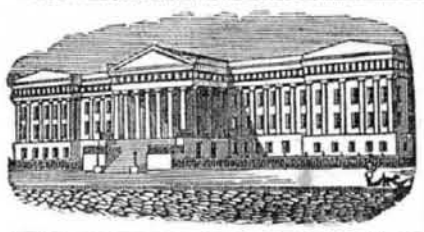

Reported Officially for the Scientific American.

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING AUG. 9, 1853

WINNOWERS OF GRAIN—By Samuel Canby, of Ellicott's Mills, Md.: I claim the construction of the receiving and discharging passages for the grain; that is, the passage at the door, passage, I and passage, J, inthe manner set forth.

MULTIPLYING GEARING—By Frank Dibben & Lewis Bollman, of New York City: We claim the employment in any manner as described, for the purpose of transmitting rotary motion at a multiplied or decreased speed of two pairs of toothed or friction wheels, combined as described, to wit, the said wheels being placed upon two axes, one of which is capable of revolving round the other, one wheel of each pair being on one axis, and the other wheel of each pair being placed upon another axis, as set forth.

[This is a very ingenious invention, and we hope soon to present an engraving of it. See notice on page 236, Vol. 7, Sci. Am.]

LIFE BOATS—By Daniel Dodge, of New York City, and Phineas Burgess, of East Boston, Mass: We do not claim a boat having an opening extending completely through it, whereby it is rendered, by the addition of a floor, fit for service in opposite positions on the water.

But we claim the central fixed platform, which is secured in the opening of the boat in a plane passing centrally and horizontally, or nearly so, through the same, or which may be said to form a partition between two opposite recesses, as described, the said platform serving as a floor to the boat, whichever side is upwards, and being, from its fixed position, incapable of becoming disarranged by any accident

[See engraving of this useful improvement in No. 16, this volume.]

SETTING UP TEN PINS AND RETURNING BALLS—By G. W. Bitchell, of New York City: I claim setting up the pins of an alley by an apparatus operated from the head of the table or elsewhere, by means of a weight or weights attached to them by codds when combined with the elevation board which raises and sustains the weight or weights to admit of the pins being knocked down, as described.

I also claim the use at the back end of the table of a delivery board applied and constructed as described, in combination with an elevator for the elevation and return of the balls, as described.

CARPENTER'S CLAMPS—By B. H. Green, of Princeton, N. J.: I claim the combination of the adjustable vibratory arms and reversible jaws, with the adjustable clamp, for the purpose of presenting jaws of different sizes and at different distances from each other, as set forth.

MODE OF DRYING PAPER—By John Hartin, of New York City: I claim drying paper by passing it between opposite series of equal sized fans, which revolve with equal velocities; by which a pressure of air of equal force is made to act simultaneously upon opposite sides of the paper, and thereby insure smooth and uniform surfaces upon the same, as set forth.

RAILROAD CAR SEATS—By Samuel Hickok, of Buffalo, N. Y.: I claim constructing a railroad car seat by connecting and arranging the sliding seat with the revertible back hinged at the extremity of the reversing arms, and combining therewith the double ratchet bars, in such a manner that it can be easily converted in either direction into a day or night seat, and at the same time not occupy more space than the ordinary stationary seat, as set forth.

I also claim the triangular foot rest in combination with the sliding seat, whereby it is made adaptable to the seat when used either as a day or night seat, as set forth.

WINNOWERS—By L. S. Ingraham, of Cuyahoga Falls, Ohio: I claim the stair or fluted screen, constructed as set forth.

IRON POSTS FOR FENCES—By J. W. Jenkins, of Greenport, N. Y.. I claim the arrow-headed or barbed bottom of the post, in combination with the twisted cross-piece, as set forth.

FIRE ARMS—By George Leonard; of Shrewsbury, Mass.: I claim a revolving fire guide, which, by the continued operation of the fire arm, shall successively communicate fire to the different charges of several barrels.

PRINTING PRESSES—By John Lewis, of Buffalo, N. Y.: I claim the swinging bail and the pressure bail, constructed as set forth.

CORN SHELLERS—By E. L. Millis, of Rochester Depot, Ohio: I claim reducing the larger ears of corn to be shelled to a nearly uniform size with the smaller ones, by passing the whole through between a toothed cylinder and concave, where the large ears are caught and partially reduced or operated upon preparatory to their passing with the smaller ones through between a second cylinder and concave, when the entire operation of shelling and separating takes place, as described.

PRINTING PRESSES—By Joel G. Northrop, of Syracuse, N. Y.: I claim the combination of the series of intermittingly rotating platens with a vibrating bed, when so arranged as that the delivery of the printed sheet is from the lower of the series of platens, so that it may drop from the platen on to the paper table, or into a drawer, as described.

FRICTION ROLLERS.—By James Patterson, of Franklinville, N. Y. I claim fitting the bearing of a rolling car wheel on a fixed axle, with a series of friction rollers having bearing of large diameter to run in contact with the wheels, and of smaller diameter to run in contact with the axle, the latter being enlarged at the point of contact with the rollers, as specified.

ROLLING RAILROAD AND OTHER IRON—By A. B. Seymour, of Hudson, N. Y.: I do not wish to limit myself to the modes of application specified; nor do I claim the employment of a series of draw rollers to act in succession on a bar of iron or other metal to draw it into a required form

But the employment of a series of pairs of rollers, so arranged that the pairs in the series shall be free to move from or towards each other to adapt themselves to the condition of the metal in the process of rolling, as specified.

REPEATING FIRE ARMS—By Joshua Stevens, of Chicopee, Mass. (assignor to the "Massachusetts Arms Co.): I claim constructing and combining together, as described, the lock, trigger, and mechanism for rotating and locking and unlocking the coambered cylindered, as that while, by a simple pull of the trigger, the operations of enlocking and rotating the magazine or chambered cylinder, relocking it, and discharging the cock, shall be caused to take place by power applied to the trigger alone, the elevation of the cock, or the cocking of it, shall be previously effected by the hand of a person or means entirely separate from the trigger, as described.

I also claim the combination of the stirrup, the spring bolt, and the lever, as specified.

I also claim the combination of the sectoral plate, made as described, with the spring bolt and slot, the said plate being applied and operated essentially as explained.

I also claim the method set forth, of constructing the lever, viz, of two parts (turning on one common pin) in combination with their confining and adjusting screws, as described.

DESIGN.

STATUE OF DANIEL WEBSTER—By Thomas Ball, (assignor to G. W. Nickols), af Boston, Mass.

American Association for the Advancement of Science.

As we have stated in a previous number, this respectable Association, after a two years' recess, met at Cleveland, Ohio, on the 28th of last month, and continued in session for five days, then adjourned after deciding upon the meeting in the city of Washington, D. C., in May next year. We will now present an abstract of the most practical interesting papers, and finish the same with this volume of the Scientific American.

Prof. Pierce, of Cambridge, Mass., President of the Association organized the meeting and delivered a very neat and appropriate address. He said:—

"We are again met in the service of a high cause; after the unusual interval of two years we have again come together at an appointed rendezvous, to make each other glad with the tidings of truth which we bring from the heavens and the earth, and to reanimate our fainting zeal by the story of the successful search for the philosopher's stone, the true elixir vitæ, the fruit of the tree of knowledge, and the footprints of Him to whom the earth is a footstool.

Gentlemen, we are not convened for a light duty. Our self-imposed task is not an amusing child's play, and we have not accepted the liberally offered hospitalities of this beautiful city for the enjoyment of a social festival. We have come to give and to receive instruction and inspiration.

Gentlemen, we have come to study our duty as scientific men, and especially as American scientific men. We are to learn the apparent and not very pleasant paradox that America cannot keep pace with Europe in science, except by going ahead of her. The New World must begin to build upon a level above that of the Old World, and it must build from its own materials. This is not asking too much. It is no more than was accomplished by the American Ship and the American Reaping Machine. The Yankee who picked the hardest lock in England, and contrived a lock which all England could not pick, is but a type of American intellect. This was a work of mind, and we have a right to expect equal excellence in higher and more abstract efforts of American genius.

But above all things it is not to be forgotten that the temple of science, by whomsoever built, belongs to no country or clime. It is the World's Temple, and all men are free of communion. Let us not mar its beauty by writing our names upon its walls. The stone which we have inserted is not ours; it is not thine, it is not mine, but it is part of the temple.

Let us not presume to make these walls resound with the bickerings of angry contention for superior distinction, and the foul complaints of mortified vanity. Let us not raise the money-changers' cry of 'mine and thine,' lest the purifier come, and taking the royal jewel into his own possession, thrust us out into the ditch, and turn our fame into infamy.

It has been observed by others not of our own number, that the meetings of the Association have been characterized by a generous appreciation of each other's labors. But mutual admiration is not our only or our most necessary office. Mutual criticism is equally imperative and equally conducive to the best interests of the Association.

We must not permit erroneous statements to pass unchallenged. It is our stern and solemn duty to criticise and expose all false developments, whether they are intended, or the unintentional results of carelessness or ignorance.

SATURN'S RING.—Prof. Pierce then proceeded to make some remarks on the ring of Saturn, confirmatory of his investigations on this subject, laid before the Association in 1851. The opinion adopted is, that the ring is a fluid. He said he had now the pleasure of confirming the impressions he then held, condemnatory of the theory advanced by La Place. We quote a passage from his remarks at Cincinnati:—

"The author of the '*Mecanique Celeste*' proved that Saturn's Ring, regarded as solid, would not be sustained about the primary, unless it had decided irregularities in its structure. But the observations of Herschel and others have failed to detect any indications of such irregularity, and a laborious series of observations have finally convinced Mr. Bond of the utter impracticability of any important irregularities, and he has, therefore adopted the conclusion that Saturn's Ring is not solid, but fluid. * * * * I am now convinced there is no conceivable form of irregularity, and no combination of irregularities, consistent with an actual ring, which would permit the ring to be permanently maintained by the primary if it were solid. Hence it follows, independently of observation, that Saturn's Ring is not solid."

LITHOGRAPHY.—A paper of which the following is an abstract, was read on this subject by Lieut. E. B. Hunt, U. S. N. This art was discovered by Aloys Senefelder, in 1799, only 54 years ago. By the labors of D'Offenbach, DeLasteyrie, Engelmann, Ackerman, Lemercier, and others, the infant art, in being propagated from Munich, its birth-place, has also been much improved in many of its details, and has had some important extensions of its sphere of usefulness and capacity. DeLasteyrie's autographic printing and Engelmann's printing in colors, were great expansions of Senefelder's invention, while the excellent management of landscape and scenic effects in Ackerman's establishment in London demonstrated a new capacity of the art. Of all artistic inventions none has so eminent a capacity for being abused as Lithography. In thoroughly skillful hands, it has the capacity for producing effects of a high order, and some which are peculiar felicities of this art alone. But that this result may be attained, it is indispensable that labor, care, and skill, and indeed all the elements of any excellent art, should conspire. The artist needs to be such in fact, as well as in name, and the printer must possess appreciation of the subject printed, and a technical mastery of his business, such as is quite too rare, especially among us.

Lithography owes not only its existence but its possibility to the fact that several quarries, in the vicinity of Munich, furnish slabs of a limestone unform in texture, apparently compact, yet really having a somewhat open grain. Though other localities furnish stones which could be used, the real commerce of lithographic slabs is limited to the Bavarian quarries, especially Poppenheim and Sonnhofel. These furnish stones of ordinary sizes, quite cheaply, so that those new quarries, which are from time to time announced, must encounter a slow market at the start, unless they are able to furnish, in all the requisite perfection, the largest sizes used. The qualities of a good stone are homogeneousness, with freedom from veins, specks, and flaws, a yellowish white, or a pearly-gray color which is uniform, a hard, fine, uniform grain, a conchoidal fracture with a good degree of strength, and a capacity for receiving good grained or polished surfaces, and of being uniformly acted on by acids.

Autographic printing is not now much used, though cases frequently occur in which it is very convenient or even important. Special attention, in transfer printing, is to be devoted to the quality of the paper used. The paper has a great effect both on the clearness of the printing and the duration of the transfer.—Transfer printing, even as it is now practiced, must be called eminently useful. Senefelder himself used it, though quite imperfectly, of course; but it is only during the past twenty years that its capacities have been really developed. The rapid improvement it has experienced makes it almost certain, that before many years more it will have become quite perfect and certain in its results. It is now very far advanced in France, the home of lithographic art and science, as the maps of departments, printed by the Government, fully establish. The plates of the great topographical survey of the interior of France are rearranged by transfer, into excellent maps of the departments, with special borders and titles, and full letter press statistical notes, printed from movable type, and transferred into the proper spaces. In England and Scotland, plate-transfer printing is prosecuted as a business, though with what success I have not the means of knowing. In this country, the great amount of transfer from stone on to stone, in making up checks, bills, labels, &c., supplies many shops with petty jobs in one species of transfer; but a few only are engaged in transferring large steel or copper plates. To do this well requires a man to make plate-transferring his business, and otherwise, not only will he fail of success, he will be apt to seriously injure or deface plates entrusted to his handling. Our principal establishments in which plate-transfer printing is extensively executed are, J. Ackerman's, No. 379 Broadway, N. Y.; D. McLellans, No. 26 Spring street, N. Y.; Wagner & McGuigan's, Franklin-square, Philadelphia; and Duval's, Philadelphia. The plates of the Coast Survey Report have been in part printed by each of these establishments, though sometimes their work has furnished very poor evidence of any skill in managing this process. It was by being for the last two seasons assigned to the charge of inspecting the work on these plates, executed by the two first-named establishments, that I was led to such an acquaintance with the subject as to induce me to make this communication.

(To be Continued.)

Remarkable Discovery in Russia.

M. B. Larsky, the engineer, lately deceased, who had also acquired a reputation as a poet and an archæologist, made a discovery of the greatest importance in White Russia—a discovery brought to light when his papers were examined after his decease. Being occupied in making a road in that province he found it necessary to drain off the waters of a lake into another lake at a lower level, and in the course of the operation he discovered in a forest, several feet below the surface of the soil, a road paved in the antique Roman or Mexican style, with traces of a stone bridge of a peculiar construction. In M. Larsky's opinion 2000 or 3000 years must have elapsed before the face of the country could have been transformed to such an extent as he observed, and if this supposition be well founded this district must have been inhabited before the time of the Scythians by a more civilized nation. M. Larsky's discovery will, doubtless, not pass unnoticed, and may lead to important results.

New Sculling Propoller.

A small boat has recently been constructed at Richmond, Va., which is propelled by a propeller, called the "submerged or scull propeller." The power is applied to the stern of the boat, and operates in the manner of a fish tail waving from side to side, to give the impetus. On each side of the boat there is an upright lever, between which the operator sits, and by working the levers backwards and forwards, the motion is given to the fish-tail and to the boat. The boat is about nine feet long and three wide, and the speed, with one man in it, about four miles an hour.

Potato Rot.

Accounts from various places inform us that the potato rot is very prevalent this year.—We are glad that the wheat crop will make up the deficiency. During the past two years potatoes have been too dear for poor people to purchase.

The city of New Orleans is severely afflicted with yellow fever this summer; no less than 200 have died in one day. The cholera was not half so deadly.

Great fires have recently been raging in the woods of New Brunswick, and Prince Edwards' Island, provinces.