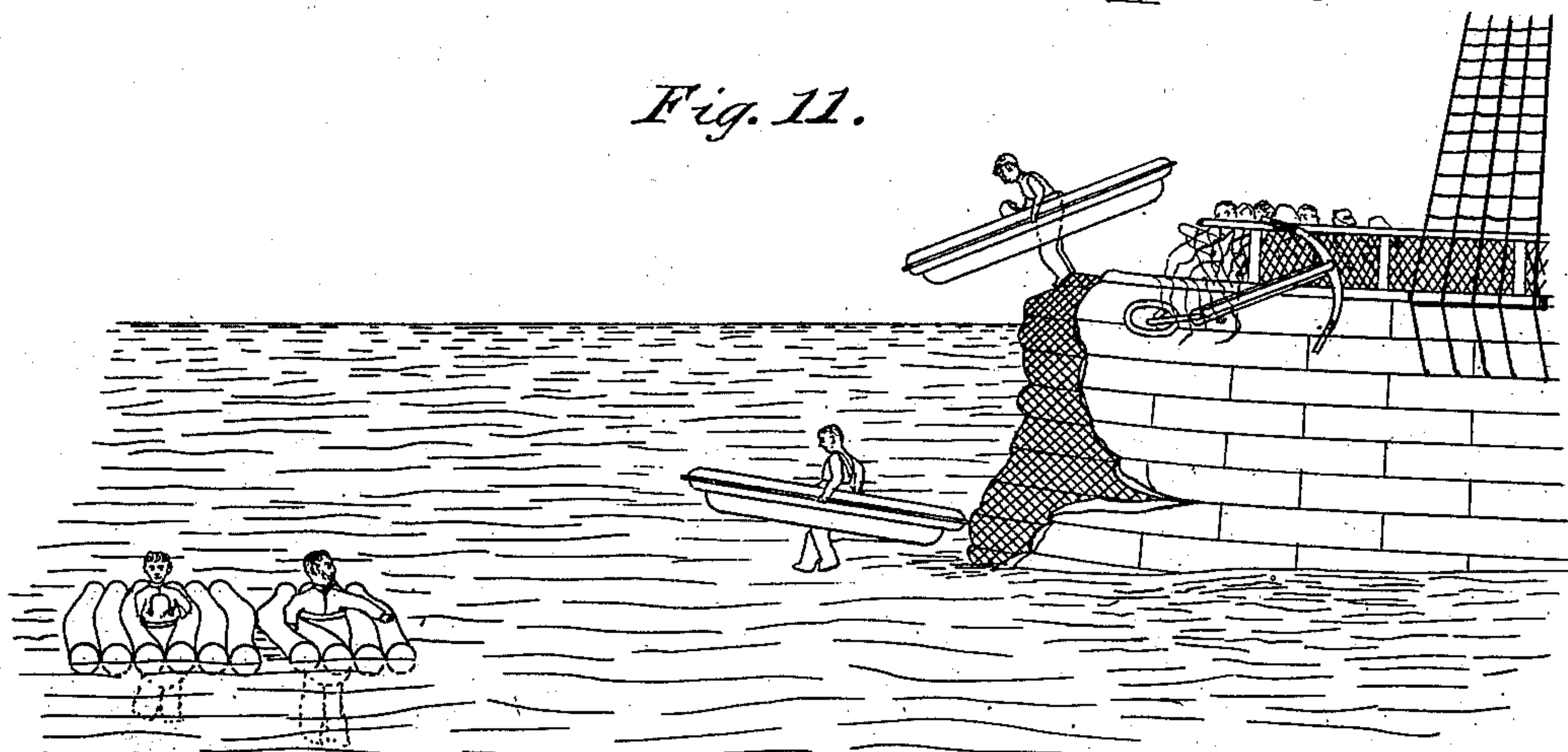
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*Fig. 11.*



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# UNITED STATES PATENT OFFICE.

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## TUBULAR FLOATING MATTRESS.

SPECIFICATION forming part of Letters Patent No. 381,813, dated April 24, 1888.

Application filed February 25, 1883. Serial No. 265,335. (No model.) Patented in France July 8, 1887, No. 184,677.

*To all whom it may concern:*

Be it known that we, CHARLES JOSEPH PIGEON and LOUIS JUSTIN TRISTAN LACROIX, citizens of the Republic of France, residing at Paris, in said Republic, have invented a new and useful Improvement in Tubular Floating Mattresses, (for which we have obtained a brevet d'invention of the Republic of France, dated July 8, 1887, No. 184,677,) of which the following is a specification, reference being had to the accompanying drawings.

This invention consists in the novel construction, hereinafter described and claimed, of a tubular mattress intended to serve the purpose of an ordinary mattress for the berths of ships and other vessels, and to serve the further purpose, when necessary, in case of shipwreck, of a life raft or float for saving lives of passengers and crew.

Figures 1 and 2 in the accompanying drawings represent, respectively, longitudinal and transverse sections of a tubular mattress composed of four cylinders constructed according to our invention. Figs. 3 and 4 represent, respectively, a side elevation and an end elevation of the said mattress and a wooden cradle containing the same. Fig. 5 is a plan of one end of the mattress corresponding with Figs. 3 and 4. Figs. 6 and 6\* represent, respectively, an elevation and a plan view of a part of one end of the mattress, illustrating its mode of suspension. Fig. 7 is a side view of the mattress transformed into a life-raft, showing the construction for receiving a woman and child; and Fig. 8 is an end view of the mattress as constructed for saving a single person. Figs. 9 and 10 are plans corresponding with Figs. 7 and 8, respectively. Fig. 11 shows the different ways of operating the life-raft. Fig. 12 represents a transverse section of a modification of the mattress, showing its employment as a raft. Fig. 13 is a plan corresponding with Fig. 12. Fig. 14 is a side view corresponding with Figs. 13 and 12.

Our floating tubular mattress, as may be understood from the drawings, is composed of any convenient number of cylinders, A, constituting as many hermetically-sealed chambers. These cylinders A are formed either of

pendent case of cotton or linen cloth or of an india-rubber-coated woven fabric of two thicknesses, between which is a lining of india-rubber, by which the two thicknesses are caused to adhere together. The said cylinders are also united side by side by seams, and in case of their employment as bedding they are inclosed in one common envelope, B, also of cotton or linen cloth.

To permit its inflation and collapse, as desired, each of the constituent cylinders of the floating mattress is furnished at one end with a metallic tubular socket furnished with a valve or cock, c. The envelope B being removed, the middle of the mattress may be opened by separating the two central cylinders, between which is furnished a water-tight pocket, E. (See Figs. 7, 8, 9, and 10.) This pocket has the general form of the bottom of a boat and is provided with two pantaloons, F, terminated by feet closed at the bottom and loaded by plates of lead. These legs, also closed and water-proof, are united with the pocket E by a water-tight joint.

When the mattress is ready to operate as a safety-raft, the middle cylinders are separated one from the other at the middle of their length, and the pocket E and the legs F are spread or distended, as shown in Figs. 7, 8, 9, and 10. When, on the contrary, the mattress operates as bedding, the cylinders are closed up together and the pocket and the legs are folded and tucked into the space between the middle cylinders. The rigidity of the cylinders is assured by rods or bamboos G.

When the mattress is used as a life raft or saving apparatus, all that is necessary is to spread the middle cylinders, as has just been described, to get into the pocket and the legs of the pantaloons, to buckle about the body a broad belt, H, which prevents the water from entering the pocket E, and to pass over the shoulders braces I, attached to the cylinders, thus permitting the apparatus to be easily carried and walked about with until the moment of jumping into the water. The belt and braces, moreover, in the case of the saving of women and children, assure a proper relation between the apparatus and the person, the leaden weights being always in the pantaloons cause the apparatus to reach the wa-



ter in such manner that the bust and the head of the person which it contains will always be kept above the water.

The mattress may be constructed and arranged to receive two persons—for example, a woman and a child—as shown in Figs. 7 and 9.

To permit more easy entry between the metal cylinders they may be slightly disinflated without sensibly reducing the buoyancy of the apparatus, for the displacement which it produces corresponds to a volume of water the weight of which is much greater than that of an ordinary man. The safety-mattress is furnished upon its sides with rings K, securely fixed to a rope, J, which protects the whole surface of the structure. These rings permit the lashing together of a number of these mattresses to form a large raft, which might be used for transporting baggage.

In the modification shown in Figs. 12, 13, and 14 a certain number of the metal cylinders—two, for example—are formed each of three sections, L M N, arranged in such manner that the mattress presents in its center a space filled at ordinary times by the middle sections, M. These latter are connected together and are connected by hinges to the rear sections. When the middle sections, M, are placed in such manner as to fill the space, the mattress will serve as an ordinary bed-mattress.

When the apparatus is to be employed for saving life, the middle sections, M, are turned over on the rear ones, as shown in Fig. 14. They may serve thus as a pillow to the ship-wrecked person, who is placed in the opening with his or her legs in the pantaloon-legs F. Moreover, these sections M turned over upon the apparatus present the further advantage of contributing, along with the weights at the bottom of the pantaloon-legs, to right the apparatus if it should fall into the water upside down.

Instead of a large water-tight pocket, E, a small pocket, P, (see Fig. 14,) may be arranged in such manner as to receive the legs of the tired traveler without withdrawing them from the pantaloons. To maintain the rigidity in a longitudinal direction, planks of convenient form may be fixed to the lower part of the mattress between the different cylinders of which it is composed. Moreover, in order to permit travelers to propel themselves to reach the point where they may wait for help, the mattresses are represented as furnished with propellers Q of a special form analogous to that of an umbrella and operating in a fashion similar to that of the web-feet of birds.

To make the mattress better serve as a bed, it may be furnished on the upper side with a thick woolen blanket, D. (See Figs. 1 and 2.) A mattress thus constructed and furnished may be placed either in an ordinary bedstead or in a frame of bamboo, wood, or metal furnished with a bottom formed of cloth or other fabric. When it is employed without a frame, it may

be placed in a kind of cradle (see Figs. 3 and 4) formed of laths or slats of wood, R, held together at their extremities by belts or cords S, by which they are connected with slightly-concave plates of metal, T, which are furnished each with a projection. This projection receives in its lower part a ring, U, to receive the belts or cords above mentioned, and is pierced transversely with a rectangular hole for the passage of an iron bar, V, of corresponding form, which assembles in a rigid manner all the cylinders of the same mattress. This bar also serves to suspend the mattress from hooks W, which are secured to or supported by any suitable fixed or permanent structure. The said hooks are represented in Figs 6 and 6\* as passing through fixed brackets W', between the upper surfaces of which and collars X X on the upper ends of the said hooks are placed spiral springs Y, which serve to give the said hooks and the mattress an elastic support.

This kind of mattress is capable of good use in sea voyages, presenting all the advantages of a hygienic bed when inflated with air, which may from time to time be renewed very easily and rapidly.

The sulphur entering into the composition of the india-rubber cylinders is innocuous to man, and it resists typhoid, choleraic, and other miasmas. These qualities make it a very desirable bed, which, owing to its lightness and the small space which it takes up when disinflated, will be eminently suitable to the wants of travelers and explorers, as well as to armies on campaign.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of a series of inflatable cylinders of water-proof flexible material arranged and secured together side by side, with the middle ones separable at or near the middle of their length, but united at their ends, and a water-tight pocket and water-tight close-bottomed and loaded pantaloon-legs fitted water-tight between the separable portions of the middle cylinders, substantially as herein described, for the purpose set forth.

2. The combination of the series of inflatable cylinders of water-proof flexible material arranged and secured together side by side, the middle cylinder or cylinders of the series having hinged sections M, capable of folding over the end sections and producing an opening between the adjacent cylinders, and a water-tight pocket and closed and loaded pantaloon-legs fitted water-tight to said opening, substantially as and for the purpose herein set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

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