TRAINER COMPLEX FOR SPECIAL STRENGTH TRAINING OF SWIMMERS ON THE SURFACE AND IN WATER

Boris Panarin, Lvivsky Derzhavny Instytut Fizychnoyi Kultury, Lviv, Ukraine

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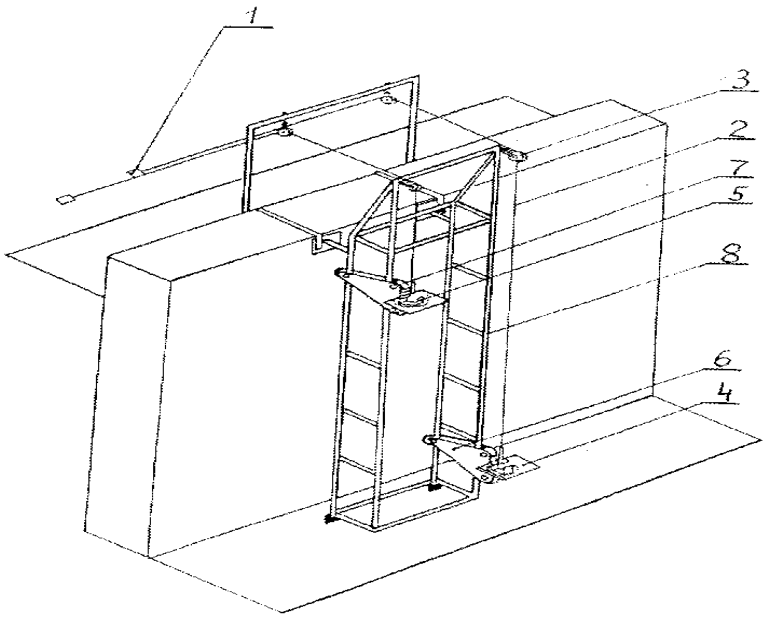
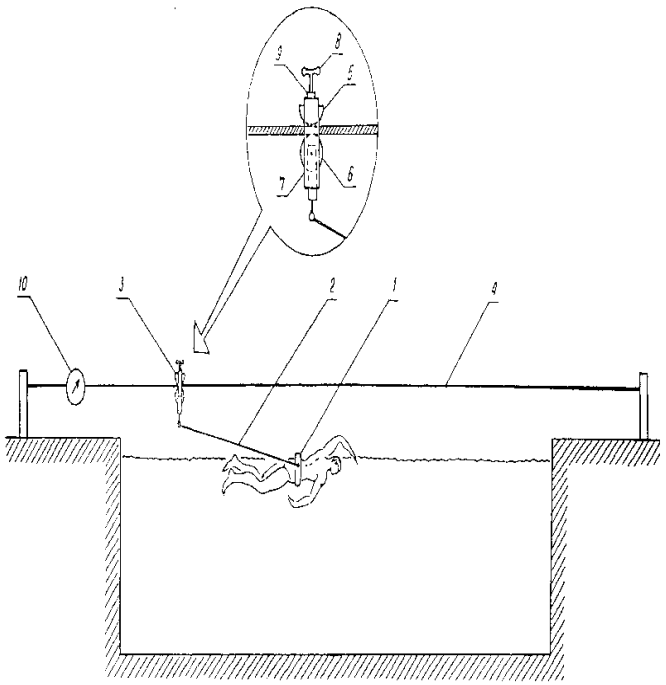
The level of modern achievements in swimming is determined first of all by a wide application of special trainer complexes [7].One of the main reasons which makes difficult the realization of the strength potential achieved with the help of the existing trainer complexes is insufficient specificity of the developed strength qualities, which is determined by the peculiarities of the revealing physical qualities during the competitive activity [1].
The aim of the investigation is to work out the trainer complexes which permit one to elaborate the strength qualities of the swimmer in accordance with the peculiarities of the revealing strength in the competitive activity.
The trainer complex for a special strength training of swimmers on the surface (patent N 1614819) consists of: the handles -1, tied with the help of a rope - 2 and the blocks - 3 with the shovels - 4, which have the possibility to rotate around the axis to the stop. The handles - 4, tied on the carriages - 6 which have the possibility to move with the rollers - 7 along the frame -8 established vertically on the board of the swimming-pool (Fig. 1).



The swimmer being on the board of the swimming-pool ,taking the handles-1 tied with the shovels - 4 fulfills rowing movements as if he were swimming. The

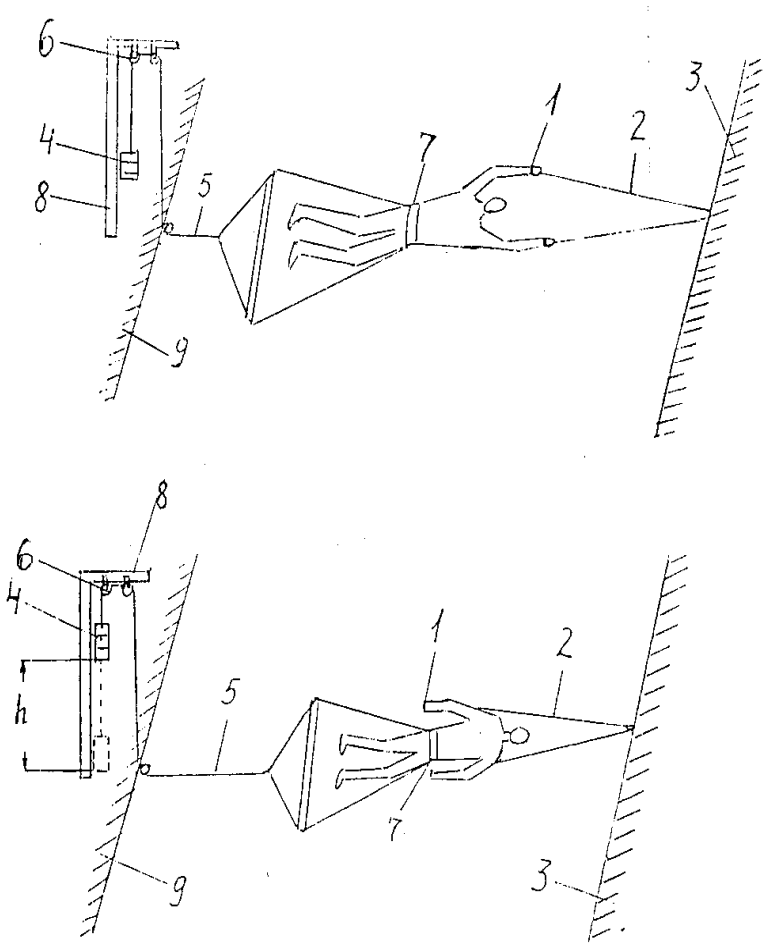
shovels - 4, being in water in a low initial position and fixed by the stop - 5 in the horizontal plan, fastened on the carriages - 6 during the roving movement moves along the frame - 8 up, creating resistance to the movement. In the upper position the carriages - 6 enter a coupling, which after finishing the rowing movements accelerates the return of the carriages into a low initial position The shovels - 4 rotate on the axis and do not create resistance to the down movement of the carriage. The loading is regulated by establishing the shovels - 4 of different sizes.
The construction of the development of the special strength possibilities of the swimmers in water [4] (patent N 1273130) includes: the belt for a swimmer - 1, tied on a cord - 2 with the hindrance device - 3 which is located on the directing rope -4, fastened above the water surface on the boards of the swimming -pool. The hindrance device contains: the hindrance shoe - 5, the roller - 6, mounted on the crampon - 7, which covers the rope - 4 from the opposite sides and the hindrance shoe - 5 is tied with the crampon - 7, the screw - 8 and nut - 9. In the chain of the directing rope - 4 the dynamometer is fastened - 10 which fixes the strength traction the developed by the swimmer (Fig. 2).



The swimmer, moving from side to side in water, overcomes the given resistance of the hindrance device - 3, which moves after it. The power of the work done is determined according to the formula: N=L*p/t, where: L=length of the distance, P=value of the resistance, t=time.

The construction (patent N1621983), the prototype of which is the device "Swim- On" (USA), includes: handles for the hands -1, linked by non-elastic cords -

2 to the swimming-pool boards - 3,the loading device - 4 as a set of loadings, tied with the help of the rope - 5 and the blocks - 6 with the belt of the swimmer - 7, located on the support - 8 established on the opposite board of the swimming-pool - 9 (Fig. 3).



The swimmer being in the water in the stretching initial position leaning up the shovels-1 tied by the non-elastic cords - 2 with the board of the swimming-pool - 3 performs the rowing movements moving ahead overcoming the resistance of the lifting the loading up - 4. After finishing the rowing movement, the lifted loading - 4 moves down, creating the strength traction which is applied to the belt - 7,as a result the swimmer returns to the initial position. The power of the work done is determined according to the formula: N=P*h*n, where: P=weight of the load, h= height of the lifting of the load, n= tempo of the movements. The construction permits one to plan strictly dosed specific loading which gives the possibility to diagnose a special capacity of work of the swimmers [6].

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