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(Illustrated articles are marked with an asterisk.)

Table listing various articles such as 'Ache in the back', 'Alligators, disappearance of', 'Appliance, railway', etc., with corresponding page numbers.

TABLE OF CONTENTS OF SCIENTIFIC AMERICAN SUPPLEMENT No. 686.

For the Week Ending February 23, 1889.

Price 10 cents. For sale by all newsdealers.

Detailed table of contents for the Scientific American Supplement No. 686, listing 12 sections (I-XII) with titles and page numbers.

REPORT OF THE COMMISSIONER OF PATENTS FOR 1888.

The special report of the Commissioner of Patents to Congress, for the year 1888, has lately been presented, and is in many respects a very able and interesting document.

The number of patents granted during the year 1888, including designs and reissues, was 20,506, being about one thousand less than for the year 1887, and nearly four thousand less than for the year 1885.

The Commissioner shows how seriously the business of the office is crippled for lack of sufficient room. He says:

"The various divisions of the Patent Office are crowded into narrow, inconvenient, and, in many instances, unhealthy limits. The records and drawings and other material, which should be conveniently arranged and made accessible in proper rooms, are stored in corridors and by-way places, where classification is almost impossible, and where access can only be had to the particular subjects desired after long search and delay.

Of the Official Gazette, 6,500 copies are printed weekly, of which 2,265 copies are sold, and 4,235 given away to libraries, members of Congress, etc.

The Commissioner dwells upon a number of different subjects, all of greater or less importance. The difficulties of making official examinations of inventions are constantly increasing; but if more space were afforded, he thinks the present force of employes could do the work.

The present law by which the term of the American patent is reduced to that of the term of the previously granted foreign patent he thinks should be repealed. He favors the allowance of caveat registration to foreigners; also a modification of the record law for assignments.

A REPLY TO THE NEW YORK "WORLD."

Principal Examiner W. W. Townsend has recently published in pamphlet form an able and scathing reply to the recent attacks of the New York World upon the good name and fame of the Patent Office.

"The inventive genius of the country may, in truth, be aptly compared to a great tree, deep rooted in a general climate, constantly budding, blooming, and fruiting. But it is a tree that produces both good and bad fruit; and oftentimes a great deal of husk covers a very small kernel, scarcely worth the saving.

"The Patent Office is the great winning machine,

through whose operation vast masses of rubbish which would otherwise obstruct the industries of the nation are consigned to the waste heap. To abolish the official search would be to destroy this machine, and substitute what? A host of similar machines, badly made, unfinished, and left to run themselves at enormously increased aggregate expense.

"It is admitted that the present system has many defects. But they are not inherent in the system itself; they are rather the result of the manner in which the system is administered, and largely of the disposition to consider public office as spoils of war and not as a public trust; of the niggardly policy which allows upward of three millions of dollars to lie idle in the Treasury to the credit of the Patent Office, while the salary of the Commissioner is at such a figure that in the last thirty-eight years there have been nineteen incumbents of the office.

"But what is the remedy? The inventors of the country have it in their own hands. Let them insist that the office shall have ample means, ample room, ample force, so that there shall be an end of inaccessible records and extra hours of labor, with their demoralizing tendency to lax and hasty work. Let them insist upon having a commissioner and assistant commissioner trained in science as well as in the law, and with such a salary as will insure their incumbency for a reasonable period, and consequently a much needed stability in the practice of the office.

OFFICIAL TRIAL OF THE GUNBOAT YORKTOWN.

The gunboat Yorktown was subjected to an official trial on Wednesday, February 13, to determine her acceptance or rejection by the government. The trial as far as reported was a complete success, the contract requirements of speed and horse power being exceeded. Four hundred tons of pig lead were distributed through the ship so as to represent her stores, guns, and other equipments.

The Yorktown ran out to sea, and at 9:45 A. M. the official test began. Quite a heavy breeze was blowing, with considerable sea. The chip log and taffrail log were kept in use continually, and a large corps of government inspectors took indicator diagrams from her different cylinders, so as to obtain full data for speed and developed horse power.

The ship started nearly southeast, with the wind abeam, her speed increasing quickly from 16.7 to 17.2 knots per hour. After an hour's run the ship was turned so as to bring the wind on one bow, and the speed dropped off to 15.3-15.9 knots. The wind was next brought dead ahead, when a speed of 14.9 was shown.

The chip log, used at 15 minute intervals, showed an average of 15.67 knots, and the average of two taffrail logs was almost exactly 16 knots. Every 15 minutes twelve different indicator cards were taken, giving 192 to be calculated. The indicators are first to be tested for accuracy, and it is probable that the slower of the two taffrail logs will need a correction in favor of the ship.