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THE LAYMAN PNEUMATIC SPORTING AND OUTING BOAT.

The old time Celtic coracle, with wicker framework and covering of hide, has its modern successor in the

and as the body of the boat takes the water the launch is made. By sitting comfortably on the bottom of the boat and paddling with the feet, a progress of two or three miles an hour can be made in any direction.



THE LAYMAN BOAT USED IN DUCK SHOOTING.

Layman pneumatic boat, a wonderfully ingenious and successful craft which is acquiring wide popularity among sportsmen and those fond of aquatic sports, as well as with ladies and children for use on the seashore. The sportsman who desires to kill can find no better ally than this noiselessly propelled craft, while those who spend the summer on the seashore or by lake and river side can have endless pleasure in floating bubble-like on the breakers or in exploring the inmost recesses of lake and "unknown river."

The Layman boat resembles in contour a horse collar. It is made of India rubber cloth. The irregular ellipse determined by the sides has as bottom a strong sheet of the same cloth, from whose forward portion two boots or leg cases depend. The bottom of the boots are provided with collapsing paddles, which open on the back stroke and close on the forward stroke, as does a duck's foot. The small end of the oval is the bow. A stiff rudder strapped in one position is attached to the stern. The office of this is to keep the bow in front—it is not used for steering.

For its shape the boat depends upon inflation with

Several people can crowd into the same boat, 400 pounds being the capacity of the large sized one. Loops are provided for awning stanchions, to give the last requirement for comfort. It will be seen that for

the duck hunter it presents several advantages.

It admits of a most effectual blind being used, one of which is shown in one of the cuts. The propulsion is done entirely with the feet, so that both hands are free for the gun. Its noiseless working gives every chance of approaching closely to the ducks. Places hitherto inaccessible can be reached by its means, and game can be secured which otherwise would escape.

One of the cuts illus-

tration is the pneumatic boat. When deflated the wearer is prepared to wade about or walk on land. If deep water is to be entered, a few minutes of preparation inflates his boat and he is ready for work afloat. A strap which is secured beneath the knees gives the proper position for boat work.

The fishing scene on Narragansett Bay is reproduced from a photograph from life, showing the inventor and family enjoying themselves à la Isaac Walton, near Bristol, R. I.

The cuts show the capabilities of the novel craft. It makes the user thoroughly amphibious. When afloat, a considerable load can be transported, as many as three children with an adult finding room in it. In the cut showing the use of the blind by duck shooters is also clearly shown the standing and sitting positions of the occupants. The boat, when deflated, is stowed away in a small valise, as shown in the same illustration. As regards weight, the boats vary from fifteen to twenty pounds. Owing to their compactness when deflated, they form an admirable tender for small yachts, and afford an effectual life preserver for use in cases of accident. Experiments have shown its absolute safety. Three of the compartments may be punctured and the fourth one will keep it afloat. A complete repairing outfit accompanies it in case any accident should happen. Owing to the strength of the fabric it is rarely torn.

We are indebted to Mr. H. D. Layman, of the International Pneumatic Boat Company, 851 Broadway, New York, for courtesies extended to our editor and artist in the preparation of the article and engravings.

How to Copy Engravings.

Many workers find a great difficulty in successfully copying engravings, so as to reduce the prominence of the lines and cross hatchings. These, when magnified by the lantern, spoil the picture. But it is possible to tone them down in such a way that they will not be objectionable. There are several methods of doing



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For its shape the boat depends upon inflation with air. The oval sides represent two tubes, the lower one of large cross section, the upper one of smaller. The lower one is divided by cross partitions into three compartments; the entire upper tube forms a fourth compartment. To prepare the boat for use, the sides are inflated with air. This is best forced in with a blower, five minutes sufficing to inflate it. It can be inflated in three minutes by the lungs alone. When inflated, it at once stiffens up, as the sides take their characteristic oval shape, forming virtually a frame. As they distend, they bring the floor to a level, and the boat is ready for use.

Putting the feet into the cases and holding the boat up by hand loops, the boatman walks down the shore,

which is shown in one of the cuts. The propulsion is done entirely with the feet, so that both hands are free for the gun. Its noiseless working gives every chance of approaching closely to the ducks. Places hitherto inaccessible can be reached by its means, and game can be secured which otherwise would escape.

One of the cuts illustrates a passage through Hell Gate, East River, New York, which was made without difficulty by a party including a lady. The experience is described as delightful, the waves of the steamers adding to the excitement. No water was shipped, the boats proving perfectly dry and seaworthy. An interesting modification is shown in one of the cuts in the wading pants, made on the general lines of the boat. These are heavy Mackintosh pants, attached to whose waist



FAMILY PARTY IN LAYMAN BOATS IN NARRAGANSETT BAY



PASSAGE OF HELL GATE, EAST RIVER, N. Y., IN THE LAYMAN BOAT.

this. The best one is very easy to manage, so as to effectually break up those lines which appear so prominent in skies and foreground. Cover the engraving which is to be copied with a thin and finely ground piece of glass, the polished side downward. This glass must be exceptionally clean, and to insure this it should be brushed over with ammonia or nitric acid, afterward well water-washed. When the glass is in position it will be seen that the engraving, viewed through the glass, has the appearance of a pencil drawing. No lines are visible, but a general softness has taken their place. Of course it would be perfectly useless to photograph the print in this condition. To restore vigor to the important parts of the picture, go over the ground glass surface with a brush dipped in oil, painting, as it were, every portion except the sky and the immediate foreground, where the objectionable lines usually are to be seen. This operation will give the desired blackness, thus rendering the print capable of producing a first-class negative. If this method be adopted, the result will prove most satisfactory, for it will be impossible to distinguish the obnoxious lines.—Photography.

For Transparencies.

For lantern slides or transparencies, which yields tones of a peculiarly pretty warm black, varying with the particular plate used, but always of an agreeable kind:

Pyro.....	3 grains
Sodium sulphite.....	12 "
Bromide of ammonium.....	3 "
Carbonate.....	6 "
Caustic potash.....	5 "
Water.....	1 ounce.