

COMMISSIONER'S DECISION

Obviousness: Portable Resuscitator

Claims 1, 2 and 4 were refused for failing to define a patentable advance in the art. The differences from the prior art were variations in shape or design, without an unobvious functional result.

Rejection: Affirmed

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated February 11, 1975, on application 140,805 (Class 137-1.50). The application was filed on April 28, 1972, and is entitled "Survival Support Device." The Patent Appeal Board conducted a Hearing on December 3, 1975, at which Mr. S. Rogers represented the applicant.

The application relates to an apparatus which contains a breathable mixture of gas for a prolonged period and, when actuated, provides about ten minutes of gas to the user. The gas is contained at high pressure in a lightweight long tube coiled about a combined fill valve, pressure regulator flow control, pressure gauge and actuation mechanism.

In the Final Action the examiner rejected claims 1, 2 and 4 (in part) as failing to define a patentable advance over the following United States patents:

3,505,997	April 14, 1970	Cawley
3,502,075	Mar. 24, 1970	Cawley
2,697,538	Dec. 21, 1954	Seeler
2,380,372	July 31, 1945	Alderfer

In that action the examiner stated (in part):

The cited patents disclose a breathing apparatus wherein a container for storage of breathable gas is constructed of a length of tubing.

...

The main distinction between the matter claimed by claims 1 and 2 and that taught by the Cowley patents is that the said matter claimed, claims the coil is constituted of a laterally flattened helix, whereas the Cowley patent teaches a circular shaped coil. The mere alteration of the circular coil into a flattened sided coil is not considered to be of patentable significance, since flat side coils are known as shown by the patent to Alderfer.

In view of the teaching of the cited patents it is held that claims 1 and 2 do not include anything unobvious to one skilled in the art, and that the said claims fail to define a patentable improvement thereover.

Furthermore claims 1 and 2 are also rejected as being drawn to an old combination of a hollow coil of pressure resistant tubing containing a breathable gas at high pressure with a pressure gauge and means for controlling the output gas to the patient. This combination is shown to be old by the patents to Cowley, which disclose broadly the same elements, functionally interrelated in the same manner to produce substantially the same results. The combination of claims 1 and 2 differ from that shown in the Cowley patents in setting forth a rectangular instead of circular configuration of the reservoir coil. The altering of the shape of the reservoir coil does not modify action of the other elements revealed in the said claims in any material manner hence no new combination is seen to exist. Also rectangular shaped reservoir coils are known in the art, as shown by Alderfer.

In his response dated May 9, 1975 to the Final Action the applicant stated (in part):

(a) The applicant believes that the Examiner's rejection of claims 1 and 2 under the grounds of obviousness to one skilled in the art in view of the cited references is unjustified and those claims do define a patentable improvement thereover.

(b) The applicant believes that the Examiner's rejection of claims 1 and 2 as being drawn to an old combination over the disclosure of the Cowley & Alderfer references is unjustified, and those claims do define a novel and patentable combination thereover.

(c) The applicant believes that the Examiner's rejection of claim 4 as obvious to one skilled in the art in view of the teaching of the cited patents is unjustified, and that claim does define a novel and patentable invention thereover. Moreover, this is the first Official Letter in which such an objection has been made to claim 4, and it is believed improper therefore to make it a subject of a Final Action.

...

It must be emphasized that Cowley shows a hollow helical coil with turns of circular configuration, while Alderfer shows a spiral coil with turns of rectangular configuration. Only the present application shows a gas supply device using an elongated hollow

helical coil with a plurality of turns, and in the form of a laterally flattened helix having in lateral cross-section a pair of straight parallel sides.

A truly portable compact gas supply must try to meet the following criteria:

- (a) To be as light and compact as possible consistent with the maximum possible gas capacity,
- (b) To be foolproof and adapted to withstand abuse as it is carried on the user's body through doorways and past obstructions, whether in the "carried" or "operative" positions.
- (c) To be readily carried comfortably on the user's person while not in use, so as to minimize the possibility that he will be tempted to discard it as being too cumbersome.
- (d) To be of a configuration such that it can be grasped firmly and safely for movement from the "carried" position to the "operative" position, despite the possibility that the operator may be wearing protective gloves, or alternatively may be in a situation where his hands are slippery with sweat or other liquid, and that he may be in an incapacitated situation owing to fatigue, shock, heat, wounds, etc.
- (e) To lie comfortably in position on the user's body while in operation.

It has been shown by the previous discussions and by the evidence of commercial success that the device of the invention does meet these criteria, whereas those of the references certainly do not.

The Cowley patents disclose a breathing apparatus including a hollow coil constituted by a plurality of turns for containing breathable gas. A pressure gauge is located within the hollow coil with means for controlling the output of the gas to a patient. Claim 1 of Cowley (3,502,075) reads:

Lightweight portable resuscitator apparatus comprising:  
a pressure vessel for gas consisting of a length of tubing wound upon itself; a jacket enclosing said pressure vessel; an outlet capillary tube communicating with said vessel; means defining a reduced flow zone of thin, flattened shape in section on said tube having opposed flattened side walls, at least one of said walls being movable towards said other wall; a valve seat positioned between said opposed flattened side walls; adjustable means associated with said reduced flow zone for moving said movable side wall toward said other side wall and adapted to restrict said tube to limit gas flow therethrough; an expansion chamber on the side of said restricting means remote from said pressure vessel; further tube means extending from said expansion chamber; control tap means connected to said further tube means; a tapered profile on the free end of said further tube means; a conical, well-shaped seating means releasably engageable with said tapered free end of said further tube means providing a wedging seal therefor; means supporting said seating means; means for deflecting said seating means thereby unseating same; flexible hose means connected to said control tap means; and a breathing mask on said flexible hose means.

The Seeler patent relates to an aneroid actuated pressure release device, particularly for use with a mask and pressure suit combination oxygen regulator.

The Alderfer patent relates to a breathing apparatus wherein the container tubing is stored in quadrilateral form. The apparatus is particularly designed for use in connection with parachutes where at high altitudes it is necessary to supply the parachutist with a tank of compressed air or oxygen.

This application relates to an apparatus which contains a breathable mixture of gas for a prolonged period and, when actuated, provides about ten minutes of gas to the user. The gas is contained at high pressure in a lightweight long tube coiled about a combined fill valve, pressure regulator flow control, pressure gauge and actuation mechanism. The coil being constituted by a plurality of turns in the form of a laterally flattened helix having in lateral cross-section a pair of straight parallel sides so as to define the central hollow space within the coil. Rejected claim 1 reads:

A compact breathable gas supply comprising a hollow coil of pressure resistant tubing for containing breathable gas at high pressure, the coil being constituted by a plurality of turns of said tubing, each of the turns having a pair of elongated parallel straight sides separated by curved end portions to define a turn with a central opening and the turns being disposed side-by-side with the said central openings thereof in register to provide a corresponding hollow space within the coil extending over the plurality of turns, regulator means mounted within the hollow space of the coil and to which the interior of the coil is connected for providing a substantially constant flow of lower pressure gas from the tubing; and actuator means mounted within the hollow space of the coil and operable by an operator for substantially instantly actuating the gas supply.

The applicant argues that the shape of his apparatus is directed to a patentable advance in the art. The shape of a device, however, only has patentable merit when such shape results in some unobvious functional connotation.

The question which is to be considered is whether the applicant's helical coil in the form of a "laterally flattened helix" is directed to some unobvious functional result.

The applicant indicates that the device is light and compact; that it is adapted to withstand abuse as it is being carried on the users body; and that it is readily carried comfortably when not in use. These are, however, all desired features, and ones that any good designer of such equipment must keep in mind. In our view these are not patentable features.

The applicant has argued that his device "is enjoying substantial commercial success." At the hearing the applicant presented for examination "a commercial sample of his device, as currently being sold to various authorities." It is clear that the monopoly covered by refused claims 1 and 2 is not the same as that indicated by the commercial sample, but clearly relates to a much broader monopoly. The refused claims only relate to a gas supply apparatus, and not to the complete unit as, for example, is described in claim 17, which unit compares favorable to the description of the "commercial sample."

The applicant maintains that his device "does have sufficiently substantial advantages directed at the point of the invention to render these claims patentable." In our view what the applicant has done, as explained in his brief to the Board, is to describe a technical assessment of what occurs in constructing his device. For example, the applicant states: "... with this mode of construction there is less flattening in tubing than there would be in a coil wound in a circular cylinder, and therefore there is a reduction in the Bourdon forces and also corresponding reduction of impact on such flattening on the internal volume of the resultant storage reservoirs. In practical cases something of the order of a 10% increase in volume can be obtained ...."

First the feature of "less flattening in the tubing" is a relative thing. It is clear, however, that under normal circumstances there would be more flattening at the corners of the device in the present application than for a similar size circular cylinder; the reason being that the bend or curve would be much sharper. As for "the reduction in the Bourdon forces," there will be a reduction on

the straight line pipes, but possibly an increase at the relatively sharp bend at the junction of these pipes. The applicant does state that, "the device is structurally stable and nothing more than this very light-weight fastening arrangement (strapping) is required." Therefore, the Bourdon forces do not appear as an important factor, possibly even less so in the device as described in accepted claim 3. As to the matter of "a 10% increase in volume," this is a known fact or one that can be calculated by a person skilled in the art.

Refused claims 1 and 2 are essentially directed to a combination of a hollow coil of pressure resistant tubing containing a breathable gas at high pressure, and a pressure gauge and means for controlling the output gas to the user. That combination is shown to be old by the patents to Cowley, which disclose broadly the same elements, functionally interrelated in the same manner to produce substantially the same results. In refused claim 1 the only difference from the cited art is that the elongated hollow helical coil is in "the form of a laterally flattened helix having in lateral cross-section a pair of straight parallel sides." It is observed that the rectangular shaped reservoir coils are shown by Alderfer, and the circular cylinder shaped reservoir coils are shown by Cowley. As previously mentioned the particularly claimed form or shape would have to be directed to some unobvious functional connotation. We are satisfied, from a complete analysis of the facts, that there is no unobvious functional connotation for that particular shape. Claims 1 and 2, in our view, should be refused.

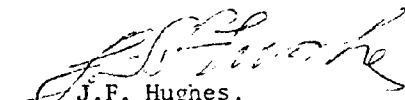
Claim 4, which depends on refused claim 1 and on accepted claim 3, relates to a diaphragm capable of failure under gas pressure. The use of such diaphragms are known (see Canadian patent 612,722 to Coffman). It is clear that this addition to refused claim 1 would not make it an allowable combination. Claim 4 is considered allowable when made dependent on accepted claim 3.

The comments of the court, in Lowe Martin Co. Ltd. v Office Specialty Manufacturing Co. Ltd. (1930) Ex. C.R. 181, are pertinent: "The mere carrying forward of the original thought, a change only in form, proportion or degree, doing the same thing in the same way, by substantially the same means, with

better results is not such an invention as will sustain a patent" (page 187 line 9), and "It is always necessary to consider the rights of the general public to avoid monopolies on such simple devices as would occur to anyone familiar with the art."

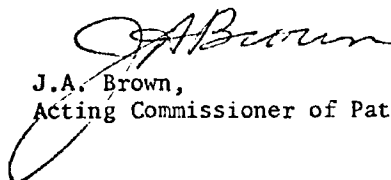
We are satisfied that claims 1, 2 and claim 4, insofar as claim 4 is dependent on claim 1, fail to disclose a patentable advance in the art. The applicant has achieved a result with a change only in form, doing the same thing in the same way, by substantially the same means, as is taught in the prior art (Vide, Lowe Martin v O.S.M., supra).

The Board recommends that the decision in the Final Action to refuse claims 1, 2 and 4 be affirmed, however claim 4 will be accepted if amended to read dependent on claim 3 only.



J.F. Hughes,  
Assistant Chairman,  
Patent Appeal Board.

I am in agreement with the recommendations of the Patent Appeal Board and refuse claims 1, 2 and 4, but will accept claim 4 if amended to depend on claim 3. The applicant has six months within which to delete claims 1 and 2, amend claim 4, or to appeal this decision under the provisions of Section 44 of the Patent Act.



J.A. Brown,  
Acting Commissioner of Patents.

Dated at Hull, Quebec  
this 18th day of December, 1975