

THE Scientific American.

MUNN & COMPANY, Editors & Proprietors.

PUBLISHED WEEKLY AT
NO. 37 PARK ROW (PARK BUILDING), NEW YORK.

O. D. MUNN, S. H. WALES, A. E. BEACH.

Messrs. Trubner & Co., 60 Paternoster Row, London, are also Agents for the SCIENTIFIC AMERICAN.

Messrs. Sampson Low, Son & Co., Booksellers, 47 Ludgate Hill, London, England, are the Agents to receive European subscriptions for advertisements for the SCIENTIFIC AMERICAN. Orders sent on them will be promptly attended to.

"The American News Company," Agents, 121 Nassau street, New York.

American and Mexican News Company, Mexico, are Agents for the SCIENTIFIC AMERICAN.

VOL. XIV., No. 22. [NEW SERIES.] Twenty-first Year.

NEW YORK, SATURDAY, MAY 26, 1866.

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SUPPLEMENT.

With the last five issues of the SCIENTIFIC AMERICAN, we have published a four-page supplement, which has been regularly sent to all our mail subscribers, and sufficient copies have been delivered to the American News Company to supply all those who receive their papers through agents. A supplement is also issued with the present number.

LEGISLATION ABOUT PATENTS IN CONGRESS.

Considerable attention is being given to patents in the House of Representatives. On the 16th inst. the Committee on Patents reported a bill for the relief of Delia A. Jacobs, which authorizes the Commissioner of Patents to extend the patent for an improved method of dressing treenails—the original term having expired August 28, 1862. Mr. Myers, who supported the petition, stated that no other persons have been using this patent since its expiration, and that there was a general desire that the widow of the patentee should have the benefit of the extension. A provision was incorporated in the bill that no parties shall be held to account for damages for any use of the invention since the patent expired.

Mr. Myers declared that the widow was now almost entirely supported by the little pittance given her by Wm. H. Webb and James Udall, of New York City. The bill passed by 57 majority—64 members not voting.

Mr. Myers, from the same Committee, reported a bill for the relief of William Mann and Jacob Senneff. It appears that Mann obtained a patent July 11, 1852, for improvements in the manufacture of copying paper made of equal parts of manilla and cotton, which will expire July 11, 1866. Being absent in Europe, he was not aware that ninety days' notice must be given of the application for extension. Mr. Washburne opposed the bill, and intimated that if a party "was swelling through Europe it was his own fault," and objected to the way the thing was being done.

Jacob Senneff obtained a patent Jan. 13, 1852, for a metallic heddle, used in looms for passing the

warp. This patent expired the 13th of last January, and being in the military service—employed in the hospital and in the volunteer refreshment saloon at Philadelphia, Mr. Senneff thus lost his chance to obtain his extension and only discovered his loss when it was too late to apply to the Commissioner under the general law.

The bills in these cases were simply to authorize the Commissioner of Patents to hear and decide them upon testimony, as in all other extension cases. Considerable debate ensued, and Mr. Washburne hit a vital point when he declared that these parties were only in the same condition with hundreds of others. The bills were passed.

Mr. Bromwell, of Illinois, from the Committee on Patents, reported a bill authorizing the Commissioner of Patents to grant an extension for seven years of the patent issued December 6, 1845, to Thomas D. Burrall, for a corn sheller, and extended for seven years from Dec. 6, 1859, by the Commissioner of Patents. The proposition now is to allow another extension for seven years, which, if obtained under the provisions of this bill would make three terms or twenty-eight years.

Mr. Harding, of Illinois, who opposed the bill, stated that the patentee "has been receiving large rewards for his invention during twenty-one years, and now he wants to continue the same business." Mr. Bromwell declared that the patentee was an exceedingly old man and exceedingly poor, the question being simply whether Congress was willing that the Commissioner of Patents should hear such cases, and decide as he deems right in view of the rights of the public and the inventor. The bill was passed.

We have carefully read the discussion upon these various bills, and while it seems to be very plausible and very just in its general features, we warn our readers that it has a much deeper significance. These comparatively minor bills are brought forward and passed to establish precedents and try the temper of the House; that the larger extension cases will soon come, we have not a doubt.

EXPERIMENTS IN AERIAL NAVIGATION.

Aerial navigation is by no means a subject of modern speculation. Many fabulous accounts of the doings of the ancients in this department of science, have reached us through the traditions of the elders. We are told that they constructed artificial wings, and by attaching them to the body, undertook by muscular exertion to rival the birds of the air.

In the fourth century one Archytas constructed a wooden pigeon that could fly by means of an inclosed spirit; but the author fails to tell us what that spirit was. At a much later period the famous Bishop Wilkins was so confident of success in this art, that he intimates that in future ages it would be as usual to hear a man call for his wings, when going a journey, as to call for his boots. Experimenters in aerial navigation, however, when they came to better understand the elastic properties of the air and the gases, dropped the wing theory, and turned their attention to balloons as the more feasible scheme. The first air balloon was constructed in 1782, by Dr. Black, of Edinburgh, and since that period many ingenious enthusiasts have followed the subject with patient hope and confidence, but as yet without great practical results.

In a lot on the corner of Houston and Greene streets, Dr. Solomon Andrews, of Perth Amboy, N. J., has on exhibition an aerial ship of peculiar construction, which is now nearly completed, and the inventor proposes soon to remove the doubts of all skeptics by an experimental trial.

Many of our readers will remember that in the early part of the war efforts were made to adapt ballooning for the purpose of reconnoitering the position of the enemy. These efforts were but partially successful, no valuable results having been secured, and at the close of the war, among other rubbish, were two army balloons, which found in Dr. Andrews a ready purchaser. These he has used to form the buoyant portions of the Aereon, which resembles in shape a long lemon, and which is covered with a net work, and connected by ropes, cords, and pulleys to a car suspended some twenty feet below the balloon. This balloon, when inflated, will contain 40,000 cubic feet of gas, capable of supporting a depending weight of two tons.

The car or basket is of wicker-work, and cradle-shaped, about fifteen feet long by two feet wide. Another car, about three feet long, placed on runners, is put inside the basket, and secured by tackle, so that it may be held in any desired position and made to serve for purposes of ballasting.

The inventor's theory is, that as the motion of the balloon will be in that direction in which least atmospheric resistance is offered, it is claimed that it will move, not vertically, as other balloons do in a still atmosphere, but upward and onward in the direction pointed to by its bow on an ascending plane. When sufficient height has been attained, the aeronaut will open the valve and discharge gas, at the same time stepping forward to the bow end of the basket, which will depress the bow of the Aereon, before elevated. Thus guiding her direction on the descending plane. Having gone sufficiently low, still in the same direction, he will throw out ballast and again ascend, and so on, thus progressing to his journey's end in the zig-zag mode in which a ship tacks against a head wind. On a near approach to the earth, Mr. Andrews says, he has only to step to the middle or rear end of his basket, and thus elevate the bow and check the momentum; then sail horizontally for a short distance, or throw out more ballast, and move on the ascending plane. He further claims that his rudder will turn his vessel as readily, or more so—the medium being less resistant—as a ship is turned in the water.

Dr. Andrews claims, and with justice, that he is at least entitled to the indulgence of the public till he has shown them that the time and the man have come to control the wind and navigate the air, or fail in the attempt to do so.

WHEN STRIKES WILL SUCCEED.

A great many strikes have recently been made among the workmen of this city, and on another page will be found a summary from the *New York Tribune* of the results. It will be seen that in about one-third of the cases the strikers carried their points, and in about two-thirds they failed. It would have been easy in every case for an intelligent observer to decide beforehand whether the strike would succeed or fail.

Wages in the city of New York at the present time range from less than one dollar per week to more than one thousand dollars per week, and throughout the whole range, from the youngest sewing girl or errand boy to the most eminent lawyer, all would like to get more for their services, while the employers would like to obtain the same services for less pay. The employer always offers the lowest rate that he finds will command the special service that he requires, and the employed is always ready to work for some other person at the smallest increase in his wages. The rate is, therefore, adjusted at the money value of each one's labor in the market.

But labor, like other values, is constantly fluctuating. The multiplication of labor-saving machinery, the accumulation of capital, the increased intelligence and thrift of workmen, and many other influences, tend to raise the rate of wages; while the destruction of machinery, manufactories and other kinds of active capital by fire, wars, enforced idleness, and other influences, tend to reduce it. Generally the causes operating to raise wages are more powerful than those tending to lower them, and during the present century wages of common laborers have advanced from seven dollars a month to twenty.

Now, wages are less sensitive to changes in the market rates than most other values. Workmen with families dependent upon them will frequently plod along at the old rates, when there is actually a demand for their labor at higher wages. We are told by the proprietor of a job printing establishment that it is very difficult at the present time to get good journeymen printers—that there is a great scarcity in the market of this kind of labor. If this is true, it shows that the wages paid to journeymen printers is below the market. The phrase, "the demands exceeds the supply," has no meaning except in connection with a specified price or rate. The "market rate" means the rate at which the demand just equals the supply. If the proprietors of job printing establishments would make the proper advance in the pay, the scarcity of journeymen would quickly disappear, and if it is true that print-