

Scientific American.

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Railroads—Their Management and Mismanagement.

It is supposed that there have been one thousand millions of dollars expended on railroads in the United States; but there yet remains to be written a startling history of the duplicity, fraud and incompetence which have attended their construction and management, and the formation of the companies which have led to the ruin of many who have embarked in them. The main body of these roads were projected by the most worthy of our citizens, through an ennobling spirit of enterprise, and with a view to develop the resources of the country, benefit their fellow-citizens, and obtain a legitimate return for capital thus boldly and creditably invested. Others, however, were recklessly started by worthless persons, for the exclusive purpose of enriching themselves at the expense of a cheated and plundered community. In the case of many of these roads not the least possible chance existed for gaining profit to the stockholders, owing to the lack of available business, still they were drawn into the most extravagant expenditures, by having the names of individuals in whom they had confidence paraded before them as directors and heavy shareholders. A heavy responsibility rests upon these persons, who, under the false pretence of affording to the limited capitalist an adequate return for his or her investment, have ruthlessly swindled them of what may have occupied years of honest industry to accumulate. If the course of such persons deserves the condemnation of all just men, the individuals under whose charge the profits of manifestly good paying roads have been salvaged from their legitimate channels by mismanagement, or as a cotemporary more justly terms it, dishonesty, are no less deserving of reprobation and punishment.

Long before the frauds of Schuyler and his mere recent brothers in crime were perpetrated, we were satisfied that there was something radically wrong in our railroad system. We thought then, and later developments have only confirmed our belief, that too much power was vested in a few leading men, without the periodical application of the healthy checks afforded by a general investigation of their administration by the stockholders. If the power of the directors were limited to what is absolutely necessary to the government of the concerns of the company, and they were required to give bonds for honest conduct and frequent reports of their stewardship, and often changed, we believe that the evils arising from the present incompetency and systematic plunder of the stockholders would cease. If the stockholders are numerous and scattered, and many of them are women and children, they still have the power and skill, if they will but exercise it through others, to protect themselves. Let them elect men whom they know, and constantly apply the healthy principle of rotation in office. Let them arrange among themselves a system that will cause the state of the concerns of the company to be periodically laid before them, and determine to be as well posted up in its details as they are in the more immediate business affairs of life. Prevent the directors from buying and selling stock when they have thus the power of depression or inflation in their hands. This is the only method of preventing false dividends being declared, and the interests intrusted to them from being subverted to their own personal and selfish ends.

Under the present arrangement, the public, including the shareholders, are studiously kept in the dark as to the state of the affairs of railroad companies, and hence when the crash and crisis comes which the dishonesty and mismanagement of the directors have brought about, the latter are in a position to

see danger first, and by concealing it dispose of their shares, and leave the unsuspecting stockholders and creditors to be overwhelmed by the ruin. Just so long as stockholders allow the affairs of railroad companies to be under the unrestricted control of a dozen sharp and selfish directors will the evils which clog their management exist. We believe with a cotemporary that incompetency and dishonesty constitute the bane of our railroad system. Its whole management is essentially vicious and corrupt. A few large fish, having thousands of small ones in their power, as a matter of course devour them.

We are sorry to feel compelled to send abroad a statement like this, but the sooner foreign capitalists learn that there is neither safety nor honesty in the general management of the railroads of this country, the better it will be for them. There are, we are happy to say, good exceptions to these severe charges, but they are few.

The Great Eastern.

The projectors of the Great Eastern Steamship Company having failed in their efforts to raise the amount (upwards of a million of dollars), to complete this monster, suggest two alternatives, the first being to raise the necessary amount of capital by an issue of preference shares, and the second to promote the formation of a new company, to whom the ship may be sold to pay the debts (amounting to upwards of \$320,000), now pressing upon her, and to raise the additional sum to fit her for sea. The New York Evening Post asserts that in the present discouraging state of the shipping trade, she would, if finished, have to wait six months at Liverpool to fill up, and still longer at her place of destination to discharge and reload. Shippers would not wait the slow movements of such an ark, when they could send conveniently, and on as favorable terms, every week by the smaller liners. Suspicions of this kind have been gradually forcing themselves upon the minds of the stockholders, we presume, indisposing them to risk any more good money after bad. Hence their refusal to come forward and make up the funds necessary to finish the work so bravely begun, or even protect the credit of the company.

When this grand conception of mechanical genius was first commenced, the enthusiasts of the press, both in this country and England, asserted, as they have of many other gigantic enterprises, that her completion would inaugurate a system that must benefit every man, woman and child in the universe and produce a revolution in ship-building. How lame and impotent is the conclusion! After years spent in her construction; after expending we know not how much in building her hull; after exhausting the mechanical science of the world in launching her; and after keeping the world vexed for we know now how long, with the questions where she was to run to, and what harbor was big enough to hold her, it turns out at last that this ship, which was to be to other ships what the Grand Man in the New Church theology is to other men, has exhausted the funds and credit of the company, and that her owners are heartily sorry that they did not apply their capital to some other object more remunerative than she is likely to prove.

NEW OVERSHOE.—It is stated that a citizen of Utica, N. Y., has invented a new kind of overshoe, designed for persons traveling by sea and land. It is made of braided straw. Straw being a non-conductor of heat, the natural warmth of the foot is retained, without being subject to dampness by the foot sweating—an advantage of great importance—the straw being porous, and either absorbing the dampness or allowing it to pass off.

THE TELEGRAPH PLATEAU.—Our readers will find a map of this, and the connections of the Atlantic Cable in Europe and America, together with much interesting matter appertaining thereto, on page 216, Vol. XII, SCIENTIFIC AMERICAN.

The Inventor of the Electric Telegraph.

A correspondent is out in the New York Times of the 9th inst., claiming that "it cannot be refuted that Dr. C. T. Jackson, of Boston, is the first inventor of the electric telegraph." He refers to the fact that Dr. Jackson and Professor Morse were together on board the packet ship Sully, from Havre to New York, in the summer of 1837. On his leaving Paris, Dr. Jackson purchased the little galvanic battery, with its apparatus, still kept in his possession in Boston, which may in some future day become a great curiosity, as being the very little magnetic instrument that has been the means of all the subsequent and wonderful events of the magnetic telegraph above and below land and sea. Upon this voyage he alleges that it is well-known to many that Dr. Jackson conducted experiments on the deck of the vessel before all the passengers, and "in his usual open, frank manner explained everything about it and its uses for telegraphic communication."

It strikes us as very singular that in the midst of all the testimony that has been eliminated to prove that Professor Morse was not the original inventor of the electric telegraph, that so important a witness as Dr. Jackson should have been left alone. It is equally singular that Dr. Jackson himself should have so long concealed his just claims, if he ever had any, to this important discovery. Where are all the passengers who saw these deck experiments? Surely there is something strange about the case, and we should advise Dr. Jackson to keep watch of his zealous friend who thus lays claim in his favor to this great discovery. It will be as difficult now to convince the American people that Professor Morse's claims to the electric telegraph are not valid, as it is to make them believe that General Washington played "second fiddle" to Alexander Hamilton, as the son of the latter endeavors to prove.

Great Steam Plowing Match.

At the recent show of the Royal Agricultural Society, held at Chester, England, on the 14th ult., five steam plows contested for the handsome prize of £500 (\$2,425). Four of the plows were operated by steam engines fixed on the field and moving the "shares" back and forth by ropes and windlasses. The fifth plow (Boydell's) had a traction engine which moved over the field. Each of these turned over four furrows at once, and the work was well done by them, all but one, which broke down. The soil was a hard, dry stiff clay. Furrows of nine inches depth were turned over, and the competition was very spirited. The successful plow was Fowler's; it executed one and three-quarters of an acre in two hours. By offering high prizes for steam plows by our agricultural societies, positive success would soon be achieved.

Charles F. Mann, of Troy, N. Y., has recently put in operation a steam plow, which we have heard well spoken of by those who have seen it work.

A French Flying Machine.

A Paris correspondent says that the Emperor Napoleon has just made a present of 5,000*fr.* to a private in the Line, who asserts he has discovered a solution for the great problem in aeronautics—the art of flying. He has invented a kind of air ship, consisting of a platform of silk stretched over whalebone, to be propelled by two gigantic wings of the same material, placed on each side. The aerial navigator is to be suspended at a distance of about four feet from the platform, while his feet rest on pedals, by means of which the wings are set in motion, while his arms rest on a lever, which imparts to the platform the direction he chooses to give it. Only a model of this machine has yet been constructed, and it appears to work well. Thanks to the Emperor's munificence, it is now about to be constructed on a large scale. This is another evidence of the liberality of the extraordinary man now at the head of affairs in France, toward the progress of science and the mechanic arts. It was he who took the initiative step in making a European

remuneration to our own Professor Morse for his service in bringing the magnetic telegraph from the region of speculative science into practical application, and throughout his career he has shown marked favors to all inventors who have in any manner benefited mankind by the results of their genius. The Emperor, it is true, often lends his aid to chimerical ideas, but for the principle which dictates the course he invariably pursues toward distinguished originators in the arts and sciences, he deserves the unqualified praise and approval of all right-minded men.

Do Animals Reason?

One pleasant day last summer, says a correspondent of the Boston Post, a small party embarked in a wherry to visit Russ's Island. In the boat was a Newfoundland dog. As soon as we had disembarked, the dog observed at a short distance about a dozen cows and an old lame horse feeding, and accordingly rushed towards them barking at the top of his voice. This attack first startled the cows, and they began to retreat with considerable speed. The horse was selected as the main object of his assault, and limped away as well as he could. The cows huddled together in a group, and passed around among each other for a few minutes, apparently consulting on what was best to be done. Finally they came forward in a body, covered the retreat of the old horse, and took the van themselves. They then moved deliberately together in a line, with heads toward the ground and horns presented to the dog, and drove him back defeated. At every succeeding rally on his part, they continued to repulse him until he abandoned his attacks, and then retired to a grassy spot to graze as before. These cows actually protected their lame associate from the assaults of the noisy invader.

State Fairs.

The following State Fairs are to be held during the present year:—
Alabama, at Montgomery, Oct. 18 to 22.
Connecticut, at Hartford, Oct. 12 to 15.
Illinois, at Centralia, Sept. 14 to 18.
Indiana, at Indianapolis, Oct. 4 to 9.
Iowa, at Osceola, Sept. 28 to Oct. 1.
Kentucky, at Louisville, Sept. 27 to Oct. 1.
Missouri, at St. Louis, Sept. 6 to 16.
New Hampshire, at Dover, Oct. 6 to 8.
New Jersey, at Trenton, Sept. 15 to 17.
New York, at Syracuse, Oct. 5 to 8.
Ohio, at Sandusky, Sept. 14 to 17.
Rhode Island, at Providence, Sept. 15 to 18.
Vermont, at Burlington, Sept. 14 to 17.
Wisconsin, at Madison, Oct. 4 to 7.
Maine, at Augusta, Sept. 21 to 24.
Pennsylvania, at Pittsburg, Sept. 28 to Oct. 1.
Maryland, at Baltimore, Oct. 19 to 25.
Michigan, at Detroit, Sept. 28 to Oct. 1.
North Carolina, at Raleigh, Nov. 2 to 6.
South Carolina, at Columbia, Nov. 9 to 12.
Virginia, at Pittsburg, Nov. 2 to 5.
Do., Northwestern, at Wheeling, Sept. 14 to 16.
United States, at Richmond, Oct. 25 to 30.
CANADIAN FAIRS.
Canada East, Montreal, Sept. 29 to Oct. 1.
Canada West, Toronto, Sept. 28 to Oct. 1.

The Ocean Telegraph Cable.

The whole population of our city has been thrown into tremendous excitement, by the reception of the Queen's message through the Atlantic telegraph cable. The grand problem has thus at length been solved, and all seem gratified and delighted at the success of the great enterprise. The Queen congratulated the President upon the success of this wonderful international work, and the President sends a suitable reply. We shall give both messages in our next issue.

Numbers 51 and 52.

Only two more numbers to be issued, and the curtain drops upon Volume XIII. of the SCIENTIFIC AMERICAN. All subscriptions that began with this volume will end with No. 52, and in accordance with our usual custom, the paper will be stopped unless they are renewed. Friends, send in your subscriptions with as little delay as possible. Get some of your neighbors to join with you, and thus avail yourselves of our liberal clubbing rates.

EXHIBITORS OF MACHINES are invited to notice the advertisement of the Mechanic's Institute of Chicago on another page.