

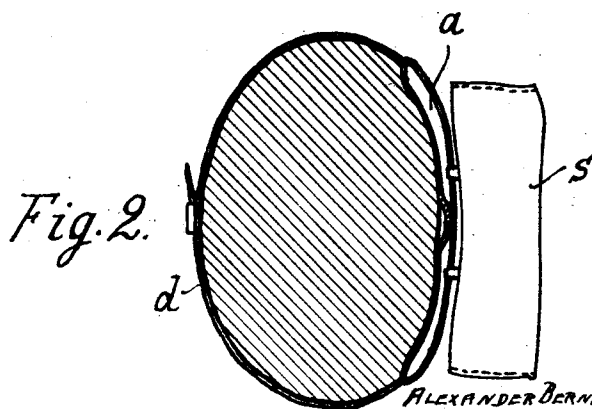
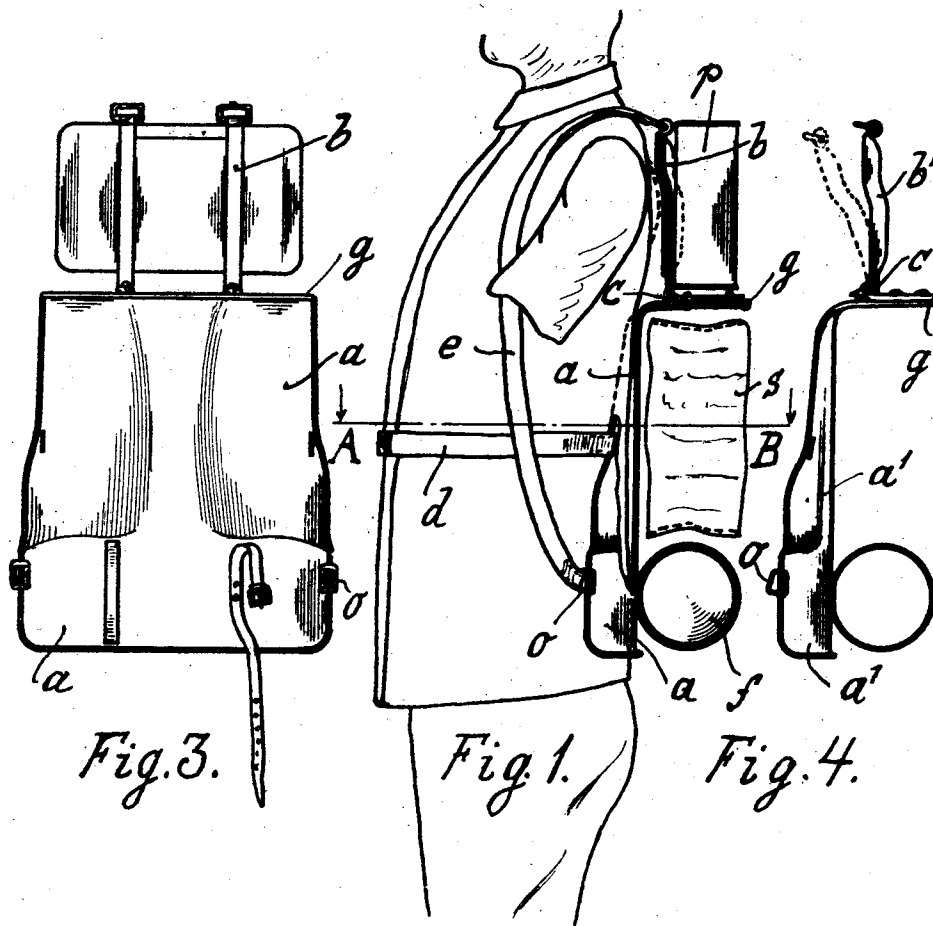
June 22, 1926.

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1,589,463

SUPPORTING DEVICE FOR SELF CONTAINED BREATHING APPARATUS

Filed August 30, 1923



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Patented June 22, 1926.

1,589,463

UNITED STATES PATENT OFFICE.

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SUPPORTING DEVICE FOR SELF-CONTAINED BREATHING APPARATUS.

Application filed August 30, 1923, Serial No. 660,251, and in Germany January 10, 1923.

This invention relates to supporting devices for self-contained breathing apparatus.

In devices already known for supporting self-contained respiratory apparatus in knapsack fashion, and not only in the case of entirely rigid devices but also as regards those consisting of several rigid members hingedly connected, little if any attention has been paid to the fact that when the person wearing the apparatus moves about, the supporting device must not swing laterally to and fro, and also that a sufficient freedom of movement must be permitted for the shoulder blades as for instance when moving the arms. Furthermore in such devices on which the parts of the breathing apparatus are accommodated in any suitable manner, little or no account has been taken of the fact that the heat radiating from the air purifying cartridge must be kept away from the other parts of the apparatus, and more especially from the breathing bag.

Now the object of the present invention is to obviate all these drawbacks, and to this end provides a supporting device the lower part of which resembles a saddle and is adapted to fit closely to the wearer's body said part passing round the lower part of the back and extending to a greater or lesser extent towards the front, being firmly secured in this position by means of a belt or the like, whilst the upper part of the device located adjacent the shoulder blades is sufficiently offset rearwardly, in relation to the lower part, that the shoulder blades can move freely without coming into contact with said upper part. The protection of the breathing bag from the heat radiating from the air purifying cartridge is secured by means of a separating wall or partition located between the cartridge and the breathing bag, and extending transversely and rearwardly of the device.

The accompanying drawing shows by way of example and more or less diagrammatically, a practical embodiment of the invention.

In the drawing Figure 1 is a vertical sectional view of the device, and Figure 2 a horizontal section taken on the line A—B of Figure 1. Figure 3 is a rear elevation of the device, and Figure 4 is a side elevation of a modified form thereof.

The device comprises mainly a rigid lower part *a* and a rigid upper part *b* branching

off upwardly at *c*. The lower part consists of a saddle-shaped plate and is so adapted to the shape of the body, that after it is fitted on and secured by means of a belt *d* connected to it, it bears against the back and sides of the wearer, sits firmly on the body and can not wobble to and fro sideways. The upper part, more or less adapted to the shape of the shoulders is offset so far to the rear that sufficient space is left between it and the shoulder blades so that, even when the wearer is in a stooping position, the shoulder blades are not hampered in their movements, as shown by the position of the right side shoulder blade in dotted lines in Figure 1.

For carrying the device use is made of shoulder straps *e*, which are fastened to the upper part and are connected with the lower part in a suitable manner, for example by hooking them into eyes *o*, as will be at once understood on reference to the drawing.

The elements of the breathing apparatus are arranged on the device, preferably in such wise that the air purifying cartridge *p* is positioned on the upper part *b*, which may be fashioned in a basket-like form (not shown), and the breathing bag *s* and the oxygen container *f* on the saddle part *a*. Due to the fact that the lower part *a* fits exactly to the form of the back, the wearer experiences no inconvenience at all from the weight of the apparatus as it is distributed over the whole of the supporting device, while the belt firmly secures the device to the back. Consequently the device is not liable to slip out of position even should the wearer stoop.

The projection *g* of the device, projecting from the point *c* towards the back, forms a transverse separating wall or partition between the cartridge *p* and the breathing bag *s* in order to protect the latter against the heat radiating from the former.

Figure 4 shows a modified form of the device in which the two parts *a*¹ and *b*¹ instead of being formed integrally with each other are hingedly connected as at *c*¹. In this case, however, care must be taken that the upper part *b*¹ finds a point of support on the body above the shoulder blades, which can easily be provided for by suitably bending or arching the said part.

The most suitable material for use in manufacturing the parts of the device is sheet metal, as it can easily be fashioned into

the shape desired. The device may however be cast in steel or some other suitable material.

I claim:

- 5 1. A supporting device for self-contained breathing apparatus consisting of a lower section for supporting a predetermined part of said apparatus and an upper section connected with said lower section for inde-
10 pendently supporting another predetermined part of said apparatus, said lower section being constructed in the form of a saddle dimensioned to fit the body and project upwardly and downwardly beyond the
15 waistline and to extend to a predetermined extent around the sides of the person wearing the apparatus, said lower section further being adapted to be secured to the lower part of the back.
- 20 2. A supporting device for self-contained breathing apparatus comprising a sheet-like member shaped to fit the body at the back of the wearer and constituting a lower carrying section for receiving and supporting
25 a predetermined part of said apparatus and an upper carrying section permanently

mounted upon said lower section and offset rearwardly with respect to the body engaging portion thereof so as to be spaced from the shoulder blades of the wearer, said upper carrying section being arranged to receive and support another predetermined part of said apparatus.

3. A supporting device for self-contained breathing apparatus comprising a sheet-like
35 member shaped to fit the body at the back of the wearer and constituting a lower carrying section for receiving and supporting the breathing bag and the oxygen container of said apparatus, an upper carrying section
40 fixed upon said lower section and off-set rearwardly with respect to the body engaging portion thereof so as to be spaced from the shoulder blades of the wearer, said upper carrying section being arranged to re-
45 ceive and support the air purifying cartridge of said apparatus and a partition extending transversely and rearwardly between said upper and lower sections to protect the breathing bag against the heat radi-
50 ating from the air purifying cartridge.

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