C. GRIN.

LIFE-PRESERVING DRESS.

No. 190,577. Patented May 8, 1877.

fig. 1

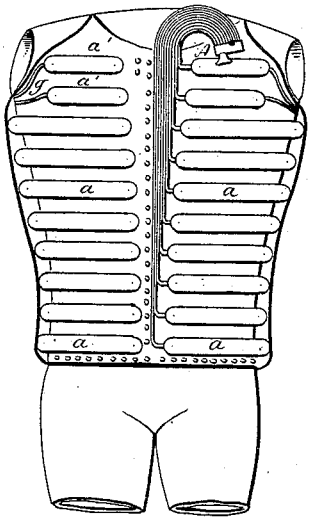


fig. 2

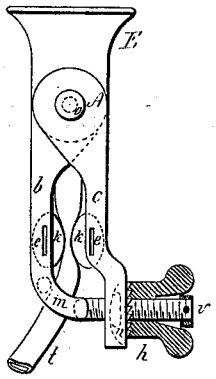


fig. 4

fig. 3

fig. 5

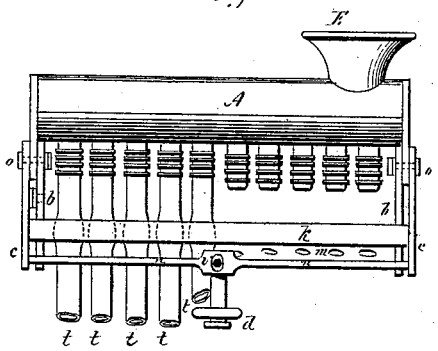


fig. 7

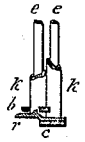
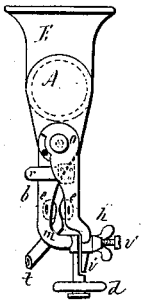


fig. 6



Witnesses.

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UNITED STATES PATENT OFFICE.

CAMILLE GRIN, OF PARIS, FRANCE.

IMPROVEMENT IN LIFE-PRESERVING DRESSES.

Specification forming part of Letters Patent No. **190,577**, dated May 8, 1877; application filed February 5, 1877.

To all whom it may concern:

Be it known that I, CAMILLE GRIN, of Paris, France, civil engineer, have invented an Improved Life-Preserving Dress, of which the following is a specification:

All the life-preserving dresses hitherto employed have been objectionable—those made of cork, in consequence of their large size; and those made with india-rubber tubing, in consequence of their powers of flotation being destroyed by the smallest rupture or piercing of any tube.

My invention avoids these defects by the use of an obturator cock, which permits the simultaneous inflation of all or any one of the tubes, and, nevertheless, keeps the tubes isolated when the dress is inflated, so that if one tube breaks or is pierced and loses its air, the other tubes, being shut off from the broken one, remain intact, and preserve the air with which they are inflated.

The arrangement of my life-preserving dress and its obturator apparatus will be readily understood from the accompanying drawings.

My dress, which is shown at Figure 1, is arranged with or without sleeves in the form of an ordinary waistcoat. It is manufactured with two stuffs superposed and sewed together at their edges. In the drawing the outer stuff has been supposed to be cut so as to permit the horizontal tubes *a* of india-rubber, which are arranged between the two stuffs, to be seen. These tubes *a* turn around the body, and each of them communicates by a little tube, *t*, of india-rubber with an obturator-cock, provided with a mouth-piece, the upper tube *a'* at the front communicating with those of the back by means of little tubes *g* passing under the arms.

The dress is buttoned like an ordinary waistcoat, and is provided with buttons at its lower part, to which trowsers may be fixed, if desired.

As I have said, the obturator-cock is so constructed that the man can at will inflate and disinflate immediately all the horizontal tubes *a* of the dress. The tubes once inflated are independent from one another, and yet they are all closed at the same time by the same organ. This action of my obturator-cock constitutes the essential character of my invention.

My obturator-cock is shown apart in end view at Fig. 2. It is composed of a cylindrical pipe, A, carrying a mouth-piece, E, for the inflator. The pipe A carries smaller pipes, to which are fixed, by a ligature or other means, little tubes *t*, which communicate with the large horizontal tubes *a*. At each end of the pipe A is an appendix, *b*, upon which is jointed, at *o*, a lever, *c*. The appendices *b b* and the levers *c c* support the extremities of two tringles, *e e*, passed into india-rubber tubes *k k*. The appendices *b b* are united by a cross-piece, *m*, and the levers *c c* are also united by a cross-piece, *n*. The little tubes *t* pass into the holes formed in the cross-piece *m* of the appendices, and it is the approach of the lever cross-piece *n* with the appendix cross-piece *m*, which effects the simultaneous closing of all the little tubes *t* communicating with the obturator-cock by pressing them between the flat india-rubber tubes *k k*.

By their elasticity the little tubes *t* tend constantly to separate the cross-piece. To close them, and hold them closed, I have invented the following arrangement: On the cross-piece *m*, Fig. 2, is fixed one threaded rod, *v*, which passes into an oval hole formed in the lever cross-piece *n*, Fig. 3. A nut, *h*, serves to approach it near the appendix cross-piece *m*, so as to squeeze the tubes and close them. For preventing the loss of the nut, the latter and the piece *n* are provided with cogs or teeth, in order to work like the Breguet's click, the elasticity of the india-rubber making the office of spring, (shown at Fig. 3,) and Fig. 4, which is an end view of the nut.

In order to squeeze or to loose ready the tube, the both cross-pieces *m* and *n* are approached by the means of the left hand by setting the thumb under the cross-piece *m*, and the four fingers upon the cross-piece *n*. The nut *h* is turned by the right hand.

The cross-piece *n*, instead of having an oval hole, may work loose into the levers *c c*, for allowing the light deviation which results from the opening and closing of the levers *b b* and *c c*. The cross-piece *m* may also be articulated into the levers *b b*.

This arrangement of closing is that which

I employ of preference; however, I can add another kind of locking. (See Figs. 5 and 6.)

The apparatus being closed, any opening is prevented by means of a rowel-nut, *d*, which is screwed upon a threaded rod, *v*, a half belonging to the appendix cross-piece *m*, and the other half to the lever cross-piece *n*. This arrangement dispenses with the cogs on the nut *h* and the cross-piece *n*.

Springs *r r*, Figs. 6 and 7, might also be riveted upon the levers *c c*. Each of these springs is provided with a spur, which, upon closing of the little tubes *t*, engages into a cavity formed in the corresponding appendix *b*.

Having thus described the nature of my said invention, and in what manner the same is to be performed, I declare that I claim—

1. In a life-preserver, the combination of the independent air-tubes *a*, the cylinder A, connected by an independent tube to each of said air-tubes and mechanism, substantially such as described, to simultaneously open or close said independent passages and isolate the said air-tubes, substantially as described.

2. In a life-preserver, the combination of the cylinder A, mouth-piece E, independent tubes *t*, tringles *e e*, inclosed in india-rubber tubes *k k*, and clamping-screw, substantially as described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

CAMILLE GRIN.

Witnesses:

ARMENGAUD, Jeune,

ROBT. M. HOOPER.