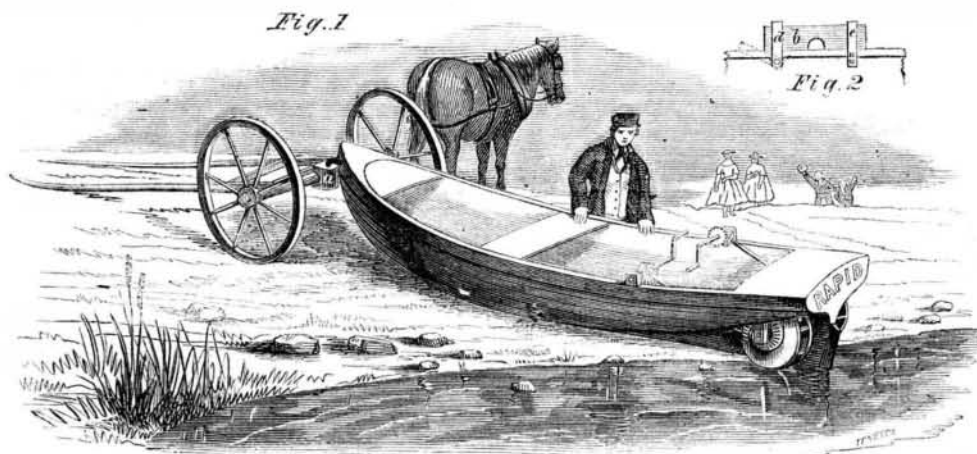


IMPROVED BUGGY BOAT.

We sometime since illustrated a buggy boat, patented by Perry Davis, of Providence, R. I., and we now present engravings illustrating another invention in the same department by the same prolific inventor.

There are three features in this invention, the suspending of the bow to the fore wheels, the hanging to the hind wheels, and the arrangement of the paddle wheels. The hanging of the fore wheels is shown in Fig. 1. The axle is made square in the middle, and a thick slab of india-rubber, *a*, is bent around it and secured by bolts. Through this india-rubber, behind the axle, a hole is



DAVIS' IMPROVED BUGGY BOAT.

made, through which passes the hook on the end of the bow of the boat; the hook being secured by a nut. The manner of hanging the hind wheels is shown in Fig. 2. A slab of india-rubber, *b*, is secured to the gunwale of the boat by the loop, *c*, at one end, and by the loop, *d*, at the other end. The loop, *d*, is connected to the gunwale by a bolt which operates as a hinge, allowing the loop to be turned down as shown by the dotted lines, thus releasing one end of the spring, *b*, for the purpose of admitting the axle under it, or for the purpose of re-

WHAT IS TO BECOME OF THE "GREAT EASTERN?"

We copy the following reflections on the probable destiny of the great ship, from the *New York Herald*:—

The *Great Eastern* left the Chesapeake on Saturday morning, after her southern trip, and arrived here at six o'clock on Tuesday afternoon. She passed Long Branch at eleven o'clock in the morning. The monster ship, although she has been doing a handsome business here in the spectacular line, will hardly pay interest on her capital stock as an object of exhibition; and how she is to be made to pay in her legitimate trade is a

of Maine of all its products and manufactures. We are very much afraid that the *Great Eastern* like the Erie Railroad, will have to go into bankruptcy. She cost originally four millions and-a-half of dollars, and she stands the present owners somewhere in about two millions and-a-half; but it is very likely, after all, that she will go into the hands of the holders of preferred stock, which amounts to half-a-million; and then to each of the owners she will be like an elephant in a gentleman's country garden. They have bought an elephant apiece, but they don't know what to do with it, or where to put it. If any one short of an Astor or a Vanderbilt were to be made a present of her to-morrow, he would be flat broke in a twelvemonth. It is a pity—but it is so.

AGRICULTURAL EXHIBITION PRIZES.

The annual exhibition of the Chester county (Pa.) Agricultural Society will be held at West Chester on the 5th and 6th of October next. Under the class of "Inventions, Models and Designs," as stated in the printed programme of the proceedings, we observe that one bound volume of the *SCIENTIFIC AMERICAN* will be given as a prize for each of the best designs for a farm house, barn, stable and carriage house, poultry house, spring house, smoke house and corn crib; also for the best model of a gate, sheep rack and cattle rack; and also for the best full-sized farm gate with a fastening, Chinese cane mill, washing machine, sausage-cutter, sausage-stuffer, and apple-parer.

We consider the award to be one of peculiar appropriateness and trust other societies will take the hint and do likewise. The committee and judges of this class are Messrs. Joseph C. Strode, James Cloud and Wm. F. James, gentlemen eminently qualified for the position. Here are sixteen volumes of the *SCIENTIFIC AMERICAN*—the acknowledged repertory of American inventions—offered as prizes for new improvements; what could be more appropriate? What other fair managers will adopt the same class of premiums?

problem. She comes and goes now on her pleasure coasting service without exciting any extraordinary interest. People gaze at her vast proportions as she steams up and down the bay, just as boys do at the great elephant in some menagerie procession parading the streets; but there is a deeper interest felt as to her future by the thinking portion of the community, and especially by ship-owners and merchants. What is to become of her when her exhibition season is over, and she returns to England? That is the question.



moving the axle when the boat is to be detached from the wheels. It will be seen that this mode of hanging is exceedingly simple, secures the softness of the india rubber spring, and allows the most perfect turning motion to the forward axle.

The arrangement of the paddle-wheels is so clearly shown in Fig. 1, as scarcely to require any description. The keel is elongated at the stern, forming supports for the paddle-wheels, which are hung and connected by rods and beveled gears with the cranks, in the manner shown.

Further information in relation to this invention may be obtained by addressing the inventor, Perry Davis, at Providence, R. I.

OF WHAT IS THE SUN COMPOSED?—Professor Kirchhoff, of Germany, has recently been making experiments with artificial lights produced by various substances, comparing certain of their effects with similar effects produced by the sun's rays, from which it is probable that the luminous atmosphere of the sun contains the metals sodium and potassium, and that it does not contain lithium in any considerable quantity. These inferences are drawn from the production of lines in the spectrum of flames containing these substances, corresponding in position with the dark lines in the solar spectrum.

For example, there is a demand for ships in this country just now, owing to the abundant harvest which has blessed the land. Suppose that the *Great Eastern* were to take home a full cargo of breadstuffs to Liverpool, or of cotton, the influx of such an immense supply of either, all at once, would depress the market considerably. Or suppose she was to come out to this port full of dry-goods, and flood our market with some nineteen thousand tons thereof, what a tumble down there would be in every article in the trade! Or, should she land an army of ten thousand emigrants at Castle Garden, all in a heap, what would we do with them? They would have to camp out in the streets, or on the Battery, for the emigrant depot would not hold a quarter of them.

Should she continue to trade between this country and England in any line, it would work a material change in our shipping trade and in every branch of commerce; but inasmuch as she would not pay expenses in this service, we hardly think she will try it. There was some talk of running her to Portland, Maine, and the Portlanders were sadly exercised because she did not make her first voyage to that port. But what in the name of Malthus and Cotton Mather would she do there? Why, in two trips to Europe, if her passenger lists were full, she would take away the whole population of that enterprising city, leaving its streets as deserted as Pompeii, and in six months she would denude the entire State

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