

beyond the edge thereof for steadying the sheet while being folded, as specified.

Fourth, I also claim reducing the speed of the succeeding sets of rollers, from first to last, so as to proportion the distance traversed by the sheet at each succeeding fold to the reduction of its size, so that the time the sheets are moving from point to point shall be equal, or nearly so.

Fifth, I also claim the adjustable stop for determining the proper position of the sheet to receive its second and succeeding folds, as specified.

Sixth, I also claim the combination of the fly with the folding apparatus, for laying off the folded sheets, as described.

**LOOMS**—N. B. Carney, (assignor to J. B. Livingston, C. H. Haswell and H. C. Root), of New York City, I claim, first, the weaving of fabrics within and upon a circular frame, or looms, arranged about a common center, producing the fabric at the central part, the shuttle being carried in a circle round the frame or loom in a continuous movement, the warps, shuttles and filling being in the top of the loom and the machinery for operating acting underneath, the weaving being effected by machinery as described.

Second, I claim the combination and arrangement of the machinery described, acted upon and driven by the spur wheel, Q, and its eccentric grooves and their connections by which the sliding frames holding the warp wires or heddles are caused to reciprocate in opposite directions at equal times and regular succession, and the shuttles are made to rotate about the circumference of the loom in a plane perpendicular to the planes of motion of the sliding frames, and in equal times so as to pass between the upper and lower sets of warp threads when apart, thus producing a fabric at the central point.

Third, I claim the combination of the roller covers and bars, operating together as described, by which the warp wires are carried from the rollers and covers to the warp wires, so as to hold them fast or set them free to move with the equal times and regular succession in conformity with Q and its connections, thereby regulating the pattern, shape or figure of the fabric to be woven.

Fifth, I claim the giving to the shuttle the same continuous line of motion, without any divergence, thus avoiding the danger of injuring the operator or the fabric from an accidental false direction of the shuttle.

Sixth, I claim the form and construction of the shuttle Q, r, as described, having its teeth on the underside or outside of its arc, and also the shuttle, Q, s, constructed so as to adapt itself to the increasing growth of the fabric, and pressing up the filling as described.

**SPRING HINGE**—Dr. Jos. S. Smith, of New York City, Anti-dated May 12, 1857: I claim the use of the center pin, screw pin and capped springs, constructed, secured and operated within the tubular knuckle, having a double lapped joint, in the manner and for the purpose specified.

**ELECTRO-MAGNETIC FIRE ALARM TELEGRAPH FOR CITIES**—Wm. F. Channing, of Boston, Mass., and M. G. Farmer, of Salem, Mass., assignors to Wm. F. Channing, a resident. We claim, first, the signal system described, consisting of a series of signal stations, scattered at intervals throughout a whole city or town, or any part thereof, and telegraphically connected with a common center or point, or with each other, by one or more signal circuits, by which means a constant communication may be established and maintained between all parts of a city or town, however extended and with the center or centers at which the signal circuit or circuits converge or meet, so that the moment a fire occurs, its existence and locality may at once be known at the center of the system, and efforts for subduing it properly directed.

Second, we claim the alarm system described, consisting of a series of alarm stations, suitably distributed throughout a whole city or town, or any part thereof, and telegraphically connected with a central station, by one or more alarm circuits, by which means a public alarm of the existence and locality of a fire may be given at different points.

Third, we claim, in combination with the alarm system, for striking the number of the district upon the alarm bells, the signal system, for communicating the number of the station at which the fire occurs to all the signal stations, as well as for communicating an alarm to the central station.

**SHINGLE MACHINE**—C. M. Young, of Sinclearville, N. Y., I do not claim the movement of the bolt, or the manner in which it (the bolt) is presented to the knife, irrespective of the means employed for effecting the purpose.

But I claim operating or giving the necessary feed motion to the block H and bolt L, by means of the laterally reciprocating bar G, actuated by the eccentric grooves, n', in the wheels (f) the bar G, vibrating the block H, through the medium of the bar, I, the block H being provided with pawls (p) which catch into the racks (r) in the frame A, and the whole arranged as described.

I also claim the saws, N N, placed in the frame of sash M, which is secured at the back of the gate B, and operated from the bar G, as described, for the purpose specified.

I further claim the bar, G, when arranged as shown, so as to be driven or operated from the gate B, whereby the several parts of the machine are all made to work automatically as described.

[In this shingle machine saws are fitted in a frame attached to the gate of the riving knife, and they are operated automatically to cut a kerf in the butt of each shingle so as to prevent it from checking as it is riven from the bolt. The knife which rives the shingles is so connected with the bolt feed motion that the latter operates automatically by the reciprocating knife gate.]

RE-ISSUE.

**DRYING AND PRESSING PAPER**—John North, of Middletown, Ct. Patented April 14, 1857: I claim, first, the enclosing of the cylinders in part, and attaching of brushes inside of said cases, and the application of saw dust, or other proper substance for the purpose of cleaning the outer surface of the pressing cylinders as specified.

Second, I claim combining two or more hollow steam or heated chests at proper distances apart, so as to admit of the sheets of paper to pass between said chest free and unobstructed by means of endless belts, or their equivalents, for the purpose specified.

Third, I claim enclosing the outer surface of the heated chests as combined by non-conducting substances for the purpose of retaining the heat as specified.

Fourth, I claim, in combination with the pressing cylinders as herein described, the drying apparatus consisting of heated chests, between which the sheets of paper are passed on tapes or their equivalents, without touching or dragging thereon as specified.

DESIGNS.

**COOKING STOVES**—Jacob Beesley and E. J. Delaney, (assignors to Cresson, Stuart and Peterson), of Philadelphia, Pa.

**STOVES**—Russel Wheeler and Stephen A. Bailey, of Utica, N. Y.

**CHURNS, EGG BEATERS, &c.**—J. S. Gallaher, Jr., of Washington, D. C.

Pennsylvania Mechanics.

The mechanics of Lancaster, Pa., have lately given an entertainment to old Martin Shreiner, (ninety years of age), of that place, a much respected mechanic and fire engine builder. J. F. Reigart, Esq., made an eloquent speech on the occasion. Lancaster has produced quite a number of ingenious and skillful mechanics. In 1776 the first American auger was made in that place by William Henry; Abraham Witmer, of that place, built the first large stone bridge in the United States in 1790, and it yet stands a monument of good masonry.

Railroad Farms.

**MESSES. EDITORS**—Returning recently from Washington to Baltimore, I took my seat in the last car. It was a warm afternoon, and there were five cars between the one I was in and the tender. In a half hour after starting the dust began to fill the car, and it finally became so thick that it was with difficulty I could recognize passengers across it; it became so oppressive that I was obliged to leave, and go forward into the next car; in it the dust was not so thick, in the one before it there was still less, and in the car second from the tender there was not enough to make it unpleasant. But in getting rid of the dust I was obliged to increase the risk of damage, in case of accident, by getting nearer to the locomotive. This state of things led me to reflect over the matter for a remedy; and I wish to propose to the railroad companies through the country the following plan:—

I believe the width of the roadway belonging to railroad companies generally is sixty feet, consequently, every 726 feet in length of road gives an acre of ground, less the width of the rails, which is immaterial; or we will say that every mile of roadway contains, say seven acres of land; or, in other words, the 25,000 miles of railroad in the United States contain within their roadway 175,000 acres of land, making 3,571 farms of 49 acres each. Now suppose our railroad companies should put up houses at every 7 miles along the line of the road, and employ a farmer for each, whose duty it shall be to put this soil into proper order, and sow it down in timothy. The extremes of each farm would be but 3 1-2 miles from the dwelling, it being placed in the middle, so that it would not be too long a distance for him to walk to take care of it. When he was not employed in farming he could be employed in the duties of leveling, or repairing the roadway, or anything else the company might have for him to do. In many places railroads have a running stream along the roadway, and by managing this stream so as to afford irrigation to the whole roadway, a crop of at least 2 1-2 tons of hay ought to be raised per acre. The sloping sides of embankments and cuts should be sown with orchard grass, which would not require mowing, and the tillable parts with timothy. Supposing that three-fourths of the roadway only should be tillable, and that it should yield two tons of hay only per acre, we have as the product 262,500 tons of hay, worth at least \$10 per ton, or the handsome sum of \$2,625,000 as the annual agricultural produce of the now useless, idle roadways. A competent person as a farmer could be employed at say, \$300 per year, and the hay crop raised by him would bring \$720; thus, besides the value of his services along the line of the road, the companies would receive a revenue of \$420 for each farm, less the cost of seed and manure. The facilities of taking manure to the sterile portions of the road, and of transporting the hay to market would not be felt in the daily transactions of road transportation, as advantage could be taken of light trains to carry it. The most important advantage, however, is yet to be mentioned. The roadway being covered with grass, all except the rails, there would be no dust to suffocate passengers, the rails would wear longer, and also the wheels and axles, and last, but not least, persons would not be obliged, whilst traveling, to go from a comparatively safe to an unsafe position, in order to breathe.

Having thus sketched the outlines which I wish to bring, through the medium of your wide-spread journal, up to the view of railroad companies generally, let us see which Board of Directors shall be the first to act, if not for their own, at least for the good of the traveling public. JAMES H. STIMPSON. Baltimore, May, 1857.

[The views of our correspondent deserve attention, not so much as they relate to the profits pointed out as derivable from the hay that may be raised on the farms, as the specific means described for preventing dust on railroads. We have heard of some railroads having been laid with sods to prevent dust, but have not been informed with what results. Persons appointed to take care of the farms could also act the part of guards, and would

be very useful in many ways for the protection of the track from the intrusion of animals, &c. The presence of grass on the sloping sides would also do much to preserve the earth from being washed down by the action of rains—an evil very severely felt, especially in such loose alluvial soils as that referred to between Baltimore and Washington.

Post Office Remittances.

**MESSES. EDITORS**—I have long felt the want, common I presume to almost everybody, of some easy method of making remittances for newspapers in different parts of the country, and I think the want might very easily be supplied through the Post Office in this way: Let the Postmaster General issue to the various Postmasters check-books suitable for the purpose, and each Postmaster be authorized to draw upon any Postmaster in the United States for the purpose intended to be accomplished, making it payable to the publishers of the paper which is to be obtained. The amount which would thus be paid to any one Postmaster would be too small to merit any apprehension of loss from embezzlement, and besides, one office would always be a check upon the other.

Don't you think the plan a good one, and quite capable of being carried out? If so, I know of no paper so likely to cause attention to be directed to it as yours.

JAS. P. MCKINNEY.

Austin, Texas, May, 1857.

[The plan which our correspondent suggests for remitting drafts for small sums through the Post Office could be carried out without any difficulty, but it would require an amendment of our Post Office law for the purpose. The Money Order system, which is carried out so efficiently in Great Britain, and with such manifest advantages to all classes, besides yielding to the Post Office department an immense income, has been frequently brought under the notice of our Government. Whenever our people squeeze up their Representatives in Congress to make a law for carrying out such a useful reform in our Post Office system, it will be done. This affords us a favorable opportunity of recommending the attention of our correspondent and all concerned to the articles on this subject, pages 229 and 234 of this volume.

Maple Sugar Regions.

**MESSES. EDITORS**—I observed a paragraph in the SCIENTIFIC AMERICAN of May 23d, on the subject of maple sugar, in which you allude to having received a keg of superior quality from John Oliphant, Esq., of Cumberland co., Md., and remark that you were not aware it could be produced "so far south." I have seen the article (of good quality) manufactured in Alabama; it is quite common in the Southern States for the negroes to make it for their own use. I am satisfied it can be made in any State in the Union where the maple grows, the only difference being in the season or time when the sap begins to flow, which is during the months of January and February in the Southern States, and as early as December. Cold cloudy weather checks the flow, and if the temperature falls to 32° it ceases entirely, but resumes it as soon as the weather is warm enough to thaw. The season of white frosts and warm, clear sunshine is the proper time for making maple sugar. The sap will flow until the leaves begin to put out; but the syrup will not crystallize from sap procured late in the season, although it will make good molasses. I have assisted when a boy in the sugar camp, and know from experience what I have stated to be correct. A. F. WARD.

Viollins.

**MESSES. EDITORS**—Why is it that violins cannot be made now that will sound as well as the Cremonians? Was there any secret art used in their construction which is not known now? Would not a violin made of the same kind of timber as the Cremona, and all its parts constructed exactly similar (which, I suppose, could be done by a skillful workman) not sound like the Cremona?

Avon, N. Y., May, 1857. S. W.

[We cannot answer a single question of our correspondent. We have heard the same statements from others respecting the supe-

riority of the Cremona violins, and the opinion is common that no such instruments can now be made. This, however, may be wrong. Perhaps there are better violins made at the present day than were ever made at Cremona, in Italy, in the last century, from which circumstance they have derived their name. Some of our correspondents may be able to give us positive information on this musical subject.

A Great Discovery—The Philosopher's Stone.

Those which men in the "olden time" considered to be beautiful dreams have become realities in our day. Diamonds have been imitated, but with less perfection than pearls, therefore the natural ones are still without rivals. The German chemist Woehler, of Göttingen, however, has succeeded in giving to the world a gem which compares most favorably with the natural diamond. This is "Bor," the elementary substance of boric acid. Heretofore no chemical means had been found capable of reducing it to its natural state. This new substance—Bor—is equal to the diamond in resisting chemical agents, and is even harder. Mr. Woehler anticipates that means will yet be found to make it colorless, its prevailing tints being reddish and yellow. In connection with M. Deville, Woehler made the discovery of reducing aluminum from its oxyd to a metal; this new discovery in reducing boric acid and extracting Bor, increases his celebrity.

L. R. BREISACH.

Triplicity of the Year 1857.

The following are some curiosities of the figure 3, in relation to the figures of the present year:—

First, add all the figures and divide the sum obtained by the last in the year—1+8+5+7=21+7=3. Second, add the second and fourth figures, and divide the sum by the third—8+7=15+5=3. Third, add the second and fourth, then subtract therefrom the sums of the first and third, (8+7)−(1+5), and the quotient will be 9—the second power of 3. Fourth, multiply the first and second figures, 1×8, and subtract this sum from 5×7=35—the quotient is 27, the third power of 3.

For duplicity we must look forward to the year 1861, which by the mere addition of all its figures, gives the fourth power of 2 (16).

L. R. BREISACH.

Volcanoes.

Volcanoes sometimes transact business on quite a large scale. Mount Etna, we think it was, at one eruption vomited lava to an amount fifteen times greater than the whole mountain. The discovery of volcanoes in the central portion of China goes far to disprove that a communication with the sea is essential to their formation.

Chair for the President.

The San Francisco Herald notices the arrival in that city of Seth Kinman, a hunter, from the northern part of Humboldt county, en route to Washington, with a great curiosity in the shape of a chair made entirely of elk antlers, and designed as a present to Mr. Buchanan. The chair is very ingeniously and handsomely put together.

The New York Free Exhibition.

We have tried several times to visit the "Hall of Patents" in this city, alluded to some time ago as an experimental concern, intending to exhibit inventions at an annual rent for the space occupied, but can never find it open. It was to have been opened on the 4th of May. What is the matter?

Experiments have proved the interesting fact that fine silver exposed to the air in a state of fusion absorbs oxygen gas, and gives it out again in the act of consolidation. The quantity of oxygen thus absorbed may amount to twenty-two times the volume of the silver.

The Elizabethtown (N. J.) Tribune states that a pearl has been found by W. Cree, of that place, which is as large as a walnut, and of an oval form. It is perfectly white, and the largest Jersey pearl yet discovered.