As the kitchenette is placed in the wall of the room, the rest of the room can serve for dining purposes. A table which is ordinarily used as a library table is provided with a leaf which way be drawn out for dining purposes, but if there are guests the entire table may be cleared off and used as a dining room table. Having done with breakfast the cabinet is given another turn, bringing into view the book case and writing desk, thus converting the compartment into a living room or library.

While this plan is exceedingly novel and very ingenious, we fear that the unscrupulous landlord will make use of it to reduce still further the size of living quarters. He will see no reason for having a large main room, but will use small rooms, making more apartments to the floor, as long as he can place in each a revolving cabinet that will furnish all the needs of an ordinary multiple-room apartment.

Salvaging Ships with Canvas Bags

RAISING a sunken vessel by pumping air into the hold is not a new process. Many vessels have been raised in that manner in recent years. If the deck is strong enough and the wound which the vessel has sustained is low enough the hatches may be closed and the air pumped into the hold. This expels the water through the break in the hull and when the vessel has been lightened sufficiently it rises.

While this sounds very simple the problem is complicated by a great many important details. It is not often that the deck of the ship will stand the strain. Decks are built to bear a downward pressure; they carry the load on the upper surface. When this condition is reversed and air pressure is introduced underneath, the deck is liable to be torn loose. In some cases the deck may be strengthened so that it will support this load without leakage of air. The air must be kept from collecting at one end of the vessel, otherwise the bow or stern might come up leaving the rest submerged. Usually the vessel has to be divided into compartments, and sufficient air introduced into the various compartments to bring it up on an even keel. This calls for a great deal of work on the part of the divers, which adds to the cost of salvage and in some cases makes it absolutely prohibitive. When the vessel is in an exposed placed storms are liable to interrupt the work at any moment, and operations that have consumed weeks may be destroyed inside of an hour.

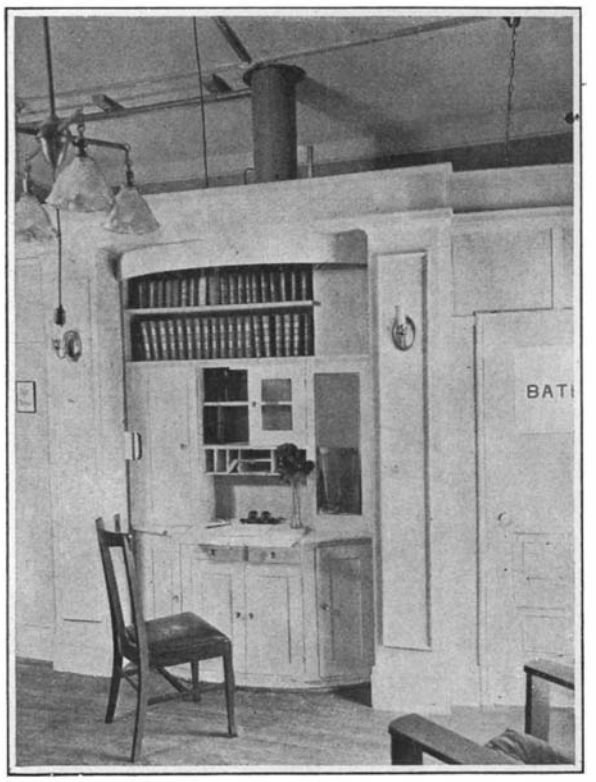
In order to obviate under-water work as far as possible a new plan has been introduced of using canvas bags to confine the air in the hold of the vessel. The accompanying photograph shows a set of these canvas bags, three of which are inflated and give some idea of their size. The bags are about 10 feet in diameter. They can be introduced into the hold in collapsed condition, and arranged under such portions of the deck as may be able to stand the upward strain. It is not necessary to repair any wounds in the vessel and the bags can be used even when the hull is broken near the main deck. After a sufficient number of bags have been introduced air is pumped into them and by varying the amount of air in the various bags, the vessel may be brought up evenly, after which it can be towed to a drydock and be repaired.

Enter Truck, Exit Mule in Bolivia

"INTRODUCED in Bolivia only a few years ago, the American motor truck is rapidly making good," said the representative of a large mining company. "It is needed mostly to haul ores from the mines to the railways. The roads in the mining districts are narrow and rough and in some places do not permit the passage of wagons or carts. On the plateaus, however, the going is better and the use of the motor truck has resulted in speeding up the transportation of tin, tungsten and other minerals to points of shipment. The Government is improving the roads in many parts of the country, which is resulting in larger purchases of passenger automobiles from the United States. Only two were imported in 1913, but last year 141 cars were brought in. In 1917 twenty motor trucks were imported from the United States, and there are probably not more than thirty such vehicles in Bolivia at present. My company bought two recently and will place orders for more when conditions permit shipment."

During a recent visit to the United States the owner of several Bolivian tin mines arranged for the construction and purchase of a number of motor trucks to be used in transporting tin and concentrates from his mills to the nearest railway station, a distance of about sixty miles. The roads, with an average grade of nearly five per cent and a maximum of nearly fifteen per cent, are good for about nine months in the year, but in the rainy season the constant traffic makes them almost impassable. With the roads in good condition it takes six mules to draw a cart containing four tons of ore, and six more are needed on the heavy grades. During the wet season only two tons of ore can be conveyed in a single cart, and 12 extra mules are required where the hills are steepest The ore must reach the point of shipment within a given time.

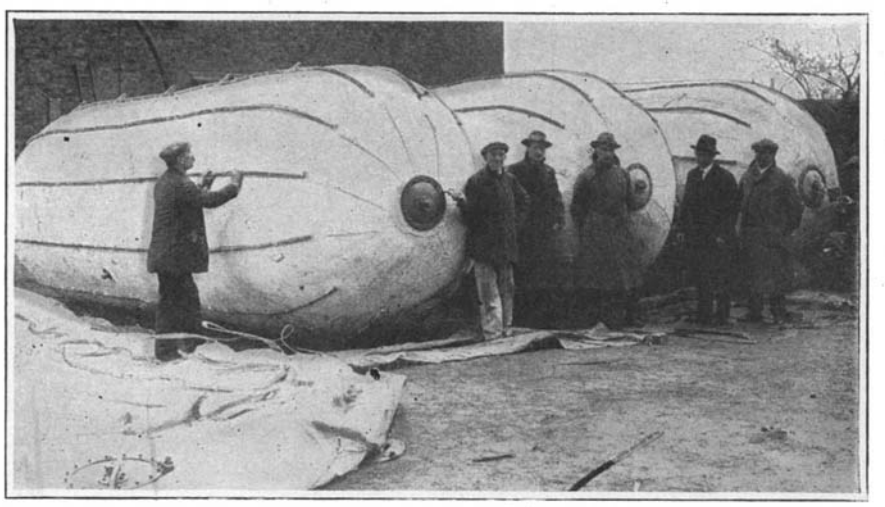
The first American motor trucks that have been placed in service of this sort have made a haul for the Bolivian mine owner that will result in another kind of haul for the American manufacturer. An official of an American automobile company was asked whether his trucks negotiated a 15 per cent grade. "They went over the top of a 22 per cent grade in New Zealand," he replied, "And I am sure that they can give a good account of themselves in Bolivia."



The book case and writing desk convert the apartment into a living room

The Deepest Wells in the World

THE Hope Natural Gas Company, of Pittsburgh, enjoys the reputation of having twice broken the world's record for deep wells within the past two years.



Canvas airbags used for salvaging sunken vessels

One of these deep borings, known as Martha Goff well No. 4190, is located eight miles northeast of Clarksburg, W. Va. Drilling was begun April 19th, 1916, and on March 4th, 1918, a depth of 7,386 feet had been reached, thus exceeding by 37 feet the depth of the well hitherto known as "the deepest well in the world," located at Czuchow, Upper Silesia, Germany. At this depth the steel cable parted, over 5,000 feet down, leaving the tools and 2,000 feet of cable in the hole, and the well had to be abandoned. This record has since been surpassed in the I. H. Lake well No. 4304, drilled by the same company 6½ miles southeast of Fairmont, W. Va. Drilling began here August 5th, 1916. On June 18th, 1919, a depth of 7,579 feet had been reached; 193 feet greater than the depth of the Goff well. At this depth misfortune again overtook the company. The tools stuck in the drill-hole and the cable parted, leaving tools and 4,000 feet of cable in the hole. "Fishing" was unsuccessful, and this well, also, has been abandoned. These wells were sunk in the hope of reaching the rich gas-bearing and oil-bearing "Clinton" (Medina) sand, which extends across eastern Ohio and is supposed to underlie the part of West Virginia in question. The failure to reach the petroliferous bed was due to an unexpected thickening of the Devonian shales, one of the overlying series. In the case of the Goff well, interesting fossils and other geological material were secured, and a valuable series of temperature measurements was made. According to C. E. Van Orstrand, of the U. S. Geological Survey, the temperature at 7,000 feet was found to be 172 degrees F., and the rate of increase at that depth was one degree in 51 feet. It is estimated that the boiling point would be reached at about 10,000 feet below the surface.

Keep Distributor Clean and Dry

EXCESSIVE oiling of a magneto can do nearly as much harm as insufficient lubrication. One thing it does is to cause the surpuls oil to be thrown into the distributor, where it works all kinds of mischief. It gets between the brush and the contacts and either insulates them from each other entirely, causing missing, or it causes arcing. Arcing in turn burns the oil and forms soot which soon gums things up badly and it also produces heat which disintegrates the carbon brush and causes it to crumble in time.

All magneto manufacturers make their distributors so that they may be removed easily and wiped clean with a dry, clean cloth. One magneto, for instance, has the distributor held on by three little clips, retained by three thumb nuts. These may be loosened by hand, the clips turned aside and the distributor cover comes off in the hand. Other magnetos have three screws to retain the cover. Some have a central revolving brush and stationary contacts in the cover and others a revolving contact and individual stationary contacts in the cover. The brushes in either case are attached to small springs and may be slipped into or out of their sockets by hand.

Aluminum Leaf to Moisture-Proof Wood

A VERY effective agent for moisture-proofing wood has been found in an aluminum leaf coating. This coating practically insulates the wood against any change in atmospheric conditions, and is particularly valuable for use where accurate form and balance must be maintained, as would be necessary in an airplane propeller.

New Way of Shipping Lumber at New Orleans

ON account of the current of the Mississippi River and its wide variation of depth at different seasons, it has heretofore been thought that cargo shipments could not be profitably made out of New Orleans, but a new method of handling export pine shipments by loading directly from the water, has been developed. In the upper part of the city a prominent lumber and export company has begun the installation of extensive and modern facilities for handling cargoes of lumber and timber. These include a timber boom extending 1,800 feet along the river front and 600 feet out into the water. This boom will be enclosed by floating timbers which will rise and fall with the water and will be held in place between double rows of clusters of piling at proper intervals to hold them securely in place. Gates at either end will permit ships to pass in and out, and the boom extends far enough into the river to assure ample depth to handle timber at any stage of the water and permit space for several vessels to load in the boom at once.

There will be a huge wharf to provide for the quick and economical dumping of the timbers into the boom and a large storage yard on the shore back of the wharf will store great quantities of lumber. Besides economy in handling, an almost unlimited storage capacity is afforded and a great surplus of export stock can be kept on hand so that orders may be filled without delay.

It is felt that the growing importance of the export trade in the western portion of the southern pine regions makes New Orleans more than ever the logical shipping port and for this reason these exceptional facilities have been established.