

New Inventions.

New Picking Machine.

A machine has been recently invented by R. Kitson, of Lowell, Mass., which we should judge possesses several features of novelty and usefulness. The object of the machine is to get rid of the impurities contained in the cotton or rags to be picked, by blowing them out at the time of picking, instead of subjecting them to a second operation for this purpose; and also consists in a new mode of attaching the picking teeth to the cylinder. The machine contains two cylinders, having within them fan blowers creating a strong blast, which passes through openings in the periphery of the cylinders, and forces the dirt and dust through other openings in the concaves. The shanks of the teeth are shouldered even with the face of the cylinder, and after they are driven home, a metallic plate having notches of the same size as the teeth above their shoulders, is screwed firmly upon them, thus rendering it wholly impossible for them to escape until all the screws in the plate give way. We cannot see why this should not be a good invention. The inventor has applied for a patent.

Improved Steam Hammer.

J. L. L. Morris, of Reading, Pa., has invented an improvement upon steam hammers, and has taken measures to secure a patent. Instead of connecting the hammer block rigidly to the beam of a steam hammer, as in the helve hammer, it is suspended from it and works between slides; by this arrangement two great advantages are obtained. 1st. The hammer is constrained to strike with its face parallel to the anvil, whatever may be the thickness of the metal. 2nd. It admits of a peculiar arrangement of a latch-lever, trigger, and jaw, by means of which the shock caused by the percussion of the hammer is prevented from being communicated to the rest of the machinery. This latter object is attained not only by the loose connection of the hammer to the beam, but by means of the contrivances mentioned, and a modified form of steam valve; the steam is admitted above the piston before any shock can have taken place. This invention promises to be exceedingly useful, and we speak for it the attention of those interested.

Improvement in Cotton Gins.

Leonard Campbell, of Columbus, Miss., has recently invented certain improvements in cotton gins, and has applied for letters patent thereon. The improvement consists in the employment of a concave, constructed with a series of passages, in which the ginning saws work; the sides of said passages being covered with bristles or other elastic substances, for the purpose of more effectually freeing the cotton from impurities as it is drawn through the passages by the saws. This concave is also provided with a series of brushes which, in combination with the brush fan of ordinary gins, spread the cotton evenly upon its discharge. This invention has been tested and proved highly satisfactory.

New Metallic Packing.

Henry L. Russell, of Hudson, Mich., has applied for a patent upon a new metallic packing for the pistons of steam engines. It consists in expanding the rings of ordinary metallic packing, by means of levers actuated by a ring, which is retained in its proper place by a coil spring, ratchet wheel, and pawl, or other equivalents, all of which are situated within the drum or piston head. Quite a novel plan.

Improved Bedstead.

J. Johnson, of Genesee, N. Y., has applied for a patent upon an improved bedstead. His improvement consists in connecting the end and side rails permanently together, and covering the rectangular frame thus formed, with a wire network instead of the cords commonly used. The upper and lower portions of the posts are made separate, and are united together, and to the frame, by means of screws. It forms a very easy and convenient method of putting together a bedstead.

A number of fatal accidents took place on the Hudson River Railroad last week.

Washing and Steaming Cotton Goods.

G. J. Prentiss, of Fall River, Mass., has taken measures to secure a patent for an improvement in washing machinery, whereby pieces of goods in bleaching and calico print works, may be washed, steamed, and rinsed with great facility. The nature of the invention consists in placing the ordinary dash within a cylindrical jacket connected with a steam boiler by suitable pipes, and also with a cold water tank, and one containing soap suds, all properly arranged, whereby hot and cold water may be admitted to the dash wheel as required, and the goods properly washed or steamed, as may be desired.—

The dash wheels at present in use have not been improved in principle nor in operation for a century. They are only used for washing with cold water, but also can admit and work with ley and suds by a branch pipe ejecting the liquor through the wire around the boxes. We have always thought that a great improvement might be made by the employment of hot water in washing, especially in very cold weather, and more particularly for soured goods. One gallon of hot water is more effectual in removing the hydro-sulphuric acid from bleached goods than five gallons of cold water.

IMPROVED PADDLE WHEEL.

Figure 2.

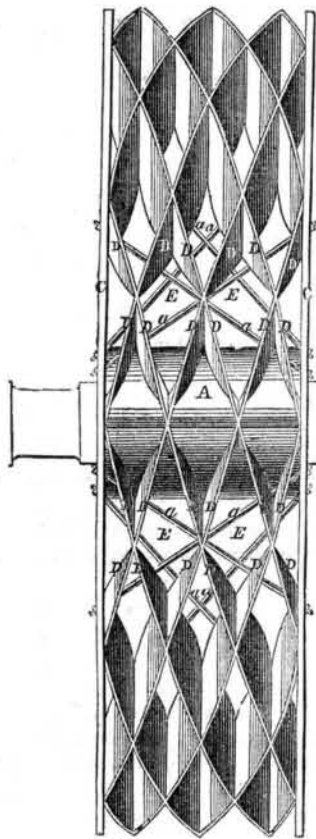
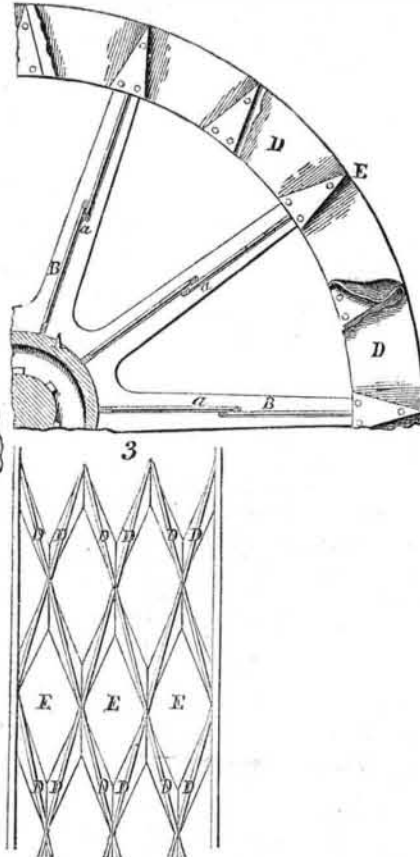


Figure 1.



These engravings illustrate an improved paddle wheel, invented by Benjamin Irving, of Green Point, N. Y., and patented Sept. 6, 1853.

Fig. 1 is a one-quarter view of a section perpendicular to the axis; figure 2 is a front view and fig. 3 shows a number of the floats.

This invention consists in so arranging and combining the floats, that they shall form a series of rhomb-shaped buckets around the wheel; this is done to avoid the concussion consequent upon a flat stroke of the paddles upon the water; another object is to hold the water in an unbroken sheet during their action upon it, thus rendering them more effective in the propulsion of the vessels to which they are applied. By reference to the engravings and description this action will be clearly understood.

A is the axis or hub of the wheel; B B are the radial arms, to which are attached the floats, D D. These are arranged with their outer edges in lines running spirally around the wheel in opposite directions, at angles of 75° to the axis, more or less; the crossing of the said lines forming a number of rhomb-shaped buckets, E E, which have no openings except in a radial direction to the wheel. The inner openings of the buckets are contracted endwise, to prevent back-lift in rising from the water, which causes them to depart from the rhombic form as the side angles are truncated, making the shape of said openings six-sided. The floats are made of sheet-iron, and are united to each other and to the rings, C C, by bolts or rivets. The number of buckets will depend on the width of the wheel; three, which the inventor considers the proper number, are shown in the engravings. It will be perceived that a number of half-buckets are unavoidably formed inside the rings.

It will be remembered that V-shaped floats have been previously used, but no wheel has been hitherto constructed in which one float combines with the ones succeeding it, to produce a rhomb-shaped bucket.

The advantages claimed by the inventor for

this wheel, are, first, greater strength to resist shocks, occasioned by concussion with ice or floating logs; second, that it will admit of being more deeply submerged in the water than ordinary wheels, thus adapting it to vessels which are at times heavily laden; 3rd, that it will require a less number of arms; 4th, that the disagreeable jar unavoidable in vessels propelled by the ordinary form of paddle wheel is entirely obviated; 5th, that it may be used in canals, as the waves created by it are but slight, and 6th, that from its capability of deep submersion it is well adapted to ferry-boats, where the shafts are necessarily below deck. We sincerely hope that those interested will give this wheel a fair trial, as we think it worthy.

For further information address the inventor, Green Point, L. I.

Treenails.

Treenails are simply wooden bolts or pins, and their merits in ship-building are fairly and clearly set forth in the last number of "Griffith's Ship-builder's Manual." In that work we learn that treenails have been excluded from our navy for twenty years, and bolts substituted.

In the early part of the present century the English merchants and ship companies condemned all treenails but those made of English oak; but they have since discovered that those made of locust timber are much better. "There is no better timber," Mr. Griffiths asserts, within the orbit of his knowledge, "than locust." He presents some forcible reasons for their use, as being in some respects superior to bolts. The quality of a treenail can always be determined by its outside appearance,—not so with an iron bolt; it may have an interior flaw, which, in the hour of severe trial, may be the means of doing great mischief. The octagon (eight sides) is the best form of treenail, and the reason of this is obvious. The hole is bored round for the reception of the treenail, and as the wood of the latter is harder than the plank, it cuts its way in and becomes much tighter than a circular tree-

nail could. The octagon form of treenails also prevents them being started so easily as a round one, hence in every respect they are much better.

Mechanics Fairs.

The time is at hand for the annual fairs held by the various mechanics' institutes and mechanics' associations of our populous towns. The pioneer institute of America, the Franklin Institute, of Philadelphia, which held its first fair in 1824, will exhibit this year, in the Museum Buildings of that place, from the 18th to the 29th October. The seventh exhibition of the Massachusetts Charitable Mechanics' Association will be held at Faneuil and Quincy Halls from the 14th inst. to the 1st October. The Maryland Institute opens in Baltimore on the 3rd October, and the American Institute, at Castle Garden, in this city, on the 6th of the same month.

We hope our friends of the American Institute will improve the present opportunity of catching up to the times. We understand that many applications for space have been made at the Crystal Palace which could not be received for want of room. Now, by a little judicious management on the part of the Institute, we do not see why these could not be obtained to take the place of those articles with which we have been so often entertained. This indeed would subject them to the expense of getting up a new catalogue, instead of using their stereotyped plates, but then we think it would probably pay this year, as there will be very many strangers in the city to visit the Crystal Palace, many of whom will no doubt visit their Fair.

The Old Crystal Palace in a New Place.

When the old Crystal Palace in London was taken down, it was purchased by a wealthy association for re-erection at Sydenham, a few miles from London, there to be made into a public Garden and Museum of the fine arts: when finished it will be the wonder of the world. It is to be fitted into several courts, to represent the arts connected with their names; such as Egyptian works of art, in the Egyptian Court, Grecian works of art, in the Grecian Court, &c.

This Palace is proceeding rapidly towards completion. By our foreign exchanges we learn that the Pompeian Court is the most advanced; the colored decorations being to a considerable extent completed. The Egyptian Court has also taken shape; so also the Greek Court. The collection of casts from antique statues will nevertheless render this a very attractive point in the exhibition. The shell for the corridors and doorways forming the Byzantine, Italia-Medieval, Gothic, and Renaissance Courts is being rapidly constructed; and in the gallery is a marvellous collection of casts from all parts of the world, destined to occupy the floor and walls of the apartments thus being prepared for them. It is impossible to form a just conception of the extraordinary whole which the Crystal Palace will present, when the numerous ideas now all working towards fulfillment are realized and opened to the inspection of the world.

Our Prizes.

We must be pardoned for again calling attention to our Prizes, as we do not want our friends to miss the opportunity of benefitting themselves and us by laboring to secure them. They must also bear in mind that it will be necessary for them to send in their orders early, that they may secure the back numbers, as we are receiving subscribers at the rate of twenty-five hundred a week, and although we have printed a very large edition, yet, at that rate, it will be ere long exhausted. Mechanics seem to be waking up to the importance of securing for their leisure hours a journal which shall be emphatically their own—and they have learned that the "Scientific American" is the very one they want.

We would invite the attention of our readers and cotemporaries to an article on another page, headed "The Imponderable Agents." The subject at least is of some importance, as it lies at the foundation of physical science, and we promise that there shall be an endeavor, on our part, to make our explanations intelligible. We shall, before concluding the series of articles, offer a solution to the question, "What is Gravitation?"