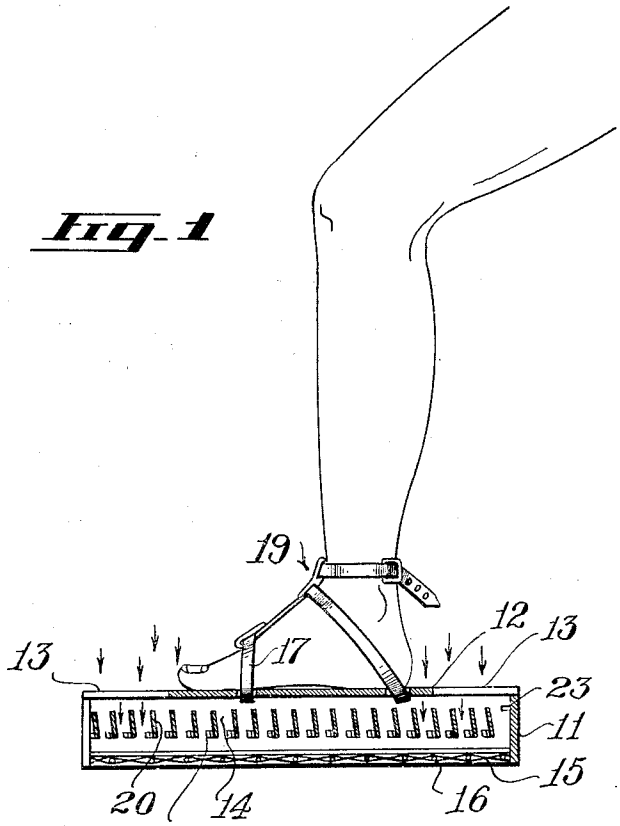
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DEVICE TO AID PERSONS IN SWIMMING

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Fig. 1



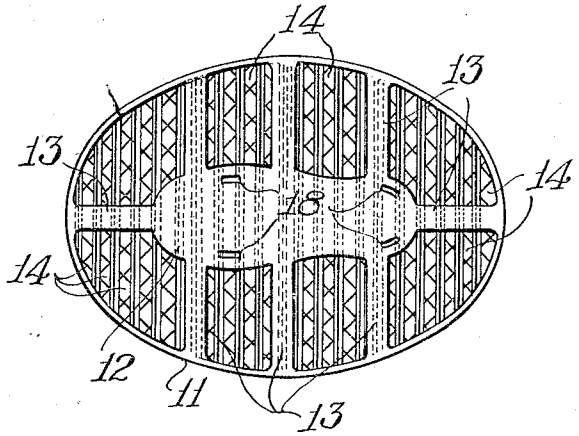


Fig. 2

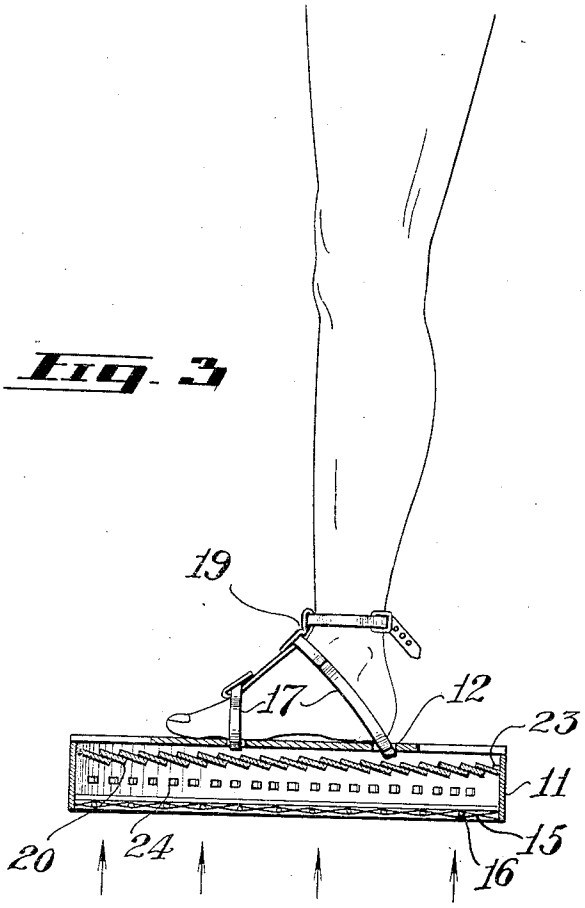
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DEVICE TO AID PERSONS IN SWIMMING

Original Filed March 22, 1929 2 Sheets-Sheet 2

Fig. 3



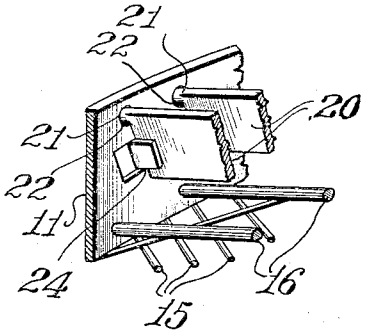


Fig. 4

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UNITED STATES PATENT OFFICE

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DEVICE TO AID PERSONS IN SWIMMING

Application filed March 22, 1929, Serial No. 349,089, and in Canada April 17, 1928. Renewed June 10, 1931.

This present invention relates to new and useful improvements in a device to aid a person in swimming and has for its primary object the provision of a device which may be readily attached to the foot of the swimmer and including a plurality of shutter plates arranged in spaced relation and overlapping when in closed position for the rearward stroke of the foot.

Another object of the invention resides in the provision of a device of the character stated which is constructed in such a manner that the shutter plates are limited in their movement in either direction and are at all times protected from damage or interference by weeds or the like, while the device is in operation.

A further object of the invention resides in the provision of a device of the character stated which is of oval form with openings in the upper side thereof and a foraminated lower side; the shutter plates being pivoted in the body frame member and automatically operating therein.

A still further object of the invention resides in the provision of a device of the character stated which is composed of the minimum number of parts of simple and inexpensive construction and operation and which is highly efficient in use.

To the accomplishment of these and related objects as will become apparent as the description proceeds, my invention resides in the construction, combination and arrangement of parts as shall be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claim hereunto appended.

The invention will be best understood and can be more clearly described when reference is had to the drawings forming a part of this disclosure, wherein like characters indicate like parts throughout the several views.

In the drawings:—

Figure 1 is a longitudinal section through the device with the shutter plates in open position, the device being shown attached to the swimmer's foot.

Figure 2 is a top plan of the device, removed.

Figure 3 is a view similar to Figure 1, with the shutter plates in closed position.

Figure 4 is an enlarged fragmentary section, illustrating clearly the mounting of the shutter plates and the construction of the reticulated lower side of the device.

Referring more in detail to the drawings, it is to be noted that the device includes a body frame 11 of oval form and having an upper side 12, the main portion of which substantially corresponds in shape and size, to the swimmer's foot and is connected to the ends and sides of the body frame 11, by spaced connecting strips 13, thus providing a plurality of openings 14 in the upper side 12 of the device. The recticulated lower side 15 or bottom of the device is reinforced and strengthened by the transverse, spaced rods 16. A plurality of flexible straps 17 are passed through the pairs of slots 18 in opposite end portions of the main part of the upper side 12 and form part of the harness 19 for attaching the device to the swimmer's foot.

Arranged transversely within the body frame 11 are the spaced, parallel shutter plates 20 having outwardly directed pintles 21 at their upper corners and working freely in the openings 22 provided therefor in the sides of the body frame 11. Upward swinging movement of the shutter plates 20 to overlapping, closed position is limited by the stop lug 23 struck out from one end of the body frame 11 and turned in for engagement by one of the end shutter plates 20. Below the shutter plates 20 is provided a stop lug 24 for each shutter plate 20 to limit downward swinging movement thereof, the lugs 24 being struck out from the sides of the body frame 11 and bent inwardly. The stop lugs 24 are arranged directly below the respective pintles 21, thus allowing the shutter plates a swinging movement in arcs describing nearly one fourth of a circle, each.

As the construction of the device has thus been described in detail, brief reference is now had to its use and modus operandi: The device is firmly secured to the swimmer's foot

by means of the harness 19. As the foot is drawn forwardly or upwardly in the water, the shutter plates 20 open by swinging downwardly and thus permit free and easy movement of the device through the water with a portion of the latter passing through the openings 14 in the upper side of the device, then between the shutter plates 20 and finally through the reticulated lower side 15. The pressure of the water against the upper face of the shutter plates 20 assures quick opening thereof as the device is drawn forwardly or upwardly in the water. Likewise, the water pressure on the under face of the shutter plates 20, also assures quick closing thereof, as the device is forced backwardly or downwardly in the water. As the shutter plates are closed, they resist further backward or downward movement of the device in the water, thus increasing the efficiency of the stroke by forcing the swimmer forwardly or upwardly (as the case may be) with more power and effect than is possible without the device, owing to the increased resistance or propelling surface offered by the closed shutter plates 20. This operation of the device is repeated with each of the successive forward or upward strokes and the succeeding rearward or downward strokes.

From the foregoing description taken in connection with the accompanying drawings, it will be manifset that a device to aid a person in swimming is provided that will fulfill all the necessary requirements of such a device, but as many changes could be made in the above description and many apparently widely different embodiments of my invention may be constructed within the scope of the appended claim without departing from the spirit or scope thereof, it is intended that all matters contained in the said accompanying specifications and drawings shall be interpreted as illustrative and not in a limited sense.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

A device to aid a person in swimming including an oval closed body with its bottom member reticulated and its top member provided with openings; a plurality of parallel independent shutters supported transversely in said body between the top and bottom members thereof; said shutters being adapted to swing freely within said body and overlap when in closed position; means within said body to limit movement of said shutters toward their open positions, means for reinforcing said body adjacent the lower side thereof and beneath said shutters; and means carried on said body for attaching the same to a swimmer's foot.

In testimony whereof I hereunto affix my signature.

HAROLD ARTHUR McGOWAN.