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## Mechanical Literature.

### BLOCKING PANELS.

THERE is no subject more worthy the attention of the craft, than an effectual method for preventing the working of panels in the groove of a paneled job. Having had considerable experience in this class of work, I propose in this article to give the *modus operandi*, not claiming it as original with myself, but having ascertained the utility of the mode by mere accident.

In the winter of 1853 I was called upon to put in two new side sills, and re-panel a twelve-passenger stage-coach, of Concord, New Hampshire. In tearing out the old sills I found them completely rotten where they had lain upon the thorough-braces, but still the panels kept their places in the groove, showing neither paint cracks nor loosening of the panel on the line of the molding at the sill or pillars. Searching for the cause of this, I found that at intervals of one inch there were small corner blocks of pine glued to the inside of the panels, sills, and pillars. Since then I have adopted the plan, and I have never been mortified by seeing my panels work in the groove. I also use the blocks on my quarter panels, after clamping on, wherever practicable, running my canvas or scrim up over the blocks, on to the sills, pillars, and arm-rails. Fellow-bodymakers, you who have not given it a trial, do so, and you will find your bodies more durable.

J. B. P.

### TREATISE ON THE WOODWORK OF CARRIAGES.

(Continued from page 71.)

#### CHAPTER FIRST.—PART FIRST.

REPRESENTATION OF BODIES.—XXXVIII. Two different systems are employed in order to represent the bodies: which are the perspective and the geometrical drawing.

The object of the first system is to represent the objects on a surface, in a manner as they would appear in reality, if looked at through a transparent substance. The result of that definition is, that if straight lines are

drawn from all the surrounding points and visible edges of the object in view, toward the eye of the spectator, the spot where all those lines would pierce the transparent sheet would produce a drawing on it that would present the same form as the object itself.

Perspective drawing expresses the form of objects, but generally it does not furnish the dimensions nor the size of angles formed by the various component parts respectively. In many cases, therefore, it would not suffice for the reproduction of an object exactly like the one it represents. Therefore we shall merely make use of this system of representation to demonstrate the positions of lines and surfaces on which the problems, already mentioned in the preliminary remarks, are brought to bear.

XXXIX. The object of geometrical drawing is to represent objects in such a manner that all their parts are shown in their proper size, or reduced according to the same scale. This system is not so well adapted as the perspective drawing, when it is required to impart a general idea of the form of objects, that is, the form is not so clearly manifested to the eye; but persons familiar with this method can easily deduct the different figures of the plan, the elevation, and the section.

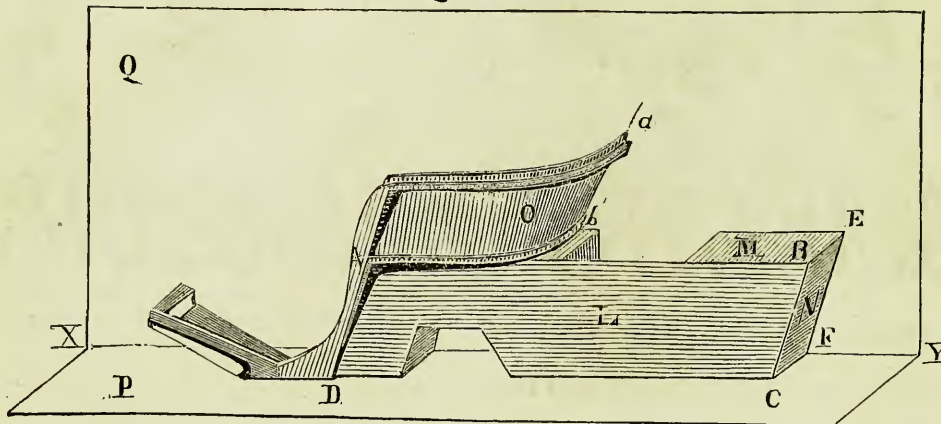
The object to be drawn can exist in reality or not; in the first case, in order to represent it, all the dimensions of the various component parts must be taken, either in their natural size or according to an adopted scale. If the object does not really exist, it is a plan to be conceived, and in this case it is necessary to have a complete idea of it, to foresee the dimensions, the form of all its parts, and the angles formed respectively by the component parts, as if it existed in reality. In either case the aim to be attained is the same; that is, the execution of a geometrical drawing representing the object.

XL. Bodies are distinguished by their apparent faces or surfaces; \* the faces are bounded by lines, and the lines are limited by points. Consequently in the body

\* The different sides representing the bodies are designated by the term faces, for instance the bottom face, the top face, the side face, the back face, and the front face. Without particular reference in respect to those faces, the word surface is generally used when allusion is made to the covering of any particular part under consideration. For instance, in indicating any particular part of the shell of the phaeton (Fig. 28), we should first indicate the position of that part, and then the form it assumes. We should, therefore, say that face L of the side is a plane surface bounded by the lines A B, B C, C D, D A. Some parts of the shell, however, cannot be distinguished by their face, such, for instance, as the rounding of a phaeton, the sides of which are not separated from the back. In such cases the term surface is employed, and hence the reason for using the two terms, face and surface.



Fig. 28.



of the phaeton represented in perspective (Fig. 28), we find the face L on the side, the face M underneath, the face N on the back; these different faces are separated respectively by the lines A B, B E, B C, which are their line of intersection or edges, two and two. The top face is not seen on the drawing; but the lines C D, C F, which form the intersection with the faces L and N, sufficiently define its position. The lines A B, B E, B C, C F, C D, are limited at their points of meeting by the points B and C, which are their points of intersection.

The conjunction of several faces or surfaces in one and the same point, forms an angle, that is styled the solid angle. Therefore the point B, the intersection of the lines A B, B C, B E (Fig. 28), is the solid angle of the faces L, M, N. At least three faces or surfaces are necessary to form a solid angle.

From the foregoing, it will be seen that the representation of bodies consists simply in reproducing, on a sheet of paper: 1st, the points situated at the solid angles; 2d, the lines of intersection of surfaces the extremities of which are determined by the solid angles.

XL. A body can be limited by surfaces of two kinds, planes or curves. The intersection of two surfaces takes place by a straight line (Art. 31). Therefore the faces L, M, N of the phaeton being plane surfaces, their lines of intersection A B, B E, B C, are straight lines. The intersection of a plane surface and a curved surface, or of two curved surfaces, is a curved line, unless the curved surfaces are of that kind upon which a square can be brought to bear in one sense. The intersection would be a straight line if the two surfaces met in such a manner that a square could be applied to each one. For instance, the rounding O of a phaeton (Fig. 28) is bound by a curved surface on which a square can be set, in respect to its height, and the intersection a b of that rounding with the plane Q, which we take to be placed vertically on the axis of the body, is a straight line.

XLII. The drawings can be executed either on a sheet of paper, stretched on a plank, on a table, or on a wall. Whatever surface is selected, care must be taken that it is level, in order to secure the greatest precision. This is evidently the reason why the word plan is used to express drawings made in respect to the execution of the objects they represent.

XLIII. The contracted practice of measuring length and breadth by directions parallel to the horizon, and

height by the direction of a plumb line, has naturally caused the horizontal and vertical positions to be selected for those of the planes of a geometrical drawing. Besides the horizontal and vertical directions, the planes can occupy certain other positions in relation to the object in view. For instance, the vertical plane can be placed in front, in the middle, or behind the object. It is necessary, however, always to select the most favorable position in order to simplify the operations as much as possible. In

carriage woodwork, when the body of a carriage is intended to be represented, it is supposed to be executed and placed on the horizontal plane, and the vertical plane is supposed to pass the axis of the body in its length, so that it divides it in two equal parts.\* The body of the phaeton (Fig. 28), the half of which is only apparent, is placed in this hypothesis in relation to the two planes P and Q. The under part of the bottom, being a plane horizontal surface, is wholly included in the horizontal plane P, and all the points appertaining to the axis are situated in the vertical plane Q. All the other points of the body situated beyond the planes P and Q, are considered in space; and are brought to bear on the planes by means of projections.

#### METHOD OF CONDUCTING PROJECTIONS.

XLIV. The method of conducting projections is composed of planes of projections, projectants, and projections. The object of this method, which forms the basis of descriptive geometry, is:

1st. To represent, on a sheet of drawing paper that has only two dimensions, bodies that have three, and which can be rigorously defined.

2d. To impart the precise form of bodies, and to enable the reduction, by means of graphic operations,† of the dimensions and the proportion of all the respective parts. All the elements recognized in geometry—such as straight lines, curved lines, plane surfaces, curved surfaces—are perfectly determined by their projections on two planes of projection, one of which is generally horizontal, and the other vertical; but in carriage woodwork which are not subject to a mathematical rule. In order to give an exact idea of the form of lines and surfaces of that kind, and to fix the position of all their points, a single vertical plane is not sufficient: therefore we have recourse to a second vertical plane.

The appellation plane is particularly applied to the horizontal plane; that of plane of elevation, or simply elevation, to the first vertical plane; and that of auxiliary plane to a second vertical plane perpendicular to the first

\* The two sides of the bodies being symmetrically alike, by thus placing the vertical plane the half size of all the cross pieces are directly obtained.

† Two kinds of operations are distinguished in mathematics, for the purpose of solving problems: the numerical, by which means the dimensions are expressed in figures; and the graphic, by which the sizes are expressed by figures drawn upon any surface.



two. The planes of projection and the geometrical planes are the same.

We shall first expose the method of conducting projections from one point in relation to two planes of projection, then to three planes; and in this manner we shall continue in the projection of a straight line, a curve, and plane surface, in order to accustom our readers to consider three planes of projection from the commencement.

**XLV. Projection of a point.** The term of the projection of a point on a plane is styled the foot of the perpendicular drawn from the point on the plane.

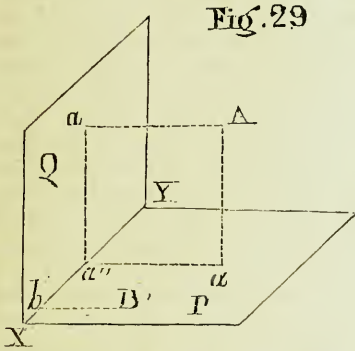


Fig. 29

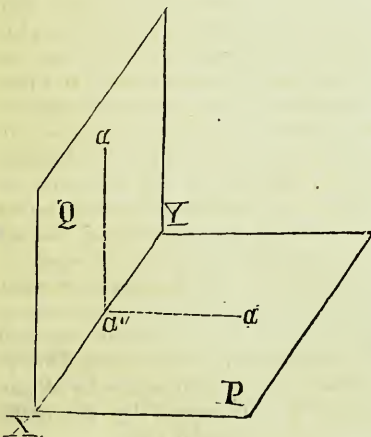
Suppose P and Q (Fig. 29) to be two planes of projection, the first horizontal and the second vertical, A is a point in space: if, from the point A, the perpendicular Aa and Aa' are drawn, the first on to the plane P, and the second on to the plane Q—the lower ends of the lines, a and a',

where the lines meet the planes, are the projections of point A; the perpendiculars Aa and Aa' are the projectants of the point; the planes P and Q are the planes of projection. We shall always take the line XY, the line of intersection of the two planes, for the ground line. When this is laid down, if the two projections a and a' are drawn from point A in space, upon two planes of projection P and Q, the position of this point is perfectly determined, because it is on the intersection A of the perpendiculars drawn by the projections a and a' to each plane of projection P and Q.

When but two planes of projection are employed, the two projectants of a point in space are not apparent; they are replaced on each plane of projection by other lines, that are equal and parallel to them as we shall prove.

**XLVI.** The two projectants Aa, Aa', being perpendicular to the planes P and Q, determine a third plane Aa a' a', which is perpendicular to the first two, and to their common

Fig. 30.



line of intersection (Art. 37). The lines a a'', a' a''' of the third plane with the two others are respectively equal and parallel to the projectants Aa', Aa, as forming the four sides of a rectangle. Moreover it can be supposed that the two projectants a are transplanted parallel to their primitive position, each one following the direction of the

other, so as to bear on the plane of projection to which they are parallel. It then follows that the projectant Aa will bear upon the vertical plane at a' a'', and the projectant Aa' on the horizontal plane at a a''. According to this hypothesis, the construction will present itself as in Fig. 30, where the projectants are replaced by straight lines, to which they are equal and parallel in each plane.

In order to reconstruct, taking the point A in space with the parts given in Fig. 30, it must be supposed that the projectants are removed from their primitive position as in Fig. 29.

**XLVII.** The two perpendiculars a a'', a' a'' lowered from two projections a and a' from a point in space (Fig. 29) on to the ground line, meet that line in a single point a'', because these two perpendiculars are but the outlines of a third plane on the first two, which is determined by the two projectants (Art. 46).

**XLVIII.** The projection of a point B, taken on one of the two planes of projection, becomes confused with that point in the plane, and projects on the other in a point b' on the ground line.

**XLIX.** The projection a of a point A in space on to an auxiliary plane R (Fig. 31), is like the other projections, the base a, of a perpendicular Aa, drawn from the point A on to the plane R.

The demonstrations that we have made above on the two first planes P and Q are applicable to the first plane P, and to the third plane R.

Having the two projections a, a', from a point in space on two planes

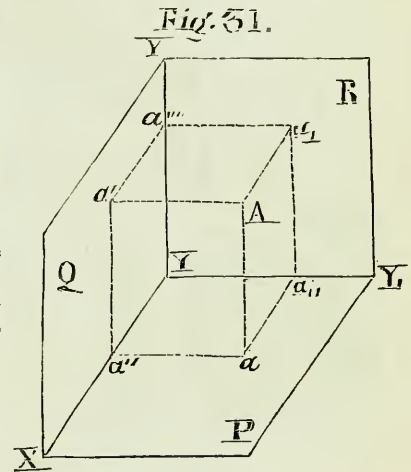


Fig. 31.

P and Q, the projection a, on a third plane R, is determined. Accordingly the elevation of the point A above the horizontal plane is determined by its projection a' on the first vertical plane Q. Therefore, if a parallel a' a'' is drawn through that point to the line of intersection XY, and through the point a'', another indefinite line a''' a, to the line of intersection XY, the line a''' a will form the required projection on the plane R. For the construction, draw a perpendicular a a'' through the horizontal projection a, in the plane P, at the intersection XY of the two planes P and R, and another a' a'' through the point a' to the same intersection in the plane R; the intersection in a, of the two straight lines a'' a', a' a, is the required intersection.

The plane R being perpendicular to the two other planes P and Q, the lines a a'', a' a, are parallel, the first to XY and the second to YY'.

(To be continued.)

**AN OLD SLEIGH.**—A gentleman in Albany, New York, has a sleigh built in that city in 1816, by James Goold. A friend of the owner used it last January in making his New Year's calls. It is said to be still in good order.





GRECIAN CHARIOT FROM THE FAÇADE OF THE PARTHENON, ATHENS.

### OUR GRECIAN CARRIAGE MUSEUM.—III.

OUR next illustration is copied from the façade of the Parthenon, or temple of Minerva, at Athens, showing the crowning of a victor in the chariot races at the celebration of the Olympian games, held once in four years. The remains of Grecian art, as displayed in the originals and on the public monuments, are very meagre. Stuart, among his "Antiquities of Athens," published by John Nichols, London, 1787-1816, has but three plates (Nos. 18, 19, 20) allotted to the chariots from the Parthenon. On the first appears two chariots, in the next another showing preparation for the race, and in a compartment of the third, of which a copy is here given, the crowning

of the successful youth. This chariot is roughly designed and coarsely executed in bas-relief, yet is undoubtedly a very fair representation of the fashions in that day. It is worthy of notice that Grecian chariots may generally be distinguished from all others by a projecting circular rave forming the hinder portion of the body.

To become a victor in the chariot races, among the Grecians, was to obtain a position of distinguished honor. The rewards were of several kinds, either wild olive, pine, parsley, or laurel, according to the different places where the games were celebrated. These made into crowns were set upon the victor's head, and palms placed in the right hand amid the acclamations of the spectators. Plutarch says the custom of presenting palms on such occasions arose from the nature of the palm-tree, which displays new vigor the more endeavors are used to crush or bend it, and is a symbol of the champion's courage and resistance in the attainment of the prize. As he might be victor more than once in the same games, and sometimes on the same day, he might also receive several crowns and palms, as the reward.

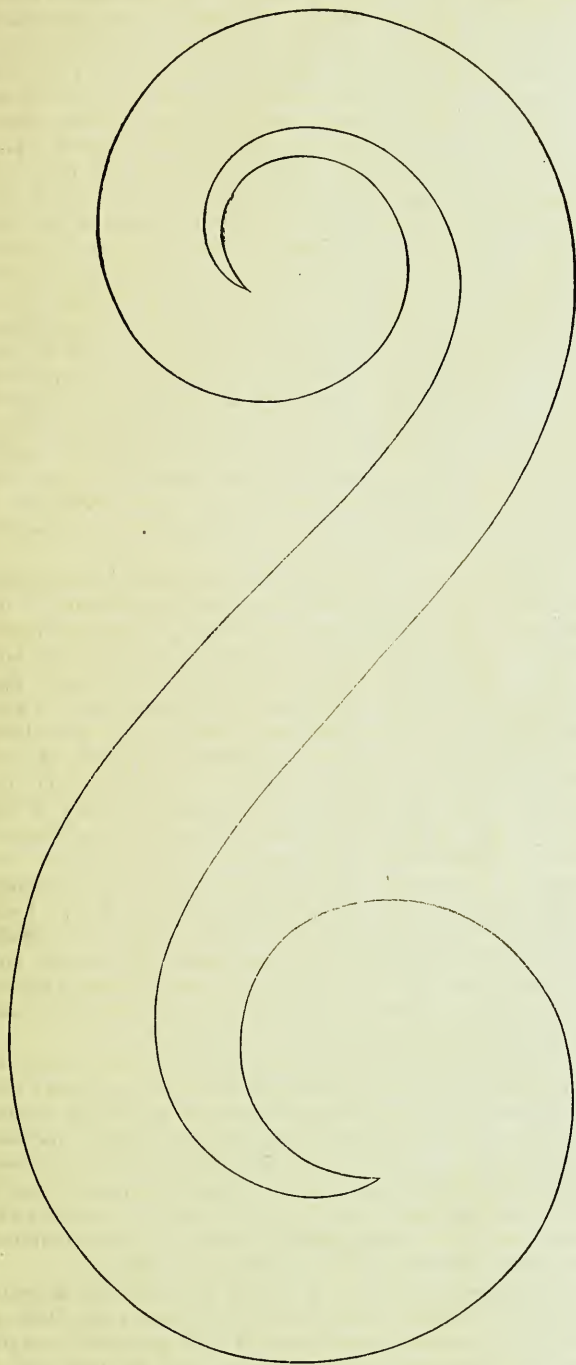
When the victor had been crowned, a herald, preceded by a trumpeter, conducted him through the stadium, and proclaimed aloud the name and country of the successful champion, who passed in that kind of review before the people, while they redoubled their acclamations and applauses at the sight of him. When the victor returned to his own country the people came out in a body to meet him, conducting him into the city, adorned with all the marks of his victory, and riding in a chariot drawn by four horses. His entrance was not in the common way through the gates, but through a breach purposely made in the walls. Lighted torches were borne before him, and a numerous train followed to do him honor. The triumphal entrance into the city concluded by a feast for the victor, his relations and friends, at either the expense of the public or some particular persons.

Sometimes the spectators were included among the invited guests. Alcibiades who had won a victory in these races after a sacrifice to the Olympian Jupiter, treated the entire assembly. Leophron did the same, as well as Empedocles. This last individual caused an ox to be made of paste composed of myrrh, incense, and all sorts of spices, and gave a piece to every one present.

One of the first steps taken by the magistrates after the games were over was to inscribe the name and country of the victor in the public register. The chariot race had the preference over all other games. Thucydides, Dionysius, Diodorus, and Pausanias date occurrences by Olympiads, generally expressing the Olympiad by the name and country of the victors in the chariot race.

## SWEEPS FOR SCALE DRAFTING.—VII.

With this monthly issue, we present our readers with another pattern for sweeps, the seventh in the series. Like



SWEEP FOR SCALE DRAFTING.

the others, this too may be traced on a thin rosewood veneer, and cut out with a penknife to the proper shape. Instructions for finishing will be found on page 5 of this volume.

## Home Circle.

## THE MUSIC OF THE LEAVES.

BY A. A. HOPKINS.

WHEN April, smiling o'er the hills,  
Is touching with her fairy fingers  
The frozen ripples of the rills  
Where Winter lingers,  
There comes afar the rustling low  
Of May's green garments—shy new comer—  
And soon we hear the gentle flow  
Of songs of Summer!

They breathe in every tree-top, then;  
In every shrub and bush they whisper;  
And each young leaf becomes to men  
A tender lisper.  
It tells some tale to every ear,  
Though few, perchance, will heed the telling;  
Its song through all its short life here  
Is sweetly swelling.

In sunlight, when the fluttering things  
So brightly flash and gleam and quiver,  
A song as gayly glad it sings  
As greets the Giver;  
When clouds across the blue sky sweep,  
And darkly, damply lower o'er us,  
The leaves a miserere weep  
In sad'ning chorus!

Beside my casement long I sit,  
When in the light they gleam and glisten,  
And as the Summer moments fit  
Entranced I listen.  
Their murmurous music on the air  
A strangely subtle spell is weaving,  
And all the earth is good and fair  
To my believing!

But when they weep their pearly tears,  
And sigh a mournful miserere,  
No shining sun my being cheers,  
And all is dreary.  
My heart takes up their mournful song,  
And heart and leaves sigh on together,  
But look, through all the showers long,  
For sunny weather!

There comes a sadder season still,  
When crisp and dry, and slowly falling,  
Their rustling chant so sad and shrill  
Is to me calling.  
A sadder season; yet I know  
The song will change its cadence sober,  
There hides a June beneath the snow  
Beyond October!

## BY COACH TO BRIGHTON.

YE lovers of the Picturesque, approach!  
To Brighton you can now go down by coach;  
Ye hippie men, who love the whip-thong's crack,  
A four-in-hand now takes you there and back.  
Not in a railway carriage, but outside  
A coach, by leave of weather, let me ride,  
For riding's sake, with time at my command,  
To gaze about upon a lovely land  
That was, and so still, here and there remains,  
Where smoky progress may have spared the plains.  
Waft me the breath of flowers, ye gentle gales,  
And not such whiffs as firebox, stoked, exhales;  
Delightful change, woods, fields, and meadows fair,  
From hideous porter in your face that flare,



Free of those horrors when the vision roves:  
 Nor yet that puffing commerce killed the groves.  
 Returns, in thought, the old Saturnian reign,  
 And George the Fourth his wig assumes again.  
 Then the weird music of the vanished past  
 Blends with the coach-horn's old remembered blast,  
 And spirits, while the horses changing are,  
 Appear, as fellows light the mild cigar.

Punch.

## WINTER RAMBLINGS IN KENTUCKY.

BY PORTE PENCIL.

(Continued from page 73.)

Mud deep and soft; trees fallen and lying latitudinally; streams swollen and turbid, *within* high banks, and *without* bridges; roads leading through swamps, and wildernesses filled with uneven causeways, and bristling with incorrigible stumps; dwellings far between; sleet, snow, darkness, and wild animals, rather familiar; business imperative, and the journey long; such were the characteristics of my *rambles* from Mason's Ferry to Russellville. The catalogue could not be more complex were it the voyage from the Cape of Good Hope to the Isthmus of Suez. The patience requisite to the completion of the journey would tax the patience of Job; the long-suffering finds a parallel in the adventures of Admiral Byron; the perseverance used was not unworthy a Columbus. Under such circumstances commend me to "horseback," and let the creature have a sure foot, a strong leg, and a good mind. I find that the safest, easiest, and cheapest way of traveling. But deliver me from *mules* and *oxen*. Moreover, let wayfarers be fortified with common sense, practical philosophy, and good humor. They will then only be fit to go a journeying, especially *such* a journeying as I underwent.

Bowling Green is the county town of Barren County, and is quite a respectable place. There are several churches, a bank, a *hotel*, but another is needed badly. To-day offers superior inducements to the farmers to visit the city, in that it is county court day; and furnishes rare chances for settling "little bills," and meeting brother farmers and talking over farm and crop prospects. Horse-flesh is by no means a rarity on such occasions, and with the large amount generally offered for sale, another avenue of trade is opened for the honest yeomanry. All day long the streets present something of the appearance of those in a busy metropolis, and many may be seen rushing hither and thither in their eager endeavors to obtain bargains, while others are seemingly reflecting over their losses or chuckling over their gains. The inhabitants are principally engaged in the tobacco and hemp trade; but if these were exhausted, Bowling Green would hardly sustain itself. As for the other towns through which I passed, I found it difficult to ascertain their *locus in quo*. For instance, I inquired of a damsel one day, while yet I supposed I was far off in the wilderness, the distance to Hartford. "Why, la!" she replied, "they tell *me* this is Hartford." I find the following in my note-book: *Mem.*—No church—wonder if people ever attend church in these parts? Hotel eight by ten—man fiddling—children dancing—pigs squealing—dogs howling, and all the neighbors looking on! Whenever you see pig pens built in front of the dwelling-houses, you may rely upon it you are in the State of Kentucky, unless you *know* that you

are in some other State. You may easily distinguish along the road the habitations of the European emigrant. There is an air of neatness, order, and cottage comfort about them seldom observed in those of the natives. This difference is caused in part by the plantations being formerly under the control of an overseer and cultivated by negroes, causing the owners to become careless of their own interest as far as adornment is concerned. I do not say that this is a general thing by any means, for there are many well-kept farms and plantations in this State. Some I have noticed may be considered a perfect Paradise. Their dwellings, however humble, are tidy and warm; vines are planted at the door and under the window, and a neat little door yard is inclosed in front by a picket fence. The outhouses and fences are in good condition, and no more soil seems to be under cultivation than can be managed well. Labor and improvements attach the proprietor to the place, and all about him appear settled, contented, and happy. It is different with the American emigrant. His mind is unsettled—he provides for the present, but he is always on the *qui vive* for fresh adventures and speculations. Everything seems unsettled. His mind is distracted with innumerable projects for gratifying an overruling passion to make money. He seldom forms a permanent attachment for a "local habitation," but is always ready for a new start at a moment's warning.

Rockfield is a very good-looking place, built mostly of brick, around a spacious open square, and is rapidly increasing in population and importance. I reached Rockfield in a notable snow and hail storm—it was a cold and violent northeaster. Pursuing my course the next day along the ridge road, I was joined by a "cornercracker,"\* who proposed to be my companion. "How fur do you allow to rush ahead in a day?" he inquired. I replied, "About forty miles. Can you go that?" "I reckon," he rejoined. I was struck with the apparent fertility of the soil and luxuriance of vegetation in the vicinity of Shaker-town. "That man has a heap of corn, I reckon," observed my companion as we surveyed a field of stubble. "Remarkably high stalks—ten to fifteen feet!" I exclaimed. "It's no great shakes after all. Down South I've seen farmers blade their corn and lop the ears, and then turn their cattle in. The ears would be too high for their reach." "Then I suppose they have to employ ladders in order to gather it?" "I reckon."

Shakertown is one of those magical places of the wonderful West. It has grown up within a few years to be an important town. Its population are all young, active, intelligent, and enterprising, and are very rapidly increasing in wealth and numbers. The plan of the town is very judiciously designed, and is calculated to render it one of the most beautiful places in the State. It would seem like an act of supererogation to describe their manners and mode of living, as it has been *done* before.

Rambling up to a log tavern at Rockport, at seven o'clock in the morning, our curiosity was somewhat excited by a crowd at the door. I had no sooner entered the threshold than my companion had disappeared. I followed an irresistible current that carried me upward, and discovered the secret of all this business. On the second floor a dancing party had collected the day before,

\* A native of Kentucky is called a "Cornercracker;" of Ohio, a "Buckeye;" of Indiana, a "Hoosier;" of Michigan, a "Wolverine;" and of Missouri, "Pawk."



at two o'clock P. M., and had continued the sport all night. My companion was already on the floor, leading down a double-shuffle, with his coat off, his cravat thrown aside, and his shirt collar unbuttoned. I observed the minuet, the pirouette, the gallopade, the reel, the contra dance, cotillion, cheat, hipsey saw, shuffle, and a variety of other indescribable steps, all in full exercise at the same time and to the same tune! The sport was too good for my companion to care about resisting it. Nothing could entice him from it—he "went it with a looseness" *con amore*, and I was obliged to "rush ahead" without him.

The road between Shakertown and Russelville in the cold season of the year is of the most execrable character. I witnessed the wreck of two stage coaches within a few miles distance. A *roue* bachelor was jolted over the hind axle until his nose bled, and he seemed rejoiced when the coach upset at an opportunity to escape. I saw him crawling out of the upper part of the door; and the last glimpse I had of him he was struggling on all fours, and up to his elbows in mud. The native ladies of this section never go out without high boots. When called upon to relieve the team by walking, therefore, they draw up their petticoats, leap into the mud, and travel on with impunity.

I stopped for a few moments to observe the dwelling of a thrifty farmer. It was situated in the edge of a forest, in a quiet, sunny spot, built of square timbers, nicely jointed, and all the crevices filled with plaster. Everything wore an air of convenience, comfort, and content. The inclosures were well regulated, the outhouses snug and well built, and the fences strong and in good condition. All the fields under cultivation were fenced in. In the center of a large field of one hundred acres and upward I perceived several immense circular stacks of wheat, in the midst of which three or four men and two horses were at work threshing by the aid of a patent threshing machine. They were getting out wheat at the rate of about one hundred and twenty-five bushels in a day. These machines are of vast importance to the producers of grain, and an immense saving of labor.

This farmer, so different from many others in this State, was reaping the grateful rewards of industry, temperance, and undivided attention to the one business he professed to pursue. Let others profit by the example, and Kentucky will be a bed of roses.

W— is a justice of the peace, and was compelled to leave us to-day, in order to attend the session of the county court. I took his dog and gun to see what sport his fields afforded, and after a walk of some hours, feeling inclined to rest, I seated myself on the body of a fallen tree, and had been there but a few minutes when my attention was attracted by the following conversation carried on behind a dead hedge, by which I was screened from the view of the parties engaged in it:

"I say, Tom, is you been do what you say?"

"I doue fo'git what 'twas."

"Dah, now! didn't I tell you futto ax Ned futto len' me his possum dog to-night?"

"Well, sho 'nough!"

"Well now, what I gwine do fo' dog?"

"You do' wan' no dog to-night."

"What fur I don't?"

"Caze you gwine to cawn shuckin'."

"No indeed; I gwine to catch possum for Jenny."

"What business you keep runnin' a'ter Jenny? She

eat all yo' whole crap of 'taters, an' wat' millions, an' mush-millions, all yo' possum, an' all yo' moonac (raccoon), let alone the calikers an' necklace, an' things yo' buy fo' her; an' den she ain' gwine have you a'ter all."

"How yo' know dat?"

"Caze can't I see? An' didn't my wife hear Washington ax the gal, an' she say yes?"

"Well now ain't dat *too* bad! 'Tain' no mo' 'an last Sunday, when I sole my har skins, I give her a yaller hanker!"

"Ah, boy! I tell you what, Jenny's a knowin' gal; she wan't born 'istiddy, so you moustle let her 'lone."

Having satisfied myself that no condition of life was too humble for the spirit of coquetry to flourish in, I here interrupted the conversation by desiring to be shown the way to the nearest spring.

"Yes, master, I show you," was the prompt reply of one of them, lifting his hat at the same time. "The quarters is roun' de pint of them woods thar." And in three minutes the "quarters" presented themselves in the shape of some six or eight log buildings situated in a row, and about twenty or thirty feet from each other, all fronting one way. In the rear of each was a little garden, inclosed by upright stakes interwoven with cedar boughs. Outside of each door a small shelf was fixed to the wall, supporting a pail of water and a gourd used for a drinking-cup. The character of the ground was such that we could not be seen, neither could we see, until the moment of our arrival, at which time there were twenty or thirty little woolly heads amusing themselves. Some were running about, some swinging upon the gigantic grape-vines with which the trees were covered, some rolling about on the ground, while others were engaged in doing nothing. In an instant six curiously shaped curs rushed out from door and bush. Some wanted ears, others tails. The latter had been either cut off or driven in, so that there was hardly an inch protruded. But none wanted voice. They all had it, and to spare, and *spare* it they did very freely.

(To be continued.)

## Pen Illustrations of the Drafts.

C-SPRING CALECHÉ.

Illustrated on Plate XXI.

THIS caleché, as will be observed, has some new points of interest in the mode of hanging-off, rendering it not only more safe than when constructed on the old plan, but likewise much easier riding. The width of the body between the arm-rails should be 50 inches; width of the boot, 30 inches. *Wheels*, 3 ft.  $\frac{1}{2}$  inch and 4 ft. 2 inches high; hubs,  $4\frac{1}{2}$  by 7 inches; spokes,  $1\frac{1}{2}$  inches; rims,  $1\frac{1}{4}$  inches deep; tires steel,  $\frac{5}{8}$  by 1 inch. *Springs*, front 3 feet long, and about 10 inches apart; width of steel,  $1\frac{3}{4}$  inches, No. 3 head leaf, and No. 4 remaining three plates; C and platform springs, say 40 inches long,  $2\frac{1}{2}$  inches wide, No. 2 steel. *Painting*, carriage-part straw color, striped with broad line of blue, edged with two fine lines of lighter blue, and centered with fine line of gold; body very dark blue, striped with a lighter shade of blue in fine line,



and another in gold. Price of carriage from \$1,200 to \$1,300.

**CHARGES FOR REPAIRS.**—New tires and bolts, \$34; resetting tires, \$8; tire bolts, 12 cents; drafting wheels, \$1; new hub, \$5; spokes, 75 cents; set rims, \$20; carriage bolts, 30 cents; new pole and leathering, \$6; new pole yoke complete, \$6; back panel, painted and trimmed, \$40; new axle nut, \$2.

#### GO-CART.

*Illustrated on Plate XXII.*

VERY little need be said in explanation of this design, the drawing itself being its own interpreter. The side panels and back may be made out of three-quarter inch cherry, and molded, the sinking being likewise cut out of three-quarter inch ash. The lines shown on the sunken-bottom should be painted. A plate will be required to strengthen the insides of the rockers. Paint the body panels brown and the rockers black, the wheels and under-carriage being also black. Wheels, 3 feet 8 inches. Price about \$200.

**CHARGES FOR REPAIRS.**—New tires and bolts, \$14; resetting tires, \$4; tire bolts, 10 cents each; drafting wheels, 50 cents; new hub, \$5; new spokes (each), 75 cents; rims for two wheels, \$9; resetting axle, \$4; new shaft, \$5; new shaft-bar \$3.50; shaft-tips, \$2 per pair; retrimming shafts, \$6; repainting, \$35.

#### ROCKAWAY WITH HIGH DOOR AND WINDOWS.

*Illustrated on Plate XXIII.*

THIS original design for a high-door Rockaway is accommodated to both summer and winter use. The novelty consists chiefly in the combination of the coupé with the wagon front. The side panel is molded as shown in the drawing. Wheels, 3 feet 8 inches and 4 feet 2 inches high; hubs, 4¼ by 7 inches; spokes, 1½ inches; fel-loes, 1¼ inches; tires, 1½ by ⅝. Painting, patent-black; striping, three narrow stripes, two red, the center being straw color. Trimming, blue cloth. Price of Rockaway, \$700.

**CHARGES FOR REPAIRS.**—New tires and bolts, \$26; resetting old tires, \$7; tire bolts, 10 cents; drafting wheels, 75 cents; new hub, \$5; spoke, 75 cents; rims, \$16; new axle-bed, \$3.50; new perch, \$4.50; new spring-bar, \$2; new shaft-bar, \$1.75; new shaft, \$4; retrimming shafts, \$4.25; pair shaft-tips, \$2; new pole, \$6; head-block, \$3; new set of wheels complete, \$75; new leather washers, \$1.25; resetting axles, \$6; recovering glass frames, \$3.50; burning off old paint and repainting, \$100; coloring and varnishing body and carriage-part, striping, &c., \$75.

#### NO-PERCH BUGGY.

*Illustrated on Plate XXIV.*

THIS buggy—paneled of course—has a molding running horizontally across the side, as seen in the drawing. The body, having a deep cut-under, will need a very stout plate on the inside sill, to fit it for standing the strain it will be subjected to in the absence of a perch. Indeed, a body built after this design must be well made in every respect, and even after this is accomplished it will still be a comparatively weak affair. If a customer *must* have a buggy of this kind, the best way when taking the order is to candidly apprise him of its defects, and thereby fortify your own reputation against future complaints should it give out. Wheels, 3 feet 5 inches and 4 feet high; hubs, 4 by 7 inches; spokes, 1 inch; rims, 1½ inches; tires, steel ⅝ by 1 inch. Paint all patent black, and stripe three fine lines; center line straw color, two outside lines crimson. This buggy being often used for business purposes, when so used should invariably have dark-colored linings. Price of buggy, \$475.

**CHARGES FOR REPAIRING.**—New set of wheels complete, \$80; new hub, \$5; spokes, 75 cents; rims, \$16; drafting wheels, 75 cents; resetting tires, \$6; new set iron tires and bolts, \$20; tire bolts (each), 10 cents; carriage bolts, 25 cents; new shaft, \$4; leathering do., \$4.25; new shaft-bar, \$2; new bed to front springs, \$5; new bolster, \$5.50; new cross-bar (curved) to hind springs, \$6; new spring, \$10; new fifth-wheel, \$5; new top complete, \$1.25; new cloth body linings, \$25; new bow in top, \$6; repainting complete, \$50; touching up body and varnishing all, \$35; cleaning top and oiling, \$2.25; new whip socket, including fastenings, \$3.

#### TWO-SEATED OPEN WAGON.

*Illustrated on Plate XXIV.*

THIS shifting-seated wagon will be found very useful in going to market or to the railroad depot, being alike adapted to either business or pleasure by a new arrangement of the springs—the one elliptic, the others half-springs. Two leather cushions, with the falls attached, so as to be removed from the vehicle at pleasure, and an oil-cloth for the bottom, including dash and whip-socket, comprise about all the trimmings required in this job. Wheels, 3 feet 9 inches and 4 feet; hubs, 3½ by 6¼ inches; spokes, 1 inch; rims, 1¼ inches; tire, steel, ⅜ by 1 inch. Price, \$475 to \$500.

*Charges for repairs* to under-carriage about the same as for the "No-perch Buggy," preceding.

**NOTE.**—We have added a new feature to this department by giving some of the charges for repairing the different carriages, in New York. We hope they may prove useful to some of our country friends, and not without interest to city readers.



## Sparks from the Anvil.

### TRACK OF CARRIAGES.

A FIRM in Harrisburg, Pa., writes: "The question of the proper width of track for carriages has been raised with parties for whom we are doing some work. You we consider authority on this subject, and would be obliged if you would satisfy us in regard to this matter. We want Pennsylvania and New Jersey track."

We published a table in September, 1862 (see vol. iv., p. 182), giving the width of track in different States, the result of inquiries made through THE NEW YORK COACH-MAKER'S MAGAZINE. The track for New Jersey was five feet, and we have always understood that for Pennsylvania to be the same. If we have been misinformed, perhaps some of our friends in the Keystone State will set us right on that point.

Some correspondents have expressed a desire for a uniform track throughout the United States. Such certainly ought to be the case, but we fear that State laws and local customs are so strong against us, that such a consummation—however desirable—is far off in the distance. A uniform track would save the craft thousands of dollars annually, in the costs of alterations conformable with different locations, to suit certain customers.

### STIFFENING BEDS, WHIFFLE-TREES, &c.

A CARRIAGE manufacturer—J. B. Brewster, of Twenty-fifth street, N. Y.—has invented a new mode of stiffening the beds and whiffle-trees of light carriages, so as to prevent warping. His plan is to plow a groove about one-quarter of an inch wide and one-half inch deep the entire length of the bed, so as to be hidden when the axle-tree is attached. In this groove he inserts edgewise a strip of homogeneous or other steel, which being of a springy as well as rigid nature, is supposed to serve as an agent in keeping the wood in its proper position as long as the carriage will wear. The same process is applied to whiffle-trees from the under side, over which a strip of wood is inserted to keep the steel in its place or through the whiffle-tree horizontally. Mr. Brewster claims that his combination gives twice the usual strength, obviating the springing of the axle, and rendering bars, pole-yokes, &c., secure beyond the contingency of breakage. We understand that the invention has been patented.

GLUE WHICH WILL UNITE STEEL.—The following is a Turkish receipt for a cement used to fasten diamonds and other precious stones to metallic surfaces, and which is said to be capable of strongly uniting surfaces of polished steel, even when exposed to moisture. It is as follows: Dissolve five or six bits of gum mastic, each the size of a large pear, in as much spirit of wine as will suffice to render it liquid. In another vessel dissolve in brandy as much isinglass, previously softened in water, as will make a two-ounce phial of strong glue, adding two small bits of gum ammoniac, which must be rubbed until dissolved. Keep the article in a closely-corked phial. When it is to be used, set the phial in boiling water.

### MAKING RIVETS HOLD.

THE *Ohio Farmer* says: "Farmers and mechanics are very often bothered by the breaking or slipping of rivets in machinery and other places, and do not know a remedy. The trouble usually arises from the rivet-hole being too sharp upon the edge, and from the rivet-head being too flat upon the under side. The most of the heading tools used by blacksmiths in rivet-making are rounded on the surface, so that the heads are left concave. This brings the outer edge of the head upon the surface to which it is to be drawn, and the rivet has a chance, when brought to a heavy strain, to extend, which prevents breaking.

"The rivet is usually made of softer iron than that upon which it is to be clutched; consequently, if the edge of the rivet-hole is left sharp, when a strain of tension comes the soft iron is cut away by the harder edge, and the work loosened.

"Counter-sinking the hole upon the surface is the only remedy to be used in the last case spoken of, and but little of that need be done; a common counter-sink, which may be bought at any hardware store for ten cents, and used in a bit-stock, is all that is required by way of tools. Rivets subject to a shearing or side-way strain, do not require this caution, as they only need heading enough to keep the work in place.

"The force necessary to tear a piece of iron is very near that of cutting or shearing the same, so that the strength of rivets may be very easily estimated when used in different parts of machinery.

"The pressed or 'sale rivets' are not as good as those made at the anvil; at least, we have never been able to find any equal to the home-made, and would, therefore, advise that where iron work is to be put together, or wood upon iron is to be secured in safety, that the workman go to some good blacksmith, and have your rivets made of tough, soft iron, such as nail-rod or Swedes iron; and see, too, that they are made as they should be."

### IRON MANUFACTURES IN NEW YORK CITY—PAST AND PRESENT.

TWELVE years ago there were, in the city of New York, the following great iron-works: Allaire Works, employing 700 hands; Etna Works, employing 600 hands; Morgan Works, employing 700 hands; Neptune Works, employing 500 hands; Novelty Works, employing 800 hands; Delamater Works, employing 800 hands. These six great works employed 3,800 hands.

To-day, the following is the melancholy exhibit: The Allaire Works is a *car stable*; Etna belongs to Mr. Roach, and is closed; Neptune, sold to Mr. Roach, "shut up;" Novelty makes house castings, but no engines; Delamater makes Cuban gunboats, and employs, at present, 500 men; the Morgan Works employ 450 men. Total, 950.

Thus the 3,800 workmen who made the river banks glad with their noisy work have dwindled down to 950; and if the gunboat business ceases, not 600 will be employed in manufacturing engines or machinery. The 3,800 men who were employed in these works before the monopoly earned about \$2,000,000 gold annually, or an average of \$10 a week. The 950 that are at work earn now, on an average, \$15 a week, and their yearly earnings together amount only to \$741,000 currency.

Twelve years ago the Neptune Iron Works, which are now shut up, were employed chiefly in building marine



engines, which were exported to China. The boats were built there, but as the Chinese preferred the so-called beam-engines for their steamboats, and as Americans are adepts in building these marine engines, they were exclusively made here. Now not only are the Neptune Works shut up, but *not one* marine engine is made here for export. The orders for this kind of work, as well as for sugar-mills or any other skilled labor machinery, go entirely either to Scotland or Belgium, or even to France.—*N. Y. World.*

### THE MANUFACTURE OF STEEL.

THE Paris *Presse* says: "An experiment of a most interesting character, and having the highest interest for the iron industry, has taken place at the Marquise Stock Works, in presence of two eminent persons of the Ecole Centrale. The object of this experiment was to make steel by one operation, a problem which has engaged all metallurgists, and if solved, would cause an industrial revolution. M. Aristide Berard, an engineer whose name is familiar to all who have occupied themselves with this question, proposed to change second-class metal in course of refining into steel of at least ordinary quality, by means of a process alternately oxidizing and reductive. His efforts have been crowned with success. The product obtained by his process, in presence of two competent judges, proved to be steel of good quality, suitable for all purposes, and made with the facility necessary to its application to practical industry. The operation was effected in a reverberatory furnace, lasted about an hour and a half, and was accomplished with as much facility as puddling. In this process, instead of acting on 480 pounds of metal to obtain iron of number one quality, from 6,600 to 11,000 pounds of metal are made by only one operation into steel ingots ready for the workshop, and with an unexpected economy. We will be much deceived if this invention has not in it the germ of a complete revolution in metallurgy."

### Paint Room.

#### CRAWLING OF VARNISH.

THE crawling of varnish is a subject on which much has been published in the NEW YORK COACH-MAKER'S MAGAZINE during the past ten years, and now we find it agitated in some cotemporary journals. It is evident that a discussion of this subject has been of incalculable benefit to the public, but notwithstanding this, much still remains to be said before the work is complete. Circumstances under which the work of varnishing is done, and the different opinions workmen entertain as to the true cause why varnish crawls, place difficulties in the way of a definite solution of the question which render it almost hopeless. Anxious to do all we possibly can toward aiding the public and overcoming this much-dreaded operation, we have selected for publication a portion of an article lately given in *The Hub*:

"'Crawling' is caused by the gloss of the coat beneath it, which does not form proper footing, as is shown by the fact, that just so soon as this gloss is removed, there is no further trouble found. 'Crawling' is therefore

not a serious trouble, for it may be easily prevented by washing the under coat with water and wiping with wash-leather, as this will destroy the brilliancy of the gloss, and, in many cases, the mere dusting with a stiff duster will be found sufficient. When a previous coat 'crawls,' I have found that the following coat is generally more apt to do so, and in cold weather there is more liability of this trouble than in summer, for then the gloss of the under coat seems to come up to a 'harder sharp.' *But kill the gloss of the under coat, and you kill 'crawling.'*"

### IMPROVEMENT IN WHITE-LEAD.

WHITE-LEAD has been, until quite recently, and is to this day, manufactured in most establishments where the "English process" is followed in the manner we here describe:

"Oxyd of lead, or litharge, obtained by the calcination of lead in a reverberatory furnace, is moistened with a solution containing one per cent. of sugar-of-lead. This product is placed in closed troughs, which communicate with each other, through which a current of carbonic acid gas, developed by the combustion of coke, is made to circulate. This gas, after passing through pipes immersed in cold water, is forced through the litharge by the action of rotary fans, while the mixture is being constantly stirred by means of rakes put into motion by steam power.

"The white-lead obtained by this process is deficient in softness and in covering qualities, containing, as has been recently shown by Prof. Artus, too large a proportion of hydrated oxyd of lead.

"By moistening 100 parts of the litharge with a solution containing  $2\frac{1}{2}$  per cent. of neutral acetate of lead, and adding a small proportion of acetic acid, these defects can be radically corrected, and a very superior article obtained, remarkable alike for its tenderness, whiteness, and adhering qualities."

### CHARACTERISTICS OF GOOD VARNISH.

Most liquids give more or less of a varnish effect—that is, they give a shining appearance to the surface upon which they are placed. Thus, when water is poured upon a deal table, it brings out the grain of the wood, and brightens the place it occupies; but water dries, and the brilliancy is only momentary, consequently water is not a varnish, so called. A solution of strong glue gives all the desired solidity, but having no brilliancy, it cannot be called a varnish.

There are many points to which the varnish manufacturers must direct careful attention, and which the customer must understand, in order to judge of the merits of an article. Varnish should be a clear, limpid fluid, before application, and after being applied should become solid, and have a brilliancy which reflects and refracts the rays of light like a fragment of crystal. It is as a fluid what glass is as a solid. It heightens the tone of colors and preserves them, it brings out the delicacy of outlines and of shading, and time should neither color nor dim it. It is necessary that it should so adhere to glass, wood, or stone, that it may not be removed by anything short of an iron instrument, or by the action of fire. It must also be strong drying, and when dry and hard should become firm and unalterable in character, so that it shall neither crack, nor



turn white, nor be affected by light or ordinary heat, nor removed by any ordinary solvent.

In other words, the qualities to be considered, in testing a varnish, are as follows:

1st. ITS PALENESS—an important feature for some classes of work, and the one which is generally first looked to.

2d. ITS FLUENCY. Upon this depends the working quality. It also has much to do with determining the real value of the article, as it governs the amount of surface which a gallon will cover.

3d. TIME OF DRYING. This is essential, because it affords a speedy protection from atmospheric changes, insects, etc., and dispenses with the inconveniences of housing newly-varnished work for a long time.

4th. TIME OF HARDENING. This feature is entirely independent of the foregoing. A varnish is *dry* when its surface is sufficiently tough to resist dust, insects, and currents of air, and after *hardening* it is solid.

5th. FULLNESS. This is often expressed by painters as "staying where put." If a varnish continues to look bright and to stand out prominently after drying and hardening, we say it has *fullness*. Otherwise it will look thin and "saddened."

6th. BRILLIANCY. Next to durability, this is the most important qualification of a varnish.

7th. DURABILITY. This is the principal consideration, and in examining the merits of a varnish, the consumer should direct careful attention to this point. It includes the quality of elasticity, which will prevent cracking and scaling, and the quality of resisting the corrosive action of the atmosphere and of moisture. It is the most difficult feature to decide upon, for it is simply a question of time, whereas the six conditions which precede may be fully tested by a few trials.

Having defined the seven qualifications which are requisite to the perfect coach varnish, we will add in the way of caution, that while testing a varnish, the purpose for which it is required must be held constantly in mind, and especial heed should be given to those features which will best qualify it for the class of work in question.—*The Hub.*

#### PAINT SKINS.

**COLOR OF VERMILION.**—It is well known among artists, that the splendid bright color of vermilion has a tendency, when mixed with white-lead, to assume a blackish-brown color in a very short time after being spread. This tendency, it is said, may be checked if previous to mixing it with oil it is thoroughly permeated with about one-eighth of flowers of sulphur.

**TO REMOVE OLD PUTTY.**—Dip a small brush in nitric or muriatic acid, and with it saturate the dry putty that adheres to the broken glass and frames of carriage windows; after an interval, the putty will have become so soft as to be easily removed.

**IMPROVING VERMILION.**—It is said that a little ultramarine blue added to vermilion will deepen and improve the color of the latter.

**JAPAN GOLD SIZE**—is very extensively used among our first-class painters, mixed in with both rough-stuffs and colors, and is much superior to the old-fashioned japan.

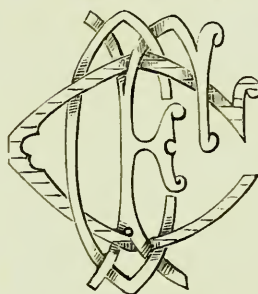
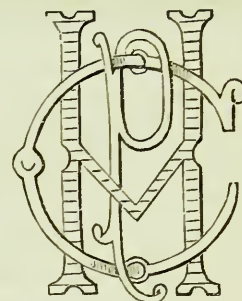
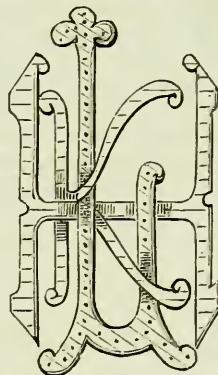
**ANOTHER JEWISH TRICK.**—A few days ago we called upon an old friend in Connecticut, who was loud in his complaints against a varnish manufacturer in this city whose agent he had engaged to fill an order. He ordered five gallons only; but was "stuck" with ten. This is not the only instance where we have heard of the same practice, from the same firm. If you *will* buy of these "sheep" merchants, give your orders in writing, and refuse to pay for all amounts sent exceeding the order.

#### ORIGINAL MONOGRAMS.

A GENTLEMAN of this city has furnished us with the following original designs for monograms. We hope they may prove useful to some of our readers.

The first, comprises the letters L. K. H.

The second, the letters C. P. H.



The third and last, the letters G. F. C.

We could go on and tell the workmen how these ought to be shaded to look well; but we long ago were convinced that the painter who was skillful enough to paint the figures, ought to have taste and ingenuity sufficient to color the monograms. It is well known among workmen that the shades

which some admire would be displeasing in the minds of others, so that upon the whole the task of instructing others in shading monograms is but a thankless one at best.

#### Trimming Boom.

#### GOSLING'S COMBINED STEP-COVER AND WHEEL-FENDER.

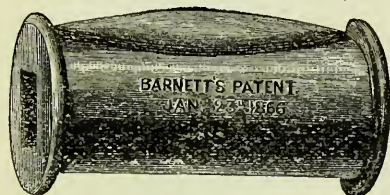
THIS invention of a practical carriage-maker is designed for preventing the accumulation of mud and dust on the steps of carriages, and also for guarding the dresses of the ladies from coming in contact with the muddy wheel on entering and leaving the carriage. This invention commends itself to the attention of purchasers of pleasure vehicles, and its real utility ought to be seen at a glance. No gentleman desirous of cultivating "peace in the domestic circle," can afford to be without this im-



portant appendage to his "turnout." Read the advertisement in its proper place.

### INDIA RUBBER PROP-BLOCKS.

HERE is something really useful. We remember the time when, as the youngest apprentice, we were allotted the special business of fitting on the prop a block of wood both clumsy and fragile. This was afterward trimmed; but, between the wood-workman and trimmer, the thing was often rendered unfit for the purpose intended. In "Barnett's Patent Rubber Block," now offered to the public, we have elasticity, durability, and neatness all combined. The young man who invented it, out in Ohio, a few years ago, has since died; but we are



happy to find that a party in this city has now taken hold of the matter with spirit, and intend to provide a full supply for filling all orders which may be given for it. We are much mistaken if this *block* does not soon supersede all others. Our readers are invited to give it a trial. Six pairs in a box, at 75 cents a pair.

### Editor's Work-bench.

#### FOREIGN LABOR.

ONE of the questions discussed at the "Labor Congress" in Chicago, was the necessity of having an agent in Europe to persuade or dissuade skilled workmen from coming to the United States to compete with the workmen now here. The Congress directed the appointment of such an agent, with power to make arrangements, "by treaty or otherwise," with the workmen of Europe, not to come hither when employment should be offered them. This policy is precisely that insisted upon by "Tall Bull" and the "Man-that-walks-under-the-ground," and other chiefs of the Indian tribes on the Plains. They insist that the country west of the Missouri is not more than enough for the Indians who have to make their living therefrom, and they wish, "by treaty or otherwise," to make an amicable adjustment, by which no more whites shall come that way. It would have been well for the "Labor Congress" to have requested the Cheyennes and the Arapahoes to send one of their number along with the delegate from the Congress, to remonstrate with the mechanics and laborers of Europe against sending any more people to this already *excessively crowded country*. The plea of the Indian would certainly be accepted as more reasonable than that of his white associate.

There is not an industrial occupation in this country the ranks of which are not filled with men of every nationality. In point of fact, our entire population must trace their ancestry back to foreigners who have come

here to benefit their condition. There is not a "Union" in the country where the broad English, Scotch, and Welsh dialect may not be heard with the Irish brogue and the German accent. And yet these men, and others whose Americanism is but a generation old, propose to remonstrate with the people of Europe against their coming hither to gain a livelihood. In the debate it was stated that the English operatives have a fund upon which they draw to relieve their distressed brethren by giving them the means to come to America and find work. Against this most humane proceeding this Congress protested. A skilled laborer is never a pauper. The man who is a mechanic is a capitalist. If he cannot find work in one place he can find it in another. His skill, his industry, and his knowledge are valuable acquisitions to any community to which he may take them. Our Congress does not think so. If the iron, cotton, and woolen mills of Europe be stopped; if the mines be closed, and labor thrown out of employment, they insist that the workmen shall stay there and perish. All honor to the workmen of Europe who give of their means to aid a fellow-workman to reach America, where, by his industry and his skill, he can feed and clothe his family and educate his children.

Let no man go to Europe, professing to represent the American people, who will venture to remonstrate against sending hither the suffering and the poor who are able and anxious to earn their bread by honest toil. We are receiving from Europe an average daily arrival of one thousand emigrants. These embrace mechanics of all kinds, farmers, and unskilled workmen, with their wives and children. These people come hither, as our fathers and grandfathers came, not as paupers, but as men seeking remunerative fields of labor, where they may have the blessings of civil and religious freedom, and where their children may grow up citizens of a free, happy, and prosperous country. As well may the "Labor Congress" expect to stem this tide as to restrain, "by treaty or otherwise," the waters of Niagara.

The Congress at Philadelphia, at its late session, seems to have recognized this fact, as the following declarations in their platform develop: "To prevent this calamity, the public lands adapted to agriculture should be given, in reasonable quantities, to *none* but American citizens, and such as have declared their intentions to become citizens." Their wrath now seems to be concentrated upon Coolie immigration, as the following resolution introduced will show, "*Resolved*, That while we appreciate the *benefit to be derived* from voluntary immigration, we are opposed in toto to the importation of a servile race, bound to fulfill contracts entered into on a foreign soil."

The second sober thought of the "Congress" has also resulted in sending their delegate to the International Convention of Switzerland, instead of to England, "to per-



suade or dissuade skilled workmen from coming to this country." As long as there are millions of acres of land lying idle, and waiting, free of cost, the hand of labor to make them productive; while centuries are to elapse before the country will be provided with the hands and the means to develop its resources, labor will seek our shores to find that remuneration it can find nowhere else.

The proposition to close the doors to human industry, and shut out from free America the workmen and laborers of the human family, that those now here may have the monopoly, is such an arrogant and uncharitable assumption, that it should be branded with reprobation by every man in the land.

The National Labor Congress likewise adopted a resolution opposing the employment of convict labor in penitentiaries. The Congress have it in their power to do an important work for their constituents, and for the community at large. Whatever elevates them, by lawful means, is an advantage to all. We hope they will pursue an enlightened policy, put themselves in better relations with their enemy (?) "capital," by obtaining plenty of it, and generally improve their condition.

But the crusade against convict labor is wholly unwise. The State of New York has, say, one thousand convicts in the Penitentiary. It costs, say, \$250 each, to maintain them one year, or \$250,000 in the aggregate. This money must be raised in one or two ways:—either by direct taxation, levied upon the "workingmen" as well as others, or by making the convicts earn their own living. Which is best for the entire community, the workmen included? Suppose half of the people of the State were confined in jails and penitentiaries, hospitals and asylums, or isolated in any other manner, would it be better for the outside half to support them in idleness than to have them support themselves? Is an industrious man enriched by having an idle man dependent upon him for support? The proposition of the N. L. C. would make the penitentiary, for many persons, the most desirable place of abode in this State. Plenty to eat and nothing to do is the *summum bonum* of a large class in every country. The fallacy of the N. L. C. consists in supposing that the work which one man does is an injury to every other man. They do not object to penitentiary labor so much because it is performed at all. Their theory is, that if A. and B. work side by side, A.'s labor diminishes B.'s wages. To carry out their philosophy it is only necessary to stop A.'s work altogether, and require B. to furnish him bread and meat, in order to put the latter on the high road to prosperity. But, it may be said, that if the convicts received wages, there would be no objections to their working. They do receive wages in the form of their support and maintenance. It is true they do not receive "Union" prices, but they get all that they earn, as is proved by the fact that the penitentiary statistics have shown a loss of a

considerable sum of money. Is it desirable to pay them more than they earn? If so, the honest workmen must contribute their share of the extra wages, to enable criminals to get better pay than themselves.

The "Labor Congress," while in session, through some ninety gentlemen, endeavored to legislate for the twenty-five millions of people of the country who live by their labor, and, among other things, adopted something definite upon the subject of "eight hours." This "Congress" has resolved that "The National Labor Congress earnestly recommends the adoption of such measures among all classes of workmen, in all sections of the country, as will secure the adoption of the 'Eight-Hour System,' and calls upon the respective State Legislatures to follow the example of the National Congress in recognizing eight hours as a legal day's work." All this means something or nothing. What will be an efficient Eight-Hour Law in the estimation of these men? In the absence of law, no man can be compelled to work any longer per day than he of his own free will consents to labor. Can any law be framed that will give the laborer any greater freedom than he now enjoys? In the absence of any law on the subject, every workman is at liberty to work when he pleases, as long as he pleases, for whom he pleases, and at wages prescribed by himself, or not work at all. The employer has an equal liberty. He can employ whom he pleases, can have them work for as many hours as he pleases, pay them such wages as he pleases, or he need employ none. Can there be a larger liberty than this? Can there be a law devised which can improve on this condition of things? Do these men propose that there shall be a law which shall punish by fine or imprisonment any man who works more than eight hours a day, or who pays men for working more than eight hours a day, or who permits his workmen to work longer than eight hours a day? Is that the idea of "an efficient Eight Hour Law"? Any law which leaves the workmen and the employer free to agree upon the wages and the hours of labor, is nothing more nor less than the law as it now stands. (Some two years ago, certain members of the different legislatures were flattering themselves upon having procured the passage of an eight-hour law, and there was quite a contest as to which of them was entitled to the honor of being its "author." At the convention in Chicago, the "Labor Congress" voted that that law was "a fraud upon the laboring classes," and just such a fraud as might have been expected by such men! The law had not been in force quite four months, and already its authors were branded by the workmen with having committed a fraud upon them.) Now, do they propose to take that freedom away, and to prohibit labor beyond eight hours, and thereby prohibit men from earning what they can by laboring when they can, and for the best wages they can get? It is not easy to imagine a severer



despotism than that which shall limit the freedom of labor, either in respect to the prices or the amount of wages. Yet the "Labor Congress"—a body professing to legislate for the special interest of workmen—insists that there shall be such laws upon the National and State statute books. It is needless to say that a Congress that is guilty of this absurdity, either does not understand the true interests of any class, or is playing the part of the demagogue by the use of incomprehensible jargon.

#### COACH-MAKERS' TARGET EXCURSIONS

ON the ninth of October the employees of two of the largest carriage-manufacturing firms in this city gave their employees a holiday, which the men improved by going on a target excursion to localities in the suburbs.

The first we shall notice was that of the hands of the Messrs. Brewster & Co., of Broome street, to which we were specially invited, and did expect to attend, but circumstances prevented. We however made such arrangements with a friend, that through him we are enabled to give a very fair report of the day's proceedings. Premising that the firm had closed both their manufactory and repository for the day, the men formed a company early in the morning, and then, preceded by a full band of musicians, marched up-town through the most public thoroughfares, with their friends and invited guests, to Kapf's Lion Park, at the corner of 110th street and the Eighth avenue. There during the day the employees engaged in target practice, for the most expert of which rich prizes had been prepared. Those not thus employed amused themselves by conversation and otherwise on the spacious and airy piazza.

In the evening, at the call of the drum, the assemblage sat down to a luxurious dinner specially prepared for this occasion by the host, the employees being decorated with blue sashes, and the members of the firm with carmine. On the whole, the assemblage was a fine one. Indeed, as one of the speakers remarked, "they represented as fine a body of men as ever marched up Broadway." Dinner being over, the chairman called the meeting to order, the first toast proposed being, "The long life and prosperity of the Messrs. Brewster & Co."

To this toast J. N. Britton, Esq., a member of the firm, in substance responded: That this occasion, for the firm and himself, was one of much pleasure and satisfaction. He was thankful to find that the workmen, who had aided them on the road to success, had likewise, on this day, brought along with them feelings of good will toward their employers. He did not intend to enter into any lengthy remarks, but would simply add, that having done all in his power to make this affair a success, he would now read to them a document addressed to the employees of Brewster & Co., of which the following is the substance:

"Fully recognizing the value of harmonious action between employer and employee, and being always willing to promote and encourage true principles of co-operation—harmony—we have concluded to let our workmen, in future, share in a proportionate amount of our net profits, provided the wages of each hand shall amount to \$100; this offer to take effect from the 29th of September last. And we will not only include the profits of our factory in Broome street, but likewise those of our salesrooms on the Fifth avenue." (Cheers from the crowd followed this announcement).

"Under this arrangement every person in our employ will be entitled to a dividend according to the amount of wages paid him during the year; in addition to which we propose to make such arrangements that our employees shall have the attendance of a physician when needed, provided they do not live at too great a distance, whose bills for this service shall be paid from our profits. The amounts which in this way will yearly be distributed among our men we estimate will be about \$8,000. Of course this amount may be lessened by the effects of dull times and increased cost of material; but we are confident that it will rather be above than below this estimate, and to make a practical beginning we have set aside a fund of \$1,000."

After submitting a plan by which committees from the shops are to make arrangement and settlement of accounts between the workmen and the firm at the close of each fiscal year, Mr. Britton declared that, "neither disaster, disappointment, nor misfortune in business had induced the firm to make this voluntary offer to their employees, for the firm of Brewster & Co. is now doing the largest business of the kind in the United States, and had been more successful the past year than ever before. (Prolonged cheers.) And they were now disposed to make it more so in the future for the mutual benefit of all, and thus secure the interests of labor and capital, in good will, by co-operation."

Loud and prolonged cheering followed this address; and after silence had been restored, replies were made by others commending the action of the Messrs. Brewster & Co., and declaring that this was a move in the right direction, and well calculated to fill the gap which unfortunately existed between capital and labor, and which, unless checked, threatened ultimately the downfall of our Republican institutions. There never was a better established fact than that the interests of labor and capital lay in reciprocity. Altogether this was one of the finest excursions of the season. Much credit is due to the committee of arrangements for the able manner in which they discharged their duties, and to the Messrs. Brewster & Co., whose liberality contributed in making this occasion long to be remembered by all present.

On the same day the employees of Messrs. Corbett &



Scharch, of West Twenty-fifth street, went on a target excursion to Menshausen's Grove Hill Park, at Morrisania, Westchester County, N. Y. On the march the company displayed a truck gayly decorated, on which was borne a fine specimen of "Our wagon," for the building of which this firm has become somewhat noted, and which attracted much attention. As customary on such occasions, the members of the firm and friends had provided an ample supply of prizes, as rewards to the best marksmen. After a day of much enjoyment, the company, at a late hour in the evening, returned to their homes, well satisfied with the manner in which they had spent the day.

On the 16th of October the employees of Mr. J. B. Brewster, of Twenty-fifth street, likewise went on their first annual excursion and target practice, to Lion Park, before mentioned. The company, with about ninety members, under the direction of Capt. Thos. H. Wood, formed at the factory at 8½ o'clock, A. M., when Mr. J. B. Brewster, in a short address, to which Capt. Wood responded on behalf of the company presented it with an elegant banner, costing \$150, appropriately lettered in monogram and otherwise.

Soon after the company reached the Park, and the members had taken a hasty lunch, shooting commenced, with the following result: Moran (blacksmith's helper), won the first prize, an elegant gold watch; C. Powell the second prize, a check for \$50; Fagan and three others the third prizes, each a check for \$20. There were some thirty-four prizes in all, distributed to the members of the company, details of which we have not space to give. Shooting over, the company, with about forty lady friends and invited guests, set down to an excellent dinner, prepared by "mine host" of the Lion Park Hotel, to which full justice was done; after which the party engaged in conversation and other amusements in the adjoining rooms until a late hour in the evening.

CHARGES FOR REPAIRS IN NEW YORK AND BOSTON.

WE intimated in a former article in noticing the tariff of carriage repairs, published in *The Hub*, as charged in New York, that although we considered some items rather high, yet upon the whole it might be taken as a fair statement. Since that article was penned this same journal has published a tariff for Boston. We are thus enabled to give the prices for New York and Boston, side by side, with some variations furnished us by a reliable manufacturer of this city. These we have included in the list in brackets. Whilst some of these charges are strikingly alike, some items are equally variant. For instance, there is nearly fifty per cent. difference between the two cities, in the items of tires and repairing carriages, which cannot be accounted for on reasonable

grounds. One is almost led to conclude that there must be some mistake with the printer. At least comparisons in this instance are absolutely odious. Here they are:

	New York.	Boston.
New Steel Tires and Bolts on Light Buggy Wheels...	\$20 00	\$18 00
New Iron Tires and Bolts on Light Buggy Wheels ..	18 00	14 00
New Iron Tires and Bolts on Four Passenger Wheels	26 00	16 00
New Iron Tires and Bolts on Coach Wheels .....	40 00	23 00
New Iron Tires and Bolts on Light Brett Wheels ...	34 00	16 00
Resetting Tires on Light Wheels .....	6 00	5 00
Resetting Tires on Heavy Wheels .....	8 00	6 00
New Tire Bolts in Old Wheels, each .....	[10c.]	12½ 12
Carriage Bolts, each .....	[30c.]	25 25
Drafting Wheels, per set .....	[\$1 00]	75 1 00
New Rims on Light Wheels, per set .....	[\$16.]	18 00 16 00
New Rims on Heavy Wheels, per set .....		20 00 20 00
New Light Spokes (unpainted), each .....	[63c.]	75 75
New Heavy Spokes (unpainted), each .....	[75c.]	1 00 1 00
New Hub in Old Wheel .....	[\$4 25]	6 00 5 00
New Axle Bed (not painted) .....	[\$3]	4 00 4 00
New Single Perch (woodwork only) .....		5 00 5 00
Pair Double Perches (woodwork only) .....		6 00 6 00
New Spring Bar .....		2 00 3 00
New Shaft Bar .....	[\$2 00]	1 75 3 00
Set of Light Wheels, boxed, tired, and painted. [75]	85 00	65 00
Set of Heavy Wheels, boxed, tired, and painted. [90]	100 00	100 00
One New Shaft (unpainted) .....		4 00 5 00
Head Block (unpainted) .....		2 50 3 00
Resetting Light Axles, per set .....	[\$6]	5 00 4 00
Resetting Heavy Axles, per set .....	[\$8]	10 00 5 00
Washing and Oiling Light Axles, per set .....		1 00 1 50
Washing and Oiling Heavy Axles, per set .....		1 50 2 00
Retrimming Shafts, per pair .....		4 50 4 00
Recovering Dash of Box Wagon (double) .....		9 00 10 00
Recovering Dash of Open Front Box Wagon (double)		10 00 12 00
Pair of Perch Straps for Buggy .....		2 50 1 50
Pair of Safety Straps for Shaft .....		1 50 1 00
Recovering Glass Frames of Ordinary Size, each ...		3 50 2 50
New Pole Yoke with Plated Tips, Leathered .....		6 50 6 00
New Pole and Yoke .....		40 00 50 00
Silver Plated Shaft Tips, per pair .....		2 00 1 50
Capping set of Top Nuts with Silver .....		3 00 2 00
Full Plating set of Axle Nuts, small .....		6 00 1 50
Cleaning, Japanning, and Burnishing Lamps, per pair		6 00 10 00
New Black Lower Panel in Coach; taking out and replacing the Back Lining, and painting Panel		40 00
Burning off Old Paint (or Cutting Down), Repainting Body and Carriage-parts of Coach, thoroughly ..	185 00	100 00
Ditto, Six Seat Rockaway, Paneled .....	160 00	90 00
Ditto, Four Seat Rockaway, Paneled .....	135 00	75 00
Ditto, Light Express .....		45 00
Ditto, Four Seat Beach or Box Wagon .....		40 00
Ditto, Buggy .....	[\$45.]	55 00 40 00
Coloring and Varnishing Body, Painting and Striping Rims, and Varnishing Carriage-parts of Coach ..	115 00	75 00
Ditto, Six Seat Rockaway .....	90 00	40 00
Ditto, Four Seat Rockaway .....	75 00	35 00
Ditto, Light Express .....		18 00
Ditto, Four Seat Beach or Box Wagon .....		30 00
Ditto, Buggy .....		35 00 30 00
Touching up and Varnishing Body and Carriage-parts of Buggy .....		25 00 15 00



## APPLICATION OF CANVAS TO WOOD.

THE following note comes to us through the mail :

MR. EDITOR: Will you please explain in the columns of the Magazine the best mode of applying canvas to the round corners of bodies and seats; also what heft of canvas is best for outside canvassing. Yours, etc.

D. J. S.

The article generally employed on inside work nowadays is known as *scrim*, and will be found in our Price Current. This is a thin linen fabric, prepared with special reference to holding glue. It should be saturated in glue, well cooked, neither too thick nor too thin, and after pressing out the redundant glue, by drawing through the fingers, should be applied as hot as possible, and well rubbed on; the harder it is rubbed the better. Outside canvassing is difficult to paint over, and should be studiously avoided, if possible, particularly on new work. We see no necessity for using it, except in an imaginary case where a fissure or crack may appear in a panel after the job has been turned out. In such cases we have seen a strip of fine tape, neatly let into the panel, glued over the crack, and painted, with tolerable success. If D. J. S. will follow the directions on page 98, volume X., for framing the round corners, we think he will find no need of canvassing the *outside* of corners at any time.

## LITERARY NOTICES.

THE publisher sends us a copy of *The Painter, Gilder, and Varnishers' Companion*. Containing Rules and Regulations in everything relating to the Arts of Painting, Gilding, Varnishing, Glass Staining, Graining, Marbling, Sign Writing, Gilding on Glass, Coach-Painting and Varnishing, Tests for the Detection of Adulterations in Oil Colors, &c., and a Statement of the Diseases to which Painters are peculiarly liable, with the Simplest and Best Remedies. Thirteenth Edition. Revised. With an Appendix, comprising Descriptions of a great variety of Additional Pigments, their Qualities and Uses, to which are added Dryers, and Modes and Operations of Painting, &c., together with Chevreul's Principles of Harmony and Contrast of Colors. Philadelphia: Henry Carey Baird, 406 Walnut street. Price, by mail, free of postage, \$1.50.

This work has already passed through several editions, the latest of which has been very much improved by additional instructions in coach-painting and varnishing, material for which was supplied by the editor of this magazine. We have above given the title-page entire, from which the painter will readily perceive that this is a valuable and useful work for the paint-shop, and which he cannot well afford to be without.

*The Painter's Magazine*, published in Cincinnati by J. Sonnedecker & Co., is "a Monthly Journal of New Styles, Improvements, and General Information in the various branches of the business." Price, \$1.25 a year. Painters generally will find much useful information in the pages of this clever monthly.

*The Atlantic Monthly* for October is a very interesting number. "The City of Brass," gives some hard hits at a certain class of modern reformers. "The Brick

Moon," "The Egotist in Life," and "The Increase of Human Life," are the titles of other articles. "A Dredging Excursion in the Gulf Stream," from the pen of the gifted Mrs. Agassiz, will be read with the deepest interest and profit, by all real lovers of the works of nature.

## EDITORIAL CHIPS AND SHAVINGS.

ADVENTURES OF THREE JOURS.—Unavoidable circumstances compel us to omit publishing the article under this head this month. We shall resume it in December.

A PEACEMAKER.—An ingenious invention has been introduced in Paris for settling disputes between cab-hirers and cab-drivers. It records the exact distance traversed, and indicates the sum of money due the driver, and is beyond the control of either hirer or driver.

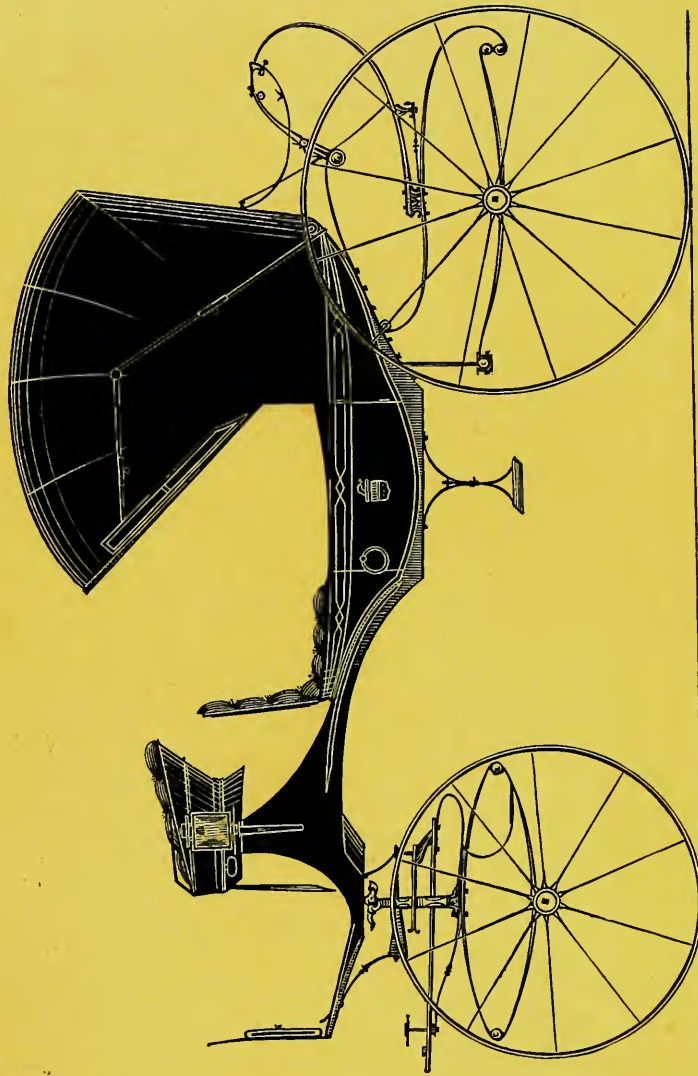
PROPELLING STREET CARS BY COMPRESSED AIR.—Mr. Waylies, of New Orleans, has recently invented a car which has proved a complete success. In the car-station there is an ordinary steam-engine of about sixty-six horse-power for compressing air into reservoirs. The reservoirs are made of a paper composition, and two of them are placed on top of the cars. On each car there is a small engine operated by air supplied from the reservoir in the same manner as steam, giving the exact amount of power that was required to compress the air. The engine is not difficult to run, and the cars can be stopped much more readily than where horses are used. Each car will have 300 pounds of compressed air to start with, which will be sufficient to run it nine or ten miles. The exhausted air as it escapes from the engine may be used for ventilation. The New Orleans *Picayune* says: "When this system is adopted in our city, it will cause at least 5,000 mules to be sent into the country, thereby being of much benefit to the farmers." In New York there are some 40,000 animals employed on the various railway-lines. The release of this immense number of horses would do much toward reducing their value. The cost of running cars by this method would be much less than at present, and the speed more uniform. It is claimed that cars can be stopped quicker with the compressed air than by horses.

HACK AND HACKMEN IN SWEDEN.—An American gentleman traveling in Europe sends home the following relation of his experience:

"Neither is there any easy communication between the two capitals—Christiania and Stockholm—as we found to our suffering when compelled, a few days ago, to ride in a rickety wagon from eleven o'clock one morning to two the next, and all this time at the mercy of a driver who was not sober one minute out of the fifteen hours. He carried a bottle of brandy in his pocket, drank it empty before he had finished two-thirds of the journey, had it filled again, took a comfortable nap at several stations by the way, and seemed to think he was doing us a favor every time he commenced the drive afresh toward Carlstadt, where we were to take the steamer for Christinehamm, and thence by rail to Stockholm."

SELF-MOVING CABS, VELOCIPEDES, AND OTHER VEHICLES.—An Englishman writes to the *Builder* that he has invented a machine, and tells the editor: "You may think that like a young horse it will not stand still except I hold it. I feel quite convinced that this motive power will revolutionize all kinds of conveyances." This is not the first time that horse-flesh has been placed in jeopardy—nor do we expect it will be the last.



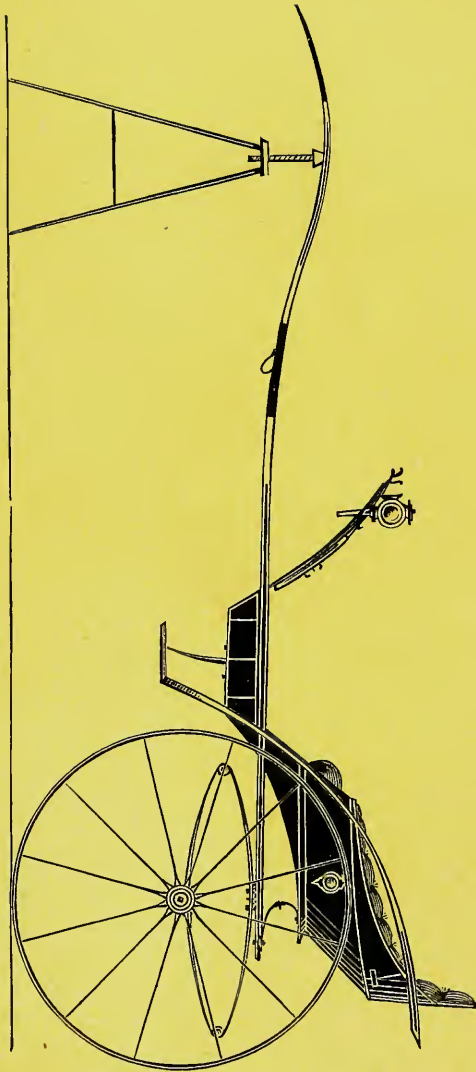


C. SPRING CALECHÉ. —  $\frac{1}{2}$  IN. SCALE.

*Designed expressly for the New York Coach-maker's Magazine.*

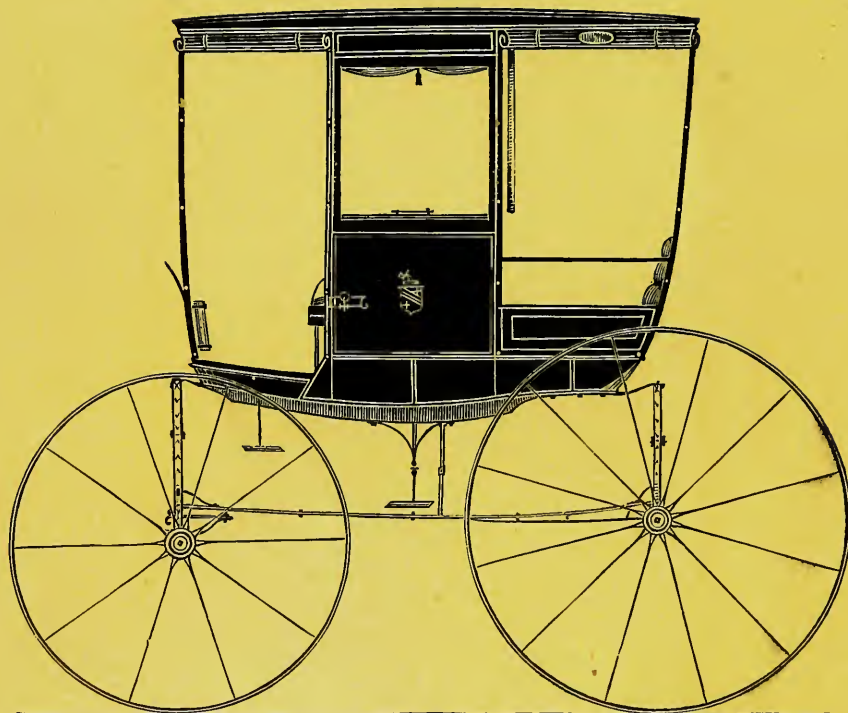
*Explained on page 87.*





GO-CART. —  $\frac{1}{2}$  IN. SCALE.  
*Designed expressly for the New York Coach-maker's Magazine,  
Explained on page 88.*



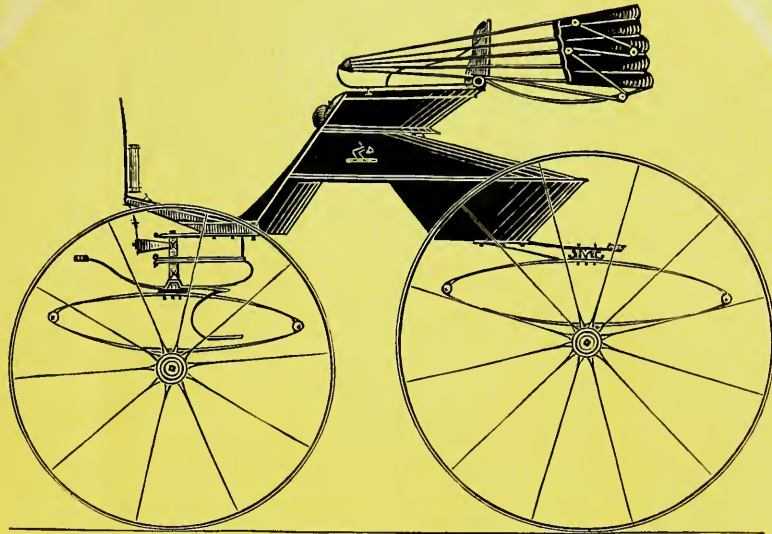


ROCKAWAY WITH HIGH DOORS AND WINDOWS.— $\frac{1}{2}$  IN. SCALE.

*Designed expressly for the New York Coach-maker's Magazine.*

*Explained on page 88.*

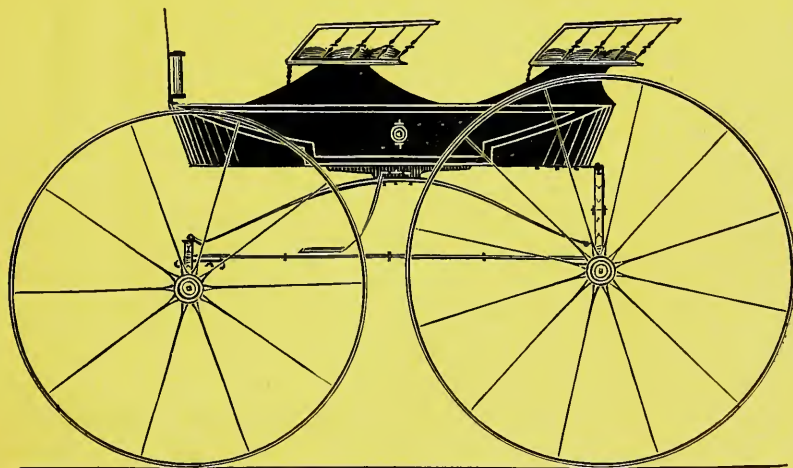




NO-PERCH BUGGY. —  $\frac{1}{2}$  IN. SCALE.

*Designed expressly for the New York Coach-maker's Magazine.*

*Explained on page 88.*



TWO-SEATED OPEN WAGON. —  $\frac{1}{2}$  IN. SCALE.

*Designed expressly for the New York Coach-maker's Magazine*

*Explained on page 88.*