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(Illustrated articles are marked with an asterisk.)

Table listing various articles such as 'The Pneumatic Dispatch', 'Answers to Correspondents', 'Recent American and Foreign Patents', etc., with page numbers.

ADVERTISERS.

The value of the SCIENTIFIC AMERICAN as an advertising medium cannot be over-estimated. Its circulation is ten times greater than that of any similar journal now published.

CONDITION OF THE PATENT OFFICE.

The Patent Office building was commenced in 1836, and 270 feet of the south side of the block were finished and occupied within four years of that period.

The order of architecture adopted for the exterior is the Grecian Doric of the age of Pericles, when the fine arts in Greece, particularly architecture and sculpture, had reached the highest excellence.

It was the intention of the projectors of the Patent Office, that it should be employed exclusively for the legitimate purposes of its creation, and from time to time as the work progressed Congress appropriated from the surplus patent fund the money necessary for its completion.

The condition of the Patent Office today, furnishes a powerful confirmation of the warning we then uttered against surrendering any portion of the Patent building to the Department of the Interior;

and though Aesop has been dead over two thousand years, unless inventors and those who feel an interest in the future of the Patent Office, unite in firm opposition, his old fable of the porcupine and the snakes is likely to be repeated.

It is the duty of Congress at its present session to appoint a committee to inquire what further legislation is necessary to provide for the present and prospective wants of the Patent Office.

The committee will find upon investigation that the Commissioner is very conscientious in the discharge of his duties, anxious to satisfy the pressing demands made upon his time and patience, and to do justice to all who have claims before his department.

The Commissioner ought to use all the power he possesses under the law authorizing temporary clerkships, to meet and remove one of the difficulties of which we complain.

The committee will also find that the Patent Office at this very moment actually needs nearly, if not quite, every available room in the building, and no time should be lost in preparing for the removal of the Secretary of the Interior with his pension bureau, and Indian traps.

CORROSION OF STEAM BOILERS.

The process of corrosion is very similar to that of the combustion of fuel, the only difference being that in corrosion the metal unites with the corrosive agent slowly, while in combustion the fuel unites with the supporter of combustion rapidly.

The external corrosion of a boiler is due to simple oxidation caused by atmospheric exposure principally. In the boilers of sea-going vessels it is also caused by the contact of the bottom of the boiler with bilge water, and by the exposure of the top to leakage from deck.

The internal corrosion is due to simple oxidation and to the galvanic action taking place whenever two different metals or a metal under different conditions are either wholly or partially immersed in a fluid in which either of them would be oxidized.

The hot brine or sea water contained in marine boilers is a most powerful corrosive agent of wrought iron. Hence the stays are corroded and the pins or bolts which hold the stays are eaten and loosened.

The usual weekly issue of Patents for Dec. 25th will be suspended on account of the holidays.

THE SCIENTIFIC AMERICAN OFFICE.

The engraving upon the opposite page presents a fine view of the Scientific American and Patent Agency Office, which extends through from Park Row to Nassau street, with fronts on both streets; also occupying the whole front on Beekman street, as shown by our signs.

Few persons would recognize this block as the former location of the Old Brick Church, yet it is the veritable spot. Little we thought, years ago, when our then diminutive quarters were in Fulton street, and we used to meet the reverend pastor of the Old Brick, Dr. Spring, striding down Broadway on Sunday, dressed in flowing gown of black silk.

The Scientific American Patent Agency Office is by far the largest establishment of its peculiar class in the world. Our New York offices probably exceed in extent, the area of all other patent agencies in the city combined.

DRAINAGE AND UTILIZING WASTE OF CITIES.

A novel system of drainage for the houses of cities, patented by Captain Liernur, is about to be introduced at the Hague, the residence of the king of the Netherlands and a town of 80,000 inhabitants. It consists of an arrangement for daily inodorous emptying and scouring of the passages for excreta, by pneumatic action, and the immediate removal and utilization of the products, without allowing time for the pestilential process of fermentation.

The economical estimates reported are as follows: One steam-engine of 10 or 12 horse power, with three tenders of 90 cubic feet each, suffices for the nightly service of a population of 10,000; working seven or eight hours.

In the city of New York, probably a full half of all this agricultural wealth is wasted in the sewerage, and at the same time converted into a source of disease instead of profit.