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Mechanical Literature.

THE ADVENTURES OF THREE JOURS.

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CHAPTER IV.

GLONER had been to work but a few days ere Christmas eve came. As he was putting up his tools prior to quitting for the day, Mr. Hardy came in and exclaimed, "Well, to-morrow is Christmas again; of course you will follow the time honored custom of the South, and not work any more until after New Year's; the holidays are our great season of festivity, and here's a fifty for you, as you may need a little change in the meantime."

"But, my dear sir," replied Gloner, "that is more than I have earned; besides, I have money enough to meet all necessary expenses."

"Oh, well," returned Hardy, "that makes no difference, fifty paid now, will be fifty less to pay on settling day," and he forced the bill upon him. "You see," he continued, "we are a generous sort of people down here, all the reports you may have heard to the contrary notwithstanding; I have just served Loring the same way, and have invited him to a social party at my house to-night, and should be pleased to see you too; you will there see how we manage to usher in the holidays, which is a little different from Northern customs. Of course you will come, the fact of your being a stranger makes no difference. You see here we take every man to be a gentleman until he proves himself a rascal; in some localities they take every stranger to be a rascal until he proves himself a gentleman. So come round to-night, and I think that to-morrow you will say Mobile is about the best city, socially speaking, that you ever saw."

"I thank you for your kindness," replied Gloner, "and if Loring is agreeable I shall be only too pleased to accept your invitation."

"No more work for a week; glorious times here for a *cut*, hey? why my boss always used to begrudge me Christmas day, and I always worked on New Year's," said Loring, as a few minutes later they gained the street. "And, by the way, Hardy invited you to his 'social gathering' as he called it, to-night, of course."

"Yes, he gave me an invitation."

"And you propose going?"

"Yes, I have come to that conclusion if agreeable to you."

"Of course I want to go; these evenings are getting rather lonesome, and it would relieve the monotony of our boarding house wonderfully to have a pleasant place to pass an evening at now and then, and a good looking girl to talk to. So, as Margrave would say, if he was here, 'let us not stand upon the order of going, but go at once,' and as a preliminary step we will 'to the barber with our beard' as the fellow said in Hamlet the other night."

After their supper, and a most elaborate toilet on the part of Loring, they proceeded slowly up Government street, towards Mr. Hardy's residence. Through the assistance and superior taste of Loring, Gloner presented a very presentable appearance. As their names were announced by the black servant at the door, in stentorian tones, they were met by Mr. Hardy, who exclaimed, "glad to see you both, and as you are about the only strangers present, we will make the circuit of the rooms and introduce you." Your true Southerner is great on introductions, and he will introduce you at all times and places, to all kinds and manner of persons, and during the next half hour Gloner and Loring had made more bows and shook more hands than they had ever done in a month before; in fact Gloner's hands ached, and all the names that he had heard, from the famous Smith family down to Thompson with a P in it, were so sadly confused and jumbled up in his head, that he really could not name a single person in the company five minutes afterwards. Just then some one cried out, "Gentlemen secure your ladies for a quadrille," and at the same time the band, consisting of two violins and a banjo in the hands of three prim young darkies, struck up the prelude, for which Gloner mentally blessed them. It so happened that Loring was introduced to a very handsome young lady at the same time, whom he immediately secured for a partner, while Gloner's last introduction was to a middle aged gentleman, who immediately commenced talking on the past, present and future state of the country, and as Gloner had no great taste for dancing, he willingly adjourned to a corner and devoted a couple of hours to the political situation.

In the meantime, Loring, who was, in truth, a most

excellent dancer, was enjoying himself finely, and was fast ingratiating himself in the good graces of the ladies, as well as making himself a general favorite with the gentlemen.

Gloner and the gentleman with whom he was talking had undoubtedly settled everything of a political nature satisfactorily, for he had just turned to leave, when Mr. Hardy came up, and seizing him by the arm, exclaimed, "Why Gloner, my dear sir, why don't you dance? You don't seem to enjoy yourself, it is a dull place for you I fear, but come, I want to introduce you to a lady friend of mine, none of your city belles but a plain country girl and as pretty as a Venus, come this way;" and before Gloner could say a word he found himself on the opposite side of the room.

"Miss Linden, allow me to present a friend of mine, Mr. Gloner. Mr. Gloner, Miss Linden—Lucy I always call her, and I know you will admire each other;" and as Gloner raised his eyes to the fair young face before him, his surprise was only equalled by the pleasure he felt in beholding his *vis-a-vis* of the supper table in his trip from New Orleans.

"Miss Linden," he said, bowing low. "I am really pleased to make your acquaintance, for this is not the first time we have met, as I trust you may remember."

For a moment she hesitated as though recalling the past, and then replied, "I do remember now, we were fellow passengers on the Oregon a week since."

"Exactly," he returned, "and I need not tell you that fortune has favored me by this introduction. I am far from being an impulsive person, and I have met thousands of fair young faces without bestowing a second thought upon them; yet, believe me, when I say that I have wished many times to look upon yours again."

"I fear Mr. Gloner," she replied with a smile, "that you are an adept in the universal accomplishment of your sex, namely, flattery." "Then I regret that I have spoken so plainly," he answered, "for the only accomplishments which I can boast when addressing a lady, are sincerity and truth. Do you dance in this set?" "I am not engaged for it," she answered, "and would prefer resting, as I fear I have already over-exerted myself, as my health is rather delicate."

"The very favor I would have asked of you, and if agreeable we will escape this noise and excitement, for one could find but little rest here," said Gloner as he led her from the room.

At the rear of the house was a broad piazza where the guests retired to cool themselves after the heating mazes of the dance, and thither our couple made their way. It was a lonely place, enclosed with lattice work and trailing vines, while the moonbeams struggled through and fell in broken splashes on the floor.

"Our host informed me that you are not a resident of the city," said Gloner.

"Merely a visitor," she replied, "I live in the interior of the State, but we generally pass our winters in the city. It is a fashion we Southerners have—rather a foolish one too—and there is not a day passes, while away, but what I repeat poor Payne's line, 'There is no place like home.' And it is only to please papa, who thinks that the salt breeze of the coast benefits me, that I consent to leaving it."

"True," replied Gloner, "Home should be the great center of all our hopes, our aspirations, and our affections,

but how few American homes possess all these requisites, or even one of them. A true home is where one can lay down all his cares at its threshold, and enter without a thought upon the great world outside, or a mind to mingle with its busy scenes."

"You must have a pleasant one to speak so feelingly on the subject," she replied.

"Pardon me," he answered, "one does not speak feelingly of what one does possess. The reverse is the rule. We only speak feelingly of that we are striving for, and which we hope to gain at some future period. Home may be likened to the terminus of a railway, a boarding house is one of the way stations. I am stopping at a way station."

"Waiting for the next train I suppose," she said with a smile.

"No, not the next, for I am far from ready; it makes me tremble sometimes when I think of it, and realize how far off it is. I have to make a competence first, then seek for a suitable companion ere I take passage, for I am one who believes that there is no true felicity unless one is happily married. When I accomplish those two things I hope to have a home, which, even though it may be humble, will prove a happy one."

"I fear you are waiting to accomplish too much before marriage, and then you will be too fastidious to find a companion to suit you. You must not look for perfection in our sex."

"No I shall not, but I shall look for three things, and they are imperative—Truth, Honor, and Love."

Just then supper was announced. It was a sumptuous repast, with every delicacy of the season in the greatest abundance. There were oysters in every style that one could call for, and fruits of all kinds, from oranges just picked from the tree, to strawberries, ripe, fresh and luscious, as well as all kinds of jellies, and cakes, and tarts, and wine to be found in the market. Now Gloner was a lover of good living, and the hour passed at the table was really a pleasant one, for he had not only every delicacy that could please the palate, but the more he saw of his companion the more he admired her. She took such a sensible view of things, she was so well informed, she talked so well, and then she was so retiring in her disposition and so modest withal, that no wonder he was charmed with her.

After supper was over he passed another half hour with her, when a servant announced her carriage.

"Twelve o'clock already," she said, "really the evening has passed away very rapidly."

"Thank you for the compliment," returned Gloner; "and may I dare to express a hope that our acquaintance thus pleasantly begun may continue."

"Certainly," she replied; "we are stopping at the Battle House, and I shall be pleased to see you at any time."

"Depend upon it, I shall avail myself of the privilege," he answered, as he handed her in the carriage, and in another moment she was gone.

Returning to the ball-room, one of the first persons he met was Mr. Hardy, who saluted him with, "Well, Gloner, how do you like Miss Linden?"

"I was well pleased with her, considering the disadvantages under which all labor at a party like this," he answered.

"Certainly; well, the more you see of her the more

you will admire her," returned Hardy. "Poor Lucy! it is a pity her health is so bad, for she has everything to make life pleasant. She is motherless, and an only child, with great wealth, a pleasant home, and the fondest of fathers, so that her every wish is gratified; and it only proves her amiable disposition, else she would have been spoiled ere this."

The two hours that passed before the breaking up of the party were long ones to Gloner, and he found it useless to attempt to get Loring away before that time.

"I tell you what it is," exclaimed that worthy, after he had seen his last partner safely stowed away in her carriage, "if Mobile isn't the most sociable place I ever saw! Why, I never enjoyed myself so well before. It would take about twelve months up in Ohio for me to get as well acquainted as I have here to-night. Why, I've had enough invitations to call to keep me busy during the entire holidays, and every one asked me to bring you along. We are going to have jolly times here, I do assure you. I wonder if it would be the same if they knew I was a dauber—hey?"

"Yes, among all whose good opinion is worth striving for," answered Gloner, slowly, then relapsing into silence, he seemed wrapped in his own thoughts. Not so with Loring, however. The evening he had passed had a most exhilarating effect on his spirits, and he talked incessantly about his supposed triumphs, and the good times in anticipation, until they separated for the night.

The week that followed proved a delightful one to both our friends. Everything was so new and so amusing to them, particularly to watch the darkies, who had flocked by the thousands in the city, and who could be seen and heard at all hours of the day, and night too for that matter, playing on "de ole banjo," or singing their favorite plantation melodies. For a week they were emphatically free—as free as any wild Indian that ever roamed the plains, for they could go where they pleased, do about what they pleased, and no questions were asked, nor no passes shown. Every kitchen was a free lunch restaurant, where they could drop in, and Aunt Dinah was always ready to provide freely from her overstocked larder.

Loring improved the advantages gained on Christmas eve, and was busy with his calls, in some of which Gloner accompanied him, but generally he went alone. Nearly every day he dined out, and every evening he accompanied some lady to a ball or the theater, and the only thing that seemed to trouble him was the evident fact that the holidays would soon be over.

Of course Gloner called on Miss Linden; and such a warm, kind reception did he receive that he called a second time, and on New Year's eve he accompanied her, with a party of ladies and gentlemen, to the grand ball of the "Cowbellions," to which he was fortunate enough to procure a ticket, which was an honor that many an old citizen would be proud of. As he bid her good-by that night, he obtained her consent to accompany him in a drive down the Bay Road the next afternoon, and in the evening they were both invited to a ball given by the Irving Association.

The Bay Road is perhaps the finest drive in the United States; at least we have never seen anything to equal it. It runs along the bay shore for miles, and being built of oyster shells, and kept in the most thorough repair, it is as hard and level as a floor. And then the scenery is charming as well as romantic. To the east the broad bay rolls its dark waves, covered with shipping from every part of the

civilized world, while to the west, after leaving the charming suburban villas that extend three or four miles from the city, the road is lined with thick forests of pine and magnolia, their evergreen foliage forming a most pleasing contrast, one being light and the other almost black. It was down this road, in one of Mr. Hardy's best "turn-outs," that Gloner and Miss Linden pursued their way on that lovely New Year's afternoon. Going down, the beautiful residences, the gay equipages that they met every few minutes, the broad bay and dark forests formed topics of conversation; but when they returned homeward, after a delightful lunch at Knoblock's, their conversation took a more individual cast, and they talked of domestic life, of books, and of each other's tastes, like old friends in confidential converse. We have not the space to present that conversation, however interesting it might prove, else our friend, the editor, would broadly hint that we were lengthening our humble story to undue proportions. Enough to know that when Gloner left her at the door of the Battle House, their mutual regard and admiration for each other were highly enhanced by the afternoon's drive.

Never had Gloner nor Loring a better time than at the ball that night. Everybody seemed determined to enjoy themselves to the fullest extent, and hilarity and good-humor reigned on every side. "It's the last of the holidays," they would say, "so let us enjoy it to the fullest extent."

The next morning work commenced again, and then Margrave, who had been neglected too long, was remembered, and a note was dispatched to Montgomery for him, also one to the postmaster at that place to forward all letters addressed either to Loring or Gloner. A week elapsed, and then a couple of letters were received which proved to be from Margrave; one, written at Hernando, Mississippi, stating that he had concluded to remain there a month or so; the other, written a couple of weeks later at Panola, which contained the entertaining piece of information that he had left Hernando in a hurry, arrived in town the day before, and had woken up that morning to the pleasing realization of the fact that his room-mate had robbed him during the night and decamped. "Must get something to do here," he added, "even if I have to hire out as assistant bar-keeper in this one-mule hotel, for I'm broke completely."

A letter was at once dispatched to him at that address, urging him to come to Mobile; but as week after week passed away without an answer, they concluded that Margrave had got lost in the vast swamps of Upper Mississippi.

In the meantime Gloner had finished his contract, and so well pleased was Mr. Hardy with the work, that he made another, wherein Gloner got enough work to keep him busy for three months at least, at the best of prices.

"Now if I only had a trimmer here," said Hardy one day, "I would be all right; but perhaps one will come along one of these days."

"Get some material," said Gloner, "and I think I can manage to get you one or two jobs trimmed, at least."

"What do you want?" asked Hardy.

"A couple of hides of enameled leather, two sides of dash, a roll or two of duck, and a few yards of buckram. There is enough curled hair and moss round the stable to stuff all the cushions."

In a day or two all the articles were forthcoming, and then Loring took an open buggy, and after three days'

work on it pronounced it finished; and in truth, considering his being out of practice, it was a very creditable job.

When finished, Mr. Hardy was called up, and his astonishment was only equaled by his delight to see such a job completed and ready for the road.

"Did you do that, Loring?" he asked. "Why, I had no idea you were a trimmer too. Really, this is lucky. I thought Gloner here was going to do it all the time. Well, well, that is a splendid job, and no mistake."

"I was raised in a carriage shop, so to speak," said Loring, "and consequently learned how to trim before I took up painting. And now let us make a bargain. Of course I agree to my bargain for your painting, and when I work at that it will be at the same figures as we have already settled on. But if you wish it, I will devote say three days in the week to trimming, at so much a job."

"Certainly," replied Hardy, "that is all right, and would suit me exactly. Let's look at the jobs that need trimming, and we can soon make a bargain;" which they did, at figures which promised a handsome income to Loring.

Thus the winter passed away, and spring came, but the change was so slight as to be scarcely perceptible. And then, as summer came on, our two friends concluded it was best to try their fortunes up the country. "There is no use in going," said Hardy, "and if I had work for you, I would not listen to it; for I tell you, Mobile is the healthiest place in the United States, barring our epidemics; and we never have yellow fever before the last of July, and New Orleans always tells us when it's coming." But as work was going to be slack in the city during the hot weather, they determined to go up to Montgomery, at least, when they would be guided by circumstances as to their future operations.

(To be continued.)

TREATISE ON THE WOODWORK OF CARRIAGES.

(Continued from page 19.)

As this treatise will doubtless come under the notice of many readers, who are even ignorant of the first principles of elementary geometry; we think it best to define the principal terms that will be employed. Moreover, in order to facilitate the demonstration, we have had recourse to means that are not generally employed in similar works. Therefore to avoid all false interpretation and confusion, we will formulate the principal and indicate the respective solutions on figures represented in perspective and in the most favorable position for the purpose of showing the lines, the surfaces, and the framework on which our demonstrations bear. The future operations will be solved on plans adopted by the projections.

On the other hand, we have treated the patterns in such a style that the reader's attention will not be too closely taxed. For this reason we have divided the demonstrations in order to place the smallest number of annotations on the same figure. Notwithstanding all these precautions, we recommend the readers, who have not made themselves familiar with the geometrical terms, to study those mentioned in the chapter of preliminary principles. When the meaning of the term is well understood, the difficulties will be considerably lessened.

The most expansive operation in the art of sketching, by means of the various manners by which it can be resolved, and by the number of lines that it includes, is that consisting of the construction of the *dihedral* angle. [Dihedral comes from two Greek words, $\delta\iota$; twice, and $\epsilon\delta\omega\alpha$, a seat or face; meaning here an angle with two sides or surfaces.—Ed.]

The construction of the dihedral angle can be performed in three different manners: 1st, on the direct angle; 2d, on the angle opposed to the top; 3d, on one of the supplementary angles. Let us, however, take note that each of those operations can be done either on the vertical plane, on the horizontal, or on the auxiliary plane, giving therefore nine different ways of constructing the dihedral angle.

The manner of proceeding by either of these systems is however not a matter of indifference, especially in practice, this will be proved hereafter; but we must now mention that it is well to study them all. We even invite the reader to construct them on paper, in order to become familiar with them the sooner.

The chief obstacle that will present itself in the construction of the dihedral angle, to those who have not studied descriptive geometry, and many are included in this category, arises from a want of knowing where to commence the work, owing to the absence of reasoning. In fact the construction must be made with six or twelve lines according to the method adopted. Therefore, which line can be commenced with it if it is not known which order will be carried out?

In order to remove these difficulties, we will preface each problem by a solution, indicating the path to be pursued and the means whereby to solve the operation. The results of construction that then follow must only serve to justify the solution on which the reader must concentrate his entire attention.

CLASSIFICATION OF WORK.

PART FIRST.

Representation of the body; the generation of surfaces; the construction, in its full size, from an upright, the projection of which is fixed; the construction, in its full size of a surface of which the projection is given. Rectilinear angles; the construction of the dihedral angle.

PART SECOND.

The formation of some geometrical curves; the formation of some geometrical surfaces; the formation of the rounding of a phaeton; the formation of swelling or sweeping bodies; the intersections of irregular surfaces, and the effects they produce; the formation of oblique surfaces; ideas on mounting carriages; usual dimensions; the joints; the method by which to trace the framing of the principal bodies.

PART THIRD.

Properties of the substances of the various kinds of wood used in the woodwork of carriages; how to distribute them; how to store them in order to insure speedy desiccation, and how to work them.

Dictionary of technical terms usually employed to indicate the various portions of carriage woodwork.

PRELIMINARY PRINCIPLES.

I. DEFINITIONS.—The definition, says Montferrier, in his Dictionary of Mathematics, “is the specification of the figures that distinguish an object, or the enumeration of single ideas that form a composed idea.” Definitions are general or particular: therefore, when the plane is defined, that is a surface on which a square can be applied to all parts alike, so as to be perfectly coincident, the definition is general, because it can be applied to all planes. But if another idea is added to this general one, in order to indicate either the position of the plane, vertical, horizontal or inclined, or its relation to another plane, perpendicular, oblique, in which case the definition is particular.

In general, all geometrical figures are created and constructed according to the definition that always precedes the demonstration.

In these preliminary notions we only define the geometrical figures that are absolutely necessary to illustrate our demonstrations, which only bear on the figured surface; that is, we do not consider the objects for the purpose of fixing the dimensions by comparing them to the units of length, surface or volume, but merely to represent them in their size and in their bearing to each other.

II. The appellation of body, solid or volume, is applied to all objects that pass the three dimensions of length, breadth, height or depth. The bodies that we have specially under consideration, and which are produced by the application of woodwork to the construction of carriages, are designated under the names of bodies, boxes and frames.

III. By subtracting either of the above-mentioned dimensions, so that only two can be considered, the idea is formed of a surface. The bodies, and the boxes, and also all their framework are separated from the space that surrounds them by surfaces.

IV. In the same manner, by subtracting one of the dimensions from the surface, there will be only one space left either in length, breadth or height; this space is called the line. Surfaces are bounded by lines in the same manner as bodies are bounded by surfaces.

V. If a line so diminishes in length that it becomes beyond all given quantities it is called a point. The conception of a point is that it has no extent, but merely indicates a position in space, either the extremities of a line or the crossing of two lines.

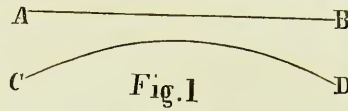
VI. The generation of elements will be obtained by proceeding in an inverse sense. When a point is moved a line is created, the same result that follows the movement of a pencil upon a sheet of paper. By moving a line, a surface is created; the edge of a knife, the blade of a saw are lines that create surfaces when used to cut or dissect any object. By moving a surface, a solid is created; a half-circle turned around its diameter creates a sphere.

VII. Two surfaces meet on a line that is called their line of intersection. The junction or crossing of two lines is called their point of intersection.

VIII. There are two kinds of lines, straight and curved. The straight or direct line is created by a point following the same direction towards another. Hence it arises that there can only be one straight line between two given points.

A curved line is created by a point that continues to change its direction; there are several kinds of curved lines, but in geometry notice is only taken of those whose

points observe a regularity, so that they can always be determined. All curves that are not subject to a mathematical law are regarded as a creation of fancy.



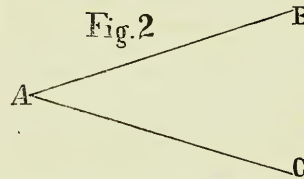
AB (*fig. 1*) is a straight line, and CD a curved line.

IX. A plane surface, as mentioned above (Art. I.), is that on which a square can be brought to coincide in every sense. In carpentry a plane surface is physically obtained on the frames by dressing them with a long plane. This preliminary operation is applied to all parts of frames without exception before being tenoned; because on these planes the tracings of the other surfaces have to be made, and frequently the principal lines of the framework. Therefore, the terms of planes, planed surfaces, planes dressed by the plane, are synonymous. In the course of this work surfaces will generally be designated by the name of planes. We often employ this word also for the conception of imaginary surfaces that will be supposed, as if, in reality, the frames were to be cut according to certain determined positions. These imaginary surfaces are especially employed in the construction of dihedral angles.

X. A curved or bent surface is one on which a square cannot be made to bear on all parts; as with curved lines, there are various kinds of curved surfaces, and geometry only acknowledges those in which all the points of which they are formed can be rigorously determined.

In the following we suppose that the lines and surfaces are traced on planes.

XI. ANGLES.—When two uprights, AB and AC (*fig. 2*) meet they form an angle.



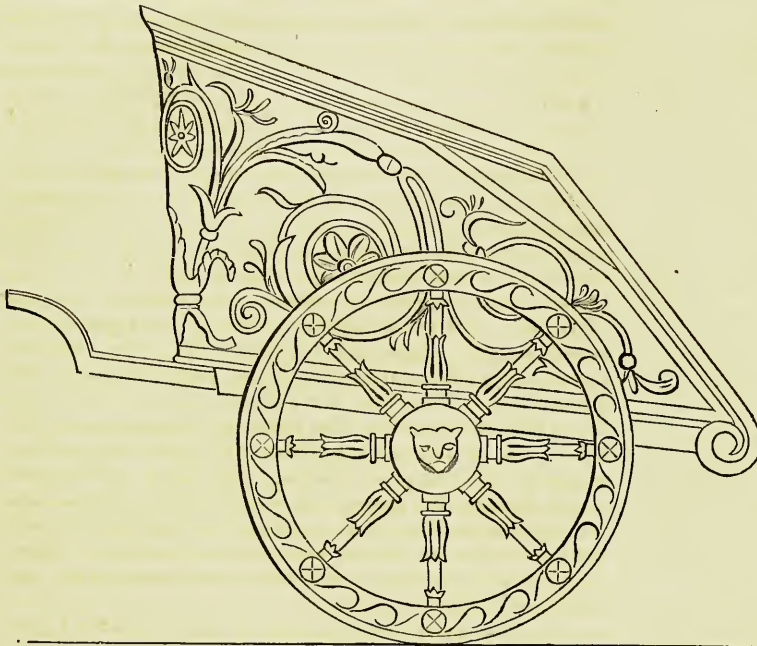
The point A is the top of the angle and the uprights AB and AC are the sides. The angles are indicated by the letter placed at the top, when it is alone; and by three letters, by placing the top one in the middle, when there are several angles around one point. In the first case it would be angle A, and in the second the angle B A C or C A B.

(To be continued.)

OUR GRECIAN CARRIAGE MUSEUM.—II.

THE engraving which we here give represents an ancient chariot now preserved in the Museum of the Vatican at Rome. Its gorgeousness would seem to warrant us in believing that Homer's poetical shadings only described real objects. Modern art could hardly excel it either in model or finish. The scroll work is creditable to the genius of the nation with which it originated. With such models before his eyes, is it any wonder that the Mantuan bard took a lofty flight when alluding to them, or that his countrymen esteemed them so highly, that when at rest with the horses unhitched, the chariot was taken into the tent, and protected from dust by a covering provided for the purpose.

The more common way with the Greeks was to harness two horses abreast in their chariots. These, according to Homer, were “fed on lotus,” “lake-fed parsley, white barley and oats” from “Ambrosial mangers,” to



GRECIAN CHARIOT.—FROM THE MUSEUM OF THE VATICAN.

which his fair maned steeds were bound. The same author tells us that the name of the horses of Achilles were respectively Kanthus and Barius, leading us to infer that it was customary in those early times, as now, to give names to horses of distinguished worth.

In the Grecian language war-chariots were called *Diphros* (two-seated,) and sometimes, too, *synous*, or "double-team." These were of various kinds. Pausanius says that the temples and other public buildings of Greece were decorated with trophies, some of which were bronze. He particularly refers to bigas and quadrigas—twenty-four in number, filled with one or more human figures, accompanied by couriers and men on foot. These, as we shall hereafter find, were thus, with other spoils, consecrated to the gods, out of gratitude for success in war.

VEHICULAR ODDITIES.

ASIDE from the bicycle, the oddities of which—both in construction and operation—have amused the public for a number of months past, a vehicle is a very common place affair, whether looked at as a buggy, a cart or a wheelbarrow; yet this class of apparatus has been the subject of much inventive effort, not always well or wisely expended, but giving from time to time apt and odd illustrations of perverted and useless ingenuity. These devices include, not only plans for making vehicles of cylindrical form, and others for propelling them by a series of claws or feet, but as well, some fifty, more or less, different endless traveling railways, a score and a half of carriages moved by impelling legs or levers, and at least a dozen fitted with screw propellers to insure the requisite progression. In addition to these there have been perhaps forty systems of constructing wheels with elastic peripheries, many of them including the use of tires inlaid with india-rubber, gutta-percha, and the like. Some of these out-of-the-way and useless devices are very old, and have been revived in recent times. An

example of this is seen in the application of propelling feet or legs to one or two self-propelling steam-plows proposed within the past year or two; in the endless track of the well known Boydeell plowing apparatus, invented in substantially the same form in England by one Edgeworth a century ago, and the germ of which existed before his time in an obscure memoir of the French Academy.

No one, however, has been found adventurous enough to revive the plan brought forward many years since of substituting the wheels of a vehicle by spherical ones, which, it was believed, would be better adapted for moving over soft ground. Neither has there been any revival of the far-fetched method of working the traveling carriages of agricultural implements by electric currents from fixed galvanic batteries, proposed by the sanguine Henry Jinkers, in 1840. The plan, however, of making vehicles in the form of cylindrical drums is reinvented every little while, in shapes ranging from a steam-carriage for common roads to a velecipede. It would seem quite probable, moreover, that this form of apparatus might, in some cases, be used for the purpose for which it was patented some seventeen years ago in England—the transportation of night soil, sewerage, and the like.—*American Artisan*.

STAGE-RIDING.

THE pleasures of stage-riding are little known to the great majority of people living this side of the Rocky Mountains, railroads having generally superseded that mode of traveling. The "Colfax party" had a taste of them, however, in their passage from Cheyenne to Denver, and Mr. Bowles gives us a description, which will remind not a few of our readers of the experiences of former days:

"In stage-riding it is peculiarly true that it is the first night that costs. It is more intolerable than the combination of the succeeding half-dozen, were the journey prolonged for a week; the breaking-in is fearful, the prolongation is bearable. The air gets cold; the road grows dusty and chokes, or rough and alarms you; the legs get stiff and numb; the temper edges; everybody is overcome with sleep, but can't stay asleep—the struggle of contending nature racks every nerve, fires every feeling; everybody flounders and knocks about against everybody else in helpless despair; perhaps the biggest man in the stage will really get asleep, which doing, he involuntarily and with irresistible momentum spreads himself, legs, boots, arms and head, over the whole inside of the coach; the girls screech; the profane swear; some lady wants a smelling-bottle out of her bag, and her bag is somewhere on the floor—nobody knows where—but found it must be; everybody's back hair comes down, and what is nature and what is art in costume and character revealed—and then, hardest trial of all, morning breaks upon the scene and the feelings—everybody dirty, grim, faint, "all to pieces," cross—such a disenchanting exhibition! The girl that is lovely then, the man who is gallant and serene—let them be catalogued for posterity, and translated at once; heaven cannot spare such ornaments, and they are too aggravating for earth."

SWEEPS FOR SCALE DRAFTING.—VI.



SWEEP FOR SCALE DRAFTING.

WE now give another pattern for sweeps—being the sixth in the series—which will be finished in about three numbers more. These will be found of great value to such as contemplate practising scale-drafting in carriages, and may be obtained at a cheap rate, providing they are cut from rosewood veneers after the manner we have before intimated in these pages.

SLEIGHING IN RUSSIA.

WHEN the roads are rough, the continual jolting of the sleigh is very fatiguing to the traveler, and frequently, during the first two or three days of his journey, throws him

into what is very properly designated the road-fever. His pulse is quick, his blood warm, his head aches, his whole frame becomes sore and stiff, and his mind is far from being serene and amiable. In the first part of my land journey, I had the satisfaction of ascertaining by practical experience the exact character of the road-fever. My brain seemed ready to burst, and appeared to my excited imagination about as large as a barrel; every fresh jolt and thump of the vehicle gave me a sensation as if somebody were driving a tenpenny nail into my skull; as for good nature under such circumstances, that was out of the question, and I am free to confess that my temper was not unlike that of a bear with a sore head. Happily, however, I kept it pretty well to myself, and as my companion was affected about as I was, we managed not to disagree.

Where the roads are good, or if the speed is not great, one can sleep very well in a Russian sleigh; I succeeded in extracting a great deal of slumber from my vehicle, and sometimes did not wake for many hours. Sometimes the roads are in such wretched condition that one is tossed in his vehicle to the height of discomfort, and can be very well likened to a lump of butter in a revolving churn. In such cases sleep is almost, if not wholly, impossible, and the traveler, proceeding at courier speed, must take advantage of the few moments' halt at the stations while the horses are being changed. As he has but ten or fifteen minutes for the change, he makes good use of his time, and sleeps very soundly until his team is ready.—*Harper's Magazine.*

Pen Illustrations of the Drafts.

AMERICANIZED VICTORIA.

Illustrated on Plate XIII.

EVER since the great exhibition in London, in 1851, this description of vehicle has, under modified forms, been very popular among certain classes of customers, and with good reason, not simply on account of its lightness, but because they also make an exceedingly stylish and airy turnout for a small family. Our drawing is from an original design in which the artist has studied lightness with remarkable success. Not only has he adopted the latest points of Parisian art, but has combined therewith many decidedly American, the whole making—in our judgment—a very handsome design. The reader will observe with some interest the new mode of applying top-joints adopted in this instance.

Wheels 3 feet and 3 feet 10 inches high; hubs $3\frac{3}{4}$ inches by $6\frac{1}{2}$ inches; spokes $\frac{7}{8}$ inch; rims $1\frac{1}{2}$ inches; tire, steel, $\frac{1}{4}$ by $\frac{7}{8}$ inch. A cant with a little alteration, readily made—applicable to this vehicle—will be found on page 53, volume X. Price of this phaeton from \$1,000 to \$1,200, according to finish.

PHAETON WITH FALLING-TOP.

Illustrated on Plate XIV.

THESE Phaetons are very convenient for summer watering places, being hung off low so as to make them

easily accessible for the ladies, by whom they are principally used. A "ruble" has been attached in this instance for a groom, a thing seldom done in this country, although very common in Europe. The top should be made to take off at will, so as to make it a Poney Phaeton. The top of the back quarter may be left open as in the drawing. Color of the body vermillion, with fine line black stripe near the mouldings; carriage blue, with black and white stripe, this last fine on the wide black one. Linings dark blue cloth.

Wheels 3 feet and 3 feet 10 inches high; hubs 4 feet by $6\frac{1}{2}$ inches; spokes 1 inch; rims $1\frac{1}{2}$ inches deep; tires $\frac{5}{8}$ by 1 inch, homogeneous steel. Price about \$650.

SIDE-BAR BUGGY.

Illustrated on Plate XV.

SQUARE-BODIED buggies are again gradually coming into fashion. The one we have under consideration, has been hung on side-bars in combination with a side-spring of single-leaf steel, which makes it look much lighter than when constructed in the old way. The details applicable to this portion of the buggy will be found among the "Sparks from the Anvil," published with this monthly part of our Magazine. The size of the wheels (the lightest made) are given in detail under the head of "Coal-box Road Buggy," on the 10th page of this volume.

IMPROVED CUTTER SLEIGH.

Illustrated on Plate XVI.

This elegant design is the contribution of an esteemed friend who takes considerable interest in this Magazine. It is different from anything we have yet seen in the line of sleighs, and therefore quite novel. The builder will have to exercise some skill in constructing the round back. The mock-blinds and scroll on the back quarter may be done in colors. A sleigh built on this model does away with the old leather rester formerly used, which soon got out of order and proved very annoying to persons of good taste.

SIX-SEATED FAMILY SLEIGH.

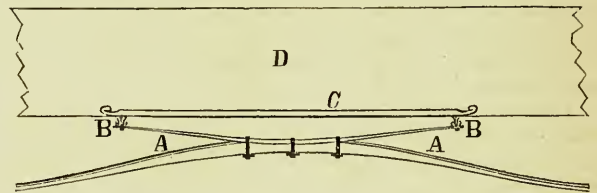
Illustrated on Plate XVI.

This is another beautiful design from the same ingenious friend who contributed the preceding one to our columns. This sleigh should track about 3 feet 4 inches. The bottom side will require to be about 6 inches wide to furnish the requisite width for getting a suitable swell, and secured to the bearers with stout screws or light bolts at least 3 feet apart. The color of paint is a matter of so much taste with different individuals that it is only a work of folly to prescribe for others in this matter. The trimmings usually employed are pushes of different shades, red and green predominating.

Sparks from the Anvil.

STEEL COMBINED WITH WOODEN SIDE-BAR SPRINGS.

A CERTAIN class of customers are very partial to the wooden side-bar mode of hanging up very light no-top buggies, such being much stiffer, and freed from the tremulous motion found where elliptical springs are employed, and, therefore, much better adapted to taut-rein driving. The greatest objection to them, heretofore, has been, they were a little too stiff for easy trotting, and a little too clumsy—as formerly made—for gracefulness in appearance, when contrasted with other portions of the same vehicle, to which they have uniformly been applied. Various plans have been resorted to for remedying these difficulties; but among them all, we have seen none which has pleased us better than the one adopted in the buggy, on Plate XV, of which we give an enlarged view, with this article.



In the diagram, AA is a single-leaf spring, nicely bedded on the top of the side-bar, and secured thereto by three light clips, the side-bar itself resting on half springs at the ends. BB are the ends of two cross-bars on which the body D rests; and C a light wooden bar connecting with the ends of bars BB, through which it is bolted to the ends of the spring.

SHOEING HORSES.

WE have recently read Capt. Cockerel's report issued by the War-office, on a new system of shoeing horses introduced by Monsieur Charlier, of Paris.

As doctors are usually very fond of horses, and may be supposed to have their own opinions, we venture to give ours. No doubt many objections to the old system can be urged.

The process adopted by farriers of cutting away the strong and constantly renewed horn on the sole of the foot appears to be physiologically incorrect. The shoes are almost always too heavy, are often badly placed, and contain too many nails. It has often occurred to us that some plan should be devised for fixing the shoe in such a way that it could be readily removed or replaced. Farriers will no doubt ridicule the idea of taking off a horse's shoes like those of a man when he goes to bed; but, however novel the idea may be, it is, we are convinced, anything but ridiculous in principle. Let it be granted that nature has constructed the feet of the horse on a plan very different from those of his rider; but no one, unless he were intoxicated or mad, would voluntarily think of sleeping in his boots. A dead weight of iron through which the foot sustains a series of incessantly repeated concussions during the day, can have no other effect than that of causing an unnecessary expenditure of force with a commensurate amount of fatigue; and the comfort of the animal, as well as the requisite development and growth of the foot which have to take

place during periods of rest, cannot be properly accomplished when heavy iron shoes are constantly maintained upon it.

We nevertheless do not see any plan of doing away with the nails to fix the shoe to the foot; but if they must be employed, they need not be *misused* as they generally are. Horse-shoeing may be best compared to man-shoeing. Man and beast both suffer; but the former has made an advance lately, in consequence of his being able to express his feelings pretty loudly to his shoemaker, and insist on being properly and comfortably fitted. We have considered M. Charlier's theory from the time it was first promulgated, and we confess we are not convinced that its great superiority is such as to demand its adoption. If the ordinary horseshoe be studied in connexion with the foot of the animal it is intended to fit, the shoe will commonly be found to be wrong in the following particulars: It is made too narrow at the fore part and too wide at the back. It is fixed with eight nails, extending all round, and confining the heel; while the tender parts of the foot are left exposed and fitted to catch every sharp stone. The shoe ought to be rounder than that made by farriers, and secured by five, or at most six nails round the toe.

Good fitting does more to hold the shoe on than the nails; but this gives the smith more trouble, and he finds it easier and cheaper to drive in a lot of nails all round, and does so.

M. Charlier is right, we think, in deprecating the cutting away the frog, and this need not be done with ordinary shoes more than with his; but cutting and trimming makes the foot look neat, and, therefore, grooms and smiths like it.

It is very probable that the best, easiest, and safest form of shoe would be something between the Turkish round plate, with a hole in its center, and ours, because what the horse misses in the ordinary shoes is a support for the heel, on which the weight of his body rests and the elasticity of his action depends. This class of shoe, called a bar-shoe, clumsily made however, is frequently used with horses when they have weak heels or corns, and it is found that they can work well in such a shoe when they cannot in one of a common form.

There is, however, a strong feeling against it, because it is customary to suppose that a horse is unsound which wears shoes of this description.—*London Lancet*.

Paint Room.

IMPROVEMENTS IN COACH PAINTING.

BY J. S. LEGGETT.

Is it going to require three long months to paint a carriage when discoveries have long since been made to convey messages thousands of miles within a flash of the vivid lightning? when machinery has been invented to carry us over the ground on wheels at the rate of sixty miles per hour? We are living in a country which is the seat of civilization, refinement and luxury. Mechanical intelligence and enterprise is fast taking labor from the hand as it were, and placing before it a more inex-

haustable power. So it is useless for us to argue the propriety of the old and long process in carriage painting, yet many claim it is the only proper method. Men have not discovered ways of painting carriages by machinery, but they are making vast improvements in materials used. It was once thought necessary to take ninety days to paint a coach in order to have a durable surface; but, at the present time, some of our largest establishments in this line of business are turning out very beautifully finished vehicles in twenty-six days. The old system of lead painting has been abandoned by a large number of shops, and an article called "permanent wood-filling," has been substituted. We formerly applied a coat of oil priming and let it remain at least seven days, after which gave the body from three to five coats of lead, letting each coat stand three or four days before the English filling or a similar substance was applied. We now give the job one coat of the wood-filling, and after it has remained four days only it is ready for rough stuff. And I will say here I sincerely believe if the following coats are properly prepared and applied over the wood-filling, the latter will make a more durable surface than the first. At the same time we have used less stock, exhausted less labor, and finished the work in less time, giving better satisfaction to the customer, to the employer and to ourself.

Do not think I am recommending this system of painting for the benefit of the invention, or the manufacturers of the filling. No; to the contrary. I am writing for the benefit of carriage builders and painters at large, for no doubt some have condemned the above system simply because they have not tested it properly or long enough to become acquainted with its nature, or to appreciate its merits.

In conclusion allow me to ask one question, has there ever been any substance introduced in a paint shop, that, when only one thin coat is given (previous to the color), will protect a carriage, especially the iron work, through the test of weather and climate equal to the Permanent Wood-Filling?

LEAD POISON.

LEAD POISON—Painter's Cholic—is evidently the result of slovenliness on the part of the workmen, for such only appears to be troubled with it. Not long ago, a walking-stick maker in London, who used white lead in his business in fastening on the tops of fancy sticks and whitening them, died under such peculiar circumstances, that a jury of inquest was summoned to inquire into the cause, which, after due consultation, returned a verdict, "that the deceased expired from the mortal effects of lead poisoning." During the investigation it was ascertained that this poison had not been inhaled in the paint room, in breathing, as many workmen suppose it is; but had been taken into the stomach from the hands, with his food, in consequence of his neglect to wash them properly. There are many other paints besides lead which are exceedingly poisonous in their natures, and cannot be used with impunity, without exercising great caution. Painters should never eat until they have thoroughly washed their hands with soap and water, and, as an extra protection, rinsed out their mouths well. We feel assured that those who follow this advice will not need to take medicine to counteract the evil, but will be safe from its effects.

R. S.

PINK COLOR IN WHITE-LEAD CORROSIONS.

BY WILLIAM BAKER, F.C.S.

IN some contributions to the metallurgy of lead, published in the *Philosophical Magazine*, in 1862, I attributed a certain pink tint, occasionally seen in white-lead corrosions, to the presence of small quantities of copper. As the results of any experiments upon the corrosion of lead, by the combined action of fermenting bark, acetic acid vapor, and atmospheric oxygen, can only be arrived at after the expiration of ten weeks or three months, the progress of further investigation in this matter has been necessarily slow. I have been unable to isolate the coloring matter; but I wish to correct the statement that the pink color is due to copper, and to detail some conclusive proofs that it is caused by finely divided silver.

Having obtained many tons of lead which contained only traces of copper, I found, in several instances, the pink color still quite evident in the corrosions. By the method which has been employed for refining the metal, there could be only silver left as an impurity in any perceptible amount. I therefore sought for evidence that this substance could produce such a result. Upon analyzing five thousand grains of a perfectly white corrosion, and one which was distinctly and uniformly pink, the result showed that the composition of the two samples differed mainly in the amount of silver:

	Cu O.	Fe O.	Ni O.	Ag.
White corrosion0050	.0022	Trace.	.0005 per cent.
Pink corrosion0060	.0022	.0013	.0058 "

A small quantity of silver was then added to a portion of the lead which had produced the white corrosions, and this was again submitted to the corroding action. The result was a decided pink carbonate. This synthetic experiment was repeated many times, with a like result, upon various samples of lead which had before produced a white carbonate; and I find the pink color begins to show at the edge of the metallic portion left uncorroded when the silver amounts to more than one-half ounce per ton of lead. A decided color, which is uniform throughout a mass of the corrosion, is obtained when the silver amounts to about one and a half ounce per ton. A fracture of a dense corrosion often shows the crystalline character of the metallic lead, which is defined to some extent by the pink color—as if the silver had segregated out a certain faces of the lead crystals. By the addition of a small quantity of arsenic or antimony, the pink color was replaced by a dull purple; and a clear pink tint was only obtained when all the oxidizable metals had been removed.

I come now to the discussion of the state in which the silver exists to cause a pink or reddish reflection of light. Silver does not oxidize under the conditions of exposure to acetic acid vapor and oxygen of the air. Moreover, oxide of silver and silver carbonate are themselves decomposed and reduced to a metallic state by a heat below that attained in the stacks of fermenting tan. The silver must consequently be in the metallic state. As confirming this statement, I made the following experiments: Silver carbonate was titrated with white lead and water and then dried. Upon increasing the temperature, a delicate pink tint became visible upon the reduction of the oxide of silver. If a small quantity of silver carbonate be precipitated along with lead carbonate, the color, upon

drying and heating, is more uniform, and it may be obtained exactly resembling the tint seen on white-lead corrosions.

The color of the photographs obtained by means of silver salts is also evidence in favor of the metallic state of the silver; and I may also adduce the fact, that a ray of light, when reflected ten times from a polished silver surface, is distinctly of a reddish color.

ORIGINAL MONOGRAM.

Illustrated on Plate XV.

THE Monogram printed on Plate XV., is a contribution from a friend, Mr. Willie Fest, of this city. In it are combined the letters, H. W. S., which if not as complicated as such things are sometimes presented, will yet, we trust, be found useful. We could tell the painter how to shade the different letters, but since this is matter of taste with the artist, we shall in this instance leave it with him.

Trimming Room.

STOCK FOR TRIMMERS.

IN our day, success in trade depends very much upon system; so much is this the case, that few, except such as have a large capital and some enterprise, are able to make and lay up any money in the carriage-making business. The man, who, for instance, is obliged to run to the store for just enough cloth to trim a single buggy, suffers from waste, especially in cutting out head linings, whereas, should he have several to finish, he can so contrive as to work up nearly, or quite all the scraps, which will be a considerable saving where material is costly. Again, some portions of the linings are so much alike in all buggies, victorias, etc., that the same workman may be kept on one kind of work nearly all the while, and since practice not only makes perfect, but likewise increases expedition in doing the work, somebody saves in labor over the small manufacturers—either the employer who hires his workmen by the day, or the employee who works by the piece. This is one of the secrets of success in large shops, in turning out better and nicer work than is done in smaller ones. The following table of quantities in cloth may be useful to the small manufacturers, for whose convenience they are published:

For lining a buggy body, 1½ yards; head lining, 4½ yards. When there is a back to trim, from a ¼ to ½ yard more will be required in the body.

For a four-seat phaeton, in the body, 3¼ yards; in the top, 4½ or 4¾ yards, proportioned to size. For a six-seat phaeton, in body, 4¾ yards; in top, 4½ to 4¾ yards.

For a six-seat rockaway, with shifting front, from 13 to 14 yards.

For a four-seat coupé rockaway, 11 yards. Coupé (circular front), 8 yards.

For a Brett, 10 yards.

For a coach, 12 yards.

For a full Clarence, 13 yards.

For a landaulet, 10½ yards coteline.

A reference to our prices current shows the price of cloth at present, to be: For body linings, from \$3.50 @ \$5; head lining, from \$2.50 @ \$3; cotelines, from \$4 @ \$8. Some persons buy German cloths because they are cheap. These shrink so much that they draw a top out of shape when they get wet and dry again; and if

sponged before they are used—this should always be done—they shrink so much that they are then no cheaper than the English, and much more liable to fade, seldom being “fast colors.” The good qualities of the cloth used in trimming go far in recommending a vehicle to the customers, and is a matter too often overlooked by some carriage-builders now-a-days.

Editor's Work-bench.

CARRIAGE-MAKING ELEVATED.

FOR many years speculative minds have been occupied with plans for the more speedy transmission of passengers and merchandise, than has yet been accomplished, either by horse, wind or steam power on terra firma. If these speculators have thus far failed in reaching the acme of their ambition, still there is very little doubt but that their labors, in some indirect way, has contributed much to the expedition of travel, as enjoyed by the civilized nations of the world in this nineteenth century of universal progress. The aerial highways, on which castles have been frequently erected, only to be *blown away*, and which appears very pretty in the brain of the visionary, may yet be laid out in maps of the coming age, by the coming man, between earth and the starry world. Although our faith is weak in this expectation, still there are in existence to-day many improvements considered equally visionary once as these aerial highways with their flying vehicles are now. Who, one hundred years ago, would have for a moment entertained the belief that news would be every day transmitted from Europe to this continent in a few hours, and appear every morning in print at the breakfast table, in connection with that transpiring at our own doors? And so of many other things which we need not recapitulate here, since they have become patent to the minds of the present generation. We have become quite accustomed to receive things hitherto counted visionary as living realities, and, therefore, shall not be greatly surprised should our carriages, on some favorable afternoon, be seen in mid-air on their way to and from Boston to San Francisco, and possibly to Europe. When the time arrives the Alabama question will soon be settled, for we need only fit out a number of aerial war-chariots, man them with indignant Yankees and Irishmen, to make Johnny Bull tremble in the “fast-anchored isle,” and hold it by possession until he pays us the last farthing. Having done this the Irishmen might be left *on the premises*, to settle their “old scores” with this same “old English gentleman.” But this is a matter to be settled by our successors, and we therefore turn to our present experiments.

Just now our Pacific friends are elated with the success attending an aerial ship, which, in an experiment

made with it, is said to have given complete satisfaction to the engineers present. This has led to the formation of an Aerial Navigation Company, the chief object of which is for the purpose of raising funds for the purpose of assisting the projector in constructing a full-sized air ship. It is expected that it will be completed in about two months, and then the Pacific Railroad Company will find a competitor which will speedily regulate its charges to a sliding scale, the tendency of which is downward. The aerial ship is to be named the Avitor, and be propelled by an engine of five-horse power, and elevated and supported in the air partly by gas and partly by planes on each side, at the center, extending some twenty feet from the ship, on each side. The planes are constructed in sections, and supplied with a rudder for elevating or depressing the car at pleasure, as required. This arrangement we are told will stop the sport old Aerial has hitherto made with former inventions of this kind, and secure certain success in this instance. We, ourselves, remember some years ago to have witnessed an experiment in the old Broadway Tabernacle which *promised* a good deal, *and exploded in gas*, just as the one under consideration undoubtedly will. The component portions of this Avitor are too *largely* gas to practical minds to ever prove successful. But we shall see what it is made of very soon. Meanwhile we hope our carriage-making friends will keep quiet—their occupation is not yet gone.

MALADMINISTRATION OF THE PATENT LAWS.

RECENT intelligence from Europe informs us that the repeal of the Patent Laws are seriously agitated in England. This has stirred up a clamor among the scientific journals on both sides of the Atlantic, as they see that should such take place, their chief occupation would be ruined, the most of them largely obtaining their support from securing patents for such claims as may be presented by *pseudo* inventors, many of them possessing no originality whatever. This fact is so very notorious, among carriage-makers especially, that they have come to look upon nearly everything in the patent line as mere humbugs, and not worthy of notice. The Patent Office, as conducted in this country, is undoubtedly an institution for legalized wrong, and ought to be radically overhauled. Instead of repealing the laws which are only designed to secure the proper interests of the ingenious inventor in what is richly his own, let them be thoroughly reformed, and more care taken that *thieves* are deprived of the privilege of defrauding the public under the shadow of what is now denominated law. Were they administered with the care which ought to characterize them, full one-half of those on the weekly “Official Lists” would never appear, and only such as were palpably *original*, and of some value, would receive the sanction of law from Wash-

ington. As now managed, the most visionary claims are allowed, and no person who applies is disappointed in his hopes. Should any person wish to be considered a *genius* now-a-days, he need only send in a model and file a claim, and he finds himself indorsed by the examiner at once! No wonder, then, that Patent Offices and the attaches have become a bye-word and a scorn in the land. Let our examiners take more time in their examinations, and do their own thinking, trusting less to the representations of patent lawyers, and the pretensions of knaves.—If this were done, and none but really *new* inventions were patented, no one would call for a repeal.

How much the carriage-building community has been wronged by the action of the authorities at the seat of Government has been amply illustrated in our pages on several occasions. Two prominent examples present themselves to the minds of our readers, the chief of which has been the notorious "Perch-coupling" case, now fortunately "played out" by limitation, and the "Clip-king-bolt" speculation, kept alive through the *gullability* of the craft. The first was evidently the offspring of political influence, and the last of legal perseverance and audacity. Neither of these ever had anything stronger than the *color of law* to protect them, and have only succeeded, because fools—some of them—are yet living. The first has been several times before the courts and defeated; the last never was carried thus far, because its parents knew full well—being cunning—that were they to sue for infringements, they would destroy the egg from which their chickens are hatched. They manage, however, by threats and brow-beating, to pluck now and then a fat goose from the *oleaginous matter* of which they *grease* the wheels of their disgusting existence. How much longer will this be tolerated?

VARNISHES, WOOD-FILLING, &c.

IN our advertising pages the reader will find some very interesting and instructive remarks, emanating from the very enterprising and reliable house of Valentine & Co., at "the Hub," on the subject of varnishes and other matters interesting to all who are obliged to use paints. It will not be expected of us that we go into details here, the subject having been amply ventilated in the advertisement, which all readers are invited to dissect for themselves. But we may add that we have been a long time acquainted with the members of the firm personally, and know that they have never stopped at expense in their efforts to produce the best articles in their line, which improved scientific appliances secure. We can vouch, too, for their candor and honesty. They never intentionally misrepresent an article as good, without having good reasons for believing it such; and should the article sent unfortunately not satisfy—which we think

seldom happens—we have ever found them ready to exchange it at their own expense. In a word—if you deal with them, you run no risk of being Jewed, and have the assurance that you are dealing with men with whom it is a real pleasure to transact business, aside from the advantages secured thereby.

TRADE STRIKES.

ALL workmen are at liberty to work or not, as they best think fit, and can also arrange the conditions on which the work is to be conducted. Liberty is a fruit of the present era, and ought not to be curtailed or limited in any manner whatever. The unions of certain branches of trade, however, for the purpose of organizing so-called strikes, whereby the operations in that branch are totally stopped, either for the purpose of exacting higher rates of wages or other advantages, is an abuse of freedom. Such acts merely tend to excite evil passions, and seal the doom of many families, who, but for such license, would have continued on the road to prosperity. No single branch of trade, at the present epoch, can be said to be a monopoly, for the manufacturers are not only obliged to enter into competition with their own countrymen, but also to foreign manufacturers. When a strike occurs, the manufacturer has only three means of escape, viz.: To accede to the increased demands of his workmen, and thereby diminish his legitimate profits; to seek fresh hands from other parts; or, to abandon the branch of trade, in the machinery and buildings necessary to which, he has perhaps invested the bulk of his fortune and credit. In either case, the workmen are likely to be the losers, because, even if their demands are acceded to, the extra charge thus put upon the produce, will, in all probabilities cause the trade to diminish and ultimately stop. The successive strikes in various branches of trade throughout Great Britain during the last few years, have furnished ample proof of the evil results of such acts, and should serve as serious warnings to all tradesmen. The financial results of strikes to all who participate in them are self evident and require no comment, but the moral results are disastrous in every respect. Many men, who were formerly known as steady, industrious workmen, become accustomed to pass days and even weeks in idling and in the attendance of social meetings, where they are brought into immediate contact with parties who make it a profession to work up the laboring man's worst feelings. Moreover, men acquire the habit of depending upon others for the scanty support meted out to themselves and their families pending the duration of the difficulty. Financial difficulties are to be overcome, but when a man acquires the pernicious habit of depending upon others, instead of working for his own support, the result is incalculable, and many families of

once respectable tradesmen can safely attribute their poverty of to-day to the misplaced readiness evinced in supporting a strike. Let every man be free, especially in the question of labor, but let wisdom guide his actions.

AN IMPORTANT SUBJECT.

OUR readers will no doubt have noticed the articles we are now publishing in this Magazine, under the caption of a "Treatise on the Wood-work of Carriages," which we have had translated expressly for us at considerable expense from the French, by a competent scholar, attached to the editorial staff of the *New York Herald*. The letter-press will be copiously illustrated by geometrical diagrams, and continued through several monthly parts until the whole is complete. Our next article will be accompanied with no less than twenty-four diagrams. Need we say to the reader that this will be—when finished—the *only* genuine French Rule ever published in the English language? This translation will include all the very latest improvements in the rule made by the French scientists, and should be studied by every wood-workman among us. To secure it in full, please send in your subscriptions for the eleventh volume of this Magazine, which we can still furnish from the commencement. Where practical, remit in postal order, as being the safest way.

SPECIAL NOTICE TO THE TRADE.

Our friend Henry Pretzselmer, of Wilmington, Delaware, having leased his large Carriage Manufactory, by the 25th of September, 1869, will sell his extensive stock of finished and unfinished carriages, also materials and tools, at public sale, commencing on Wednesday, September 22d, 1869; the sale continuing until all is sold. This sale will be positive, without regard to weather or under-bidding. The stock includes everything appertaining to a first-class carriage factory, valued at \$15,000, and is well worth the attention of the trade. The sale will begin with about fifty finished carriages of every description, at 10 o'clock on Wednesday, Sept. 22.

SEAT SUPPORTS.

By referring to our advertising columns, it will be seen that the Messrs. Linton, of New Bedford, have disposed of their right and interest in the "Ornamental Malleable Iron Supports," which have been pronounced a success, to Mr. Isaac R. Potter, of the same place. Four qualifications recommend them to the trade—ornamentation, durability, convenience and economy. The new circular of Mr. Potter, presents us with numerous certificates from members of the craft, recommending the Risers in the highest terms. They may be ordered through any dealer in carriage-materials.

OUR CHARTS.

WE have in stock three Charts, numbered respectively 5, 6 and 7; the three containing over eighty designs of approved styles. They are all of a uniform size, and may be had by mail or otherwise for \$2.25 the set. Price, single, \$1. No carriage-shop should be without them, as they are found a valuable auxiliary in obtaining custom. We could—were it necessary—bring numerous testimonials to this fact. When we put in type the business card, the additional expense is \$2. For large quantities, we make a great reduction from the prices named above. Please send along your orders and receive copies by return of mail.

TRADE NEWS OF THE MONTH PAST.

ONE of the local Bricklayer's Unions (No. 4.) in this city, limits the number of apprentices any one man shall take to two, and forbids him taking "scabs" at all. Some men have been so determined that, in the face of the *by-laws*, they have taken four apprentices, and then again, others have set fifteen or sixteen boys to work without any agreement. To cap all, they employ non-society men, "and the Union men consider their interests endangered." *This is awful* in a free country! . . . A clothing manufacturer by the name of Sturtz, in Brooklyn, being himself a member of the local Union, was very zealous in having "watchers" set for his neighbors, but when such were placed on his store, subsequently, he had them arrested. "Consistency, thou art a jewel," and *the consistency* of some Unionists is astonishing. . . . The Laboring Men's Convention in Virginia City, Nevada, tells the public that the importation of Asiatics and their employment in the mines or other fields of labor must stop, or it will bring on an "irrepressible conflict," likely to end in bloodshed and ruin. When shall we have peace? . . . The Tailors who have been set to watch the shops refusing to comply with their exactions, having been threatened with arrest, have substituted their wives for the service instead. These, enclosed in petticoats, are not so readily distinguished as enemies. In view of these facts, we submit the following: If it takes nine tailors to make a man, how many women will it take to make a tailor? . . . One year ago, when the Bricklayers struck for eight hours, an agreement was settled with the bosses that each might take two apprentices. The bosses afterwards complained of the hardship of such restriction, and the workmen having re-considered the matter afterwards, *allowed* an increase in the number. This "liberty" has been abused, the bosses having "arbitrarily"—this is the word used by the workmen—increased the number since. In consequence of *this infringement of their rights*, Union No. 2 has ordered a strike until the "tyrant bosses" reform. . . .

Miss Susan B. Anthony, of this city, having been elected President of the Working Women's Union, and proposed as the delegate to the Philadelphia Convention, in anticipation of such a contingency, the Engineers' Protective Society have instructed their delegate to vote against her admission. These engineers seem to have very little regard for women's rights. . . . Last year, the working men mixed up politics with unionism, and selected men of their own choice to annul the "Conspiracy Laws" of the State of New York, which the candidates, before the election, promised to do, but afterwards said little about. In fact—workmen say—the last legislature "promised them everything, and gave them nothing." This year, the workmen will try once more—likely with the same result.

REVIEW OF THE MARKETS.

WE hear of dull times among carriage-makers from nearly all points of the compass, caused, it is said, by the scarcity of money and the general declension in almost every department of business. In consequence of this state of affairs, manufacturers have been compelled to discharge large numbers of their hands, fearing lest their stock of carriages should accumulate, with their liabilities, beyond the dictates of prudence and the limits of control. Very little work is being made to order, and the repositories have not been, as a general rule, emptied with the encouragement of former times. Sales from the repositories, in a few instances, in June were quite flattering, but are now quite dull, almost everybody having gone out of town to the watering places or elsewhere, as is common at this season of the year. In former days—before our civil war—orders from the South favored the carriage-maker very much in his fall business. This has been cut off ever since, and it is not likely—in view of the poverty of the people in that section of the country—to revive again very soon. We hear of a few customers from the west and south-west, making inquiries among the repositories on Broadway, the general complaint being that prices charged for good work rule too high to prove profitable to them, and that cheap work will not sell at all. In Philadelphia, the chief relief from the dullness experienced in New York, has been in orders from the Pacific coast for buggies and coaches. Among our Boston friends, trade has been somewhat better, more carriages have been sold in July than in the corresponding month last year. This has given encouragement for hope that the fall months will prove more active than usual. The velocipede manufacture has entirely dropped off, and machines which last winter brought fabulous prices, can now be had for a mere song. Whether this is due to waning popularity, or the sultry weather, we are unable to state decidedly. Advertisers of velocipede wheels, have now all withdrawn their favors, under the conviction that since there is no demand

for them, the machines must have about "played out." The coming winter will no doubt settle the question definitely.

EDITORIAL CHIPS AND SHAVINGS.

THE WORLD ON WHEELS.—Under this title we have in advanced preparation a general history of carriages and customs of the various peoples with whom they have been favorites, from the days of the Pharaohs until now. It will probably make a large octavo volume of some five hundred pages, with about four hundred illustrations from the relics of Antiquity, and the work-shops of modern times, and it will be found alike interesting to the general reader and the carriage-builder. Our plans are not sufficiently matured to fix the price—which we intend shall not exceed five dollars—but we are ready to receive the names of subscribers to it that we may have some data from which to fix the number of copies printed. We only want the names now, and shall call for no money until the volumes are delivered. Please send in your orders.

ECCENTRICITIES IN VELOCIPEDES.—Since the great impulse given to the manufacture of velocipedes by their universal adoption throughout Europe, innumerable improvements have been patented. We hear of two startling novelties from France and Geneva. In France, M. Bluin has adapted to his velocipede a pair of sails, and in a fair wind skims along like a nautilus, at a rate exceeding the greatest speed hitherto attained with the ordinary vehicle propelled by the feet; while at Geneva, an ingenious musical box-maker has actually constructed a "*velocipede à musique*."

EVENERS.—Our cotemporaries, *The American Agriculturist* and *The Rural New Yorker*, have each had several articles lately on eveners and whiffletrees in which we find valuable suggestions. From the *Agriculturist* for August we take the following extract: "Since three horse eveners are in such demand—says a correspondent—I have concluded to send a description of one that I am using, not having seen it described in the *Agriculturist*. I take a bar of iron ($1\frac{1}{2} \times \frac{1}{2}$) about 8 inches long, and have a link welded in one end, and a long hook, say 8 inches long in the other, so as to make the distance between the centers of the holes 6 inches. Two inches from the link I put another. When the bar is attached to the plow it stands upright, and is attached to the plow by the link nearest the middle, short end down. To the other link I fasten an evener $4\frac{1}{2}$ feet long by the center, for two horses. The single horse is hitched to the upper end of the bar. The advantages claimed for this plan are, that the horses are nearer the plow, and the middle horse being hitched to a single-tree, six inches above the others, enables me to use a shorter two-horse evener than otherwise."

CHIPS FROM THE "HUB."—A new carriage factory is building at Ansonia, Conn., which will soon be occupied by Messrs. Styles & McKee. . . . F. P. Wallis is building a large carriage shop at Clinton Junction, Wis. . . . Messrs. Henderson Bros., of Cambridge, intend soon to build a large brick manufactory in place of their present one. . . . A new carriage factory has been erected at Calais, Me., by Wm. J. Granger and T. E. DeWolf. It is said to be large and commodious. . . . The new carriage factory of the Putnam Manufacturing Company at Bennington, Vt., is nearly finished. It is 100 by 50 feet, and two stories

high... Theodore Salorgne, of St. Louis, began the business of carriage building in 1838. The factory, which he now occupies, was built in 1857. It is four stories high, and has an area of two acres. His product includes coaches, landaus, buggies, etc., and with his present force of sixty-five hands, he can turn out a carriage every two days... Messrs. Carr & Allen, of Amesbury Mills, are doing a thriving business in their new factory, which was built last year. They give special attention to light work, and turn out from two hundred to three hundred carriages per year, most of which are taken out by the New York and Western trade... F. H. Randlett, of Dover, N. H., has increased his number of employees to twenty-five. His specialty is light work, and he turns out from fifty to seventy-five carriages per year, and an equal number of sleighs... In Amesbury, Mass., it is estimated that over four thousand vehicles will be manufactured during the current year... The carriage factory of Robinson & Brother, in Wilmington, Del., was destroyed by fire a few weeks ago, and they are now occupying temporary quarters until a new factory can be built or bought. They employ 40 to 50 hands... Francis Chapman, of Cambridge, Mass., whose carriage factory was recently destroyed by fire, is now rebuilding it, and will soon have increased facilities for manufacturing.

WHEN TO CUT TIMBER.—A writer in the *Rural World* says:—"I have worked in timber, and experimented as to the best time to cut it to make it last well; and by actual observation have come to the conclusion that from the 15th of August to the 15th of September is the best time in the year. Timber cut then worms will not enter. The bark will remain on for about twelve months, and then, when moved, fall off of itself, without any trouble. But my brother farmers will say the season then is too hot to labor in the timber. Admitted; but one tree cut then is worth three cut in the winter; if a person can only cut his timber down at this time, he is not necessitated to then work it up, but can let it lie till the winter following, and it will do as well as being worked at the time when cut—and at his leisure, if it is two years after, he can work it up.

"Hickory timber cut at this time makes good rails, that will last nearly as well as oak. But unfortunately for our farmers, they are under the necessity (*or do it*) of cutting all or most of their timber in the winter months; and timber will decay cut in those months, in this climate, sooner than in any other month in the year."

CENTRAL PARK CARRIAGE DRIVE.—The carriage drive around the Central Park is about eight and a half miles long, and from fifteen to sixteen hundred carriages of all kinds enter it daily—so a policeman informs us who has made it his business to keep count.

OLD CARRIAGES.—There are two old coaches in this country, which have now become great curiosities. One of these is in New York city, and is an old relic in the



PROF. BULLFROG'S NEW MUSICAL TURN-OUT.

Beekman family; the other we last saw on storage in Dunlap's carriage shop, in Philadelphia. This last is reported to have once belonged to General George Washington. Both were made about the same time, and are modeled after designs found in William Felton's *Treatise on Carriages and Harness*, published in London, at the close of the past century.

STRAIGHTENING TIMBER.—A cotemporary recommends the wetting and pressing out of timber, to save it after it becomes warped in the stick. This would do, could it be made to keep straight afterwards. The best way is to prevent its warping by properly "sticking it up" while the sap is in the timber, and letting it remain in that condition until it seasons. It is a fact well known to practical men, that the toughest and best timber is the most apt to warp. A soft *brash* stick will never warp, but break very easily.

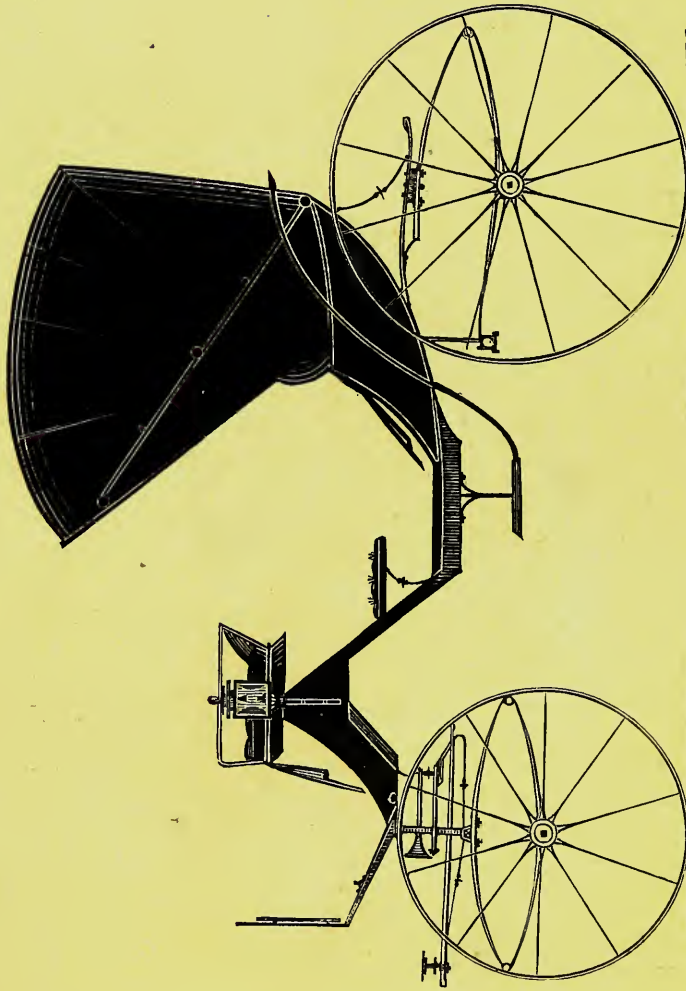
TO MAKE A BALKY HORSE DRAW.—In India, where a horse can and will not draw, instead of whipping or burning him, as is frequently the practice in more civilized countries, they quietly get a rope, and attaching it to one of the fore feet, one or two men take hold of it, and advancing a few paces ahead of the horse, pull their best. No matter how stubborn the animal may be, a few doses of such treatment effect a perfect cure.

THE AMOUNT expended on the Government buildings in Washington, from the time the seat of government was located there to June 30, 1868, for public works of every description, including buildings and works of art, is \$37,390,853.08. The grounds owned by the Government in the District of Columbia amount to 578 acres. Chicago gives notice that she stands ready to issue bonds to the extent of \$40,000,000, to construct Government buildings there, in case St. Louis hesitates to come to the scratch.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.
NEW YORK, AUG. 20, 1869.

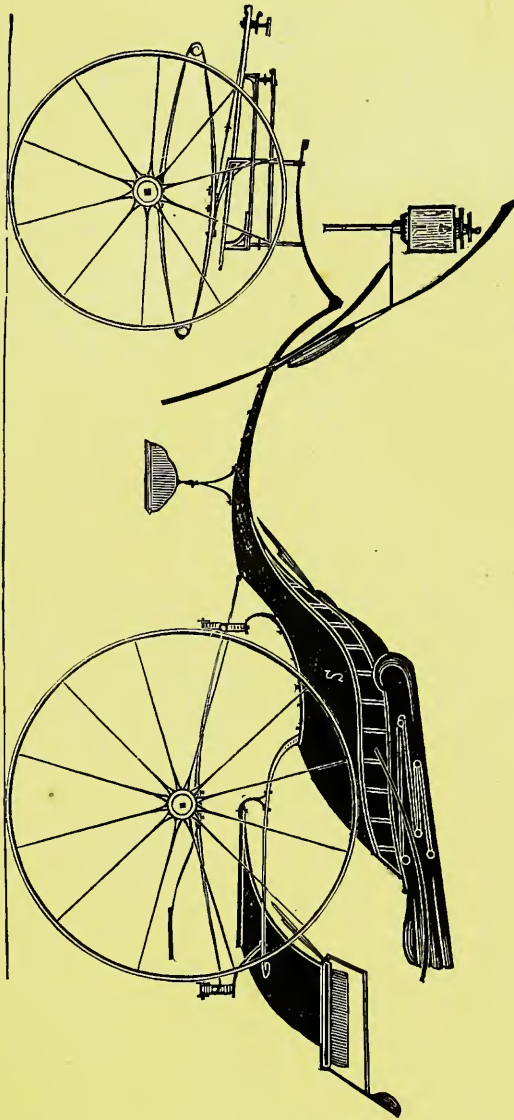
- Apron hooks and rings, per gross, \$1.25 a \$1.75
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb. 8c.
Axles, plain taper, 1 in. and under, \$5.50; 1½, \$6.50; 1¾, \$7.50; 1⅞, \$9.50; 1⅝, \$10.50.
Do. Swelled taper, 1 in. and under, \$7.00; 1½, \$7.50; 1¾, \$8.75; 1⅞, \$10.75; 1⅝, \$13.00.
Do. Half pat., 1 in. \$10; 1½, \$11; 1¾, \$13; 1⅞, \$15.50; 1⅝, \$18.50.
Do. do. Homogeneous steel, ½ 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. 30 off.
Do. T, per 100, \$3 a \$3.50.
Bows, per set, light, \$1.00; heavy, \$2.00.
Buckles, per grs. ½ in., \$1; ¾, \$1.12; ⅞, \$1.25; 1, \$1.75; 1, \$2.00.
Buckram, per yard, 18 a 25c.
Burlap, per yard, 14 a 16c.
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, \$2.50 a \$3.00, doz. pr.
Clip-kingbolts, each, 40c., or \$4.50 per dozen.
Cloths, body, \$3.50 a \$5; lining, \$2.50 a \$3. (See *Enamelled*.)
Cord, seaming, per lb. 35c.; netting, per yard, 8c.
Cotelines, per yard, \$1 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.
Enamelled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enamelled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 54, 70c.; 64, 80c.
- ☞ No quotations for other enamelled goods.
- Felloe plates, wrought, per lb., all sizes, 20c.
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, 26c.; railing do. 24c.; soft dash, No. 1, 15c.; do., No. 2, 13c.; hard dash, 15c.; split do., 15c.; No. 1, top, 26c.; enamelled top, No. 1, 26c., do., No. 2, 24c.; enamelled trimming, 24c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. a 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅓, 16c. a 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 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, \$1.50.
Screws, gimlet, manufacturer's 30 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., \$15.00 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, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.
☞ Two springs for a buggy weigh about 23 lbs. If both 4 plate, 34 to 40 lbs.
Spokes (Best Elizabethport), buggy, ¾, 1 and 1½ in. 9½c. each; 1½ and 1¾ 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, gold.
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. gal., 60c.
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.
Whistle trees, coach, turned, each, 50c.; per dozen, \$4.50.
Whistle-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.



AMERICANIZED VICTORIA. — $\frac{1}{4}$ IN. SCALE.

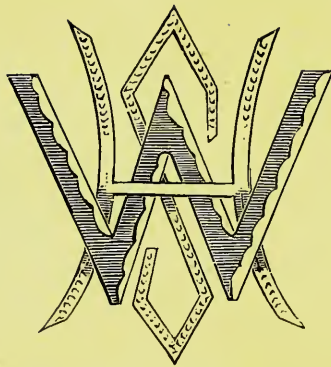
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 55.



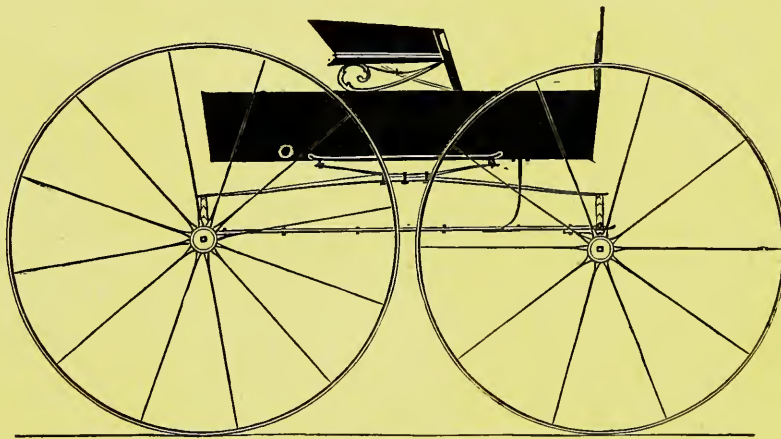
PHAETON WITH FALLING-TOP. — $\frac{1}{4}$ IN. SCALE.

*Designed expressly for the New York Coach-maker's Magazine.
Explained on page 85.*



ORIGINAL MONOGRAM.—H. W. S.

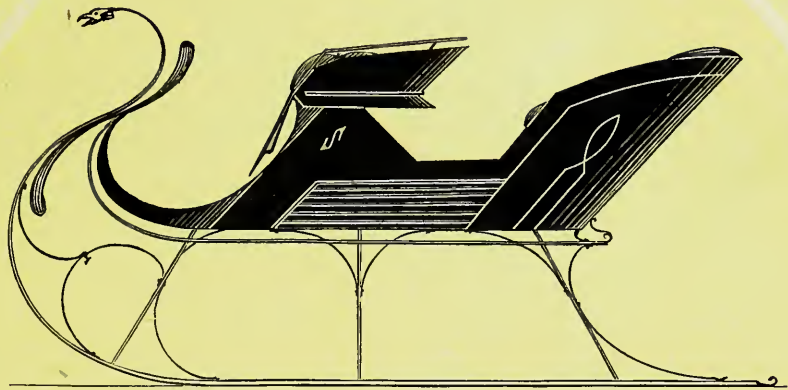
Explained on page 58.



SIDE-BAR BUGGY.— $\frac{1}{2}$ IN. SCALE.

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

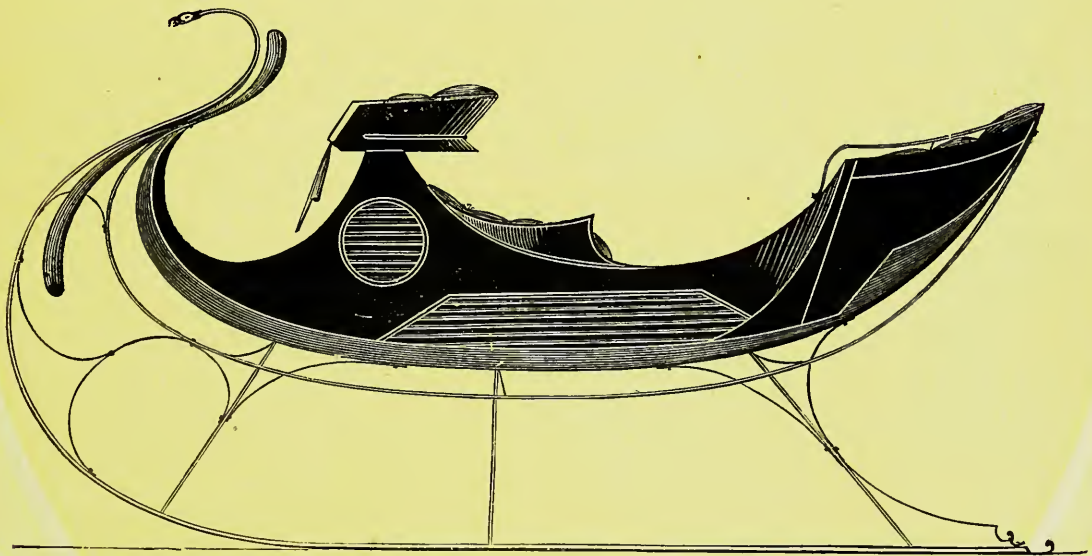
Explained on page 56.



IMPROVED CUTTER SLEIGH. — $\frac{1}{2}$ IN. SCALE.

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

Explained on page 56.



SIX-SEATED FAMILY SLEIGH. — $\frac{1}{2}$ IN. SCALE.

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

Explained on page 56.