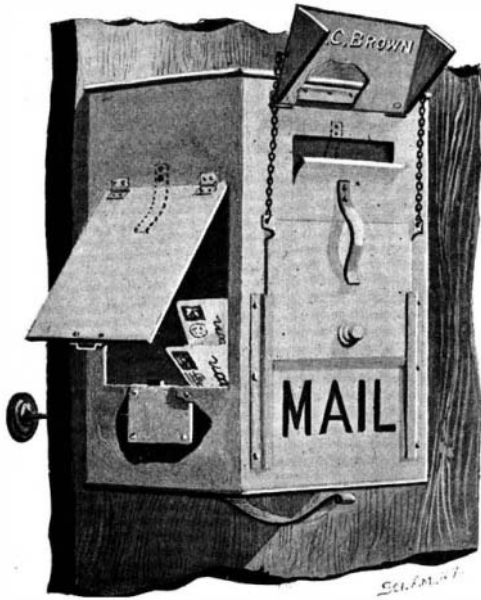


A NOVEL HOUSE MAIL-BOX.

Our illustration pictures a mail-box which was devised by Mr. Clayton P. Myer, of Silsbee, Tex., for the purpose of facilitating house-to-house delivery and of indicating that mail has been delivered.

The arrangement comprises essentially a box provided with a hinged hood for the letter-receiving slot, which hood when lifted operates a slide by means of chains, to expose the word "Mail," thereby show-

**AN IMPROVED MAIL-BOX.**

ing that mail of some kind has been delivered. The slide is held in its raised position by a spring, and is restored to its normal position by hand.

The box is also provided with a door through which the mail is removed. The door is controlled from the inside of the house, thereby rendering it impossible to open the box without entering the house. A lock controlled by a shaft holds the door closed. Upon turning the shaft, the door is pressed open by a spring. For the reception of bulky mail, a spring-arm is attached to the bottom of the box. The contrivance is cheap, neat, rain and dirt proof, and secure from thieves.

CURIOUS DOCKING ACCIDENT.

The illustrations herewith produced give an idea of the accident which recently occurred at Baltimore when the steamship "Hudson" careened while being docked, falling partly upon her side. She was being hauled out on the marine railway at the dock of Messrs. William Skinner & Son, in order to make repairs to a bent propeller blade. The ship was left on the railway with the stern entirely out of water with the exception of about one foot. The work of hauling her out began at high tide, and the after portion of the hull was held in a perpendicular position by driving posts under the rear quarters for shoring. The tide rises and falls about 18 inches at this point, and at low tide so much of the hull was exposed as to overcome, in spite of the supports, the equilibrium of the vessel, and, falling to the left, she struck the side of the dock, breaking down portions of the superstructure. The deck railing was broken and a part of the rigging supporting the masts on the port side was cut away; some of the upper plates in the hull also being bent inboard. Below the water-line the divers found her perfectly tight. The incline of the marine railway is such that, in heeling over, the "Hudson" forced her bows under water to a distance of about fifteen feet from the cut-water.

One of the steamers of the Merritt Wrecking Company was sent for, and the first step toward righting the vessel was to pump out the water which entered the hull through the port windows and forward hatchway. The next step was to stretch cables from the masts and deck stanchions to powerful tugs in the harbor and to the wrecking steamer, and endeavor to pull her out by the bow

into deep water. This failing, weights are to be attached to the starboard side of the vessel, and an attempt will be made to pull her over onto an even keel by a system of cables attached to windlasses connecting with the engine of the marine railway.

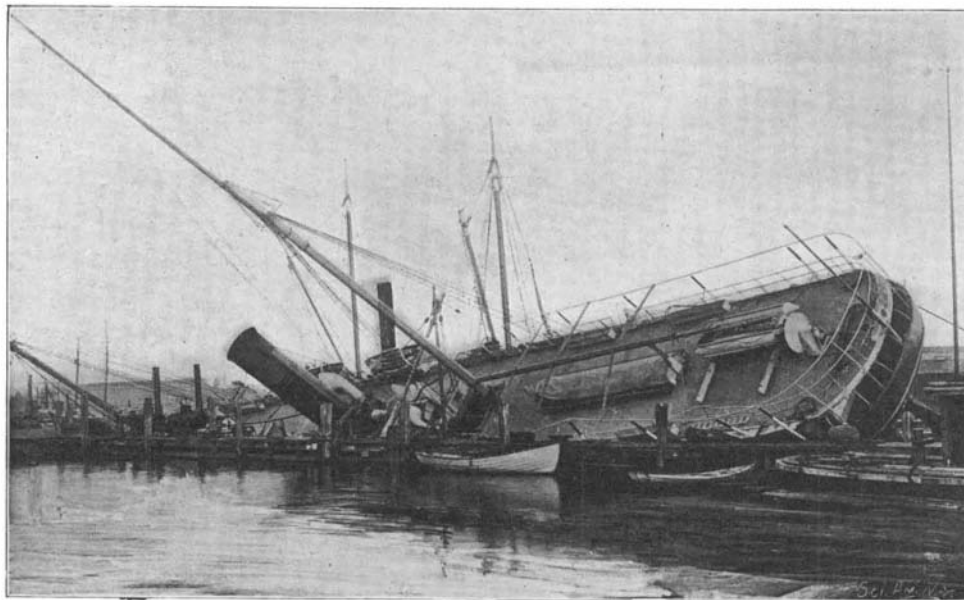
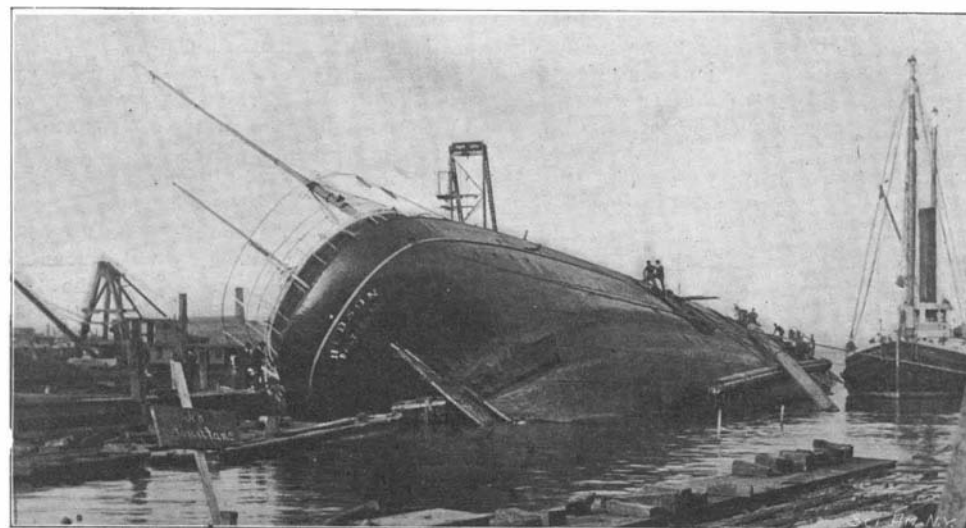
Fortunately, the hull of the vessel was empty at the time she was docked; but the work of righting her will, nevertheless, be attended with considerable difficulty, as she is 287 feet in length, 34 feet beam and has a net register of 1,300 tons. She has a cargo capacity for about 2,500 tons of freight and accommodations for sixty passengers. The engines and most of the machinery are located amidship.

Photographic Printing in Two Colors.

A new method of photographic printing upon paper in two colors has lately been devised by M. Bolle. By this means images may be printed side by side in different colors and an agreeable effect thus produced; it is especially applicable in the case of a central image surrounded by a border of a second color. One of the images is printed from a photographic negative and the second from a negative prepared from a hand design. The method is based upon the combination of the ferro-prussiate (blue print) and the bichromated gum process, and gives a blue image combined with another whose color may be varied according to the taste of the operator. To obtain the blue image the paper is sensitized by a mixture of the two following solutions:

- A. Citrate of iron and ammonia. 15 parts or 15 grains.
Water 50 parts or 50 minims.
B. Ferricyanide of potassium... 8 parts or 8 grains.
Water 40 parts or 40 minims.

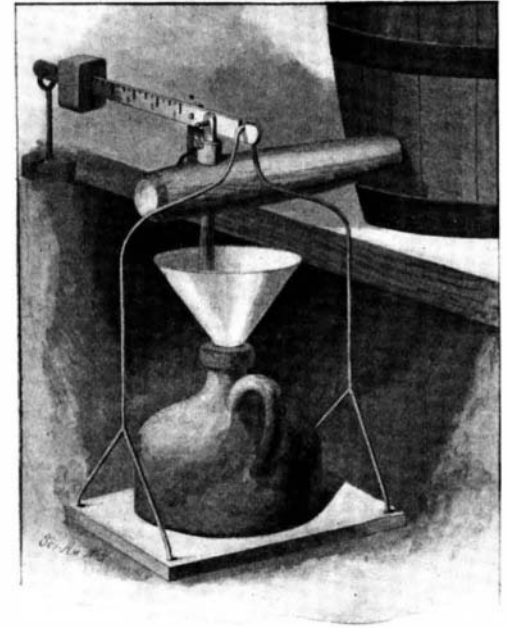
These solutions, prepared and filtered, may be mixed in advance and kept in yellow bottles, but it is best to mix at the time of using. The image is strongly printed and developed by washing in water till the whites become pure. The second image may form, for instance, a border for the blue image. To obtain it a plate is first prepared by exposing an ordinary gelatine plate to daylight and developing it until it is entirely black. The design to be reproduced is copied or traced upon tracing paper and transferred to the plate by impression paper. It is then engraved through the film with the point of a needle, giving a negative in black and white. To print this design the border of the blue image is sensitized by brushing over it a thin and even layer of gum arabic, 40 per cent solution, to which is added a sufficient quantity of the color decided upon. When this layer is dry a sensitizing solution of bichromate of potash (10 per cent) is applied in the same way. The printing is carried out as usual and the image developed by

**VIEWED FROM THE PORT QUARTER.****STEAMSHIP "HUDSON," CAPSIZED ON A MARINE RAILWAY AT BALTIMORE.**

washing in cold or lukewarm water. This process may be modified in different ways and will find many applications; if desired, the center of the image may be printed by the latter method and the margin in blue, or different images may be printed side by side.

A SELF-CLOSING SPIGOT OR FAUCET.

To provide a means for automatically closing a faucet or tap when a predetermined quantity of liquid has

**AN AUTOMATIC FAUCET.**

been drawn from a cask is the purpose of a device invented by Mr. David M. Bredin, of Picton, Canada. On the spigot a scale-beam is fulcrumed, the shorter arm of which supports a platform for the vessel to be filled, and the longer arm of which carries a counterpoise which can be shifted. The counterpoise is adjusted at a point determined by the weight of the liquid which is to be drawn from the cask. When the desired amount of liquid has flowed into the vessel, the shorter arm of the scale beam descends automatically, closing the spigot by the operation of a plug. By means of a spring latch the plug is prevented from opening the spigot during the removal of the vessel.

New Methods of Packing Butter for Shipment.

Our Consul, Mr. Hughes, of Coburg, under date of April 26, 1901, sends the following description of a new method of packing butter for long shipments:

A light wooden case or box is lined thoroughly at the bottom and sides with a layer of plaster of paris one-fourth of an inch thick, on which common glass slabs, with their edges fastened together by gummed paper, so as to make a perfect-fitting box, are placed. In this box the butter is placed, packed in good waterproof paper, in 10-pound packages. The glass top is then put on and sealed carefully with gummed paper bands, so as to make the box air-tight. A one-fourth-inch layer of plaster of paris is then put over this and the wooden cover nailed on. Each of the cases is made to contain about 200 pounds of butter. The plaster of paris being a non-conductor, very little heat reaches the butter, which arrives at its destination in good condition. The Consul is informed that very successful results have been obtained by shipping butter packed in this manner from Melbourne to Kimberley—rather a severe test.

The Diatto surface-contact system does not appear to be working very successfully in Paris. There have been so many accidents and breakdowns that a committee was appointed to inquire into the trouble, and it reported that the damage was due to several causes. First, insufficient drainage of the surface-contacts and conduits, causing shunt currents; second, to unsatisfactory insulation; third, to a deposit of carbon caused by sparking; fourth, bad insulation of the cables.