

Scientific American

NEW YORK, AUGUST 31, 1850.

Improvements in Railroad Travelling.

So far as ease and comfort are concerned, travelling by steamboat is altogether superior to railway locomotion. There are some things, however, about railroads, which incline us to give them the preference. The majority of steamboats have generally been and are managed to give the public a very unfavorable opinion of the amount of honesty engaged in their management. The fares between two different places, are generally regulated by a sliding scale of such rapid and extensive variation, that it is not easy to tell what may be to-morrow from what is to-day. Railways are managed by single companies, whose charges are uniform from one end of the year to the other, and not like the steamboats,—“fickle as the winds, the water, or the weather.” The trickery of changeable fares in steamboats have enlisted the feelings of thousands in favor of railways, who otherwise would prefer the steamboat. In the steamboat, passengers can sit, walk, talk, read, sleep and enjoy the cool and refreshing breeze which comes rippling over the dancing waters. In the railroad car they are crowded, shaken, smoked and baked,—ease and comfort are out of the question. But who does not like rapidity in travel? And who would not sacrifice a few hours of ease for the saving of a few hours of time? We never commence a journey, however rapid the conveyance, but the time appears to hang heavy until it is over. There is something exhilarating in dashing along the railroad at the rate of thirty miles per hour, in comparison with the steamboat running at the rate of fifteen. The great mass prefer to travel as fast as they can,—they like to be at the end of their journey as soon as possible. Railway passenger traffic will therefore increase, while steamboat interior travel will decrease. The comfort and safety of passengers on railways should therefore engage at all times, the attention of railway companies. On the engines there seems to be less room for improvement than on the tracks—the laying of the rails. On many roads these are laid down in a very slovenly manner, and when travelling over them at the rate of twenty-five miles per hour, they give a person, by the jolting and heaving operation which he undergoes, a very good idea of a storm at sea in miniature. To increase the comfort of railway travelling, there is much yet to be done. We have some good railroads, but we might name not a few which are disgraceful to their companies.

There is one great improvement, viz., getting rid of coal smoke and dust on railways, to which special attention should be directed. The atmosphere of a railroad car contains a great amount of carbonic acid which comes direct from the locomotive. Sparks also, in spite of many different kinds of spark arrestors, not unfrequently, but quite commonly, come whisking into the cars in disgraceful showers, without respect to judge or jury.

We hope that the anthracite burning locomotive will soon supersede the wood burning one, or that coke will be made so as to supersede economically the use of either wood or hard coal.

Good solid tracks, and the absence of smoke and sparks, would add fifty per cent. to the comforts of railway travelling. Some of our roads need no reform in the first case, but assuredly all do, the latter evil.

Mechanics' Fair.

The Massachusetts Charitable Mechanics Association will hold their Annual Exhibition of American Manufactures from the 16th to the 20th of September, in Boston. J. S. Skinner, Esq., Editor of “The Plow, the Loom, and the Anvil,” is to deliver the Annual Address.

Among the memoirs recorded at a recent meeting of the Paris Academy of Sciences, was one on a method of rendering birds auxiliary to the direction of balloons.

Agricultural Machinery

We have seen the model of a new reaping machine, invented by Mr. Blaikie, of the firm of Blaikie and Cameron, Stockwell Street, which, when brought into full operation, bids fair to supersede the old reaping-hook completely. Like nearly all effective discoveries, its principle is simple. Two steel blades, perfectly sharpened, meet at a certain angle in front of something like a carriage break for horses. In the centre of this carriage there is a seat for the director of this machine, who, by a simple apparatus, turns the blades in any direction he pleases. To avoid contact with uneven ground, a small turn upward, like the toe of a skate, finishes the blades; so that, meeting a rock or indurated soil, the cutter passes over, and instantly falls into place again. The whole is put in motion by a horse, which pushes from behind, but does not draw as in the plow or harrow. The model we saw has been tried on rushes, grass, and several other materials of that sort, and answers the purpose exceedingly well. In the corn or hay field its value is evident; for, besides cutting down, it is so constructed that it “lays over” as cleanly as the scythe or the hand with the hook, and it cuts such a quantity as would puzzle half-a-dozen hard working men to encounter in a similar time. The principle is obviously good; and, to our notion, it only requires a fair trial in application to have it ranked at its full value.

[The above is taken from the “Glasgow Daily Mail,” (Scotland.) We extract it to make a few remarks thereon. We believe the Americans are ahead of all other nations for variety in agricultural implements. The price of manual labor is so high that ingenuity has been taxed to the utmost in inventing machinery to save paying for manual toil. How numerous are our churns, rakes, plows, horse-power, grain separators, cultivators, &c., and we have not a few reaping machines. In Great Britain all the grain is reaped with the sickle. In the harvest season it is no uncommon thing to see three hundred men and women reaping in one field. The majority of these are Irish, who come to England and the east of Scotland, just to reap during the harvest. Their wages are about 62½ cents per day, and board—not so bad pay, but the labor is very severe. In America no such system could be carried out, for labor is both scarce and high, according to the price of agricultural products; it is therefore for the American farmer's interests to have as many labor saving machines as possible, and those of the very best quality. They should be strong, simple, and easily repaired. We have seen a great number of agricultural implements on which a great deal of ingenuity was expended, but which, from their very complexity, we could not but condemn. It is no easy matter for a farmer who lives some distance from a machine shop, to go and get a broken instrument repaired. He therefore should have duplicates of the various breakable parts always on hand, to replace at once a broken one.—Supposing a farmer is threshing his grain, and one of the wheels of the machine should break, and not another within a mile to replace it, why he would lose two or three dollars, taking all things into consideration, for his neglect. We have seen some farmers great upon making a little show, with a fine carriage and harness, and who had only one plow, a poor harrow, and but a scanty share of other implements. In every case this is poor policy; good stock in cattle and the best of agricultural implements, are signs of wisdom, thrift and comfort. The farmer who neglects these things sows his own thistles. Every farmer should have a machine house in which to keep his implements under cover, when not in use. All tools should be kept clean and free from moisture. The plow should always have a bright shear and mould board, and these should be greased when laid up for winter. The farmer who has a small stream of water to drive a wheel of a few horse power near his house, should employ it for that purpose: it might saw his wood, churn, thresh, and perform a great number of operations. Every farmer should at least have a good horse-power to saw his wood, churn, shell corn, &c. Im-

provements in machinery, and the application of it as a substitute for a manual labor in the useful arts, has been the means of conferring untold benefits upon all classes, and upon none more than the agricultural. Gilbert Burns, the brother of the poet, expressed himself once in respect to the “threshing machine” as follows: “it has raised the rural peasantry of Scotland from serfs, in the drudgery of a disagreeable labor, to men;” and we can safely say the same thing of other kinds of machinery; and that farmer exhibits the greatest amount of good sense who studiously endeavors to lessen the manual toil of himself and his family, by the employment of good machinery as a substitute, in every case where it is possible to apply it.

Ocean Encroachments.

In 1806 the old Atlantic House, at Cape May, was 334 feet from the sea. In 1829 the bank was washed away up to the house, which had to be moved back; thus the sea gained on the land 13·2 inches on an average every year. In 1847 about 40 feet was washed away, which so alarmed—as well it might—those holding property on the bank as to compel them to plant a double row of stakes below the bank and fill it in with brushwood and litter. This has prevented the water from undermining the bank, and not a foot of it has been washed away since then. This hint should not be overlooked by those who have property on disintegrating banks of seas, lakes and rivers. Opposite the city of Albany, in Greenbush, on the Hudson river, there is a continual washing away of a portion of the bank. At a great expense a portion of it has been faced with a water wall, but still there is some of it exposed. A double row of stakes every five years, (if required even in that time) will preserve the bank and save the valuable property behind it. If not carefully protected, portions of water banks subject to disintegration by the water, are liable to receive more damage at one time than another, like the great crevasse which occurred last spring at New Orleans. The only way to prevent such occurrences is to be prepared for them. If the people at Cape Island had sunk their simple breakwater of double piles, brush, stones and clay, in 1806, the old Atlantic House would still be standing as it stood of yore, and more than 300 feet of valuable land along the bank would have been saved.

A Tall Chimney.

The New England Glass Company, at East Cambridge, have erected a chimney 230 feet high. Its form is octagon, of brick, with a massive granite foundation of 36 feet in diameter. The base of the brick work is 25 feet diameter, and the top 13 feet. There is a chimney within a chimney, the entire distance of seven feet diameter. Three horizontal flues, from the furnaces, are carried in beneath to the perpendicular one, though so constructed that additional flues, if necessary, may be added. Thus, through the one gigantic cone, all the smoke from the several furnaces of the establishment may be carried, which will render the group of smaller ones useless, and therefore be demolished. By this grand project, East Cambridge will be relieved entirely of the smoke from the glass-houses, “a consummation devoutly to be wished.” This structure has been erected under the superintendence of Mr. Wm. H. Pratt, of Boston, who has accomplished his great task in the most substantial and satisfactory manner. He informs us that 800,000 bricks, and one hundred cubic yards of granite were required in its erection.

The Great Case of the Parker Water Wheel

This case, which has been on trial for a long time, was decided last Monday. After a long period of argument and much consideration, the injunctions asked for upon the ground of violation of the patent for Parker's water wheel were refused. Judge Grier, of the United States Circuit Court, delivered the opinion of the Court to that effect. There were sixty cases depending on this decision.

For Complainant—Titus, Cadwalader and St. G. Campbell. For Respondent—Mallery, Penrose, and Wm. W. Hubbell.

Improvements in the Scientific American.

The publishers of the Scientific American respectfully inform their patrons, that they have matured their arrangements for the next volume, designing it to be the best of all the preceding five. They have contracted with a paper manufacturer for a superior and heavier kind of paper, on which it shall be printed. Our patrons will therefore have a hand some paper than volume 5, and one more valuable, also, in respect to matter and illustration.—The publishers are happy to inform their patrons that they have employed an able correspondent, who is now dispatched to Europe, and who will correspond exclusively for the Scientific American during the Great Industrial Exhibition to be held in London next May. The said correspondent will communicate with the Scientific American semi-monthly, from the first of next December until May, 1851, and then he will correspond weekly. Thus we will be enabled to lay before our readers a clear review of the machinery, &c., displayed there by the inhabitants of every nation in the world. It is the design of the publishers to keep the Scientific American in advance, as heretofore, of all other publications, in all that concerns inventions in machinery, discoveries in chemistry, &c., and it will furnish the clearest and most useful articles in every department of science and art, from the boiling of a tea-kettle to the operations of the most ponderous and complicated engines which guide the spindle and direct the loom. The discussion of party, political and religious questions, are foreign to our objects; our course is to treat of science and art, and to labor for this advancement and promulgation (so far as we are able), from one end of the earth to the other.

The Scientific American has always received a firm support from all classes, and has uniformly been respected for its impartiality and soundness; the publishers therefore place a firm reliance upon the public for future encouragement.

Advice to Correspondents.

When you write, be sure to place both the name of the place where you reside, and the State, either at the top or end of your letter. Do not write too long a letter, nor a hasty one. Write clear, and carefully, without many flourishes. Do not write on any vain and unreasonable subject, and always be reasonable yourself. If your letters are plain, reasonable, and not too long, they will always be treated with respect. Those who write to us about patent claims should state the date of the patent, and give the name of the patentee. Any useful information communicated, is received with pleasure. We receive many communications from men who have received a good education, but who from carelessness do not take the laconic trouble of condensing their ideas—such communications we are not able to publish.

Patent Case.

In next week's number we shall publish the able opinion of Judge Grier in the case of Blanchard vs. Reeves and others, delivered on the 8th of August. The report was prepared by our Philadelphia correspondent, and has never before appeared. It is quite important, and our readers may expect a feast of scientific reason rarely met with.

Telegraph Extension.

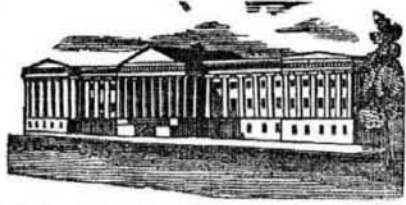
The St. Louis Reveille says it is probable that before the winter sets in, it will receive its news from the plains, Santa Fe, the mountains, &c., by telegraph from Independence. It appears that Messrs. Schaffner and Veitch have met with all the necessary encouragement along the route, and are now actively engaged in pushing the work to completion.

Notice.

We have some very interesting communication, which are necessarily delayed until next week.

There was frost at Bethlehem, N. Y., on the night of the 15th inst. The weather during the preceding three days was cold enough for fire.

[We sat by one of the fires—comfortable it was.]



Reported expressly for the Scientific American, from the Patent Office Records.]

LIST OF PATENT CLAIMS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending August 20, 1850.

To T. Batty, of New York, N. Y., for improved Serving Mallets.

I claim, first, attaching friction rollers to the periphery of a serving mallet, substantially in the manner and for the purposes herein described.

Second, Making the groove or face deeper or larger at the part H, which fits the served part of the rope, in the manner and for the purpose substantially as herein described.

To Robt. Brown, of New London, Conn., for improvements in Gun Harpoons and Lances.

I claim attaching a tail of cords, or their equivalent, to gun lances, substantially in the manner and for the purpose herein set forth.

I also claim attaching the button to the shank of gun-harpoons or lances in such manner that when the lance or harpoon is discharged from the gun the button will drop off, being thereby prevented from retarding the flight and from deflecting the lance or harpoon from the line in which it is projected from the gun, substantially as described.

To F. H. Chase, of Clintonville, and A. Weston & Leander Babbit, of Ausable, N. Y., for improvement in Obstetrical Supporters.

We claim the combination in the manner described of the sliding plate, with the back pad, which is connected to the seat, for the purpose of enabling the bearing of the instrument to be moved higher up or lower down the back, without disturbing the patient.

To J. Dougherty, of Mount Union, Pa., for method of propelling boats in shallow water.

We claim, first, the combination and arrangement of the setting pole, sliding in the sheath, with the spring bolt and cords, for the purpose of shortening or lengthening the setting pole, substantially as herein fully described and shown.

Second, the manner herein described of checking or snubbing the boat by means of a chain or cord attached to the foot of the setting pole and passing over pulleys to a windlass placed in the stern of the boat near to the helm, as herein described.

To Imia Drake, of Mansfield, N. J., for improvement in compound wagon-boxes.

I claim making the fastenings of a compound wagon body by combining with screw-bolts so jointed to the axles, frame or body of the carriage as to be laid down, or set up at pleasure, two cross pieces to each pair of bolts, with pressure nuts above the upper, and sustaining nuts beneath the lower cross bar, whereby the whole load may readily and easily be secured, or the lower part may be released and withdrawn, without disturbing that which is above it, substantially as herein set forth.

To R. E. Dibble, of New York, N. Y., for improved Steam Boiler.

I claim the arrangement of pendent water vessels in the fire box, in connection with water tubes, which pass along the flue and are connected at one extremity with a water space near the back of the boiler and at the other with the water vessels at the fire box substantially as herein set forth.

To I. D. Garlick, of Lyons, N. Y., for improvement in changing rotary motion into reciprocating motion.

I claim the mechanical arrangement and combination of parts, by which I convert the rotary motion of the wheel into a reciprocating movement of the churn dasher rod, to wit, by means of the action of the lugs that project from the face of the said wheel upon the forked rocker, and the vibrating when aided by the inclined planes, substantially in the manner herein set forth.

To J. L. Hardeman, of Arrow Rock, Mo., for improvement in machines for cutting hemp.

I claim a series of blades upon an arm back to back in a V form their edges elevated in order to give a smooth glancing stroke upward through the stalk of hemp after the manner of cutting performed by the common scythe in hemp or grain.

I claim the introduction and use of a cleaning shear over the crotchet or junction of the blades (to remove such hemp as may be imperfectly cut or pulled up), substantially in the manner as herein set forth.

I claim the method of separating and bunching the hemp after it has been cut, by means of a wedge or inclined plane and a revolving cone.

I claim the invention and use of the revolving rack as a substitute for the over-head reel supporting the hemp while being cut.

To J. C. Millar, of Springfield, Mass., for improvement in Fulling Mills.

I claim so arranging a vertical fluted or ribbed concave that the rotation of the former on its axis shall cause the goods to be fulled to assume a cylindrical form and to rotate on its own axis by means of the friction of the two fluted or ribbed surfaces acting upon and sustaining in its position the cloth or goods, as set forth.

To L. V. Newton, of New York, N. Y., for improvement in preparing the face of metallic types, engraved plates, &c.

I claim the plating or coating of the surfaces of metallic printing types, stereotype plates or other printing plates whether cast or engraved, with an additional coat of metal by means of galvanic electricity in the manner and for the purpose described.

To George Pollock, of Roxbury, Mass., for improvement in hot-air Registers.

I claim the method of moving the dampers in registers or ventilators, by means of the slider and the oblique bars, with their several forms and parts, substantially as described, in combination with the oblong dampers hung in the middle of their width, in the manner and for the purposes set forth.

To J. D. Rice, of Philadelphia, Pa., for Register for steam boilers.

I claim connecting the gauge rods with the gauge cocks in such manner as herein described, that the pressure of steam and height of water shall be registered each time the gauge cocks are tried, the register indicating at the same time the period of time of trying of the gauge cocks by opening and closing them.

To S. P. Ruggles, of Boston, Mass., for machine for cutting sheet metal, &c.

I claim the toothed rack or its equivalent, applied to the bar, and a system of one or more gears, or the mechanical equivalents thereof (applied to the cutter wheel and made to engage with the said rack or equivalents thereof) in combination with the said bar, the cutter wheel and its sliding carriage; the same being substantially in the manner as above described, and for the purpose of causing the cutting periphery of the rotating knife to travel around faster than the knife moves horizontally, and to thereby make said knife cut with a drawing stroke.

I also claim the combination of the swinging frame and gauge contrivance or equivalents therefor, with a sliding carriage, its cutter wheel and the slide bar and straight cutting edge, as substantially specified, the same being for the purpose of enabling me to cut either circular or concave work, as described, and of any diameter or dimensions capable of being produced by the machine of whatever size it may be made.

To George Tingle, of New York, N. Y., for improved opening and closing bucket for paddle-wheels.

I claim, first, the formation of each of the blades composing the bucket, so that their inner or closing ends shall be heavier than the outer ends thereof when combined with a stop or stops, substantially as herein described, thus effecting the closing together of the same by the action of gravity before entering the water, as set forth.

Secondly, I claim curving the inner edges so as to insure the closing of said edges, together by the action of the water while backing, and thus complete a sufficient bucket for that purpose, substantially in the manner described herein.

To John Van Brocklin, of Middleport, N. Y., for improvements in machines for heading bolts, rivets, &c.

I am aware that spikes and bolts have been headed in a box, I therefore do not claim the box with the movable header therein, but I claim forming in the lower part of the box or holder a flaring or bell mouthed cavity, which embraces the tapered ends of the dies, when the box is down or in a vertical position, and clamps them firmly together, while at the same time the cavity acts as a guide to cause the heading box to assume its proper position, and prevents the metal from being forced out between the ends of the dies and bottom of the cavity in the box during the operation of heading.

To J. A. Winslow, of Roxbury, Mass., for improved method of carrying vessels over shoals.

I claim the mode of transporting a vessel across shoals or bars, by means of a camel, having an unyielding platform for the vessel to rest on, and likewise provided with a bow, as herein described, the vessel being partly water borne and partly supported by the camel.

To James Young, of Manchester, England, for improvement in processes for making stannates of potash or Soda. Patented in England Dec. 9, 1848.

I claim the mode of producing a stannate of soda by heating a mixture of tin ore and sulphuret of sodium, and a stannate of potash by heating a mixture of tin ore and sulphuret of potassium and afterwards separating the sulphur from these mixtures respectively, by means of a metallic oxide, in manner herein before described.

To Wm. R. Nevins, of New York, N. Y., for improvement in machines for cutting crackers.

I claim the combination of the three following elements: first, the constant velocity of the breaking rollers.

Second, the number of strokes of the cutters adjustable thereto, by means substantially as described, so that within certain limits they may be varied in relation to the number of revolutions of the feed rollers.

Third, an adjustable feed to the apron derived from the shaft carrying the cutters, so that it always makes the same number of strokes, but each stroke may be varied in length, by which, in the same machine, I am enabled to cut crackers of any given size.

[To show how things are managed in the Patent Office, and the competency of the officers employed therein, we will state that this claim of Mr. Nevins is not the one first set up by him, they were rejected, and "in cabinet council held," the above was made out by the examiner, and the applicant was told it would be granted, and would cover what he wanted. We will now give the old claim, the one set up by Mr. Nevins:

"I claim the employment of the cutters on the secondary shaft, substantially as described, whereby different speeds may be given to the cutters, while the dough rollers receive a uniform speed, for the purpose set forth.

I also claim the secondary cutter shaft Y² in combination with the crank M, the connecting rod, L, and rocking shaft E, as described, whereby a progressive intermittent motion is communicated to the endless apron, D, to correspond with the speed of the cutters, however varied the speed of the cutters may be, for different kinds of biscuit, &c., of various sizes."

Now we leave it to any attorney to say which of these claims are the best, and which of them should have been granted. We might lay on the critic's lash with no unsparing hand in this case, but we chose not to do so, lest it might be supposed some personal grudge had prompted us to the attack. What we have said proceeds from no other than an honest motive—we believe the Patent Office has done a great wrong. An engraving of the above machine will be found on page 57, Vol. 3, Sci. Am.

DESIGN.

To Robert Donovan, of Pittsburg, Pa., for design for stoves.

[For notices of the "Serving Mallet," of Mr. Batty, and Capt. Robert Brown's Whale Lance, see Nos. 32 and 39, Scientific American. These inventions are both valuable to nautical men, and should arrest their attention.

A Devoted Naturalist.

Probably one of the most curious examples of the apparently trifling pursuits of scientific men has been exhibited by one of the most esteemed members of the Academy of Science of Paris, M. Dureau de la Malle. He was anxious to ascertain at what hour different birds began their morning song; he, therefore, from the first of May to the 6th of July, made observations, which he regularly published. It appears that for thirty years this vigilant naturalist went to bed at seven o'clock in the evening and rose at midnight, during winter and summer, and that this eccentric habit was for scientific purposes. It seems that the concert is opened by the chaffinch, and the sparrow is the laziest bird, not leaving his nest until five o'clock. In the intermediate hours at marked intervals, which M. de Malle has carefully noted down, other birds commence their natural melody. He has shown, on more than one occasion, that different birds have mistaken artificial light for the dawning of day, and that a solar lamp have awakened the little choristers.

Ostrich Hunting.

A favorite method adopted by the wild Bushman of taking ostrich and other game, is to clothe himself in the bird's skin, in which he stalks about the plain, imitating the gait and motions of the ostrich, until within range, when he seals his fate with a poisoned arrow. These arrows consist of a slender reed with a sharp bone head, thoroughly poisoned. When a Bushman finds an ostrich's nest, and the parent birds away, he ensconces himself in it, and on the return of the old birds secures the pair. By these means are obtained the majority of the plumes which grace the heads of the fashionable world.

Kentucky Tobacco Crop.

From different parts of Kentucky accounts are gloomy as to the growing tobacco crop. In Mason county, the Maysville Eagle says, the amount planted was only about two thirds of last year, owing to the lateness of the planting, and the danger from frost, the yield will not be above two-thirds the usual product per acre; or, in other words, the crop of Mason this year will be about half that of last year.

The Hopkinsville (Ky.) Press says:—"On the subject of the tobacco crop, we have conversed with gentlemen who have visited a great portion of the Green river country, and they assure us that it is utterly impossible that a half crop can be made—indeed, in many cases, the planter will not realize one hundred pounds to the acre."

Boston As It Was.

The peninsula of Boston was originally owned by the Rev. Wm. Blackstone, who resided there alone when it embraced but seven hundred acres. He sold the entire peninsula for thirty pounds sterling, to John Winthrop and company, who founded Boston in 1630. Winthrop and his party, among their first acts, built a rude meeting-house on the south side of State street, founded the First Church, (which then embraced the people of Charlestown,) and settled Rev. Messrs. Williamson and Cotton as teacher and pastor.

Novel Suspension Bridge.—An Army of Monkeys.

There is a story going the rounds of the papers about a suspension bridge being formed by an army of monkeys, taken from Captain Reid's "Adventures in South America." We have never seen the correctness of the story doubted by any paper, and were it not too long for a falsehood we would publish it for a curiosity; but believing it to be a sheer untruth, we merely mention the circumstance to make some people put on their spectacles.

Mineral Paint Discovered in Massachusetts.

A quarry of mineral has been discovered near West Springfield, which consists of a reddish brown stone mixed with blue, which is ground, washed and dried, and then mixed with oil like lead, when it becomes an excellent fire and water-proof paint. It is considered to be a valuable discovery.

The Rice crop in Louisiana promises an abundant harvest.