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.

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

VOL. XIV., No. 2...[New Series.]...*Twenty-first Year.*

NEW YORK, SATURDAY, JANUARY 7, 1866.

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Subscriptions are coming in with a rush, but our books are still open. We have room for more names. Send in your lists as fast as possible; and always bear in mind that the Scientific American can be had for $2 50 in clubs of 10 and upwards. Single subscriptions $3 per annum; $1 50 for six months; $1 for four months.

THE ALDEN MACHINE.

On the opposite page we publish an illustration which very faithfully represents the Alden type-setting and type-distributing machine—an invention from which our facilities for the diffusion of intelligence and education must take a new point of departure—its completion forming, in the estimation of its proprietor, an era in literature only second to the original discovery of printing by type. This machine enables a single hand to do—and the hand may be that either of man or woman—all the type-setting work for which, at present, eight ordinary compositors would be required; while, in the matter of distributing type, the machine is all but an automaton, requiring only the very slightest supervision of human agency, and so perfect in mechanism as to prevent physical impossibilities against the occurrence of any mistake. It has now triumphantly stood the severest test of practical experiment in the *Tribune* office, in this city—the judges certainly not being prejudiced in its favor, if not absolutely hostile; and the result is so complete a triumph, that so soon as the requisite number of machines can be supplied, it is supposed, all the "great dailies" of this city will be set up by the Alden machine, and, of course, the minor and country press will follow suit as rapidly as possible. It has been carefully examined by the leading mechanical and other progressive minds of the age, and is pronounced a most marvelous triumph of human ingenuity. Mr. Theodore Tilton, in the *Independent*, pronouncing it "the eighth wonder of the world;" and Col. Halpine, in the *Citizen*, declaring, in regard to its automatical power of distributing type, that "the fingers of steel and brass would seem to have not only eyes in their busy tips with which to read the letters, but brains to comprehend their spelling and meaning, and to direct their re-distribution, when used, into their proper places."

The original discoverer or inventor of this machine was Timothy Alden, a young printer of Massachusetts, who gave his life in devotion to the discovery, and died before accomplishing its completion for practical use. The machine was bequeathed by him to his cousin, Henry W. Alden, who expended a large amount of money upon it without attaining any satisfactory or practical result. It was, in fact, a "slough of despond, in which all capital embarked was swallowed up without return, until, finally, it fell under the eyes of Mr. Charles C. Yeaton, of Brooklyn, who, commanding the confidence of such gentlemen of intelligence, public spirit, and capital as Josiah O. Low, Augustus C. Richards, Charles F. Livermore, and various others, organized a company for its further development and completion. By the faith and resources of these men, acting through the industry and talent of Mr. Yeaton, and an able corps of assistants and mechanics, the imperfect and inoperative discovery of Timothy Alden—valuable as a curiosity, but in no other light—has now been carried forward to a splendid success as a great triumph of the labor-saving machinery of the age; and already the present company is about being merged into another—combining the American and foreign patents—with a capital of three million dollars, to start a factory that will be commensurate to supply five perfect machines *per diem*.

The discovery is already protected by patents in all European countries, obtained through the Scientific American Patent Agency, and the Alden machine will, perhaps, soon be accepted abroad as one of the last and highest triumphs of that "Yankee ingenuity," whose benefits the world has already to acknowledge in connection with the names of Morse and Fulton.

To give any detailed account of the *modus operandi* of a machine so intricate and yet so simple in its action, would be not merely an impossible, but an absurd attempt, in such limits as are at our disposal. It must be not only seen, but thoroughly studied, to enable any one to appreciate its rare mechanical excellence, and the talent displayed by its creators in conquering successive difficulties. Fortunately this opportunity is now furnished to any to whom the *Tribune* office is accessible, and will soon be furnished to all who have access to any newspaper or other printing office; for, unless we are mistaken, the day is not far distant when the only limit to the general adoption of these great engines of labor-saving and economy, will be the capacity of the factory to meet the demands of the public. They have had to fight their way up against embattled lines of prejudice, and the cowardly [illegible] who declared "the thing impossible;" but they have finally conquered and overborne all opposition by the practical test of their working, and we congratulate not merely the Company, but the whole reading public, on the assurance of their success, now established beyond any question.

THE PARIS EXHIBITION.

By an advertisement on another page it will be seen that the time for making application for space at the great Paris international exhibition of 1867, has been extended to the 20th of the present month, January, 1866. Applications must be made to the agent, J. C. Derby, Esq., whose office is at No. 40 Park Row, in this city. Mr. Derby will furnish blank forms for the applications, with full instructions, to any person who will write to him for them and will inclose a postage stamp for his reply.

Professor Joy stated at the last meeting of the Polytechnic Association that, on his recent visit to Paris, it seemed to him as if the whole city was being pulled down in making preparations for the great exhibition. One company has purchased a tract of two miles in length right in the heart of the city, and is pulling down all the buildings to make room for others better adapted for one of the collateral speculations connected with the exhibition. One feature is to be a representation of the indsutry of all nations in practical operation by the natives of the several countries. If this scheme is carried out as proposed, there will be seen in the middle of Paris, Laplanders making fishing tackle; Ural Tartars employed in the preparation of skins and carpets; the Kabyles of Algeria making the glazed pottery of Bjerdjera, carvings in the wood of the fig tree, ornaments in silver and coral, and carpets of Oran and other districts; natives of Morocco weaving silk, cotton and woolen fabrics, making fez caps, saddles, and arms, and preparing shagreen; negroes of Soudan producing cotton cloth, morocco work and pottery; the half *petit blancs*, of the Isle of Bourbon, making sacks for sugar and coffee; Anatolians weaving Smyrna carpets, silks and cloth of gold; Syrians fabricating tissues and arms of Damascus and Aleppo, mother of pearl work of Bethlehem, and gold work of Beyrout; Persians at work on Kurdistan carpets, silk embroidery, Kirman shawls, silks and cottons of Yerd, enameled tiles, and damascened arms; Indians weaving muslins, embroidering cashmeres, engraving ivory and wood, and twisting threads of gold into bracelets and other ornaments; Cambogians fabricating boxes and toys from sandalwood; Siamese carving rhinoceros horn; and, perhaps, Chinamen carving a nest of ivory balls; Japanese painting their incomparable lacquer wares; Mexicans turning their perfumed pottery; and redskins composing head-dresses of feathers and bead-embroidered moccasins.

FILE-CUTTING MACHINERY.

Although many attempts to cut files by machinery have been made, few have been successful. Those that have, however, are, in the hands of competent business men, making immense fortunes for their owners and stockholders. The consumption of files in this country is very great. Besides those imported, millions of dollars' worth are made both by hand and by machine, so that there is a fair field for inventors and capitalists to divide the profits. The Whipple File Company, of Providence, R. I., is said to divide from fifty to eighty per cent among its stockholders; and another concern, the Russell File Company, by a secret process, recuts old files at a rapid rate, and has, we learn, been successful in a financial point of view. We have never seen a recut file that, in our opinion, was worth the price paid for doing it. Ordinarily recut files are thinner, inferior in temper, and generally much poorer in quality than new files. It is possible, however, that the files recut by the company alluded to are entirely free from these objections.

It is clear, at all events, that files can be manufactured by machinery, and that a great market for them exists which can be profitably supplied by more than one company.

Any workman that knows how to use a file will make it last a week, but many destroy them in far less time, so that, with the immense iron works of this country, the marine steam engine and locomotive shops, the tool works and hundreds of minor industries, it is easy to see that tuns upon tuns of them must be needed.

We know of several file-cutting machines, models of which are now in this office and at Washington. One of them, we are certain, is destined to work a great change in the cost and time of producing files.

CONCENTRATED BEEF.

After many years of persevering effort, and the expenditure of many thousand dollars, Mr. Gail Borden has at last succeeded in producing an extract of beef that is not only nourishing but palatable. We have before us a specimen of this extract; it closely resembles a piece of erasing india-rubber. This specimen is about 2½ inches in length, 1½ inches in width, and ¾ths of an inch in thickness, and it weighs 4 oz.; the price of it at retail is 75 cents—equal to $3 per pound. At the present cost of production the article is expected to come into use only for making beef tea for invalids; but after a market is opened, establishments for its preparation will be erected in Texas and other cattle-grazing localities, where beef is cheap, and it will probably be brought into general use for making soups, etc.

At the present time there is only one establishment in operation, that is at Elgin, Illinois, 42 miles N. W. from Chicago. Beeves, fresh from the pastures and stalls, are killed, the meat is macerated in boiling water, care being taken to avoid ebullition which would carry off some of the most savory and nutritient elements; the extract is then concentrated in a vacuum pan to a very thick jelley; and the drying is completed by a process that, for the present, is kept secret.

The perfect extract is rolled and cut into the form described, and wrapped in paper that has been saturated with paraffine. Paraffine being tasteless and inodorous, exerting no chemical action, and being impervious to air and moisture, is an admirable substance for this purpose, and may be profitably em-