

anticipated, but the British ships led all the rest. Just before 8 o'clock the river around the four British ships the Blake, Australia, Magicienne, and Tartar, suddenly assumed the appearance of golden lakes. Somebody had pressed several buttons and the electricity had done the rest. The hulls of the ships, from water line to the rail, were outlined in globules of fire.

Simultaneously the electrician of the Jean Bart wove around her huge circular tops necklaces of golden beads. The Kaiserin Augusta revealed herself in bright dotted lines, and the Russian flagship arrayed herself in stars. Then came the exhibition of search lights. Electricians on every ship in the fleet stood to their work and sent their harmless charges through the mists. There was a stratum of fog extending a thousand feet or more above the river. Above that the air was clear, but above the cloudless stratum there was more fog. This condition of atmosphere caused many picturesque effects. The little caravels got a big share of attention. Every light on the leading ships was turned on the antique squadron, and they stood out like cameos.

Down the stream and up the stream the silver indices pointed; they gleamed across the historic river and lit up bits of the Palisades and startled folks in cottages along the Jersey shore. The finale of the search light exhibition was the concentration of all the glittering shafts on the American ships in one point in the sky. The signal for this display was made from the flagship Philadelphia by the Ardois lights, which flashed red and white in perpendicular strings from the masts. The meeting of the lights suggested a gigantic white-ribboned May pole before it is entwined by the ribbons. At the end of all the Blake showed a fiery figure of Washington, the man who led these colonies in war upon his kingdom. It lacked but an hour of midnight when this magnificent and most interesting display closed.

Although the President and many other officials of high and low rank were anxious to leave soon after the review, to be in Chicago at the inauguration of the Exposition on May 1, there was still a most important feature of New York's Columbian festivities to come off on Friday, the 28th. This was nothing less than a great land parade, such as has probably never before been seen in this or any other country, for it was a parade principally of men from all the different ships. Our own vessels furnished about fifteen hundred men, and about an equal number was landed from the foreign ships. There were bands without number, and some ten regiments of the New York State National Guard furnished the escort, but it was a sight well worth seeing and long to be remembered to view the contingents of English, Russian, French, German, Italian, Brazilian, Argentine and Dutch men-of-war's men swinging along Broadway, together with our own jack tars and marines, all like friends and compatriots, and all the foreigners doubtless forgetting any possible differences of their own in their generous admiration of and regard for the people of the country which Columbus discovered. And thus did New York execute its part of the inaugural work of the world's great Columbian Exposition for which Chicago has been so long preparing.

COST OF THE FAIR.—Auditor Ackerman has made a report showing that the building of the World's Fair has already cost \$16,708,826, twice the sum paid for the Paris Exposition, and more must yet be paid out. There is at present a cash balance of \$626,396, and \$2,361,263 is due on contracts.

A MODEL LOCOMOTIVE.

Some time since it was determined by the locomotive engineers of the Erie Railroad system to join in the construction of a locomotive which should fully represent their ideas as developed in everyday practice in locomotive running. In this system there are between 950 and 1,000 locomotive engineers, who each subscribed

of great importance by these men, who are constantly using engines and know the various good and bad points of existing locomotives.

The total weight of the engine is something over 67 tons. This weight is distributed as follows: On the rear drivers 44,300 pounds; on the front drivers 44,450, and on the truck 45,850 pounds. The drive wheel axles are 8½ inches in diameter, the journals are 12 inches long, and the boxes are heavier than common. To permit of using journal boxes of this length, the wheels are dished, so that the spokes are outwardly convex. The crank pins are 6½ inches in diameter in the larger part and 5 inches in the smaller part, the cylinders are 19 inches in diameter and the stroke is 26 inches. The steam pressure will be 180 pounds. The wheel base is 48 feet and 9 inches, the boiler is of the straight cylindrical type, this form being deemed on many accounts preferable to the wagon top style. The expansion of the inner and outer parts being more uniform, unequal strains are avoided, and the principal cause of leakage is removed.

The brakes are applied at the front of the drivers, to avoid the strain caused by applying the pressure in the usual way.

This noble machine does credit to the engineers who conceived the idea of constructing a perfect locomotive, and to the army of practical men who contributed toward its construction. We understand that the engine is to be sold after its exhibition at the World's Fair at Chicago.

This creditable piece of workmanship was produced by the Cooke Locomotive and Machine Company, of Paterson, New Jersey, and we have no doubt it will be duplicated.

A COLUMBIAN EGG PUZZLE.

The illustration represents a puzzle formed of a casing simulating an egg, with which may be accomplished the feat attributed to Columbus, that of causing an egg to stand on end, the shell of the casing being broken away and two views being given of its interior. A double-floored partition divides the larger from the smaller end of the egg, the floors of the partition being united by a hollow central cylindrical portion, in which is an aperture establishing communication with the annular chamber in the smaller end of the egg. Centrally on the upper partition, in the larger end of the egg, is a collar, open at one side,

forming a chamber adapted to receive a ball. A ball is placed in the upper chamber and one between the floors of the partition, as shown in Fig. 1, and the egg can then be made to stand upon its small end by turning it around in the hand until ball 1 is moved into compartment 2 in the large end, ball 3 being at the same time guided through aperture 4 into the lower chamber 5, and to the cavity 6. The balls then will be in the line of the axis of the egg, and, its smaller end having a very slight cavity to give it a narrow base on which to stand, there will be no difficulty in making it stand on this end, as shown in Fig. 2. This puzzle has been patented by Mr. Manuel Benitez, and further information relative to it may be obtained of the Columbian Commercial Company, No. 126 Maiden Lane, New York City.

In his annual report for 1892, in respect of the Newton Abbot rural sanitary district, Mr. Harvey, in discussing the diminished tendency to spread of scarlet fever, puts it down, in a measure, to the free use of boracic acid, an ounce or two of which was given to each mother, with instructions for making an ointment by means of lard.

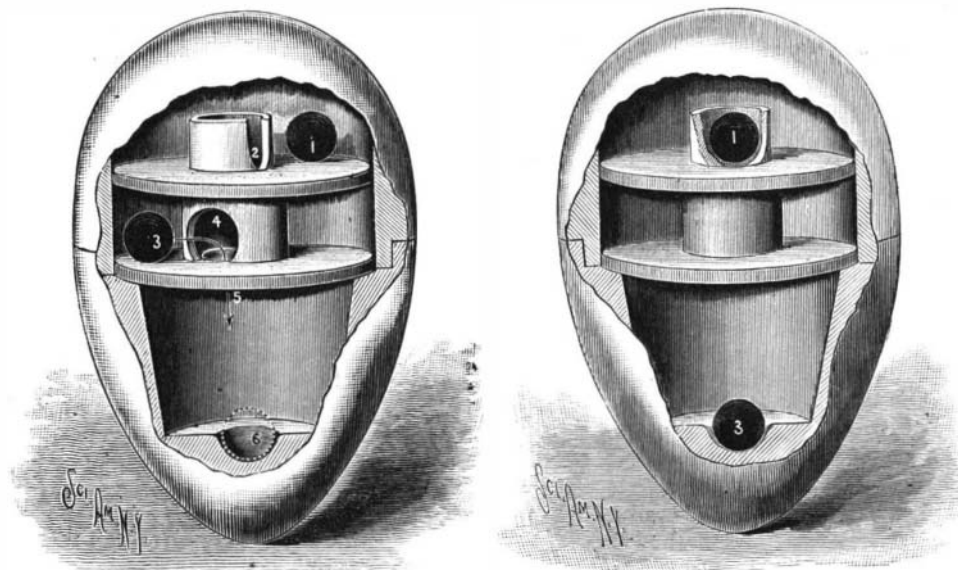
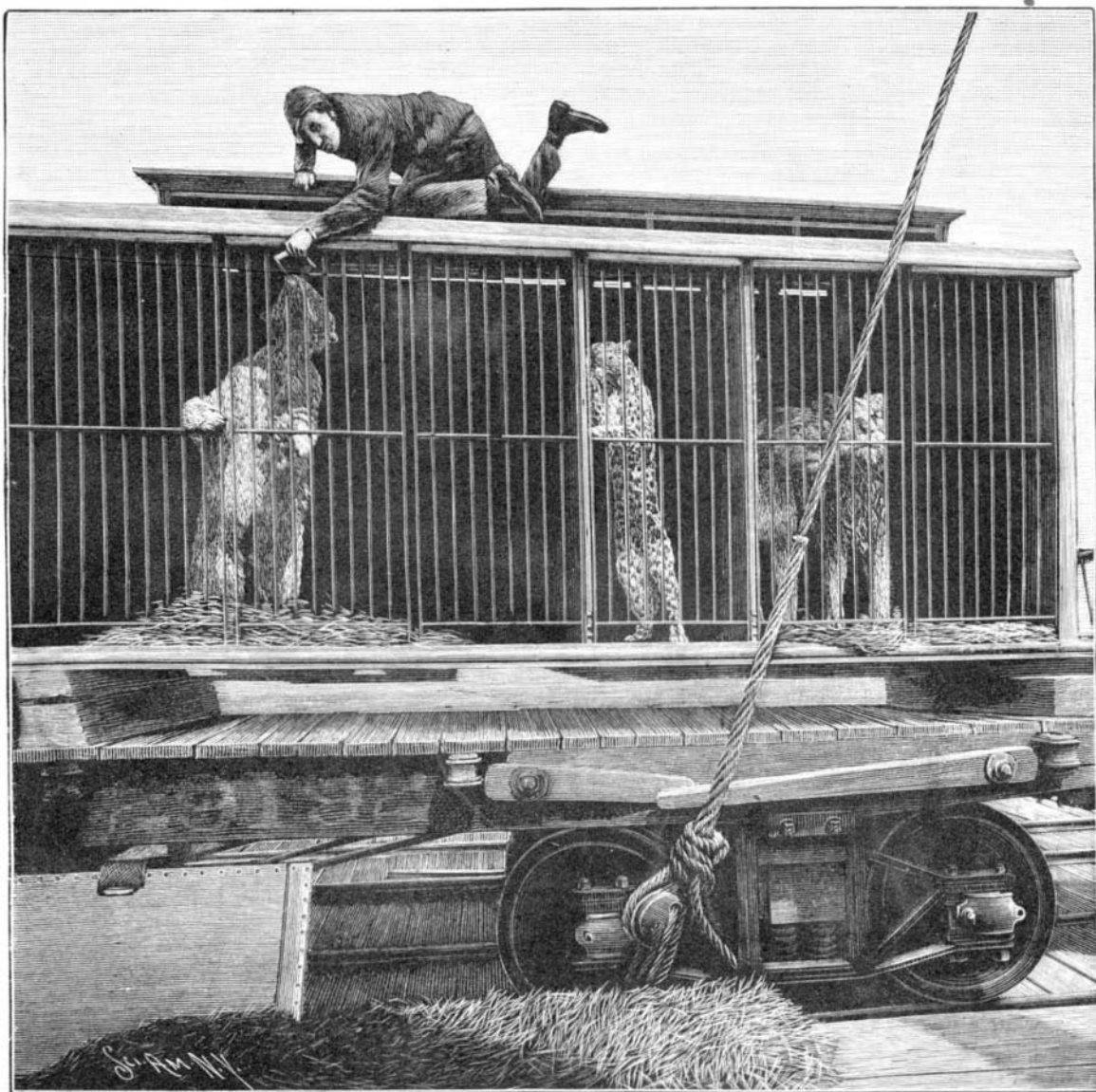


Fig. 1. BENITEZ'S COLUMBIAN EGG PUZZLE. Fig. 2.

for one or more shares of the stock in the engine, at five dollars per share. The result of this undertaking is illustrated by our engraving, which represents a first class passenger engine constructed according to modern ideas. It was built with the idea of exhibiting it at the World's Fair.

Our engraving is made from a photograph taken of the engine while it was being tested; consequently, the valve chest is shown covered with the box used to protect the indicators. This slightly mars the illustration, which in other respects is complete. Several of the great manufacturers of materials used in the construction of locomotives showed great liberality in furnishing some of the parts or the materials from which they are made. The Otis Steel Company presented the steel sheets from which the boiler is made. They are rolled to the thickness of five-eighths of an inch. The Midvale Steel Company gave the drive wheels, axles, journal boxes and side bars. The Snow Car Truck Company presented the pilot truck, and the Westinghouse Brake Company provided complete brake mechanism of the most modern type. The engine does not possess a great many points of novelty, but the variation from the ordinary construction is considered



THE WORLD'S COLUMBIAN EXPOSITION—RARE ANIMALS FROM EUROPE EN ROUTE FOR CHICAGO.