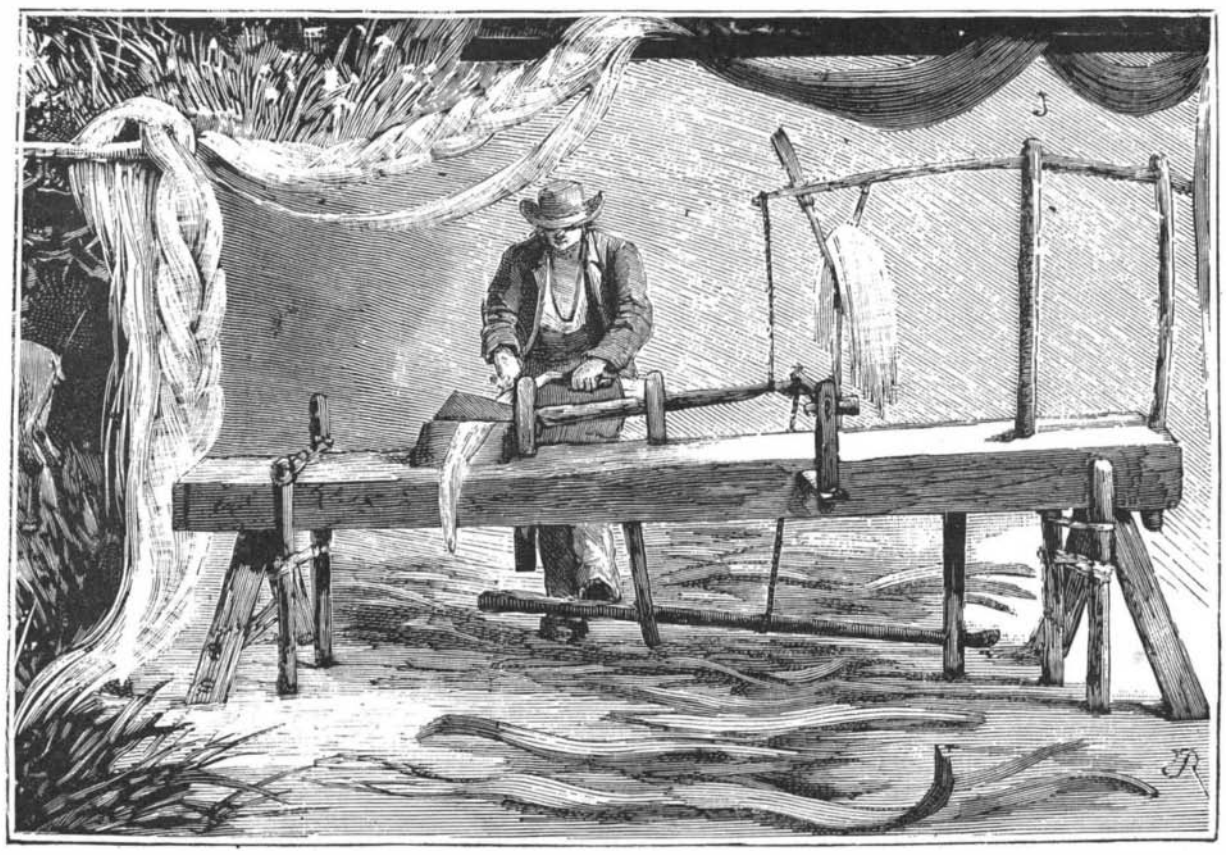
SEPARATING THE MANILA FIBER.

In our paper for September 17 we published a letter from a correspondent in Madrid, calling attention to the need for a new mechanical invention to facilitate the separation of the fibers of the abaca plant, this being the plant from which the well known manila ropes and other goods are made. At the interesting exhibition now in progress at Madrid, of the products of the Philippine Islands, machines such as are now used at Manila and dependencies are shown in operation. We give an engraving of one of these machines. As will be seen, it is a rough and primitive affair, worked by hand, slow and tedious; but the entire product of this class of fibers, vast in extent, is separated by this means. There is clearly room for an improvement.



MACHINE FOR SEPARATING MANILA, OR ABACA, FIBERS.

FRENCH DISINFECTING APPARATUS.

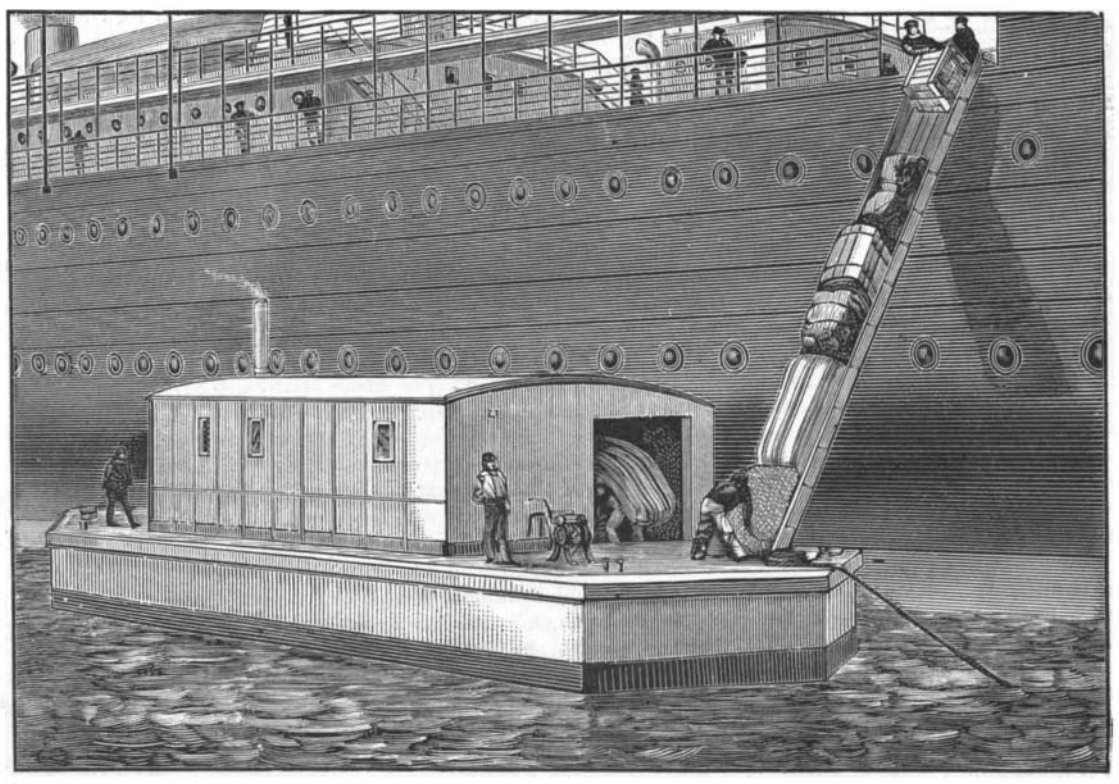
The preparatory labors of the International Congress of Hygiene, which met at Vienna, September 26, permit us to assert that France today possesses a stock of disinfecting apparatus much superior to that of other nations, for the reports published by the hygienists of various countries well show that the French apparatus are the only ones capable of assuring the application of this measure within the shortest time, with the lowest pressure, and at the lowest temperature. It is a question, be it understood, of the destruction of pathogenetic micro-organisms in linen, clothing, bedding, rags, etc. As for the disinfection of rooms and furniture, that has to be done with the aid of chemicals, gaseous or liquid; but these cannot penetrate the aforementioned objects quickly enough, and without injury.

The two new apparatus that we desire to make known are a disinfection boat and a movable disinfection stove.

Professors Brouardel and Proust and Dr. Rochard, French delegates to the International Sanitary Conference at Rome, in 1885, dwelt at that time upon the correlation that necessarily exists between the guarantees given to public health by the measures of disinfection and those of quarantine; so much so that the sanitary administration might, without inconvenience, diminish the duration of the quarantine by reason of the guarantees given by the rigor of the disinfection. The conference approved of this, but it is only the French government that has as yet put the idea in practice. The French sanitary administration, in fact, has resolutely entered upon this course, and is trying to bring in the ship companies. Steam stoves are now in operation upon several ships, and the services that they have rendered here permitted the vessels to pass quarantine upon their arrival. The congress at Havre, like the French sanitary administration, has, moreover, declared itself favorable solely to disinfection by steam under pressure, to the exclusion of all other applications of air or steam, and this, too, after numerous researches of hygienists, engineers, and physiologists

All the French lazarettos are now provided with stoves of this kind. In ports where there are no lazarettos, when a suspected or infected ship comes in, the maritime sanitary administration is obliged to send it to the nearest lazaretto. In order to remedy this difficulty, which costs much time and money, it was thought that in most cases it would prove advantageous to have a means of doing the disinfecting alongside the vessel. So Messrs. Geneste & Herscher were charged by the directing committee of the hygienic service with the construction of a disinfection boat, designed to be moored alongside of a ship, the latter being anchored in the middle of a dock where the health officer has decided to have the disinfecting done. This boat (see figure) is now stationed in the port of Havre, where it was one of the objects of attraction at the International Maritime Exhibition. The dimensions of a boat of this kind vary between 65 and 90 feet in length and 20 and 25 in width.

The boat is divided into three compartments by two iron plate partitions. The first of these constitutes the crew's quarters. It is reached through a sliding hood and a wooden ladder, and is lighted by two ports. The second compartment, which extends for half the length of the boat, constitutes the store room, and contains in the rear end a fresh water reservoir of 800 gallons capacity. The third compartment constitutes the coal bunker, and is reached by means of an iron ladder. The hull of the barge is entirely of iron, and is protected with a girdle of wood. There is a cabin on the deck for the reception of the disinfecting apparatus. This cabin is provided with six windows and two sliding doors, and contains a steam disinfecting stove of the hospital or lazaretto type. Near the stove, and in one corner of the cabin, there is an upright boiler for furnishing steam under pressure to the stove. There is, likewise, a galvanized iron tank, which is provided with an injector for supplying water to the boiler and to a power pump, whose suction pipe enters the reservoir. The cabin is divided into two compartments by an iron plate partition, so placed that the doors of the stove are on each side of it. The boiler and stove compartment also contain an apparatus for the disinfection, by chemicals, of leather, skin, or other objects that will not withstand the high temperature of the steam stove. This apparatus consists of a rectangular chamber, situated in one of the corners, and provided with two doors, one of which opens in one compartment and the other in the second. The sides of this chamber are covered with a protecting coating. The doors are hermetically closed by means of strips of silicated cloth, which the valves compress when they are closed. In the interior are supports, from which the objects to be disinfected are suspended.—*La Nature.*



NEW DISINFECTING BOAT CONSTRUCTED BY THE COMMITTEE ON HYGIENIC SERVICE, FRANCE.

Solidification of Petroleum.

The problem of solidifying petroleum has been taken up in Russia by Dr. Kauffmann, who, it is said, has obtained the best results by heating the oil with 1 to 3 per cent of its weight of common soap for about half an hour. At the end of this time the soap is entirely dissolved, and the whole mass is at once converted into a solid material, of the consistence of tallow. Cut into pieces in the shape of bricks, the petroleum thus solidified ignites only with difficulty; but, once lighted, it burns slowly, without smoke, leaving about 2 per cent of black, odorless residue. Compared to that of coal, its combustion would be one-third as rapid, and the quantity of heat produced would be far superior, when the draught is well regulated. In this state petroleum can be used in ordinary grates, or at least but slight changes would be required.

This method, which succeeds with the petroleum of the Caucasus, is, perhaps, that which has been applied in the United States, and if the success was not the same in both cases, it seems entirely owing to the difference in the composition of the two kinds of petroleum. However this may be, the question is an important one at the present day, and it is better to modify the nature of the valuable combustible than to attack the problem by devising special apparatus for its utilization.—*Revue Scientifique.*

Treatment of Consumption by Hydrofluoric Acid.

M. Garcin, availing himself of the observations already made at the glass works of Baccarat by M. Michaux, and at the Saint Louis works by M. Seiler, on the good influence of hydrofluoric acid in pulmonary tuberculosis, has instituted a series of experiments to determine the influence of this therapeutic agent. The process employed by the author consists in inclosing for an hour every day the patients in a chamber of six cubic meters (211·8 cubic feet) capacity filled with air charged with hydrofluoric acid gas. This charging is effected by passing a current of air, by the use of a pump, into a gutta percha bottle containing 300 grammes (½ pint) of distilled water and 100 grammes (⅛ pint) of hydrofluoric acid. The quantity of acid should vary with the patients. Those who are but slightly attacked will easily stand 20 liters (17·6 quarts) per cubic meter, while those seriously affected can only sustain 10 liters (8·8 quarts) after it has passed through a second washing flask. After fifteen minutes it is well to renew the gas, as it rapidly disappears. Under the influence of this treatment, says M. Garcin, the attacks of coughing diminish in frequency, the expectoration changes in character and diminishes, the appetite improves, and night sweats disappear. As to the *bacilli*, they are found to decrease every day, and eventually disappear from the secretions.—*Revue Scientifique.*