

Government Estimate of the Corn Crop.

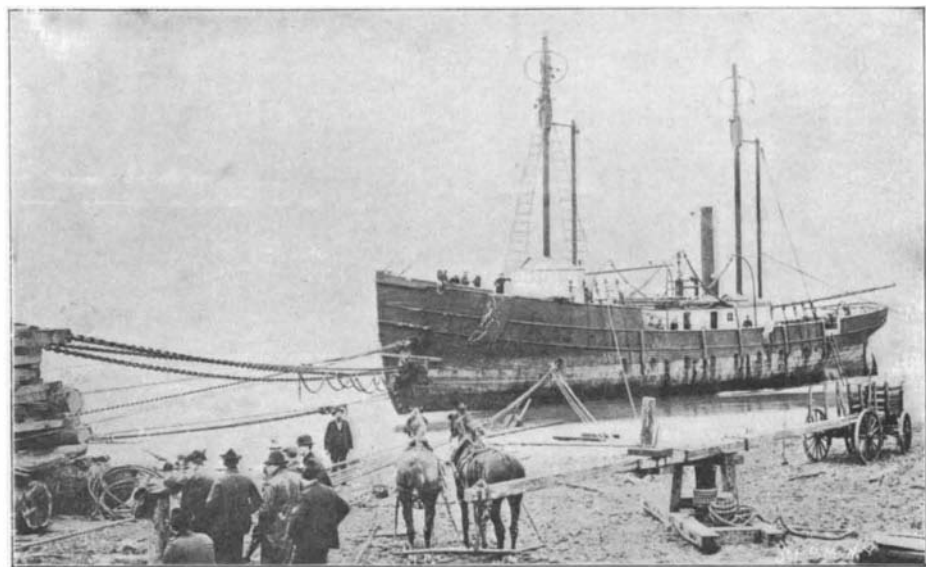
The Agricultural Department at Washington has just issued its estimate of the year's corn crop, showing a total yield for all the States of 1,250,597,000 bushels. Of this the statement shows that Nebraska, notwithstanding the dry weather which prevailed during July, will furnish 103,367,000 bushels, or more than one-tenth of the entire crop. This is interesting as showing the wonderful recuperative properties of the Nebraska soil. There is probably no other State in the Union which would, under the circumstances, make such a magnificent showing. Nebraska is a grand State and is rapidly increasing in wealth and population.

A NOVEL SALVAGE OPERATION.

BY WALDON FAWCETT.

A most noteworthy advance has been made during the past few years in the methods of conducting marine wrecking operations, and no better illustration of this could be afforded than by the recent achievement in raising the Columbia River Lightship from the sands on the beach north of Cape Hancock on the North Pacific coast, where she stranded about two years ago, and the removal of the vessel overland to the waters of Baker's Bay.

The lightship, a composite vessel which was built in 1891 and has a 12-inch steam fog-signal, broke away on November 29, 1899, from her station off the entrance to Columbia River and went ashore near McKenzie Head, Cape Disappointment, Wash., nearly eight miles distant. When the United States Lighthouse Board advertised for bids for getting the vessel off the beach a number of propositions were submitted, including one from a Portland wrecking firm, which proposed to take the vessel overland a distance of more than a third of a mile and launch her in the waters of Baker's Bay on the Columbia River. Owing



COLUMBIA RIVER LIGHTSHIP ON THE BEACH—VIEW SHOWING HAULING TACKLE AND HORSE-POWER WINCH.

to the extreme novelty of this suggestion, and considerable skepticism as to its practicability, the plan was rejected and the salvage work intrusted to wreckers who proposed to take the vessel out to sea.

After prolonged effort it was found impossible to restore the stranded ship to her native element by retracing the route which the craft had followed when coming ashore, and recourse was finally had to the ingenious plan of taking the ponderous hull overland. The difficulties of this undertaking had meanwhile, however, multiplied. Originally the ship lay head on in a position convenient for the commencement of the overland journey, but in the course of the efforts to take the vessel out to sea she was turned nearly broadside with her stern on the beach, and was in this position abandoned. It was necessary, therefore, to first raise the vessel from six or seven feet of sand surrounding her and turn her bow in the direction of the shore ere any genuine progress whatever could be made.

The methods employed were as unique and strikingly original as the general plan itself. A cribwork of logs nearly twenty feet in height was erected, and over this was passed the cables which were fastened to the bow. These chains passed over a rolling log some two and a half feet in diameter on the top of the cribwork. This was done in order to secure a lifting pull upon the bow when the power was applied. In this manner the stranded vessel was dragged a distance of more than forty yards, the bow thus being turned in the proper direction, although it was found that when the bow was finally brought to face the shore the vessel was embedded in the sands to a depth of seven feet at the bow and six feet at the stern. The turning of the vessel also sent her partially over on her beam, so that the deck was at an angle of nearly forty-five degrees.

The first task, therefore, was to straighten the ves-

sel, and this was done by placing large logs on either side, which served as a foundation for the screws with which she was lifted into a vertical position. It was also deemed wise to put chains under the vessel at the bow and stern to still further assist in lifting her out of the sand, and this was accomplished by stretching a chain parallel with the ship on one side, leading it across the bow and attaching it to a capstan capable of pulling seventy tons. Some excavation was necessary in order to get the chain down as far as possible from the surface ere the strain was applied. With the application of the power a steel bar, some thirty feet in length and sharpened chisel-fashion at one end, was utilized to loosen the sand under the keel of the bow, in order to allow the strain to gradually draw the chain under the bow and back to the desired position.

The same method was followed at the stern, and thus the work of placing chains under the vessel was accomplished in a comparatively short time, whereas under any other form of procedure an interval of at least a month would probably have been consumed in the task. The vessel rested upon a plank cradle or sled, as it might perhaps be termed. Each chain was fastened at either end to an immense log supported by a cribbing of timber upon a plank foundation formed by material four by twelve inches in dimension and two and a half feet in thickness. Before introducing the plank foundation the wreckers attempted to use logs, and had succeeded at one time in getting the vessel raised to the desired position and in readiness to start upon the journey to the bay, when a heavy storm came up, washing from under the vessel the logs which had

formed the foundation and allowing her to settle back into her former bed. Another serious inconvenience to the wreckers arose from the fact that much of the sand around the ship was of the nature of quicksand, and when stirred or walked over to any considerable extent became soft and springy, so that during a large portion of the time the men were compelled to work knee-deep in sand and water.

By using screws upon what might be called the temporary platform previously mentioned the wreckers were finally enabled to lift the lightship out of the sands to a height of twelve or thirteen feet and to place under the hull a permanent cradle made of timbers. The formation of this vehicle, in which the ship was to make the journey to her natural element, is of interest. Two timbers, each twenty-five feet in length by twelve by twenty-four inches, were placed under the bow, transversely to the length of the ship and nine feet apart. A similar arrangement was carried out at the stern. On top of these other timbers were laid, extending from the keel and higher up from the side of the vessel, out to substantially the end of the first-mentioned long timbers. These timbers, in turn, were connected by other timbers running parallel with the ship; and under the ends of the long timbers projecting from the sides of the ship were placed oak shoes, two under the end of each timber, some four feet apart, which shoes in turn, when the vessel was

lowered ready for pulling, rested upon oak rollers, which, in turn, rested upon a plank track.

By this arrangement the ship was given four bearings, and it was made possible to haul the craft over an uneven surface and along a crooked route. Heavy cables were put around the vessel's stern, extending

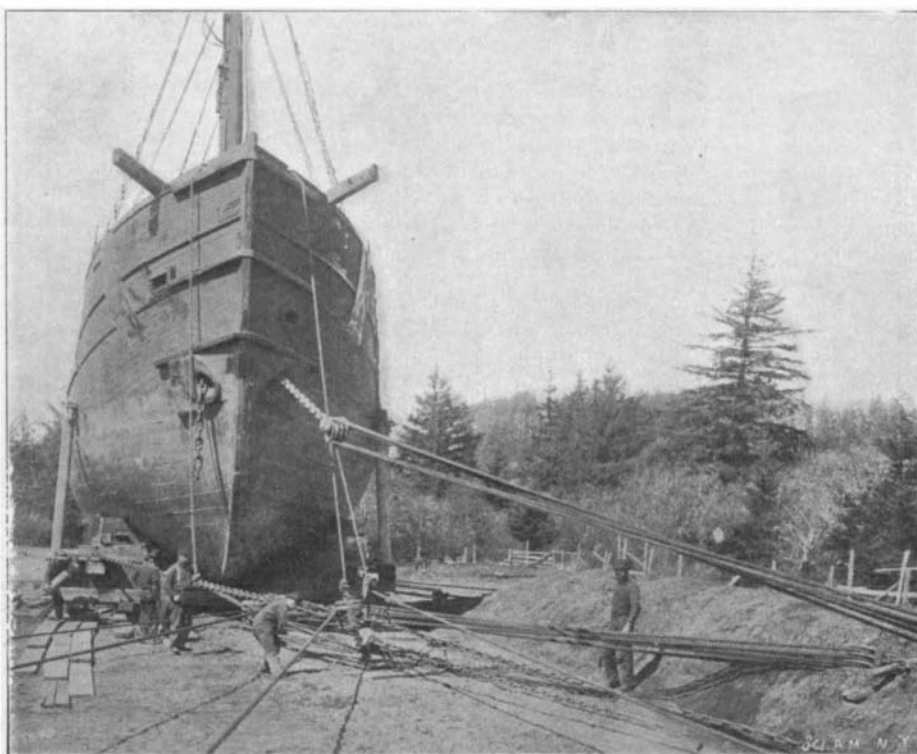


THE ROLLER WAYS ON WHICH THE LIGHTSHIP WAS MOVED.

along her side and through the hawse pipes, and to these were attached the tackle blocks, to which power was applied by means of a capstan operated by horses. In this manner the ship was taken up the beach, over the uneven ground of a peninsula, across a swamp, and finally down a grade to the beach of Baker's Bay. The rate of progress averaged about one hundred and seventy-five feet a day, and the altitude at the highest point traversed is in the neighborhood of thirty-five feet.

Repairs were made upon the vessel at the end of the overland journey, and she was launched in the waters of Baker's Bay upon rollers in the same manner that she crossed the peninsula. This method was adopted by reason of the fact that the water in the bay is shallow for a long distance out from shore, and it was thought that were the craft launched from the usual type of ways, such as are utilized for the first launching of ships, she would be pretty certain to become firmly lodged in the mud, even were the operation conducted at high tide. By the plan adopted she was taken out to a sufficient depth of water to float her without either difficulty or danger.

The foundations of the large extension to the Victoria and Albert Museum, South Kensington, London, have been completed and the work of construction is now being rapidly proceeded with. It is estimated that the building will not be completed for another four years. The late Queen Victoria laid the foundation stone in 1899. The new wing will considerably relieve the cramped condition of the exhibits in the main building. While digging deeply for the foundation of the central tower, a stone of the glacial epoch was discovered, together with a valued assortment of fossil bones, including those of an extinct species of ox, and a fragment of an elephant skeleton. These are all carefully preserved in the Natural History Museum.



BOW VIEW, SHOWING ROLLER WAYS AND HAULING TACKLE.