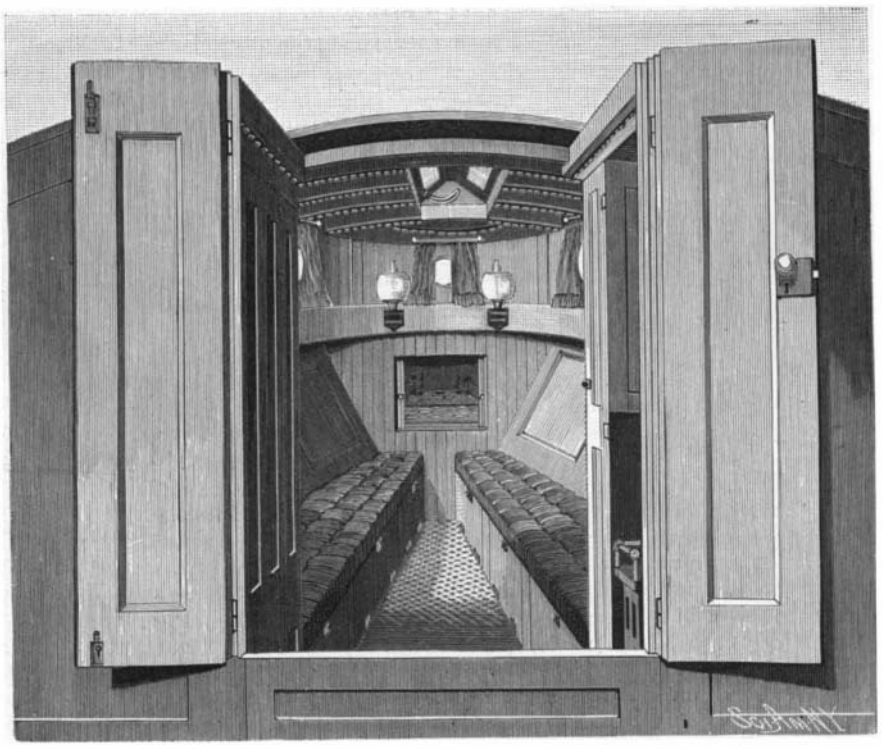
### A VAPOR HUNTING LAUNCH.

Sportsmen who are in the habit of spending their vacation in long hunting trips upon the lakes, rivers, and bays where game abounds are well aware that the real pleasure of such an excursion is largely determined by the kind of craft in which it is carried out. A launch or sailing boat that was admirably suited to an afternoon trip, where all that is required outside of safety is seating capacity and a fair measure of speed, might prove to be quite inadequate to accommodate a hunting party of much smaller dimensions. The hunting launch should bear the same relation to the swift pleasure launch that the cruiser does to the racing yacht.

We present illustrations of a hunting launch which has been built for Mr. H. M. Birge, of Buffalo, by the Marine Vapor Engine Company, of Jersey City, N. J. The model follows the lines of a modified Cape cat, and the builders have turned out a craft which will be comfortable in a heavy sea, and maintain a good speed when boats of a finer model would probably be making very bad weather. The full bow and lofty freeboard will make her a dry boat going head to sea, and the general fullness of the lines permits a roomy cabin to be provided, having a good, level floor and plenty of stowage space.



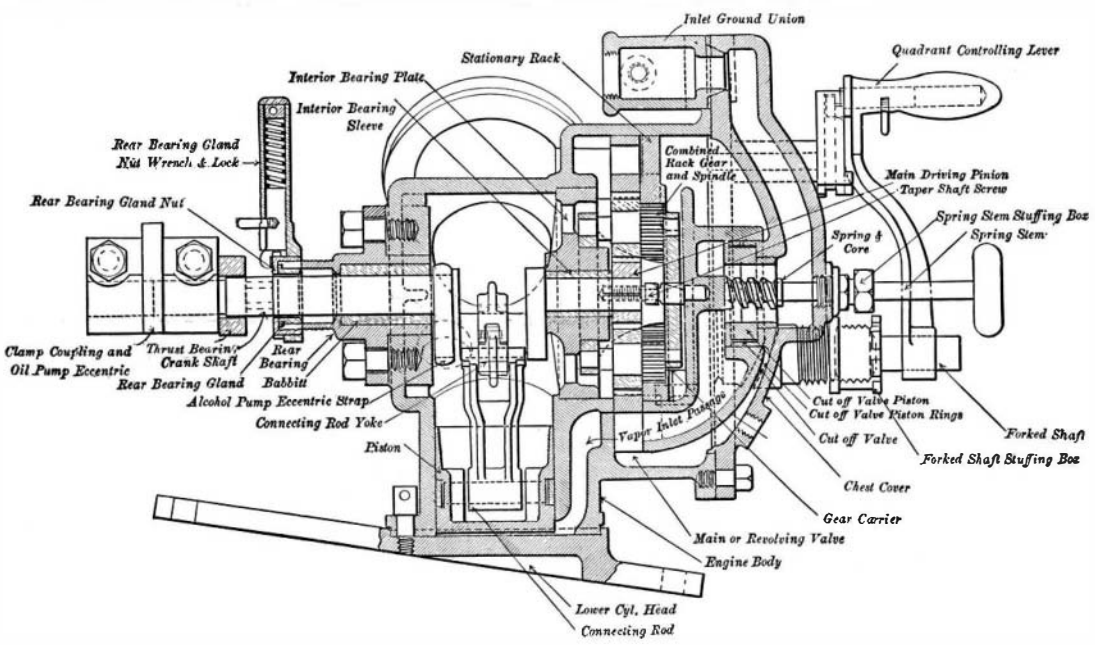
CABIN OF HUNTING LAUNCH.

The dimensions are as follows: Length, 30 feet; beam, 8 feet; draught, 28 inches. White oak was used for the keel and framing; the planking is of selected white cedar and the deck of white pine. For the size of the boat, the cabin is remarkably roomy. It is finished in mahogany, and is lighted with four swinging dead lights which are oval in shape and give proportionately more light than the customary circular lights. On the port side of the after end of the cabin is a toilet finished in mahogany, and on the starboard side is a galley, beneath which are kept the stove and cooking utensils. Adjoining and just forward of the galley is a wardrobe. The cockpit is also finished in mahogany, and beneath the seats in both cockpit and cabin are roomy lockers. There is seating capacity for ten persons in the cockpit and ten in the cabin, and there are also cushions which button down upon the roof of the cabin. An awning is provided which stretches continuously above the cabin roof and the cockpit.

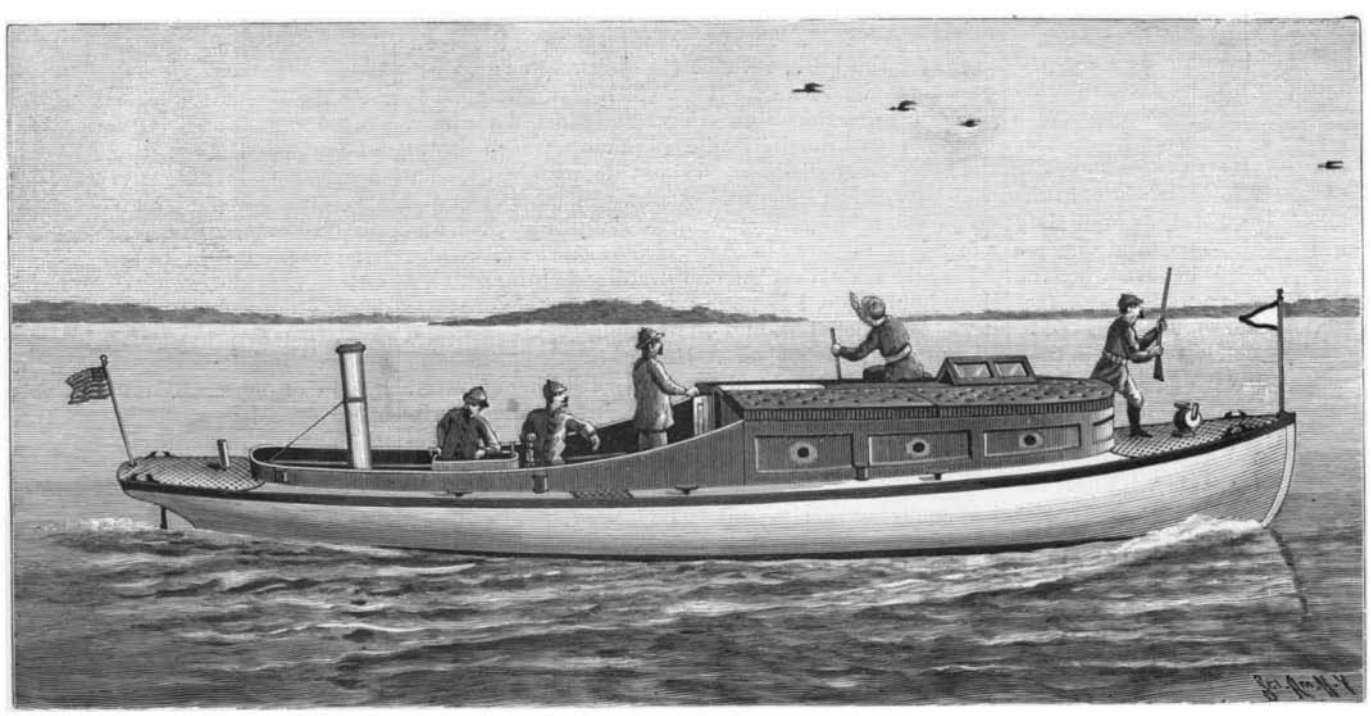
Particular interest attaches to the motive power, in which an effort has been made to combine the most desirable features of the various types of launch engine. The fuel used is any kind of commercial kerosene, and wood alcohol is used in the "retort" or boiler in place of water. After the alcohol vapor has done its work in the engine it is led through a condenser. This consists of 50 feet of 1 to 1½ inch seamless copper pipe, which is placed outside the boat on each side of the keel. From the condenser the alcohol passes into a copper tank in the stern of the boat, from which it is pumped back into the "retort" by a small pump attached to the engine. The same eccentric that works the whistle pump drives a small pump which feeds the kerosene burner below the retort. It will thus be seen that the same supply of alcohol is used continuously, and in a seven horse power engine the leakage is so small that the addition of a gallon of alcohol once in every six weeks or two months is sufficient to maintain a full tank.

The "retort" consists of continuous layers of ¾ inch and 1 inch steel pipe, the lengths, which are threaded and brazed together with great care, being arranged within a polished jacket of neat and compact design. The use of wood alcohol is attended with many advantages. It has a low boiling point of 170°, and the hand may be placed upon the casing of the engine when it is working under 100 pounds pressure; moreover, the engine starts readily as soon as the pressure gage shows 25 pounds to the square inch. The fact that alcohol combines freely with water removes the danger of fire; for, should the tank leak and permit the alcohol to run into the bilge, it would quickly be rendered harmless. There is a further advantage in the small bulk of the liquid that it is necessary to carry.

The propeller is driven by a Wright engine of very compact construction and light weight, the details of which are shown in the accompanying cut. The single crank is driven by three single acting cylinders arranged at 120 degrees. The cylinders, the steam chest and the casing are made in one casting, which completely surrounds the crank and connecting rods. The rear end is closed by the crank shaft stuffing box and the front end by the steam chest cover. The forward end of the crank shaft is carried by a bearing plate, and next to this and bearing against the face of the three steam ports is a circular revolving valve, which, by means of gears, is caused to revolve once to every twelve revolutions of the engine. A cutoff valve is arranged to bear in steamtight contact against the outer face of this valve, the position of the cutoff valve being regulated by the controlling lever shown in the drawing. Limitations of space forbid a detailed description of this mechanism, which is extremely ingenious; but, by moving the controlling lever to the various positions indicated on a quadrant, the engine may be run ahead or run back or stopped; it may be run fast or slow, and with any required degree of expansion. The engine is well balanced, and runs with practically no vibration or noise, and, taken altogether, the motive power is of a type that is well adapted to the unskilled hand of the average amateur yachtsman.




VERTICAL SECTION THROUGH WRIGHT ENGINE.



SEVEN HORSE POWER VAPOR HUNTING LAUNCH.

### The Door Spring.

"Truly in no minor feature is the progress of civilization more apparent than in the present common use of the door spring. We don't shut doors now nearly as much as we used to; we don't stop to shut them. We are spared that trouble and we save time. We open the door and push on through and leave the door to take care of itself. In the time that it would have taken us to close it we are six, eight, ten feet off; but the door is not neglected; it shuts itself, calmly, quietly, and with certainty as the man marches away. There is less slamming of doors now than ever, and fewer doors are left open; and the saving of time effected by the use of the self-closing door is in the aggregate tremendous."

### A Puncture Cement.

The American Druggist states that a recently patented preparation for the automatic repairing of punctures in bicycle tires consists of glycerine holding gelatinous silica or aluminum hydrate in suspension. Three volumes of glycerine are mixed with one volume of liquid water-glass and an acid is stirred in; the resulting jelly is diluted with three additional volumes of glycerine, and four to six ounces of this fluid is placed in each tire; in case of puncture the internal pressure of the air forces the fluid into the hole in the tire, which it closes. It will be seen from the foregoing formula that wheelmen had much better buy such preparations than attempt to make them.