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Mechanical Literature.

THE ADVENTURES OF THREE JOURS.

BY H. S. WILLIAMS.

Chapter VII.

The dinner at Miss Corneil's proved a very pleasant affair. The meats were cooked in a manner that would have suited the most fastidious; the deserts were flavored to perfection, and the wines were mellowed with age, while a widowed aunt of Miss Kate's presided over the feast in the most hospitable manner.

"A good dinner," exclaimed Loring, "is the summit of social enjoyment, more particularly when partaken of by a select few. From time immemorial the hospitality, the sociability, and the refinement of a people have been gauged by their dinner tables."

"And if I should ever be so fortunate as to have a home of my own," remarked Gloner, "one of my greatest enjoyments would be just such reunions as this; and I could realize no higher pleasure than to see my friends seated around my board, and partakers of my hospitality."

"Then you would make a good Southerner, despite your Northern birth," exclaimed Kate, "for there is nothing that we, as a people, pride ourselves more on, than our hospitality. In fact, I have known some to carry it to such an excess as to impoverish them."

"One can hardly discriminate between friends and foes, nowadays," returned the aunt; "and if one is too prodigal of his hospitality he is very apt to be imposed on."

"As for that," answered Gloner, "all my neighbors who were respectable, whether rich or poor, should ever be welcome to my table. Of course I would prefer those who could enjoy a feast of reason as well as a flow of soul, yet all should be received cordially, so they did not impose on good nature."

"If your home, however, should happen to be on a cotton plantation," said Kate, "you would be fretted and worried so that you would find but little time for social enjoyment. It does seem to me that everything goes wrong as soon as I turn and leave the field; or rather, nothing is done as I wish it to be; and it does fret me terribly sometimes."

"I fear," returned Gloner, with a smile, "that you allow yourself to be too easily fretted; I have always noticed that those get along best in life who take everything easily. I had a partner once, who, when we were penniless, with no prospect of bettering our condition, could sit down and whistle the most intricate airs without missing a note."

"Then he was more fortunately constituted than I am; yet I will venture to assert, that he never has and never will accomplish anything in life; one who has energy and ambition is ever easily fretted, while one who is deficient in these qualities always takes life as he finds it, without trying to make it what he wishes."

After a most pleasant evening, interspersed with music and conversation, Gloner accompanied Miss Lucy home in her buggy, while Loring remained to follow on horseback. On that occasion, at least, Gloner proved himself a most merciful master, for he was very sparing of the whip; in fact, the horses were allowed to take their own time, yet to their driver it appeared like a very brief journey.

"As we leave here to-morrow morning very early," he said, on entering the parlor, "it is not probable that I shall see you again, so I shall bid you good-by to-night."

"We shall, however, have the pleasure of seeing you again ere long, I hope," returned Lucy.

"That depends entirely upon yourself," he answered hastily; then in a lower tone he continued: "From the day I first met you in Mobile, I have admired you more, perhaps, than any lady I ever met; and if I come again, it will be only with the distinct understanding that I may try to win your consent to look upon me as something dearer than a friend. Pardon me for speaking thus plainly, but I would not for worlds take a step that might in the future bring sorrow to you and misery to me. It is left for you to answer me. Can I come again?"

His voice sank down to its lowest tone, but it was indescribably sweet and tender. For a moment she was silent, with her eyes bent on the floor; then raising them she answered, "I shall ever be pleased to see you, and you will ever be welcome here."

Taking her hand he raised it reverently to his lips, said "Good night; may God ever bless you as you deserve!" and left the room.

Out beneath the thick-leaved oaks he walked to and fro, for an hour or more, ere he was joined by Loring.

"Ah, Gloner, my boy, taking the benefit of the night breeze, are you?" exclaimed that worthy, as he rode up. "Well, just wait until I can rouse the stable-boy and I'll join you." He returned in a few moments and continued: "By-the-way, take a cigar. You will find that it will cool you off and calm your mind of any undue excitement to a great extent. I have already burned one, and here goes the second. The half hour I passed with Miss Corneil after you left—"

"Half hour! why it's a good hour, if not more," broke in Gloner, "and if you rode over at your usual speed, it's an hour and a half at least."

"Ah, well," answered Loring, as he threw the burning match on the ground and gave a puff or two; "'we take no note of time,' as your favorite Thomson, without the p. says, especially when in the society of such a charming girl as Miss Corneil."

"Of course you improved the hour and a half that you passed with her?"

"By St. Paul! improved it? well I done my best; no man can do more. If I did not make a favorable impression I mistook the girl, and am ignorant of my own powers: at all events she gave me a very pressing invitation to call again, and this is what I told her: 'My friend, Mr. Gloner,' I said, 'will probably come out to see Miss Linden; and although my company might be very acceptable on the road, yet I do not think that it would prove agreeable when she was present; therefore, if I come it will be expressly to see you;' and she answered me that I should be welcome."

"So we leave in the morning early, do we? Of course you bid Miss Lucy good-by for me, or were you so engrossed in self that you forgot all else? I confess I hate to go, but suppose we must. Did it ever occur to you, while visiting your friends, that after a certain time you felt as though you were in the way? A sure sign that your visit was, or at least ought to be, ended. Now, I feel as though I could stay here a month, and never get in the way. But the pleasure of coming again will only be the greater."

For an hour they paced to and fro beneath the dark shadows, Gloner saying but little, while Loring built innumerable air-castles, that assumed gigantic proportions to his imaginative mind, and then they retired to their room and took a short nap, only, ere daybreak, when they were awakened by the stable-boy, as he drew up before the house. At the door they met Mr. Linden, who bid them good-by, with a most cordial invitation to repeat their visit; then they whirled away toward town.

In the full vigor and prime of our manhood, when we put aside all the wild and vain dreamings of our youth, what a beautiful thing it is to meet a good and true woman, on whom we can rely for a helpmeet through life, without even so much as a thought of her inability to meet the full requirements of the most exacting. What sweet musings, what delicious thoughts, fill the mind; and how the breast swells with rapture at the charmed pictures of blissful hours to come. Filled with such thoughts, our two friends rode silently on, scarcely speaking until they reached the city. Leaving their horses at the stable, they proceeded to their boarding-house, just in time for breakfast.

"There's a stranger in your room, who came up from Selma in the boat, last night, and is waiting to see you," said their landlady, as they entered.

"And, golly, what a fright he am," said the little darky who waited on them. "He'd make a good scarecrow, shu'!"

On entering the room they saw some person seated at the open window, with his back toward them, who did, indeed, answer well to the darky's description. Turning partly round, they discovered, despite his untrimmed beard and long hair, the well-remembered features of Margrave.

"Now that the hurly-burly's done, we three have met again," he exclaimed, as he rose from his seat and met them. "Don't look so hard at me, for it's Margrave, and no one else; rather the worse for the wear, I admit—yet 'tis he; and, by the way, is it not time for the ringing of the bell—'The swinging and the ringing of the merry breakfast bells,' as Poe would have said, had he been as ravenous as I am, and inserted a verse, particularly devoted to boarding-house bells, in his poem."

"It is nearly time," answered Loring; "but before you can partake, you must go to the barber, and then we will rig you out in a better suit than the one you sport now."

"Well, this suit is rather threadbare, and no doubt but I look decidedly seedy; yet, remember that I had to take deck passage coming from Selma, and consequently the captain forgot to invite me to take a seat at his table. However, if it's not far, let's go, and let's be in a hurry, too."

In half an hour's time his general appearance was completely changed, and he partook of his breakfast with a most excellent appetite, after which they all proceeded to the shop.

"Of course you want a job," exclaimed Mr. Fountain, after the introduction.

"Well, slightly," returned Margrave. "As I have neither wardrobe nor banker's account, it would undoubtedly be the wisest thing I could possibly do to go to work."

A bargain was soon made, and he was to commence the next morning.

(*To be continued.*)

BROAD-WHEEL WAGONS.

LAST winter the turnpike companies of New Jersey had sufficient interest with the Legislature to have a law nearly passed to compel the use of wide tires to wheels in the northern parts of the State. Four-inch tires would then be the "legal wheel" there. It was not, we believe, proposed professedly in behalf of the turnpike stockholders, but, of course, for the benefit of *the farmers*. When the old lady called to the ducks, "dill, dill, come to be killed," it was just as much to the ducks' interest. The Jersey farmers were told that narrow wheels made ruts, and narrow-wheeled vehicles had to run in the ruts of previous vehicles, while broad tires could go over ruts and run easily anywhere. Farmers are not usually very intelligently represented anywhere, and it was not to be expected in the New Jersey Legislature. The reasoning was conclusive. The agricultural interest required the law. Narrow tires were to be abolished.

That broad tires are to the interest of turnpike companies there is no doubt whatever. The stones wear away much faster under a narrow than a broad tread. The true line for legislation should be to charge tolls in proportion to the width of tread. This would be justice to the road company, and not interfere with the rights of travelers.

Every intelligent horseman must know how absurd is the reasoning about the advantage of a broad tire. Its only benefit is when the cart is drawn over soft mud, when it acts as a mud shoe would to a man walking over a marsh. In ordinary traveling the broad wheel bears no comparison to a narrow one in point of ease and comfort to the horse. On a turnpike road every stone a little higher than the average has to be mounted by the broad tire, making it very hard work for the horse. A narrow tire pushes these stones aside, or slips round them. So with a rut; a narrow wheel, though running in the old channel of another wheel, has a hard, solid bottom, and the wagon is drawn easier than though on tolerably hard ground on the surface. Then, with regard to perfectly hard and smooth ground, in which the wheels will not sink a particle, and on which there are no stones, or any substances that would make an unlevel surface, the ease with which a narrow tire can be drawn in comparison with a broad one, is out of all comparison. If any one has any doubt of this, let him try a broad-tired wheel-barrow, and one of the same size and make with a narrow-wheeled one, and he will learn a lesson on wagon wheels he will not soon forget.

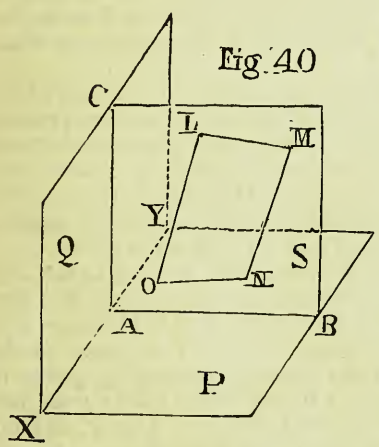
The proposed law came very near passing, and it will probably come up again this winter. It is to be hoped that the members of the Legislature will be made to see that this is all urged in the interest of a class—blindly urged, because their interests could be better protected in another way. And if there are any prospects that they should be inclined to pass it, "for the interests of the agricultural classes," let a half dozen broad and narrow gauge barrows be sent to Trenton for the lawmakers to experiment with.

[The foregoing, copied from *Forney's Weekly Press*, introduces a question devoid of novelty, the same having been agitated at various periods since the invention of wheel-carriages. Wide tires are only advantageous where the soil is either sandy or moist—narrow ones over good roads presenting less surface, and consequently less obstruction to draught. Legislators are so cheaply bought nowadays, we can easily guess the result.]

TREATISE ON THE WOOD-WORK OF CARRIAGES.

Continued from page 101.

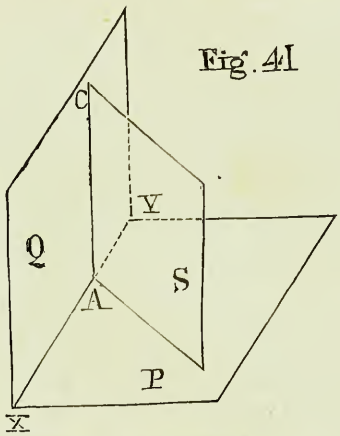
Fig. 40



Suppose L M N O (Fig. 40) to be a perpendicular surface to the two planes P and Q, the plane S of that surface will cut the two planes P and Q by the lines A B, A C, which are styled the traces of the plane S on the two planes of projection. The surface being supposed perpendicular to the planes P and Q, the traces A B, A C, of the plane S on those planes, are perpendicular to the line of intersection XY.

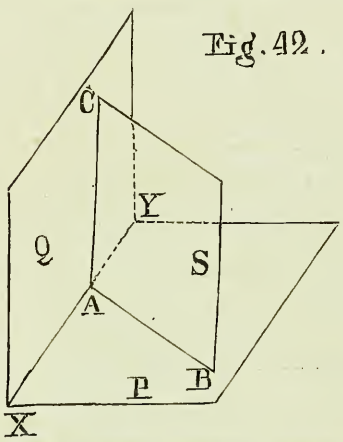
LVII. Every plane perpendicular to one of the two planes of projection has its traces on the other, perpendicular to their common line of intersection. Suppose S (Fig. 41) to be a plane perpendicular to one of the two planes of projection to the horizontal plane P for instance, the trace A C of the plane S on the vertical plane Q is perpendicular to X Y. Consequently, the plane P, being perpendicular to the two planes Q and S, is perpendicular to their common line of intersection AC (Art. 37).

Fig. 41



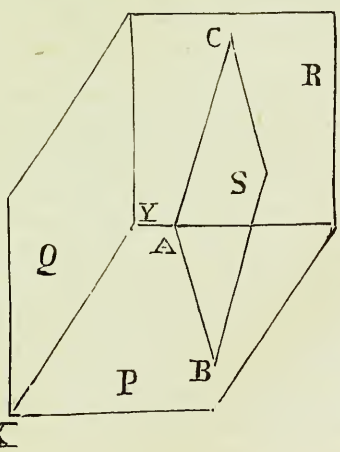
LVIII. Any plane S being oblique to two planes of projection P and Q (Fig. 42), has its traces A B, A C, on each plane, oblique to their common line of intersection X Y. So that if one of its traces were perpendicular to the common line of intersection of the planes of intersection, for instance to that of the vertical plane, the plane S would then be perpendicular to the horizontal plane (Art. 37), which is contrary to the hypothesis.

Fig. 42.



Two planes of projection are sufficient to reproduce a plane in space. Nevertheless, if the position of the first two planes of intersection, which is generally determined by the form of the object to be reproduced, were such that a plane in space could not be expressed by its two traces, which would be the case if the trace A B of the plane S, and of the horizontal plane P (Fig. 43), were parallel to X Y, or so oblique that it could not meet that line in the square of the plan. In this case use is made of an auxiliary plane R, on which to bear the vertical trace A C.

Fig. 43.



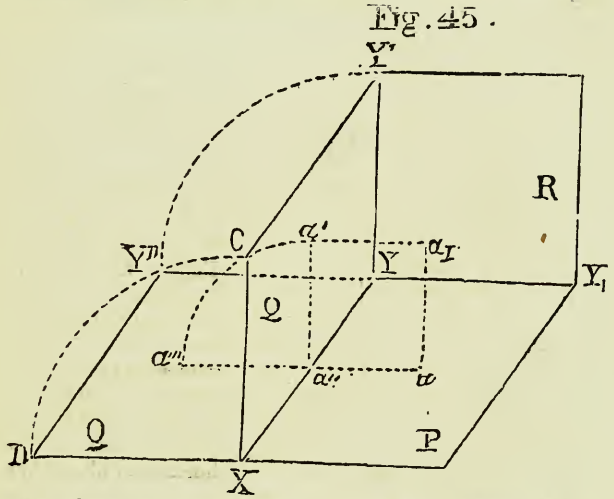
The projection of a solid consists in projecting the surfaces surrounding it.

First the solid angles are projected, then the lines of intersection of the surfaces; the projections thus obtained are the required projections.

LIX. In order distinctly to understand the operations brought about by the planes of projection, they must always be supposed to be perpendicular to each other, as we have done here. But it must be understood that if the drawings had to be executed according to a system of planes so disposed, the operation would be very lengthy. Therefore, in order to abridge the work of the projections, it has been resolved to unite all the planes of projection on the same plane surface; they are only separated in twos, by a line that is taken as their common line of intersection.

In order to bring the planes of projection that we have suggested, of the Fig. 27, to bear on Fig. 43, it must be supposed that one of them remaining fixed, the two others, accompanied by their projections, have revolved around their line of intersection, like a hinge, so

Fig. 45.



as to close upon each other on the first plane. An example will suffice to impart a clear conception of this rotative movement.

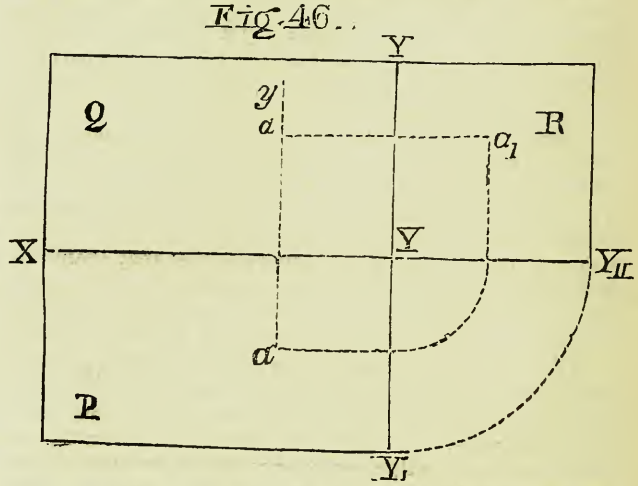
Let P, Q, and R be the three planes of projection (Fig. 45). Let us admit that the horizontal plane remains fixed. Then turn the vertical plane Q around the line of intersection X Y as a hinge, by a quarter of a circle C D, until it falls in Q′ on the horizontal plane. Suppose that the auxiliary plane R, carried on by the plane Q, is projected on to Y Y″. Then it suffices to turn the plane R around that line, in the same manner as the plane Q.

When folded down the three planes present the same disposal as shown in Fig. 46, where the intersection X Y is brought parallel to the sight of the reader. The horizontal plane is below that line, the vertical plane is above, and the auxiliary plane to the right. In order to reconstruct the planes of that figure, in the same manner as they must be when the projections are under discussion, it must be supposed that the two planes Q and R stand vertically on the horizontal plane, by turning the quarter of a circle around the intersection X Y, in the manner of a hinge, and that then the plane R turns around its own intersection Y′ Y together with the vertical plane, which is projected from Y, in such a manner that the ground line Y $Y_{,,}$, falls on the horizontal plane in Y $Y_{,}$.

The two projections a, a' (Fig. 45) from a point in space, after the closing, will be found on a line $a\,a''\,a'''$ perpendicular to X Y. The perpendiculars lowered from the projections a and a' from a point in space on to X Y, will meet that line in a single point a'' (Art. 47). Therefore when the vertical plane turns round X Y, the line $a'\,a''$, pending that movement, does not cease to be perpendicular to that line, and when the vertical plane is folded over upon the horizontal plane, the line $a'''\,a''$ forms a single line with the line $a''\,a$, because both are in the same plane, and perpendicular to X Y in one and the same point.

By uniting all the planes of projection on the same surface, it will be seen how that process facilitates the execution of the drawings. As soon as the projection a is obtained from a point in space on any plane P (Fig. 46), it is certain that the projection a' in the other plane Q is on an indefinite line $a\,y$, drawn through the projec-

Fig. 46.



tion a perpendicular to the intersection X Y of the two planes of projection.

Till thus far we have only defined the geometrical figures that we shall employ, and given an outline of the system of the projections in an abstract manner. For this purpose we have made use of figures represented in perspective, on which we have only indicated the principal propositions, because the operations which are intended to give the exact size of the lines, the surfaces, and the angles that they respectively form, cannot be realized on those figures.

We shall now practice the reader in the method of the projections, by indicating the manner by which to proceed in order to represent the body of a phaeton on three planes of projection in the same manner as we shall dispose them for all the bodies. However, before, we will illustrate the manner of representing the rules of punctuation and the annotations that we propose to follow.

LX. MANNER OF REPRESENTING POINTS, LINES, AND SURFACES.—We will indicate the points, lines, and surfaces taken in space, by the capitals A B C D, etc., as also the points, lines, and surfaces that will be taken on the planes of projection; the same corresponding points in the horizontal projections by the italics $a\ b\ c\ d$; the vertical projections by accented italics $a'\ b'\ c'\ d'$, and the plans on an auxiliary plane by indiced italics $a_{,}\ b_{,}\ c_{,}\ d_{,}$. In the change of planes, the revolution or folding over of

figures, the same points will be the same letters furnished with several accents or indexes.

A point, a line, and a surface in space, we will express by placing their projections in parentheses; so that ($a\ a'$) will express the projections of a point A on the horizontal and on the vertical plane; ($a\ b$, $a'\ b'$) the projections of a line A B; and lastly, ($abcd$, $a'\ b'\ c'\ d'$) the projections of a surface A B C D.

The projections on three planes of projection will be indicated in a like manner, by adding the projections of the third to those of the first two. Therefore ($a\ a'\ a_,$) indicates the projections from a point A in space on two planes of projection.

A point, a line, or a surface, can be equally defined by their projections on the two vertical planes; therefore ($a'\ a$) will express the projections of a point A; ($a'a$, $b'b$) the projections of a line A B; ($a'\ b'\ c'\ d'$) the projections of a surface A B C D.

All the projections that we have considered have been represented in this manner; they only require the parentheses. As the planes of projection being in perspective, the points, lines, and surfaces in space have been figured and indicated by capitals. But in the geometrical system, all that is considered in space being expressed by projections indicated by italics on the planes of projection, the capitals disappear, and they are only preserved on the planes of projection:

1st. To designate points, lines, and surfaces taken on those planes; in that case, the point in the plane where it is, and its own projection, become confounded.

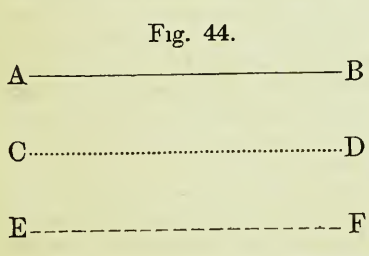
2d. When, in consequence of a rotary movement, the points, the lines, and the surfaces in space are folded over upon one of the planes of projection; then the points are designated by capitals without accent in the horizontal plane, by accented capitals in the vertical plane, and by indexed capitals in the auxiliary plane.

The traces of a plane in space on the planes of projection are designated by the same capital, without accent in the horizontal plane, accented in the vertical plane, and indexed in the auxiliary plane. Therefore (S S′) indicates a plane in space having its traces on the horizontal plane and on the first vertical plane, and (S $S_,$) a plane in space having its traces on the horizontal plane and on the auxiliary plane.

The intersection of the vertical plane and the horizontal plane is indicated by X Y (Fig. 46); that of the horizontal plane and the auxiliary plane by Y Y. When the auxiliary plane is folded over the intersection Y $Y_,$ comes in Y $Y_{,,}$ on the prolongation of X Y, the line Y Y′ is the intersection of the two vertical planes.

LXI. Rule for Punctuation.—Visible lines are represented by a full line A B (Fig. 44); hidden lines by a punctuated or dotted line C D; the lines of operation by a broken line E F, especially those uniting the projections of the same point. The figures that comprise the same given parts and which indicate the result of the operation after the folding down, are represented in the same manner by the same lines, but deeper. Lastly, the lines of important operations, such as the traces of a plane, are formed by alternate small lines and round points G H.

Fig. 44.



LXII. In order to draw any object, the dimensions and form must be first fixed; these are indispensable requirements. But the dimensions and forms of bodies vary: the first on account of special requirements and the different kind of body; the second on account of taste, fashion, or fancy. We will examine these given details in the second part, as we do not wish to treat in this part any but the general principles applicable to all bodies. But in order to fix the idea on the relative conventions of the representation of bodies, we will take the body of a phaeton, because it comprises the two kinds of surfaces—plane and curved—that we shall have to consider in the other bodies.

(To be continued.)

Home Circle.

CLEANTHE'S HYMN TO JUPITER.*

Hail, mightiest of immortals! many a name
Bespeaks whose greatness, evermore the same!
Ruler of nature, whose dread sovereignty
Upholdeth all things by a fixed decree,
Thee I invoke, great king! for, frail and weak,
Fitting is it for man thy praise to speak!
For they who breathe the air and tread the ground
Are all his offspring, and, compared with thee,
Are all his fleeting image of a sound;
Therefore my office and my joy shall be
To sing thy matchless power eternally!
This countless train of worlds their course fulfill,
Encircling earth, obedient to thy will!
Thy steadfast hand the thunderbolt doth fling,
That two-edged, fiery, ever-living thing,
With which, when rent, all nature breathless stands,
Fearing the power of thy resistless hands!
The mighty plan of nature thou dost guide,
Pervading all things, to all life allied!

Without thee, God, thy presence and thy care,
Nor in the earth, nor in the empyreal air,
Nor in the heaven divine, nor tossing sea,
Can aught be done, save through the impiety
Of senseless man. Thy penetrating view
Can pierce the mazes of confusion through,
And render all things unperplexed and bright,
All discord harmony, all darkness light;
So that, or good or evil, all shall tend
To the fulfillment of one common end.
But this eternal purpose men deride,
And scorn this heavenly wisdom in their pride.
O wretched men! still longing to possess,
Forever thirsting after happiness,
They neither seek to learn, nor care to know
This law divine, whose guidance can bestow
A life of honor, by the good beloved,
By reason guided, and by heaven approved;
But now, alas! rush headlong onward still,
Each at the guidance of his own vain will.
Of some ambition is the end and aim,
A thirst insatiate for the draught of fame;
Some blindly gain and hoard and worship gold,
While others yield to passions uncontrolled.
But thou, the all-bestowing God of love,
The thunder-ruling, cloud-compelling Jove!
Save from this mournful ignorance this vain,
Distempered mind, and give us to attain

* Quoted by St. Paul, in his address to the Athenians, Acts xvii. 28.

That wisdom which directs thy guiding hand,
In the wide circuit of thy just command;
So that, thus honored, we may honor thee,
In rendering worthier praise eternally;
Since not to man on earth, nor gods in heaven
Can any higher, nobler task be given,
Than in one endless song to celebrate
This Law eternal, universal, great!

WINTER RAMBLINGS IN KENTUCKY.

BY PORTE PENCIL.

(*Concluded from page* 104.)

RETURNING to Squire W.'s, we made arrangements for our departure, thanking the family for the many courtesies extended to us during our stay, and mounting our faithful animal, were soon well on our way to Guthrie, on the line separating Tennessee from Kentucky; after reaching which, we pass on through Hampton, Trenton, Hopkinsville, and Madisonville, where we take the cars for Henderson. Before we close our rambles we propose to speak more fully of the resources of the section of country we have passed over. The agricultural advantages of the Green River country can be summed up in a few words. For tobacco, wheat, and other grains, there is no portion of our great country superior to it, and only a very small part equal to it. A semicircle described with a line 100 miles long, extending from Henderson to the Tennessee State line, will include an area of territory producing more tobacco than the same area on any part of the earth. For wheat, corn, oats, and hay, there are no lands superior to that embraced in this semicircle. The county of Christian, of which Hopkinsville is the county seat, is one of the largest and wealthiest counties in Southern Kentucky; and the soil of a large part of it, in beauty and fertility, is equal to any portion of the habitable globe. It is believed by many that the coal of Hopkins and Christian counties is superior to any coal in the State, and any west of the Monongahela. It lays on either side of the railroad in inexhaustible quantities, crops out above the level of the road bed, and is moved by drifts or lateral shafts, and can be dumped into the cars standing on the railroad track. We learn that there are more than *fifteen* mines opened. The thickness of the strata ranges from four to seven feet, and in what is termed a *geological fault* the vein is twelve feet thick. The coal in these mines is the best *bituminous*, and can be and is used by carriage blacksmiths, cokes well, and makes *gas* of the best quality. The coal is free from sulphur, does not disintegrate on exposure to the atmosphere, and slacks less than Pittsburg coal. The greatest and best coal is the block coal. This block coal is used in smelting ores without coking. The coal and ores are emptied together in the furnace or cupola, the fire is applied, and the metal melted and run into pig iron. All other coal has to be *coked* at much cost and labor, with loss of time and money. Block coal is found in Hopkins county, within thirty-four miles of the Ohio River, at Henderson; also in Christian county, fifty-five and sixty miles from Henderson, sixteen miles from Hopkinsville, and from sixty to eighty-five miles from Nashville, on the E. H. and N. R. R. There are also several varieties of iron ores on the line of this road. The vein is reported eighteen to twenty inches thick. Another form of iron ore is found immediately overlaying a seven-foot vein of coal. When this line of railroad is opened up (it now being in the hands of the Pennsylvania Central), Nashville, with a population of from 50,000 to 60,000, will possess peculiar advantages for manufacturing. Nashville is in the center of almost every article of raw material ever manufactured in the United States, such as cotton, hemp, wool, iron, copper, zinc, lead, &c., marble, stone, cedar, walnut, poplar, ash, hickory, and all kinds of hard and soft wood; in fact, every known article used for manufacturing is within or will be in easy reach of Nashville. But perhaps the reader will say I have exceeded my limits in rambling over into the State of Tennessee. I have done so in order to show, in these railroad times, that the State of Kentucky will be a benefit to her sister State through the instrumentality of the iron-cased horse. As we have started homeward, we will end our journey and ramblings in Henderson, which is hardly second to Nashville in advantages as an iron-manufacturing town. The proximity of the block coal and its accessibility by rail, the cheapness with which it can be supplied, and the facility with which raw ores can be brought from the Cumberland and Tennessee Rivers, and the Iron Mountains, give our city great advantages. But we fear the tobacco interests will absorb all others, unless there is a change for the better.

Few of the Southern towns or cities in the United States preserve intact the social relations of the past to a greater degree than this venerable Burg. Many of the old families of the State selected this delightful site on the Ohio River as a point of residence, and owning the land for miles around, in the center of the finest tobacco region on the globe, became immensely rich by raising this great staple of tropical agriculture for the markets of the world. Very little, however, of the wealth of the planters and manufacturers seems to have been distributed in the improvement of the town. The property, at the start, was held at such a rate that it kept our small traders, storekeepers, and manufactories in advance of the number that were likely to supply the convenience of planters and negroes. Now and again, however, an enterprising individual would get in, and for a time a very considerable business was done with the smaller places along the river bank. Even the merchants of Evansville, now one of the great emporiums of trade in the West, came here to lay in their stock of goods. But now things have changed. The population of Henderson remains at 8,000, while the other contains 30,000, and is daily increasing. But Henderson, as if surrounded by an impenetrable *estacade*, the leading feature of which was the doctrine now insisted on by the supporters of the English aristocracy—"that the soil of the country should not be separated from the capital of the country,"—attained an early and stunted growth, and became insignificant, except in the matter of tobacco and chivalry—the latter article still surviving, notwithstanding the remarkable prediction following the French Revolution, that it was "extinguished forever." Far better for the city were it so.

As I remarked before, Henderson contains sixteen tobacco factories, the first being erected in 1832 by F. B. Burbank, who, in the old concern, still seems to "live and move and have his being" in tobacco, which has, indeed, made him one of the millionaires of the place. Messrs. Barrett, Adams, Soaper, Burbank & Bros., E. B. Newcomb, Gilmore, and others whose names I have forgotten,

are largely engaged in the business; some of them owners of large plantations, and grow as well as manufacture the article. Some of the plantations are worked by negroes entirely, others by white labor, and in some both are employed; the net result being in favor of white laborers, according to the experience of many plantations, to an appreciable extent. The tobacco grown in this county is of a very fine quality, and is manufactured mostly for the British market. It was formerly shipped at New Orleans; but since the war there are no heavy shipments there, and it is now forwarded, *via* Evansville, by rail to New York.

The heavy work in the factories commences in November, when from fifty to seventy hands are taken from the plantations and employed in each of the factories here, in receiving and stemming and putting the product through the various processes, until finally it is packed in hogsheads.

The salt wells, about twenty minutes' walk from the town, are worth the attention of visitors. The discovery of the salt water grew out of a contract by which the Henderson Coal Co. agreed to give Mr. Burbank mining privileges over some 11,000 acres of land, upon his contracting to bore to the depth of 1,400 feet for coal. The boring was prosecuted to a depth of 1,600 feet from the surface, and some twelve indications of coal, with four workable stratas, were discovered. At the depth of 740 feet an artesian well was sunk, to discover the salt water which, from the analysis that had been made, was supposed to exist, and also for the purpose of prospecting the coal field. The result was the discovery of a great abundance of salt water, which, from a four-inch hole, throws out 400 gallons a minute. The water at present requires ninety gallons to produce a bushel of salt; but, encouraged by a report of Professor Owens, it is proposed to carry the boring 1,000 feet farther into the bowels of mother earth, when the briny springs may probably be discovered to be the abode of an order *cetacea*, whose horizontal tails may be connected with appropriate machinery to fetch them to the surface, and thus bring spermaceti to our doors without the expense and risks of a whaling voyage. Just think, too, in connection with this matter of digging for fossil salt, what an attraction whale lunch would be at "Vogel's Bazaar," or Pargny's, or "Delmonico," for there is not only a St. Charles and a St. Nicholas at Henderson, but a "Delmonico." Small bathing-houses are erected over the springs, and are much resorted to by invalids and those desiring the invigorating effects of a salt-water plunge.

About one-third the line of the Henderson and Nashville road has yet to be built. The work was commenced at both ends of the line, and that portion of it lying between Nashville and Hopkinsville and Henderson and Madisonville is built. One of the great purposes contemplated in the construction of this road is stated to be the supply of coal through the country. The coal fields in this region are represented to be the most extensive in the world, and the quality of the article equal, if not superior, to Pittsburg coal.

The Mastodon Coal Co. own mining privileges in 23,000 acres, together with the fee in a portion of the property; and several of the members of the Henderson Coal Co. own a portion individually. At the present time there is but little enterprise in this place, except in tobacco and gold bonds; but the development of the rich mineral resources of the country will probably result one day in establishing a great manufacturing business at Henderson, though the probabilities are against it. The main travel to and from the East to this point is by the Ohio and Mississippi Railway to Vincennes, thence to Evansville by cars, where a daily line of packets run to Henderson.

Having enlisted your attention, kind reader, for some time, I would fain enlarge upon the advantages of traveling upon horseback, and the benefits of abstaining from intoxicating liquors along the road. I would also expatiate upon the glorious prospects of the Western States, unfold their beauties, their antiquities, their wealth, their capacities, and their vastness; and picture to you the thronging millions that shall inhabit there ere many years shall pass away. But we ended our ramblings through Kentucky at Henderson. And now, kind reader, if these jottings have served to while away a spare hour, our object is accomplished; all which may be happily reviewed in after days, in connection with fond memories of those we have met in our rambles.

Pen Illustrations of the Drafts.

DOG-CART PHAETON.

Illustrated on Plate XXIX.

It gives us much pleasure in being able to present our friends with an original design for a Dog-cart Phaeton, as fine as the one printed on this plate. The sides, with some economy, may be made solid, and painted or molded, as shown in the drawing. A block will be required in forming the back corners, and a panel for the back of the body. It will be observed that in setting the seats, lightness has been studiously considered. Width of front seat, 45 inches; axles, $1\frac{1}{4}$ inches; wheels, 3 feet 4 inches and 4 feet 2 inches high; hubs, $4\frac{1}{4}$ by 7 inches; spokes, $1\frac{1}{8}$ inches; rims, $1\frac{1}{4}$ deep; tires, $\frac{3}{8}$ by $1\frac{1}{8}$.

Painting.—Patent black ground-work, for both body and under-carriage, this last broad, striped blue, with two narrow ones in white near the edges.

Trimming.—Drab cloth.

Workman's charge for building $50 @ $55; manufacturer's price for the phaeton, handsomely finished, $900.

New York Charges for Repairing.—*Wood-work:* New hub in wheel, $5; new spoke, $1; new rimming wheels, $20; half-rim, $2.50; per set, drafting wheels, $1; carved spring bed, $10; bolster, $8; carved back spring bar, $8; pole, $9; yoke, $7.50; fifth-wheel bed, $2.50. *Iron-work:* New tires and bolts, $35; tire bolts, 25 cents each; re-setting tires, $8; new wheels, boxed, tired and painted, $85; carriage-bolts each, 30 cents; re-setting the axles, $10 @ $12; oiling axles, and new washers, $2. *Trimming:* New cloth head-lining, $55; new covering top with leather, $60. *Painting:* Burning off old paint and repainting body and carriage-part, $150 @ $200 col-

oring and varnishing body, painting and striping rims, and varnishing carriage-part, $90. *Plating:* Capping four axle-nuts, $6; capping set of top nuts (silver), $3.50; new set of silver-plated bands, $7.

EXTENSION-TOP PHAETON.

Illustrated on Plate XXX.

OUR readers will observe that this phaeton is constructed with a view to lightness, both in the cut-under and the back-quarter. Indeed it may be thought that our artist has gone to extremes in his effort to adapt the French fashions to this particular design. This, however, is a matter which the builder must settle for himself. The body —a paneled one—is hung upon three elliptic springs, and is of such simple construction that we need not occupy space in describing it, but proceed with other details more needful. Width of body (in the clear), 46 inches; axles, $1\frac{1}{8}$ inches; wheels, 3 feet 4 inches and 3 feet 10 inches high; hubs, 4 by $6\frac{1}{2}$ inches; spokes, $1\frac{1}{16}$ inches; rims, $1\frac{1}{8}$ inches; tires 1 by $\frac{1}{4}$ inch.

Painting.—Brown body and carriage part, this last set off with $\frac{3}{8}$ inch black stripe, edged with two fine lines, red.

Trimming.—Blue broadcloth.

Workman's charge for building the body, $45; manufacturer's price for nicely-finished phaeton, $850 @ $900.

NEW YORK CHARGES FOR REPAIRING.— *Wood-work:* New hub, $8; spoke, $1; rimming wheels, $20; drafting, $1; back spring-bar, carved, with center figure, $15; front spring-bar, $2; perch, $4.50; axle-beds each, $3.50; pole, $9; yoke, $8; head-block, $3. *Iron-work:* New iron tires and bolts, complete, $20; tire-bolts each, 25 cents; carriage-bolts, 30 cents each; re-setting axle-arm, $4; oiling axles, with new washers, $2. *Trimming:* New broadcloth head-lining, and covering top with enameled leather, $165; each separately, tops, $85; head $80. *Painting:* Burning off old paint and re-painting body and carriage-part, $90; re-touching-up body and carriage-part, and varnishing all, $40. *Plating:* New bands, $4; capping axle-nuts, $6; capping prop-nuts, $3.50.

DOG CART PHAETON, WITH BACK SEAT TO TURN IN.

Illustrated on Plate XXXI.

ON this plate we give our patrons a very stylish kind of phaeton, with the back seat to turn in, when not in use. The mode of building is similar to that of the one on Plate XXX., and therefore need not be repeated here. The tilbury pillar in front should be cut away where it laps on the seat, to accommodate it to the projection—one inch—of the same beyond the sides of the body. The lines drawn horizontally on the seat, in finishing the tip of the pillar, indicate molding. The white lines on the back-quarter of the side panel likewise represent moldings. Width of this body on the front seat, 36 inches inside; wheels, 3 feet 10 inches and 4 feet 1 inch; hubs, $3\frac{3}{4}$ by $6\frac{1}{2}$ inches; spokes, 1 inch; rims, $1\frac{1}{8}$ inches; steel tires, 1 by $\frac{1}{4}$ inch.

Painting.—Body, carmine; under-carriage, cream, striped with carmine, broad stripe and two narrow ones in white.

Trimmings.—Drab corduroy.

Workman's charge for building the body, $32; seller's price for phaeton, well finished, $475.

NEW YORK CHARGES FOR REPAIRING.— *Wood-work:* Hub, $5; spoke, $1; rimming wheels, $18; drafting, $1; axle-beds each, $4; head-block, $3; perch, $5; spring bar, $2; shaft bar, $2; new shaft, $4; pole and yoke (see under plate XXIX.). *Iron-work:* New tires and bolts, $18; re-setting tires, $8; tire-bolts each, 25 cents; carriage-bolts each, 50 cents; new spring, $16; fifth-wheel, $5; re-setting axles, $6. *Trimming:* Leathering shafts, $7; new lining, cushions, &c., $150; re-covering dash, $12; new apron (rubber cloth), $10; whip-socket with fastenings, $3. *Painting:* Re-painting, striping, and varnishing, $90; touching-up and varnishing, $45. *Plating:* Capping axle-nuts, $6.

SHIFTING-TOP COAL-BOX BUGGY.

Illustrated on Plate XXXII.

THIS very pretty design differs in some respects from the one published last month, but the points will appear so evident, on comparison, that we need not particularize further than to suggest the painting of the scroll-work as indicated in the drawing. Wheels, 3 feet 10 inches and 4 feet 1 inch high; hubs, $3\frac{1}{2}$ by $6\frac{1}{2}$ inches; spokes, 1 inch; rims, $1\frac{1}{8}$ inches; steel tires, $\frac{3}{16}$ by 1 inch.

Painting.—Black, under-carriage, three fine lines, center line blue, two outside lines white.

Trimming.—As for buggy described on page 105.

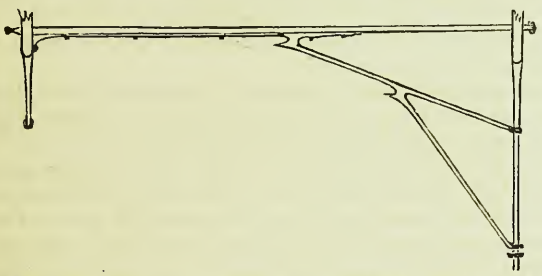
Workman's charge for making body, $18; carriage-part, $8; wheels, $10; shafts, $3.50; spring bars, $3; price of the buggy, nicely finished, $465.

NEW YORK CHARGES FOR REPAIRING.— *Wood-work:* Set new wheels, $80; hub, $5; spoke, 75 cents; new rims, $16; shaft-tops, $2; new shaft, $4; spring bar, $2; axle-bed, $4; perch, $5; head-block, $3; drafting wheels, $1. *Iron-work:* Re-setting tires, $8; new tires and bolts, $20; tire-bolts, 25 cents; carriage-bolts, 50 cents; fifth-wheel, $5; re-setting axles, $6. *Trimming:* Covering dash, $12; body linings, $40; new top and head-lining, $125; whip-socket, including fastenings, $3; cleaning top and oiling, $2.25; leathering shafts, $7. *Painting:* Re-painting, $75; touching-up and varnishing, $35.

Sparks from the Anvil.

PERCH-STAY.

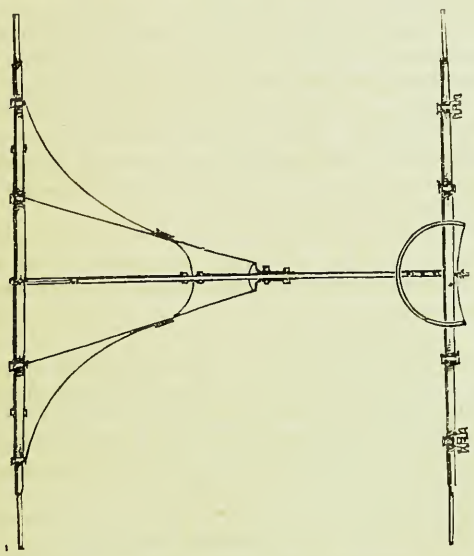
Mr. Editor,—With this article I furnish you with a sketch of our pattern for the perch-stays of a cut-under body, or such as requires the wheel to run well under the body. You will notice that the stay-heads are formed in



the same manner as those used for coaches, the side-plates running back of the point where the stay strikes the perch in order to strengthen it. For a light buggy these stays are made of $\frac{3}{8}$ or $\frac{7}{16}$ round iron. These look much lighter and are stronger than oval. J. B. P.

STAYS FOR A SINGLE-PERCH.

This original design for a perch and stay has been furnished us by a correspondent:



The drawing so well explains itself that we are spared details, further than to notice that single perches for buggies and other extremely light vehicles, are again much used. We shall have another next month.

STEEL.

A piece of good steel is an almost priceless treasure, because tools are an indispensable requirement. Yet make steel as carefully as possible, you cannot always rely upon its uniform quality throughout the same piece. Outer indications are often unreliable, and even breakage revelations refer but to the point of fracture. In forging steel the secret is the temperature. Too high or too low will ruin all; and this temperature must vary with the kind of steel required. Therefore, cheapness should never be sought as the chief good. Blistered and shear steel want more heat than cast-steel; the greater the amount of carbon, the lower must be the heat at working, and yet the harder is the labor. Good forging is as important as good material. After cooling, the hammering should be very light, or internal fracture will be set up, not homogeneity. Let the blows fall in one direction; certainly not at right angles to each other, so as to destroy the grain. Burned steel may be brought round by heating hot and quenching in water repeatedly. In tempering, great care is needed. Forging tempers, and a less heat will then suffice. This hammering is better as a commencement, than hardening direct from the annealing oven.—*Scientific American.*

VARNISH FOR IRON.

The following is a method given by M. Weiszkopf, of producing upon iron a durable black shining varnish: "Take oil of turpentine, add to it, drop by drop and while stirring, strong sulphuric acid until a sirupy precipitate is quite formed, and no more of it is produced on further addition of a drop of acid. The liquid is now repeatedly washed with water, every time refreshed after a good stirring, until the water does not exhibit any more acid reaction, on being tested with blue litmus paper. The precipitate is next brought upon a cloth filter, and after all the water has run off, the sirupy mass is fit for use. This thickish magma is painted over the iron with a brush; if it happens to be too stiff, it is previously diluted with some oil of turpentine. Immediately after the iron has been so painted, the paint is burnt in by a gentle heat, and, after cooling, the black surface is rubbed over with a piece of woolen stuff dipped in, and moistened with linseed oil. According to the author, this varnish is not a simple covering of the surface, but is chemically combined with the metal, and does not, therefore, wear off or peel off, as other paints and varnishes do, from iron."

Paint Room.

CARRIAGE PAINTING IN BOSTON.

Boston, December, 1869.

Mr. Editor,—Your request has been received, and in reply I take pleasure in giving the following details in regard to carriage painting as done in this city. It is, of course, very similar to the method generally followed in New York, although there are many slight variations, as there are differences with different builders in the same city, caused by the variety in the class of work produced.

For this reason I cannot give *the method* of Boston, but can only give the process which is employed by a few of the leading painters who work only upon first-class work. Moreover, in order to write connectedly and understandingly, I must confine myself to one kind of vehicle, and for this purpose I will take a buggy and describe first the painting of the body, then of the carriage parts.

When the body is received from the wood-shop, we first give it, inside as well as out, a thin coat of "Perma-

nent wood-filling," which, unlike the prophet who "*Hath no honor in his own country,*" is nowhere so fully appreciated and so generally used as in its foster home where it is best known. This priming fills all the pores and prevents shrinking. We then give a coat of elastic rough-stuff, then putty-coat, and follow with three or four additional coats of ordinary rough-stuff. We consider this rough-stuffing a very important part of successful painting, and one that should have the personal attention of the head painter. The mixing is more important than is generally thought, for if too hard it will be inelastic and liable to crack, and if too much oil is used it is liable to absorb the brilliance of the other coats, or dry improperly and cause them to crack. The first coat should be a little more elastic than the others in order to agree with the elastic priming coat, and the number of rough-stuff coats must be determined by the smoothness of the panels.

After rubbing the rough-stuff to a fine surface with pumice-stone, then comes the coloring. If black, two coats of color will be sufficient; with other colors three or four coats may be necessary, the object being to give fullness and depth. Nothing looks meaner than thin color. When painting a buggy body that is black, some Boston painters use one or two coats of color, and follow with two or three coats of black body-varnish. No rubbing coats are then required, and a richness of effect is given which no amount of color could give. This latter method seems to be increasing in favor, and is highly to be recommended, for where one uses four or five coats of varnish over the color, each coat tends to alter it somewhat. It is used to a great extent in England. If the black body-varnish is not used, one coat of rubbing varnish is given after the color, and the striping is then done. Some painters stripe upon the color; but this is not to be recommended, for the striping does not then run so well, and if a wrong line is made, it is not so easily rubbed off as on the varnished surface. From one to three more coats of rubbing-varnish are added, each one being well rubbed, and a coat of finishing varnish, carefully applied, brings the job to an end.

When the carriage parts are received from the wood-shop, we prime them with P. W. F., and send them to the smithshop for ironing. When returned, we give them a second light coat of P. W. F. After puttying, some add one coat of lead over this, before sand-papering; but I do not think it is necessary, and seldom use it myself, except when a job is unusually rough. After sand-papering, the carriage parts are ready for color. Two coats of black will be enough, and the other colors must be adapted as to the body, some requiring more coats to give the required degree of depth. One coat of rubbing varnish is next given, rubbed, striped, and the job is finished with one coat of finishing varnish. Or, in the same way as with the body, one coat of black body-varnish may be given, if the job be black; rubbed, striped, and similarly finished. Truly yours, BOSTON PAINTER.

STAGE-DRIVER SENT TO CONGRESS.—The HON. Ginery Twitchell, representative in Congress from the third Massachusetts district, turned back the wheels of time in a pleasant way on Wednesday, by driving a load of passengers from Worcester to the Barre cattle show in the identical coach he used to mount when a stage-driver thirty years ago.

CRAWLING OF VARNISH.

I HAVE been much interested in the theories put forth by your correspondents in explanation of the cause of crawling in varnish. One has ingeniously argued that it is due to an electrical attraction, and another that it is caused by the gloss of the under-coat which does not form a sufficient footing. Now I have always attributed this crawling to a very different cause from either of the above. Mine is an individual opinion, and whether correct or not, I leave to your good judgment and that of your readers, after you have considered the following explanation of it.

I have had a long experience at varnishing, and have found that crawling is always most liable to take place in the spring or fall, when the nights are cold and the fires have not been kept up. I see your correspondent in the September number notices this fact, but he attributes it to the reason that in cold weather the gloss of the under-coat comes up to a "harder sharp," as he expresses it, while I believe it is due merely to the uneven manner in which the last coat dries. It works in this way. It is a clear autumn afternoon, and I apply a rather heavy coat of finishing varnish to a set of carriage parts, and when I leave them at night they look very smooth and brilliant. It does not seem cool enough yet to have a fire, but in the night it comes up very chilly and there is a frost. When I look in at the carriage parts in the morning I find the varnish has crawled some, and a little later, when the room has warmed up, it continues to crawl badly. This seems due to the irregular drying, and I think could be prevented by preventing the sudden change of temperature.

Our correspondent is mistaken in describing the above as an instance of crawling. Crawling always takes place within an hour, if at all, and is never caused by an atmospheric influence, but is always due to the action of the coat beneath. The effect which he speaks of is what is commonly called "enameling," and is caused by a change of temperature after the surface has skimmed and while the under part is still soft and sensitive.

As there appears from this, and much of our general correspondence, to be a decided ambiguity in regard to the use of expressions describing the phenomena connected with the working of varnish, and moreover, a frequent misapprehension of the trouble itself, we shall attempt in subsequent numbers to throw a little light upon this dark subject. Varnish requires the utmost delicacy of manufacture and application, and from reason of the very difficulties which enshroud it, it is doubly important that all mysteries should be cleared away, that all its points, good or bad, should be understood, and that every means of obviating its troubles, or rendering them less troublesome, should be at the ready command of every varnisher. We have already described the general points connected with its working, such as its fluency, drying, hardening, and fullness, and have defined the precise meaning of each. We have also opened the question of Crawling, and drawn out several valuable points connected with its occurrence, and in coming numbers shall approach in a similar manner the other principal defects of varnish; its pitting, enameling, crimping, etc.; shall try to explain the cause of each, if we think we know the cause; shall point out such preventives as are known to us, and shall thus lay open this broad subject to the consideration of our readers, and shall look to them to fill in the rough outline

which is all that we can expect to give. We cordially and earnestly invite correspondence from practical workmen upon this important question, believing that we may thereby be enabled to gather together much valuable information, whose value shall redound to the benefit of every carriage and car-painter and every carriage and car-maker in this country.—*The Hub.*

LINSEED OIL AND WHITE LEAD.

Cheap oils are frequently mingled with linseed oil, which are so volatile that they will evaporate soon after the oil is employed for painting. It is sometimes exceedingly difficult to determine when pure linseed has been adulterated, except by a practical test in painting. When the paint does not dry readily, it will be safe to assume that the oil was not pure linseed. In some instances impurities may be detected by putting a piece of ice into a cup containing about half a pint of oil. If the oil be adulterated, the impurities will separate from the linseed oil, and will usually become stiff and thick like very soft lard.

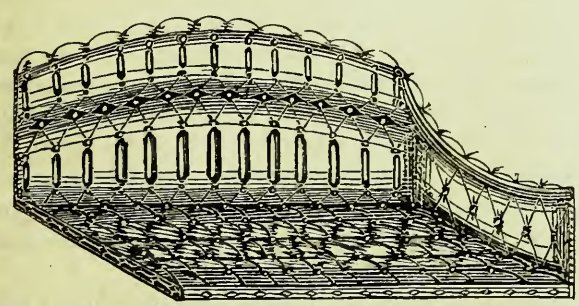
If the linseed has been boiled, and emits a very dark color as it is poured out, we may suspect that it has been scorched, and perhaps burned, while it was being boiled, or that it has been adulterated. Yet, if the ice test fails to show any impurities, and the oil dries satisfactorily when employed in painting, the quality is good, even when dark-colored.

When paint is ground in oil, a very poor quality of oil is often employed, and a large proportion of Spanish whiting is worked in, which is much lighter than either white or red lead, and of course will not form so thick a covering as pure lead. Adulterated lead paint, that has been ground in oil, is of a darker color, and the pails or kegs containing a certain number of pounds are much larger than other vessels in which there are an equal number of pounds of pure paint. T. S. E.

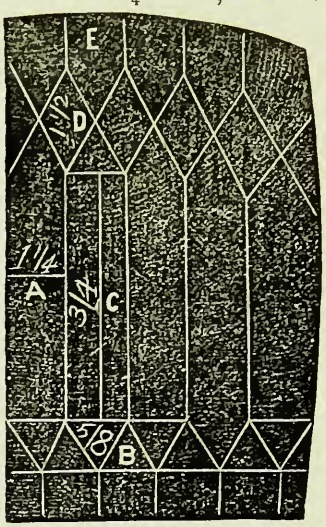
Trimming Room.

LINING FOR ROCKAWAY, ETC.

In making up his lining, the workman should find the center of the back, and then, by pattern, divide the whole into spaces for the pipes, as in the engraving. Next draw a straight line, 2½ inches up the back, then another, 3

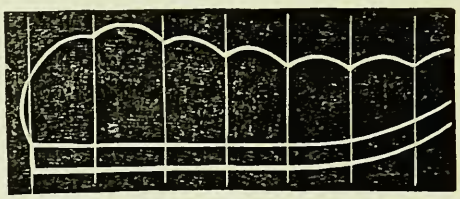


inches higher, and above this another 3 inches higher still. When the pipes are 3½ inches long, let the next line be 6 inches. The spaces between the pipes should be 1¼ inches, as at A.



From the bottom line to the next (B), give ⅝ inch, and where springs are used, allow ¾ of an inch fullness, as marked at D. Where no springs are used, ½ inch allowance will be amply sufficient, and 1½ inches for the diamond, E. Leave 5 inches from the top of the back for working.

In cutting the quarters, allow 1 inch between the pipes, and 1⅛ inches for the diamonds. In cutting the arm-pieces work from a straight line, and square as seen in Fig. 3, allowing ¾ of an inch between the buttons, 1½ inches front, and 2½ inches at the back, cutting with a sweep, as in the drawing.



In cutting the tops of the cushions, allow the same fullness as for the quarters.

When placing the back in the body, first nail it at the top, put the buttons in, pull it down to suit, and nail, finishing the top of the back, as in the first engraving.

Editor's Work-bench.

TRADE COMBINATIONS.

Some few months since it was very common to find the laboring classes clamoring against the "tyranny of capital," and organizing societies for the increase of wages. Many of these organizations are, nominally, still in existence; but their energies seem to have been paralyzed by evident decline in business throughout the country, and their manifest unpopularity in the public mind. Out of these, however, has grown a more formidable enemy to all enterprise—we allude to combinations in which capital and labor both unite in an unholy crusade against the public welfare. Of this kind is that of the Pennsylvania coal-miners, wherein miners and operators have come to a mutual understanding, with the common end in view of keeping up the prices of coal throughout the year. To do this, the miner has come to an agreement with the laborer, and placed a premium upon idleness. When the price of coal, in its downward tendency, reaches a certain point,

unsatisfactory to himself, the miner pays the operator for stopping work, out of a fund accumulated from a reserved percentage laid by when prices ruled high. By this means they intend to keep prices at a high figure, telling the public that the article is scarce—made so by their own scheming. Under the pressure everybody complains, and none louder than the poorer classes, whose interests are thus tampered with. This, however, is the natural result of "strikes." The capitalist, finding that he must go down under the unmerciful demands of his employees, seeks relief by taking labor into limited copartnership. This, perhaps, would work well, did everybody go into the same arrangement; but since everybody does not, the party left out must suffer the consequences, for which a remedy appears to be lacking.

In the minds of many, speculation is an evil to be condemned, and yet, could it be suppressed by law, it would soon crush the life out of every enterprise in business. It has been truthfully said, that "when the activity of men is so fettered that speculation becomes impossible, they labor like brutes for their daily sustenance and shelter only." It is true that all attempts to force up the prices of either goods or labor, possess the elements of speculation; but speculations of this nature must eventually end in disaster, because they are unnatural, and contrary to the manifest laws of trade, which cannot be contravened with impunity.

The non-thinking classes are those generally led into "striking" for higher wages, unmindful that in doing so they are themselves engaging in the very speculations they are so ready to condemn in others. The leaders promise their dupes that if they will only send them, *in propria persona*, to the legislative halls of the nation, they will have such laws enacted as will provide a remedy for all their grievances forthwith. These laws shall say to capitalists among mechanics, "You shall *only* have a certain number of apprentices in such shops, and besides shall pay equal wages for eight hours as heretofore done for ten," and so on, *ad infinitum*. What else is this but speculating against capital, and speculation of an odious character? This kind of speculation, however, provides an antidote for itself, which consists in overdoing matters. Were this not the case, every workingman would soon find himself prevented from ever becoming an employer, from obstructions laid by himself. This fact is so apparent to intelligent minds, that the whole thing becomes ridiculous, when looked upon in its proper light. There is just as much reason in obliging a manufacturer to take more as to take less workmen, and just as much shown in telling him that he shall pay so much, and no more wages, than a certain figure. We contend the whole thing is wrong. Trade should be left untrammeled, either with legislation or combination, to the operations of competition, which will in time work its own cure.

TWICE EARNED.

WE are much annoyed by requests such as the following:

MR. E. M. STRATTON,—If you will send me a first-class carriage-painter within a short time, I will send you the money for your magazine for one year, &c."

Now, there are two good reasons why we cannot comply with the wishes of our rural correspondent: First, we think the Magazine is worth all we charge for it, without additional labor thrown in, to induce him to give us his patronage; and, secondly, those who want hands should advertise for the same, and thus encourage literature, while benefiting themselves. There is, it is true, in this case, one redeeming circumstance—the individual referred to has never been blessed with monthly visits from us, and is therefore ignorant of how much benefit we *might* have been to him, and which never will be known if he waits for us to earn a subscription in the way he proposes. Ours may be a selfish resolve, but unavoidable.

We would observe, while on this subject, that our position too often imposes requests on us with which we cannot comply, except at much sacrifice. Frequently we are asked to send a correspondent the price of something out of our line of business; and not knowing where the article is for sale, are compelled to either spend half a day's labor in hunting it up, at some expense for car-fare, or else refuse altogether. This last course we have fully decided to take, unless correspondents send us at least twenty-five cents, to cover expenses actually incurred in our efforts to serve them. Some unreasonable men seem to think that when they subscribe for our Magazine, they have paid for our services for the current year at least, without further charge, and get out of humor unless we do their bidding gratis. Now, this is all wrong. When we *sell* the Magazine, we sell nothing else. If we *give* extra labor on the score of friendship, that is another matter. But, gentlemen, please do not trouble us with unnecessary business, when avoidable. We have already more than we can well attend to.

PERPETUAL MOTION.

FOR over half a century experimenting has been going on in the back shops and obscure rooms of the would-be discoverers of perpetual motion, with very poor success. It is true that we have several times seen it announced that the thing had been accomplished successfully, but up to this present writing the machine has never fulfilled the promises of the inventors. The following construction of a machine, that may be relied upon to run *until it dries up*, is translated from a German periodical, the *Practical Machine-Builder*:

"Place several small troughs, one a little higher than the other, stair-wise. Fill the lower trough with oil, and suspend over it a number of wicks, so that their upper

ends shall hang over the edge of the second trough, while their lower ends dip into the oil. From the second trough a series of wicks in like manner reach up to the third, and so on. It is evident that in this way a certain amount of oil will constantly mount from the lowest to the highest trough. From the latter the oil may be allowed to flow through a pipe upon an overshot wheel, and thus to descend again into ts original receptacle. The wheel will be kept in perpetual motion.

Now let the philosophers calculate for us how many wicks make a horse-power; or, if they are inclined to speculate more boldly, let them study this mysterious capillary force, which does not seem to wear out, like other agencies. Will there come a time when

> The stars are old,
> And the sun is cold,
> And gravitation will not hold,
> And fuel is worth its weight in gold,

and the universe will fall back on suction as a motive power? We don't promise to issue a weekly supplement containing the responses of the wise to these queries. In fact, though we ask these questions, it is after the manner of the orator, who would be considerably put out if anybody answered him."

"THERE WERE GIANTS IN THOSE DAYS."

The inhabitants of the valley of Onondaga Creek, and in fact the people of the entire State of New York, have been much excited in regard to a colossal statue of gypsum, representing in faulty anatomy a man asleep, dug up from the earth in sinking a well. The theories in regard to this Cardiff Giant (the name by which it is known), are as varied as are the minds of the persons discussing the subject. Some believe it a petrified man of other days; others think it an unmitigated humbug, nothing more than the unskillful chiseling of a fourth-rate stone-cutter. This latter class of thinkers are doubtless the correct ones. In the mean time there are two giants in the field—one in Albany and another in this city—on exhibition, both "the original, genuine" giant found in Central New York.

It is really laughable to read the long rigmarole speculations of Prof. Hall, Dr. Woolworth, *et id omne genus*, who were so hasty in their researches that they did not even wait for the bringing of the body to the surface, but went down into the pit to test the strength of the carbonic acid gas in the water thereof, in order to discover whether the water could dissolve the material of the statue as rapidly as some claim. Among other things they made the discovery that the left leg was softer where it had been disintegrated than on the outer surface; and their "gassy" theories, when properly investigated, evidently show that the brains of the philosophers are either *softer* than usual, or else they look upon the public as fair subjects for their "soft sawder."

Divesting the thing of all the mystery which others have contrived to throw over the "stonish giant," we at least believe it to be a miserable humbug, got up by some parties who are converts to Barnum's belief—that "the public likes to be humbugged." With this idea to start with, some rustic stone-cutter conceived the plan of cutting out a giant, and afterward burying it deep enough to give it a decent antiquarian appearance, and then, under the pretense of digging a well, digging it up again to astonish the world with their *wonderful discovery*. No doubt that, like the thousand and one wonders which time has hatched for a credulous age, these giant finders will realize from the pockets of the many *a giant* fortune. *Vive la humbug!*

LADIES' FASHIONS AND COACHES.

More than two hundred years ago—in 1650—after coaches had undergone opposition, and survived the onslaught of Taylor, the Waterman of the Thames—who imagined, like the Ephesian shrine-makers in Paul's day, that his craft was endangered by their growing popularity—strange as it may appear, the ladies adopted figures of them as ornaments to their persons. In a work by one Palgrave, entitled "Artificial Changeling," there is an illustration of a lady's face, showing that it was then fashionable for them to ridiculously—as in some things now—spot their faces, and among other absurdities, figures in black of a coach, with horses, coachman, and postilion, appear prominently on the forehead. In another work, called "God's Voice against Pride in Apparel," published in 1663, the author says: "Methinks the mourning-coach and horse, all in black, and plying on their foreheads, stand ready harnessed to whirl them" (the ladies) "to Acheron." In the "Ladies' Directory," published in 1674, it is said that the ladies "had no doubt got a room in the Chronicles among the prodigies and monstrous beasts, had they been born with moons, stars, crosses, and lozenges upon their cheeks, especially had they brought into the world with them a coach and horses."

Looking at this matter through an historical glass, and speculating in the unchangeableness of human nature, we are naturally led to conclude that we have had a very narrow escape, lately, from the painful result of seeing our feminine world decked out with figures of velocipedes, after the manner of our grandmothers, before noticed; for nothing, apparently, is too ridiculous for the votaries of fashion to adopt. The present style of ladies' hats is well adapted for encouraging this kind of ornamentation, the face being wholly exposed, and seemingly requiring something to relieve the monotony of facial surface, now only relieved by such natural figures as nose and mouth, too common for popularity, in the usual acceptation of the term. Some of the fashions now adopted by females are just about as absurd as those were years ago, and are no less ridiculous than wearing vehicles on the face, as im-

provements for a naturally pretty countenance. But we must stop or consent to be called "old fogyish," a name which, with our peculiar notions of men and things, we are not anxious to receive.

REVIEW OF TRADE.

WE, last month, told our readers that trade was extremely dull. This month, instead of improvement, we find that matters have gone on from bad to worse—trade being literally dead. The stringency in the money market, seriously affecting all departments of business, is especially severe on the carriage manufacturer, who, with a large stock of vehicles in his shop for which he has no sale, finds it extremely hard to discharge his obligations with becoming promptness. This state of things has compelled the principal establishments of this city to discharge many of their hands, and put the remainder of them on "three-quarter time," at which they murmur exceedingly, although they decline to accept lower wages than heretofore. This state of affairs is unpleasant for both parties. The manufacturer cannot now safely make up work, costing high, to sell low next spring, which he must certainly do should finances come to a specie basis through action of Congress, or continued depression in trade. With the large stock of carriages now in the market, we still advise our readers to observe caution and not increase their liabilities beyond control, by manufacturing carriages for an uncertain spring trade, and thus unreasonably risk their standing and credit.

LITERARY NOTICES.

THE WORLD ON WHEELS.—This book, previously announced, is rapidly going on toward completion. We hope to have it through the press during the present year, or early part of the next. It will make a large royal octavo volume of six or seven hundred pages, and be printed on fine paper, with handsome type, and illustrated with about four hundred engravings of carriages, from the days of the Pharaohs to the present time. The subject-matter will be the "carriages and customs" of the Egyptians, Assyrians, Persians, Grecians, Romans—including dependencies—Gauls (French), English, and American, with incidental illustrations of the vehicles of these nations in chronological order, and narrating the manners and customs connected with their usages, such as marriages, funerals, wars, and worship, in a novel and interesting way, interspersed with historical anecdote. We have shown or explained our work to several literary men, who give it as their opinion that it will not only prove entertaining but a valuable contribution to history, and useful as a book of reference, not only in the library of the carriage-builder and his special patrons, but likewise in the collections of intelligent and literary men. We have some names as subscribers already, and are ready to receive others. We do not ask for money until the volume is placed in your hands—only your names now. Address to this office.

We have on hand a number of copies of our fine charts, Nos. 5, 6, and 7, which we now offer at half price —50 cents a copy—with the object of clearing them off. No chart ever published in this country better represents the prevailing fashions than these, nor have they ever been offered so low before. As this offer will only remain open until the first of May, it will be to the interest of our friends to send for them at once, inclosing the money with the order. Charts of carriages have now become the indispensable adjuncts of every well-conducted shop, not only ornamental to the office, but exceedingly useful in obtaining orders for carriages, as many can witness. Customers unacquainted with technicalities, with a chart before them, can make themselves plainly understood.

As usual, the commencement of a new year gives fresh impetus to journalism. Among those early in the field is our old friend the *Phrenological Journal*, now half a century old, which appears in a new dress, fresh and blooming as the spring—"a blaze of beauty." It has now assumed the octavo form of 80 pp. monthly, with an addition of 20 pp. advertisements and cover. The price is still $3 only, and is published by S. R. Wells, 389 Broadway, New York.

EDITORIAL CHIPS AND SHAVINGS.

THE COLORS OF FOLIAGE.—The London *Athenæum* says: "Experiments have confirmed the conclusion of an American scientist that leaves turn red, at the end of the season, through the action of an acid, since one of the elements producing the green color must be a vegetable blue. Autumnal leaves placed under a receiver, with the vapor of ammonia, in nearly every instance lost the red color and renewed their green. In some, such as the sassafras, blackberry, and maple, the change was rapid, and could be watched by the eye, while others, particularly certain oaks, turned gradually brown, without showing any appearance of green."

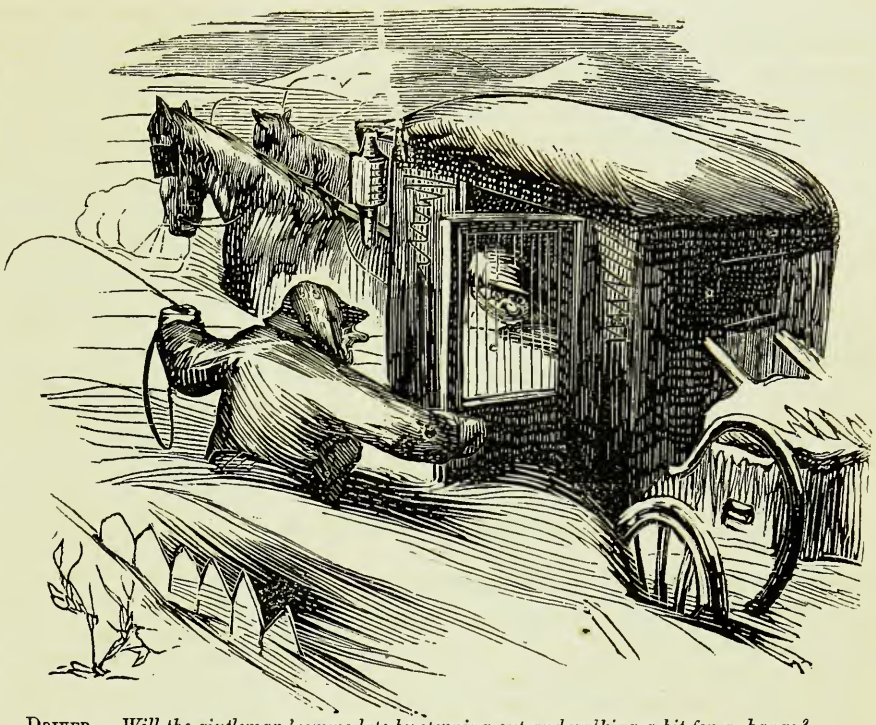
THE DIAMETER OF TREES.—In a paper addressed to the Academy of Toulouse, M. Musset states that all the large healthy trees of the woods of Ville-d'Avray and St. Cloud are, in the immense majority of cases, thicker in the direction from east to west than in the contrary one. The same circumstance has been noticed elsewhere by other observers.

LONG ISLAND STEEL.—A company has been formed to make steel out of the iron ore recently found at Quogue, near the east end of Long Island. The ore is comprised in the dark mineral sand on the beach, and is found in large quantities. It was discovered by a chemist, who has purchased a large tract on the beach, and is to put up a blast furnace and trip-hammer at once.

A NEVADA WAGON.—The largest wagon ever built on the Pacific coast has recently been completed at Hamilton, White Pine, and is to be used for transporting ore

from the South Aurora Mine to the Stanford Mill. Here are some of the dimensions:—The spindles are 4 inches in diameter of the best quality of iron; tires, 5 inches wide by 1½ inches thick; spokes, 5 inches thick; hubs, 19 inches in diameter, by 20 inches long; height of the hind wheels, 6 feet 9 inches. The bed is capable of holding 36,000 pounds of ore, and the wagon is estimated to bear up 40,000 pounds over any ordinary mountain road. When first built, 32,500 pounds of quartz were hauled on it from Gold Hill to one of the mills about Dayton. The two larger wheels weigh 1,064 pounds each, and the entire rig upwards of 8,000 pounds.

Egyptian Account of Moses. —At the recent convention of Philologists at Wurzburg, Dr. Lanth, of Munich, stated that in translating some Egyptian papyrus rolls he found an account of a personage whom he believed to be Moses. The person, who is called Mesu, is accused by the Egyptian writer of having taken a sea-bath, and of eating fish forbidden to the priesthood; that he had made a secret visit to Syria, and was too much given to say new things upon religious matters. Mesu is described as handsome, and of irascible temperament. In addition to the name Mesu, which signifies "child," it is stated that he has another which may be translated "basket of rushes." The date of the report is the fifty-second year of Rameses, corresponding to 1525 B. C.



Driver.— *Will the gintleman 'commodate by stepping out and walking a bit for a change?*
Passenger.— *Wa'll, now, aint that cool?*

The Mechanics' Institute of San Francisco.—From a correspondent, we learn that the Fair of the San Francisco Mechanics' Institute, just closed, will net the Institute about $35,000, the receipts having been about $65,000. The sum of $25,000 will be paid out upon the debt for the building, and $10,000 will be expended for books and philosophical apparatus. This institution is one of the best managed and most successful in the country.

The Rascally Hackman.—We have frequently had occasion to acquaint our readers with the tricks of New York hackmen, and now we add another to the long catalogue of sins committed by these worthies, which we take from a daily paper. Richard E. Kelly left his home in New Concord, Ky., for Eastman College, Poughkeepsie, N. Y., by the Pan Handle route, stowing $230 in his bootleg for safety; but just before the train reached Jersey City, he transferred the money from the boot to his pantaloons pocket. When the cars stopped, he passed aboard the ferry-boat, and while crossing the river inquired about his baggage. A "gentleman" told him his baggage would be there as quick as he was. On arriving on the New York side, he inquired how he would get conveyance to the Hudson River Railroad dépôt. Another "gentleman" stepped up to him and said, "I am going around there and will carry you." This "gentleman" had a coach. "Coachee" added, "Give me your check and get in there; I will bring your baggage in a few moments." Mr. Kelly entered the coach, when soon after "Coachee" returned and said, "Your baggage will be on the next train; it was delayed." Just then some one called "Coachee," when he shut the door, mounted his box, and drove off. He did not go far, however, when he dismounted, the door of the hack was opened, and another "gentleman" requested the student to get out and mount the driver's box, which he refused to do. Then still another "gentleman" came upon the scene and said to the student, "I am going to the Hudson River Railroad dépôt, go with me." Thereupon the student alighted and entered coach No. 2, and after being in it a few moments was told by the driver "here's another man going to the same place you are; both of you remain here till I get your baggage;" and then the "other man" got in the hack and seated himself by the side of the student. Each congratulated the other upon the prospect of having company through to their destination, when finally the "other man" said, "I am getting cold. Let us go to the fire and stay while the driver is getting our baggage?" The student replied, "No. I want to go on as soon as he comes back." The "other man" made no reply, and silence ensued for a moment or two, when the other man said, "Well, I must go to the fire," and got out. Immediately afterward the Kentuckian missed his wallet. The driver returned shortly after without the baggage, when the student informed him of his loss. The driver, handing him his empty wallet, said: "Here's your pocketbook, you've been robbed; I want your fare." The student inquired how much it was, and was told that it was five dollars. Remembering that he

had ten or fifteen dollars in his vest pocket, he paid the amount asked, the coach-door was closed, the driver mounted the box and drove three blocks, when the coach was stopped, the door again opened, and the student told to get out and take the street-car, which he did, and that's all. He is minus his money and baggage.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

NEW YORK, Dec. 24, 1869.

Apron hooks and rings, per gross, $1 *a* $1.50.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb. 7½c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 35 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1; ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 10 *a* 14c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb. 15c.
Chapman rubber, $2, doz. pr.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)
Cord, seaming, per lb. 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Dnameled cloth, muslin, 5-4, 35c.; 6-4, 60c.
Dnameled Drills, 48 in., 50c.; 5-4, 45c.
Do. Ducks, 50 in., 70c.; 54, 60c.; 64, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 15 to 18c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.

☞ For a buggy-top two pieces are required, and sometimes three.

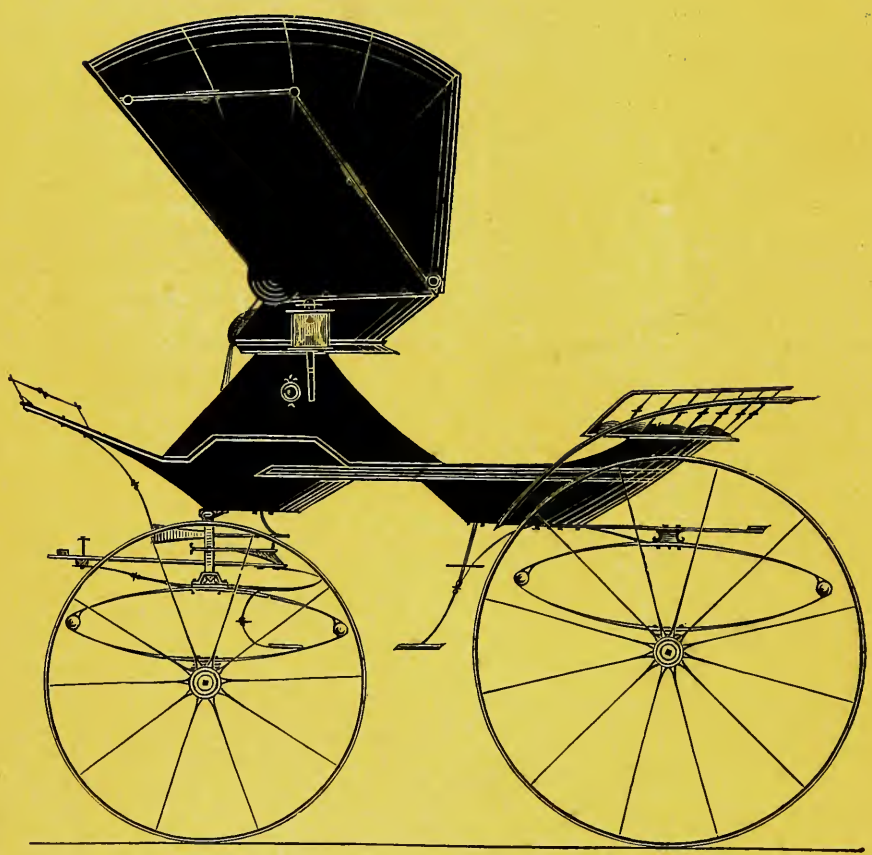
Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb. 25c. *a* 30c.
Hair, picked, per lb. 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $1.75.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60c. *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, 25c.; railing do. 23c.; soft dash, No. 1, 15c.; do., No. 2, 12c.; hard dash, 15c.; split do., 15c.; No. 1, top, 25c.; enameled top, No. 1, 25c., do., No. 2, 23c.; enameled trimming, 23c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, pergross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.25.
Paints. White lead, extra, $13.00, pure, $14.00 per 100 lbs.; Eng. pat. black, 20 to 25c.
Permanent wood-filling, $6 per gallon.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 40 off per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage), $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.50.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 15c.; bright, 16c.; English (tempered), 20c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra. If under 34 in., 2c. per lb. additional.

☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.

Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.

☞ For extra hickory the charges are 10c. *a* 12½c. each.

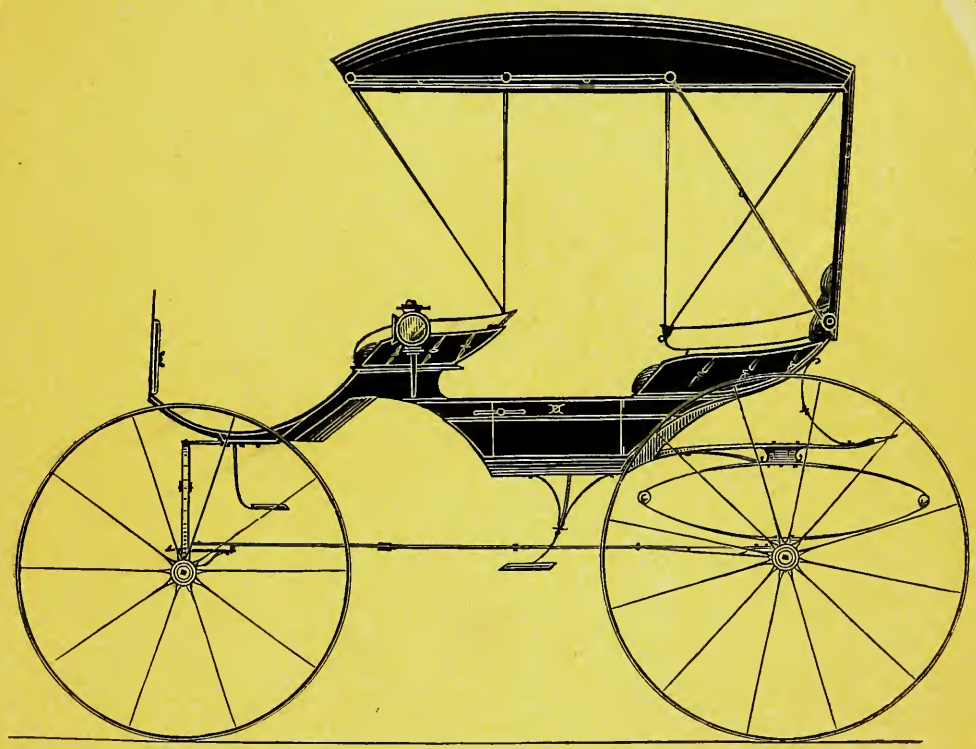
Steel, Farist Steel Co.'s Homogeneous Tire (net prices): 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 3-4; 1-16 x. 3-4 23c.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2 Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 53c
Twine, tufting, pr ball, 50c.; per lb. 85c. *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.25.
Do. English, $6.25 to $7.50 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to $22.
Whiffle trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.



DOG-CART PHAETON.—½ IN. SCALE.

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

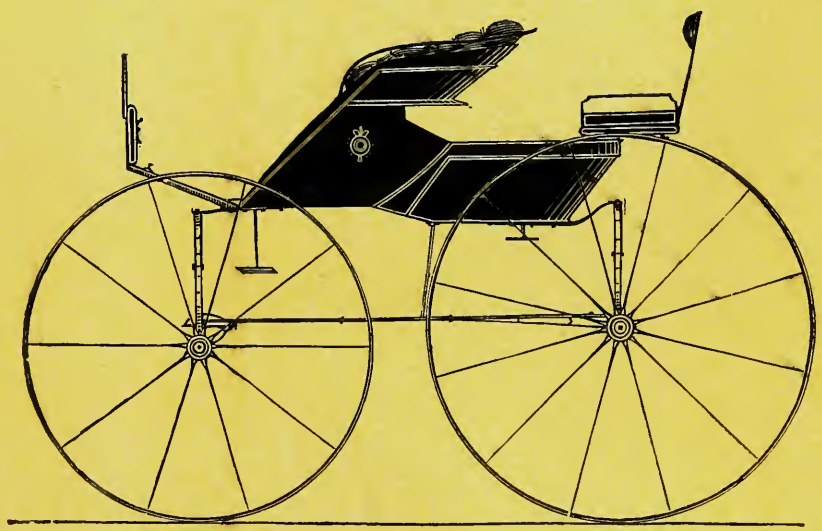
Explained on page 119.



EXTENSION-TOP PHAETON.—½ IN. SCALE.

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

Explained on page 120.



PHAETON, WITH BACK SEAT TO TURN IN. —½ IN. SCALE.

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

Explained on page 120.

SHIFTING-TOP COAL-BOX BUGGY.—½ IN. SCALE.

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

Explained on page 120.