

THE SCUBA TANK

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Now that Skubba was the proud owner of a set of open water fins, his diving equipment set was almost complete. After all, he now had a real mask and a real wetsuit.

In the beginning, cold water limited Skubba's dives, but that was no longer the case. Now it was Fred who was turning blue from standing in the cold, and he was now the one asking to go home. Skubba would sometimes feel cold when changing out of his wet and cold wetsuit into his dry clothes. But he did not complain, he could after all dive. Yet both friends felt that something was missing.

With a snorkel, Skubba could only remain at the surface. He could dive and hold his breath, but not for long. A longer snorkel was not a solution, as Skubba got headaches trying to use one because it was too hard to breath. Diving with a bucket as a diving helmet, connected to an air pump worked. But Skubba felt he was moving too slowly to call it diving. They were missing something so he could use his fins like a real diver.

Such a thing existed from all the diving stories told by the man in the shop. It was only after some research that Fred discovered what it was.

They were missing a Scuba tank and a regulator. The strange word SCUBA, was the abbreviation for 'Self Contained Underwater Breathing Apparatus', a thing carried by a diver to breath underwater.

Further work revealed that it was a device with compressed air inside it. But what did such a device look like and how did it work? Fred discovered that it consisted of, 'a tank of compressed air and a regulator that reduces the pressure to the pressure of the water at the depth where the diver was located'. The first such device was invented by Rouquayrol, Denayrouze and Fernez-Le Prieur, which was then improved in 1943 and commercialized by Emile Gagnan and Jacques Cousteau. He even had a picture to see what it looked like.

They had succeeded in making a pair of fins. Did the shop owner not tell them manufacturers had to work years to develop and produce a new fin? Then they should be able to make something as simple as a scuba tank! Right?

The first thing they had to find was something they could use as a tank. It had to be a sturdy bottle because Skubba did not want it to break while diving. A coke bottle was too soft and would not do the trick. At the plumber's store they found what they needed. The man was kind enough to fit a valve on it. They had to promise him that they would

return to show him what they had made. An old shower hose served to bring the air from the bottle to Skubba's mouth.

They didn't know how to obtain 'a pressure depending on the water depth', but they were convinced they would come up with a solution later. The biggest problem right now was to get compressed air into the bottle.

With their bicycle pump, they were able to put some air into it, but Skubba could barely take a breath. Not enough for a long dive. The neighbour's compressor gave more bars. Skubba did not know what a bar had to do with pressure, but he did understand that, the more bars that went in, the more air would be available. And that was the main thing.

The compressor could give up to 8 bars of air. If Skubba properly operated the tank valve, 8 bar was enough to breathe several times. He managed to do that standing on dry ground, but would he also succeed underwater?

There was only one way to find out and that was to dive! With his diving suit, boots, fins, mask, homemade weight belt and the bottle on his back, Skubba felt like a real diver. Fred was proud of his little diver and looked admiringly at his friend who was going to test their Scuba tank.

