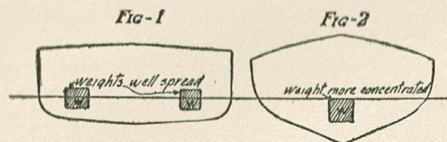
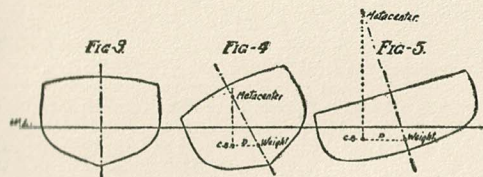


the same if, after reading this article, you have grasped the idea and apply the principles to your own boat carefully.



The same principle can be applied to the fore-and-aft movements of a boat. If the weights be bunched all in the middle, the hull can quickly lift up its bow and stern;



there are no weights to hold them down and she acts very quickly. If the boat is too sudden in these movements the weights can be shifted forward and aft to get any desired pendulum-like motion; she can be made to swing to almost any desired time. You can try this for your-

self in any small launch where a man's weight is perceptible; if two men sit amidships she will pick up quick, now if one man moves forward and the other aft she will swing slower but plunge deeper. There is some place for each length of wave where the weights are best adapted to the hull, according to her model.

The man who never thinks for himself but merely takes his boat from the builder and uses her as he gets her, has a lot to learn. A cranky, uncomfortable boat can often be tamed down, as a wild mustang is tamed to be a comfortable, amiable, family driving horse.



The action of small boats with weight in the middle or distributed as it is when a person sits in each end demonstrates these principles.

Only this year I have seen a converted steam yacht that was a very uncomfortable craft, owing to her exclusive rolling because the gasoline engine in her was so light in comparison to the steam outfit for which she was designed, transformed into a boat that rolled very slowly and gradually, by the installation of a larger, heavier motor. Just the extra weight put that boat down and prevented her being so topple.

