NEW INVENTIONS.

Improvement in Power Loom Shuttles.

Mr. Charles A. Maxfield, of the city of Troy, N. Y., has taken measures to secure a patent for an improvement in the shuttles of power looms, which consists in certain simple devices which prevent the shuttle from entering the shuttle box whenever the weft thread is broken or exhausted, thereby causing the loom to protect itself from breakage, and its operation is stopped at the same time. By this invention Mr Maxfield dispenses with the "stop motion," now employed, and thereby simplifies the loom.

Colt's Pistols.

At the meeting of the Institution of Civil Engineers, in London, on the 25th of Nov., Sir William Cubitt in the chair, a paper from Col. Samuel Colt, of the United States, on his revolving fire-arms, was read and highly applauded, as it was the first communication received from America. The paper went over the whole history of improvements in revolving-breech fire-arms. It appears that early efforts had been made to produce fire-arms capable of rapidly firing several times without the delay of loading after each discharge.—Drawings of a number of these were exhibited. Among old matchlock guns, some of them had eight chambers, rotating by hand; some stone wheel locks had also eight rotating chambers, and one of these, made in the seventeenth century, had the peculiarity of igniting the charge close behind the bullet, in the same way as that of the Prussian Needle Gun. In the United Service Museum there was a brass model of a pistol of the time of Charles II., the chamber of which was made to rotate by mechanical devices nearly similar, but more complicated than that of Colt's pistol. The inventor of "Nock's Patent Breech," and the Rev. Mr. Forsyth's percussion gun, were essential to the safe construction of repeating fire-arms.

The manufacturing of fire-arms, Colt's pistols, as well as other fire-arms, is done in quite a different manner in America from what it is in England. In England the greatest number of all the parts of a gun are made by hand; in America they are made by machinery. The advantages of the latter mode are great, for the lock of one pistol, or any one part of a pistol, will fit the same part of another like pistol equally well. Thus, if one part gets broken, the fragments can be taken out and a new entire piece purchased to fit the place and perform the offices of the injured part exactly. Only ten per cent. of Colt's fire-arms are made by hand labor. The accuracy of Colt's pistols was fully proven in England by experiments, for at Woolwich, men unaccustomed to the use of the said pistols, attained to great precision, and with a small belt pistol, at a distance of fifty yards, out of 48 shots, 25 bullets took effect within one foot square, and 13 of them hit the bull's eye, which was 6 inches in diameter; all the shots struck the target.

Mott's Improved Roadway.

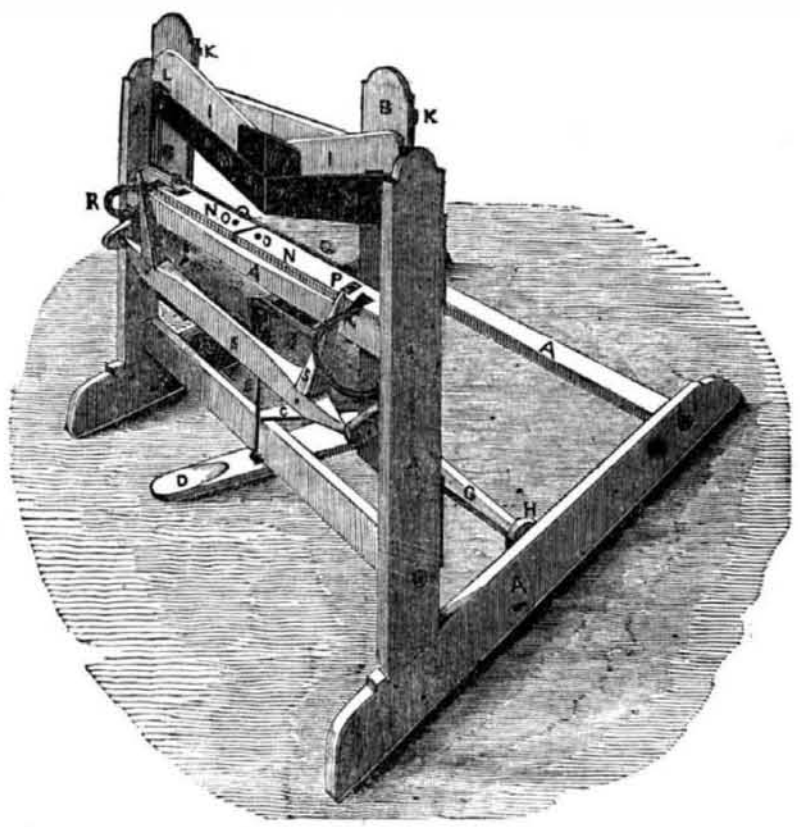
Mr. Jordan L. Mott, the well known inventor of Mott Haven, N. Y., has sent us a copy of his patent for improvements in roadways. The object of the invention is to make the rails or roadways for streets, so that they shall be equally adapted to the running of railroad cars having flanched wheels, as to common carts, drays, &c. The invention consists in making the rails each with a curved or trough-like projection, outward and downward from the upper and outer edge of which projection the roadway is to be paved. The said projections of the rail being a gradual curve or inclined plane from the upper edge of the rail, that the wheels of common carriages may pass over the rail with facility, and when running thereon may have a tendency by reason of the inclined or curved face and the weight of the carriage to descend from the rail, and thus at the same time keep the other wheel from the inner edge of the other rail, if the gauge of the carriage be the same or nearly the same as that of the rails; and if it be of a wide gauge that the two wheels in running thereon may straddle the rails and run on the outside of both.

Saw for Cutting Curved Timber.

Mr. Ralph Steel, of Newcastle, Eng., has invented a saw capable of sawing timber into any shape for ships' use, either ship knees or ship timber of any description. The saw, at the same time that it is capable of cutting timber to any given shape, can also be applied to cutting straight.—[Worcester Transcript.

[There are a number of such saws in America. The best invention for sawing curved timber for ships, &c., ever introduced into Europe, we believe, is that of Mr. Cochran, of near this city. It was his machine which received such commendation from the British Admiralty a few years ago. We have seen it operate, and can speak confidently of its merits. Another capital machine for sawing curved or straight timber is that of Mr. Oliver Wright, of Rochester, N. Y., for which we had the pleasure of securing a patent, and which was illustrated on page 17, Vol. 5, Scientific American.

STAVE JOINTING MACHINE.

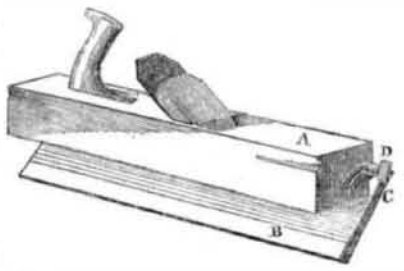


The accompanying engraving is a perspective view of the improved stave jointing machine of Mr. Daniel Drawbaugh, of Cedar Springs, (White Hill P. O.,) Cumberland Co., Pa., and which was patented on the 11th of last month, (Nov., 1851.)

A A A are the pieces forming a strong wooden main frame, which is portable and stands upon a floor. B B, are the pieces forming a strong wooden frame which is made to slide up and down, on cast-iron guides between the vertical posts of the main frame, by means of a spring, C' C, which is attached to the upper edge of a cross piece of the main frame at C, and to the under edge of the sliding frame at C. and a treadle, D, which connects with the sliding frame by means of a jointed iron rod, E, and plate, F. This treadle is connected with a cross piece, G, which works on journals, as fulcra let into blocks, H, which are secured to the insides of the sills of the main frame. On the front side and near the upper end of the sliding frame, B, are two adjustable pieces of hard wood, I I, connected by means of a thin, flexible iron plate, J. These pieces are secured to the sliding frame, so as to be adjustable to any angle required for the tapering ends of the stave by means of set screws, K K, and draw bolts, L L. There being also two like draw bolts through the plate, J, for securing the centre. Besides the obtuse angle at which the two pieces are adjustable in regard to each other, they are also permanently secured to the sliding frame by means of the same set screws and draw bolts, at another angle, so that the two connecting ends shall be several inches below the outside ends. To the lower sides of these two pieces, I I, the upper steel shearing knives, M M, are let in nearly flush with the pieces, I I, and secured thereto by screws. Upon the upper cross piece of the main frame, A, there are two adjustable pieces, N N, made of some hard wood secured to the cross piece, at their inner ends, by means of screws, O O, and at their outer ends by means of draw bolts, P P, the heads of which are let into a mortise so as to be flush on the top—the stems of the bolts passing through oblong holes in the pieces, N N, and are thus capable of being set to suit the angle of the upper knives, M M. On the edges of these two adjustable pieces, the lower steel knives, Q Q, are secured by screws, their cutting edges being level with the upper sides of the pieces, N N. Near each outer end of the adjustable pieces, N N, there is permanently secured an iron guide, R R, which connects at its lower end by an adjustable screw, W, to the main frame. The cross piece upon which the pieces, N N, rest is slightly beveled on the upper side, or, the pieces, N N, are bevelled so that the latter may be adjusted by means of set screws, P P, and the guides, R R, to suite the radial bevel required on the edges of the stave, in accordance with the intended diameter of the barrel. In front and some distance below the bevelled pieces, N N, a revolving gauge, S S, is secured upon journals at the ends, in adjustable bearing pieces, T T, secured by a screw, V, and plate. The two projections on the upper side of this gauge, pass up a little above the guides, R R, and are placed each, so as to gauge the proper width of each end of the stave to be jointed. The mode of operation of this machine is as follows:—After the upper shearing knives, M M, are adjusted to suit the taper required on the stave, the lower shearing knives, Q Q, are adjusted to match them, and so that, upon the descent of the upper knives, shearing contact of the edges of the two sets of knives shall commence at the angle, U, and gradually extend towards each outer end, until their whole cutting edges have passed each other. In order to give the proper radial bevel to the edges of the stave, in accordance with the required diameter of the barrel, the bevelled pieces, N N, are also adjusted at the same time by means of the adjustable guides, R R, and screws, W, so as as to suit this required bevel. The machine being now ready for use, the workman takes one or more staves, and places them along on the pieces, N N, and with his hand on each end, brings them in contact with the upper projections of the movable gauge, holding the connections firmly, the staves are slidden along on the guides and pieces, N N, over the lower knives—his foot is then pressed down firmly and quickly upon the treadle, D, when the sliding frame and its knives are brought down, draw cutting or shearing the edges of the staves from their middle towards their ends. The staves are now reversed, and the opposite edges cut or jointed in the same manner.

The claim is for the adjustable knife with the adjustable rest. More information may be obtained by letter addressed to the patentee.

New Bevel Plane.



The accompanying engraving engraving is a perspective view of a new Plane for planing bevels, invented by Horace Metcalf, formerly of Corinth, Vt. We have here a common plane, A, attached to the plane stock is a guard, B, attached to the left side of the stock by hinges. This guard is made of a good piece of wood, and is rectangular, projecting below the sole of the plane, and is of the same length as the stock. The hinges are on the other side and not seen. To the front edge of the guard, B, is attached a strip of metal, C, with a sector slot in its upper part. Into this slot passes a thumb-screw, D, working in the front end of the plane stock. By this nut the guard can be set to any angle, so as to allow the plane to work any bevel according to the degrees in the slot, C. The stock is rabbetted to furnish a place for the hinges of the guard; this is not seen, but it can be easily understood, as the engraving renders it all very plain. The size of the plane which Mr. Metcalf uses, is 14 inches in ledgth, 3 1-8 in width at top, face 2 5-8 in width, depth of plane 2 3-4, thickness of guard 5-8ths of an inch, width of it 3 1-2 inches. The size may be varied. The metal parts connected with the guard, and for operating it, may be of brass or iron. The guard turns a quarter of a circle, the centre of which is the hinge of the guard, and the thumb-screw can set the guard at any part of the quadrant. This plane was designed principally for bevelling the edges of cornices, which are made generally of 1 inch, and 1¼ board; but it is useful for all other purposes, for making bevel edges. In using it, the board to be bevelled is placed upon the side of the bench, in the same manner as for jointing. The inside of the guard is placed against the side of the board next the workman, while the plane is canted over from him to the right.

Any communication relative to the pur chase of an interest will meet with attention, and should be addressed according to the above direction—to Corinth, Vt.

A New Metal.

A well is now being excavated in Jackson County, Florida, which, in the number of strata already passed through, is nearly as notable as the one so famous near Genoa. The first twenty or thirty feet is composed of sandy soil, common to that region. This is succeeded for an equal distance by a black, rich, vegetable loam. Beneath the loam is a deposite of trunks and branches of trees, in a semi-petrified state, and still further down, at the depth of sixty-five feet is struck a vein of metallic ore. A specimen of the ore is in the possession of the editor of the Floridan Whig, who says that it is very pure, and has the apperance of silver, but the hardness of platina. It is to be found in considerable quantities.—[Exchange.

[Is this a fact? we mean in respect to the *new ore*. The above account makes it out to be a new metal, which we do not at present believe.

Turbine Wheel at Fairmount.

A new turbine wheel has just been erected at the Fairmont Water Works, Philadelphia, by F. Graff, Esq., Superintendant. The wheel is cast-iron, but has wrought-iron buckets, and it runs horizontally in a cast-iron case. It is seven feet in diameter, and the buckets are about 10 by 14 inches each. The power required to raise the water is nearly 45 horse. The pump will raise 1,638,979 ale gallons per 24 hours, or 512,183 more than the best pump now in use at Fairmount.