

A. COLOMÉS.
LEAK STOPPER.

No. 512,866.

Patented Jan. 16, 1894.

Fig. 1. Fig. 2. Fig. 3.

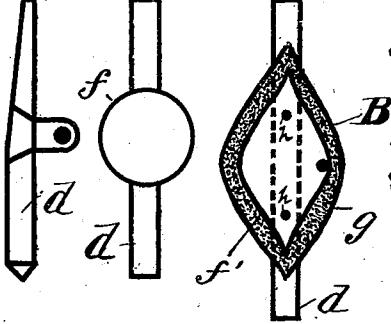


Fig. 4. a

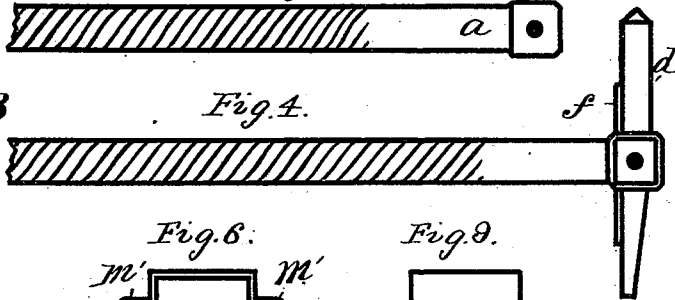


Fig. 4.

Fig. 6.

Fig. 9.

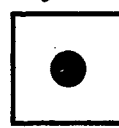
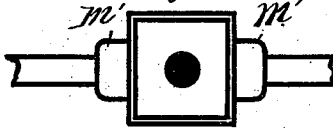


Fig. 8.

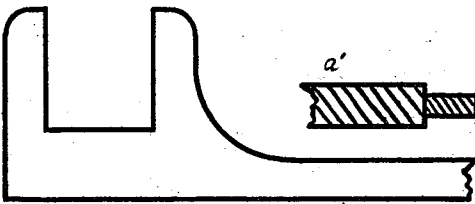


Fig. 5.

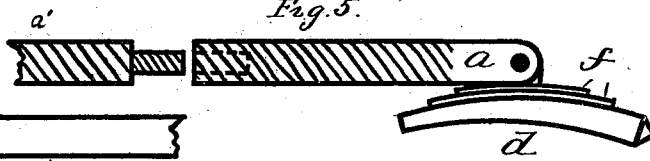


Fig. 7.

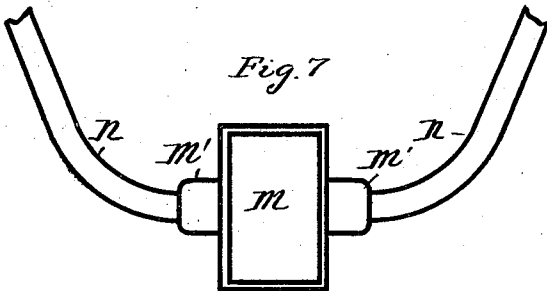


Fig. 10.

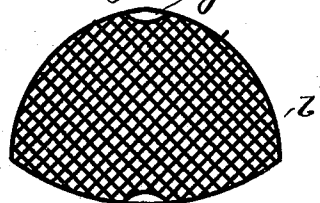


Fig. 13.

j'

Fig. 12.

Fig. 11.

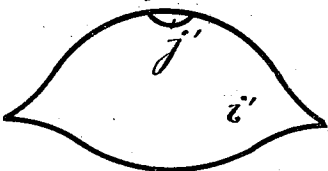
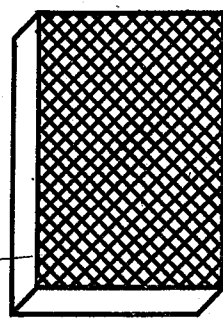
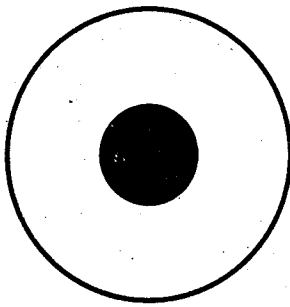
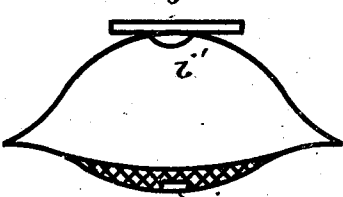


Fig. 14.



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(No Model.)

3 Sheets—Sheet 2.

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Fig. 15.

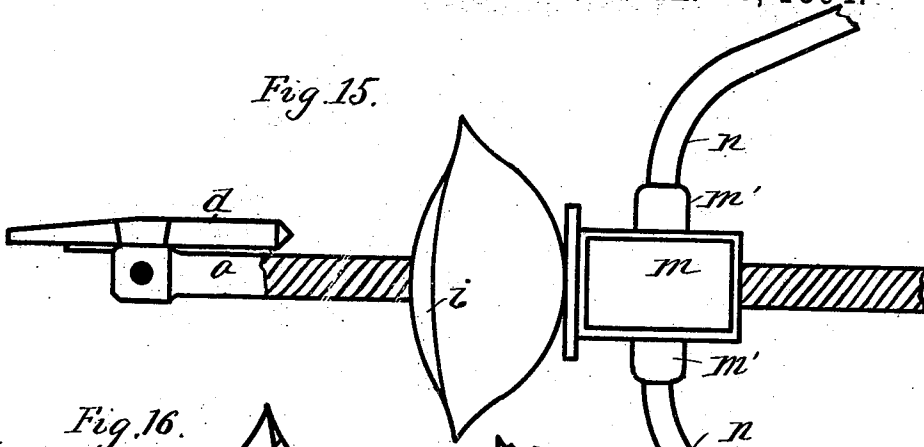


Fig. 16.

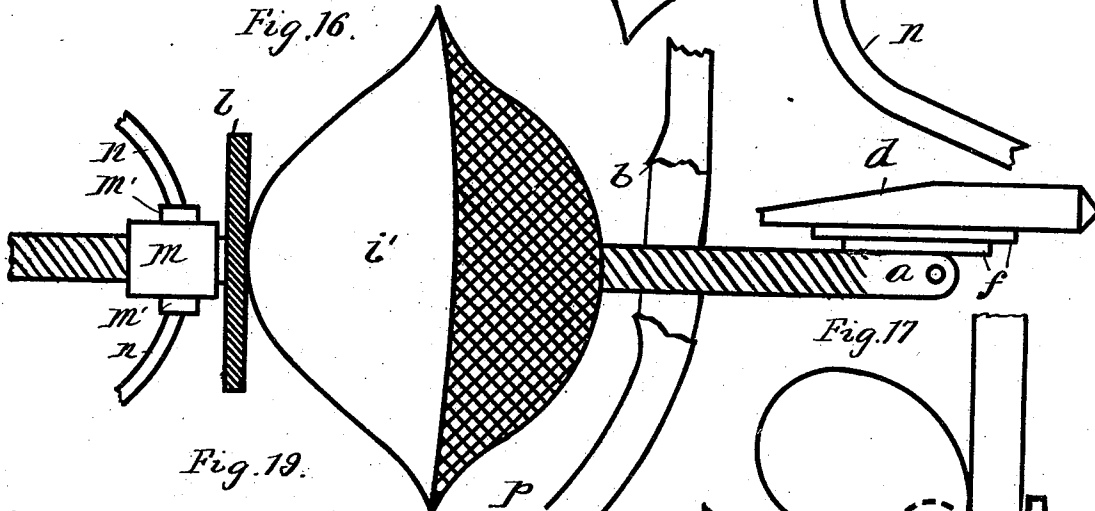


Fig. 19.

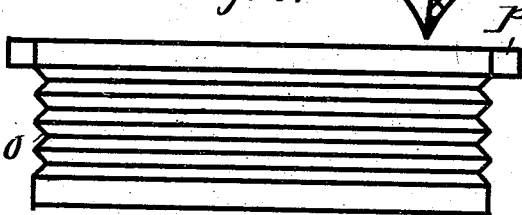


Fig. 18.

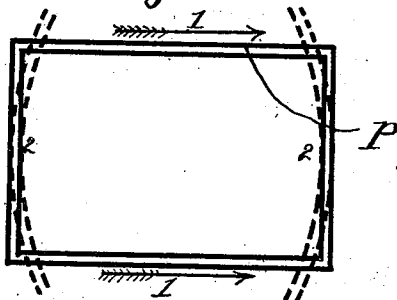
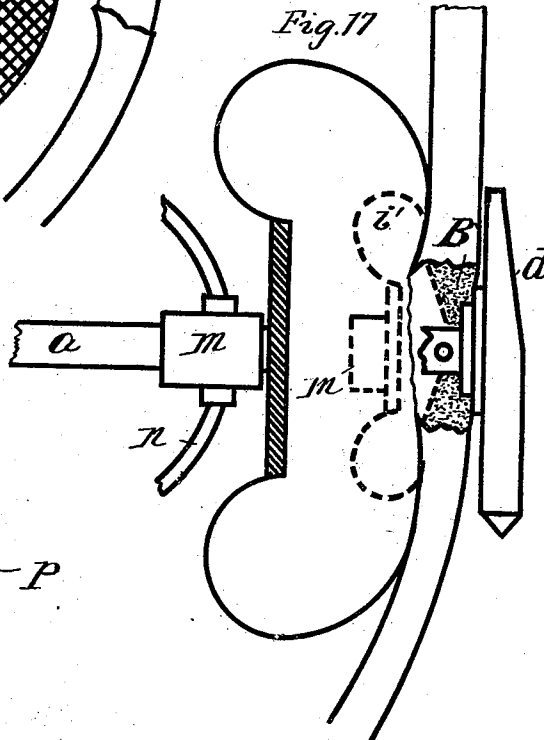


Fig. 17.



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UNITED STATES PATENT OFFICE.

ANTOINE COLOMÉS, OF CLERMONT-FERRAND, FRANCE.

LEAK-STOPPER.

SPECIFICATION forming part of Letters Patent No. 512,866, dated January 16, 1894.

Application filed July 13, 1892. Renewed August 22, 1893. Serial No. 483,783. (No model.) Patented in France December 24, 1891, No. 218,172.

To all whom it may concern:

Be it known that I, ANTOINE COLOMÉS, a citizen of the Republic of France, residing at Clermont-Ferrand, France, have invented certain new and useful Improvements in Preventing Leaking in Ships, (for which I have obtained Letters Patent in France, dated December 24, 1891, No. 218,172,) of which the following is a specification.

My invention relates to means for closing holes in the sides of sailing vessels, in a convenient and rapid manner.

The invention is described by means of the accompanying drawings.

Figure 1 is a side elevation of the pivoted head for a rod which passes through the hole in the ship. Fig. 2 is a view at right angles of a modification of the head shown in Fig. 1. Fig. 3 is a similar view of another modification. Fig. 4 is a view of the head shown in Fig. 1 applied to the threaded rod or screw which passes through the vessel. Fig. 4^a is a view of the screw by itself, a portion of the screw being broken off in both instances. Fig. 5 shows a screw made in two parts and having a pivoted curved head. Fig. 6 is an elevation of the nut with a portion of its handles for tightening the sealing device around the edge of the hole. Fig. 7 is a view at right angles, of that seen in Fig. 6. Fig. 8 is a view of a portion of the wrench which may be applied to the nut instead of the handles. Fig. 9 is a thin nut or washer in side elevation, a different view of the same being seen in Fig. 15. Fig. 10 is a full view of a bag of cellulose material while Fig. 11 shows the rubber covering for the same. Fig. 12 shows a parallelopipedical shaped instead of a globular form of bag. Fig. 13 is a rubber washer applicable in place of the washer shown in Fig. 9 which is supposed to be of a hard material such as iron. Fig. 14 shows the articles of Figs. 10 and 11 combined, together with washer shown in Fig. 13. Fig. 15 shows a side elevation of the combination of certain elements above alluded to, being in substance the complete device in its simplest form. Fig. 16 is substantially the same as Fig. 15, except that one of the parts, namely the washer, is in section. Also that portion of a ship having a breach in its side is shown. Fig. 17 is

the same as that shown in Fig. 16, substantially except as to the phase of the device. In the latter the nut is screwed up tight, whereby the hole in the ship is closed. In the former, the device is applied and in a condition ready for closing the hole by turning the nut. Fig. 18 shows a frame having sides 1—1, 2—2. The dotted lines represent the part of the rubber bellows shown in Fig. 20. Fig. 19 is a side elevation of a frame carrying a bellows. Fig. 20 is a side view of a small or single bellows represented partly dotted in Fig. 18. Figs. 21 and 21^a are different views of a portion of a ship equipped with my invention heretofore alluded to, showing particularly means for closing the hole not only from the inside but also from the outside.

a is a screw adapted to pass through a hole *b* in the side of the ship *c*. In Fig. 5 the screw *a* is short but may be lengthened by another screw *a'* adapted to be screwed into the portion *a*.

d is a head pivoted upon the screw *a*. In Fig. 5 this head *d* is curved to conform to the side of a vessel where it may be curved.

f in Fig. 2 is a plate arranged on the head *d* and seen also in Fig. 4. Two of them are seen in Fig. 5, also in Fig. 16. This plate *f* enters the hole in the vessel and its edges are then surrounded with oakum and pitch *B*, for the purpose of calking, so that this plate together with the calking will form one of the sealing joints for the breach.

In Fig. 3 the plate *f'* is of a different shape conforming to, but smaller than the hole *g* which is the outline of the hole in the vessel, the space between being calked. The plate *f* would be furnished in different sizes to be used according to the size and shape of the hole.

h, h are pins fastening the plate *f'* to head *d*. One end of the head *d* is made thicker and therefore heavier than the other end so that it will lie on the screw *a* as shown in Fig. 15, and so that the head will stand at right angles to the screw, when both are put through the hole *b* and rotated until the heavier end falls by gravitation. Subsequently, the screw may be turned to any position and yet the head *d* will stand substantially parallel to the side of the vessel.

i is a bag of cellulose such as linen or cotton cloth or netting or similar woven material, having holes *j* on opposite sides for the passage of the screw *a*.

5 *i'* is a rubber or water-proof covering applied over the back of the bag *i* and having a hole *j'* for the passage of the screw *a*.

l is a washer or preferably a nut on the screw *a* between the rubber covering *i'* and a
10 nut *m* having handles *n*. The nut has ears *m'* in which are fastened the handles *n'*. The bag *i* is located on a screw between the head *b* and nut *l*. When the handles *n* are turned the bag *i* and rubber cover *i'* are pressed in
15 a sealing manner on the inner surface of the vessel and the head *d* is pressed upon the outer surface very tightly.

The dotted lines *i'* and *m* show the positions of the bag and nut when the parts are
20 clamped together substantially as firmly as possible.

o is a bellows carried by a frame *p* which in turn is held by ropes *q* passing from one side to the other of the ship and underneath
25 the same and stretched downward by weights *r*. The frame *p* can slide to different heights along the rope.

The head *d* is located within the bellows *o*, and gets in there because the bellows can be
30 pushed outward on account of its expansive quality. The pressure of the water forces it in again substantially against the head *d*. While certain sailors are attending to the application of a bellows to the outside of the
35 vessel, others of the crew may attend to the inside and thereby save valuable time.

It is evident that as the sizes of the holes broken in the vessel are apt to be variable, the parts of the device embodying my invention
40 should also be of different sizes and shapes.

s shows the rope *q* on a spool so that it can be wound and unwound to different lengths.

In the case of the two plates *f* in Fig. 16 the
45 smaller one will just go into the hole and the larger one will lap over, so that the space surrounding the smaller one and also surrounding the screw *a* and between the same and the sides of the hole *b* may be filled with a
50 calking material.

I claim as my invention—

1. A device for stopping up holes in ships, consisting of the combination of a screw passing through said hole, a head having one end

heavier than the other and pivoted to said
55 screw and carrying a plate *f* which enters said hole and a second plate *f'* overlapping the edges of said hole, a nut movable, along said screw, a bag *i* on said screw and having a covering of rubber *i'* and located inside of the
50 vessel, the head being located outside of the vessel, a washer *l* between said cover *i'* and said nut, and means for turning said nut for the purpose set forth.

2. A device for stopping up holes in ships, 65 consisting of the combination of a screw passing through said hole, a head having one end heavier than the other and pivoted to said screw and carrying a plate *f* which enters said hole and a second plate *f'* overlapping the
70 edges of said hole, a nut movable along said screw, a bag *i* on said screw and having a covering of rubber *i'* and located outside of the vessel, the head being located outside of the vessel, a washer *l* between said cover *i'* and
75 said nut, a bellows *o* located over the said head, and ropes supporting said bellows and passing around the ship and provided with weights.

3. A device for closing up holes in ships con- 80 sisting of the combination of a bar passing through the hole, a head to the bar located on one side of the wall of the hull, a disk or plate upon the head and located in and substantially filling the hole, a bag of cellulose on
85 the opposite side of the wall of the hull and covering the hole, means for clamping the bag against the hole, and a rubber bag covering the said cellulose bag.

4. The combination with the hull of a ves- 90 sel having a hole, of a bar having a head upon one side of the hull, a disk substantially closing the hole, oakum or similar calking material packed around the disk in the space between the same and the hull, and means for
95 clamping the head against the hull.

5. In combination with the hull of a vessel, of a bag of cellulose within the hull, a rubber cover over the bag, and a clamp for pressing said bag and cover against the periphery
100 of the hole.

Signed at Clermont-Ferrand, France, this 16th day of June, A. D. 1892.

ANTOINE COLOMÉS.

Witnesses:

J. A. DEVOS,
G. ROYR.