DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. XI. NEW YORK, AUGUST, 1869. No. 3.

Mechanical Literature.

ADVENTURES OF THREE JOURS.

BY H. S. WILLIAMS.

Chapter III.

"As you are a stranger here," said the General, while seated at the breakfast table, "let us devote this day to seeing the city; for, I do assure you, it is well worthy a day's time. We have the best Havana cigars, the best oysters—barring, perhaps, Mobile—the best coffee, and the prettiest girls in the whole country. I do not leave before to-morrow, so I am in no hurry. What do you say?"

"I acceed to your proposition with the greatest pleasure, General, for I have long wanted to see New Orleans, and without a suitable guide it would be useless to make the attempt; therefore, consider me at your service until you leave."

After donning a thin suit on the part of Gloner, and a civilian one on the part of the General, out of respect to Gloner, as he facetiously remarked, who hated to be stared at, the two started forth; and, to Gloner, it was one of the most interesting days he ever spent in his life. Through the French part of the town they rambled, stopping now and then to admire some public building, or tastefully arranged store, until they reached the public square, where they rested themselves beneath the welcome shade of broad-leaved bananas, and inhaled the rich perfumes of countless roses, while they criticised the famous equestrian statue of the hero of the city. During all the forenoon, Gloner saw so much, and everything was in such exquisite taste, from the gorgeous salesroom down to the plain muslin dress of the little French sewing-girl, whom he saw hurrying along the street with her bundle; and then he heard so much chatter, chatter, chatter, in that race-horse vernacular, on street corners, in store-rooms, in the gardens and saloons, that he was really glad to get back to the quiet of his own room, where he enjoyed a brief but delightful siesta before dinner was announced. The General proved himself a most excellent caterer to the comfort as well as to the amusement of his protege; for no sooner had they regained their room after dinner than a servant announced a cab; and, lighting their cigars, they were soon on their way to the battlefield. It was a most delightful ride over a smooth, broad road, through a portion of country most highly improved. Great orange orchards could be seen, the golden fruit hanging in the greatest profusion, and contrasting most beautifully with the dark green foliage of the trees. It was a very pleasant afternoon to Gloner, and he returned to the city with feelings of regret. Then, in the evening, the General called on an old friend of his—an old gentleman with several sons and grown-up daughters—when they visited the theatre, where Gloner saw the most brilliant audience of gaily dressed ladies and gentlemen he had ever witnessed; and when he re-entered his room at the St. Louis, the whole day, with its ever-varying series of events, appeared more like a dream than reality. All was so new and so strange, so different from aught he had ever witnessed before in the great cities of the North.

"I leave you at daylight," said the General, "as I take the Berwick Bay route to Texas."

"Well, call me if I'm not awake," answered Gloner, "and I'll see you off, at all events. It will be a lonely day here without you; for I cannot leave, if I go at all, before four in the afternoon."

Pshaw!" returned the Governor; "don't talk about being lonesome in this city. Why, you have not seen half yet. If you go down to the levee with me, you can go to the French market, just at daybreak. Then is the time to see it in all its glory. But we have only two or three hours for sleep, so let us improve them; and they did.

The next morning a cab set them down at the foot of Canal Street, just in time for the General to get on board the little ferry-boat that was to convey him across the river. "Good-by, Governor," exclaimed Gloner, as he took the hand extended to him.

"Good-by, my friend; I shall ever remember you with the warmest regards, as I will prove should we ever meet again. There is my address; and if you ever come to that part of Texas, you will always find the latch-string out."

And so they separated.

Gloner strolled leisurely down the levee until he reached the French market; then, taking a seat in one of the stalls, he called for his cup of coffee and a light roll, and took notes of what was passing about him. Never

before had he realized what Babel must have been. Such a noise and such a confusion he had never witnessed before. Purchaser and seller were both talking at the same time, in the most rapid and vehement manner. Dogs were barking, parrots screaming, draymen yelling, milkmen brawling, and negroes singing, all combined making such a deafening noise, that Gloner drank his coffee and swallowed his roll, only too glad to get away as soon as possible. Luckily, the public square was near at hand; so he hurried thither, and passed an hour among the flowers, inhaling their fragrance, and listening to the mocking birds, before he returned to his hotel.

After breakfast, he visited the various carriage repositories of the city, of which there were some half a dozen, but no regular manufactory. Nearly all the repositories, however, had a repairing shop attached; but the most they done was such jobbing as come in, and in revarnishing their northern-made carriages. It was but a small task to go to all these places, and, long before noon, he returned to his room without having found anything to do; therefore, the next point in his destination was Mobile. A good nap, an excellent dinner, a stroll along the river, brought him down to three o'clock, when he got ready and called for his bill. "There must be some mistake," said he to the servant, as he saw the amount was only two dollars; "I came here yesterday morning to breakfast, so I will go down and see." On proceeding to the office, he was informed by the clerk that the General had settled his bill up to that morning, and two dollars was all he had to pay; so, settling it, he proceeded to the Lake Ponchartrain railroad depot. In half an hour's time, he was at the Lake, and had everything safely deposited in the elegant steamer California. The weather was truly delightful—warm days, but cool, frosty nights, not unlike October in the North; and as everything betokened a pleasant trip, the steamer took what is known as the outside passage, or, to speak more plainly, to the southward of the numerous islands that skirt the southern shore of Mississippi. It was a pleasant voyage, but so short that Gloner had no opportunity to form acquaintances with his fellow passengers with whom the boat was crowded, almost to excess. The latter fact threatened to interfere somewhat with the table arrangement; but Gloner, like a true philosopher, ever having an eye to No. 1, generously paid one of the head waiters, for which trifling act of charity, on his part, he was promised "de very bes seat at de fus table shu;" and he got it, and congratulated himself on his shrewdness withal; for, as the waiter confidently informed him, "they had'ent 'spected such a lot of folks, and de kitchen fixens were about to run out."

The company at the table was a mixed affair, and one so new to our friend that he scanned their faces alternately. The vivacious Frenchman, the dark-skinned but proud creole, the aristocratic planter, the young fop, and "the gentleman of elegant leisure," without "visible means of support," were all there, and all peculiarly Southern, while the ladies, who formed nearly half of the company, were nearly all handsome. The meal was, perhaps, half through with when two vacant chairs on the opposite side of the table were occupied, and Gloner found himself *vis a vis* to one of the most charming creatures he had ever beheld. Her figure was *petite*, but most perfectly moulded and superbly rounded. Her face was a pure type of a true Southern beauty; a clear olive complexion, large lustrous eyes, and a wealth of golden hair, in the massive coils of which a single rose-bud lay half concealed. Her companion was an elderly gentleman, whose ruddy complexion and portly form indicated a life of ease and good living; in fact, we never see such an one without associating him with the indolent life of the *ante bellum* planter and well-stocked wine cellars.

But it was to his companion that Gloner paid most of his attention, and to say that he was charmed would only express his true feelings; and he paid her that silent but most eloquent homage which a lover of the beautiful ever bestows on beauty, whether it be delineated by a master hand on canvas, or by Nature on the human face. An earnest but respectful, admiring look is the highest compliment man can bestow on woman. When Gloner left the table, it was with a feeling of regret that the minutes devoted to supper were so few and the distance to Mobile so short; but, lighting a cigar, he promenaded the afterdeck for an hour or so, trying to forget the fairy vision that had flashed across his pathway, by thinking of other things; and soon after he sought his berth, and was ere long asleep.

At daybreak, the next morning, they rounded the eastern point of Dauphin Island, and passed up the channel leading into Mobile Bay—not unlike the narrows at New York—with the broad foundation of Fort Gaines to the left, and the frowning walls of Fort Morgan to the right. Then they passed through the lower bay, with a thousand vessels laying at anchor, awaiting their cargo of cotton, and on up thirty miles northward, when they reached their pier in safety, and our hero was soon walking the streets of Mobile, the great cotton mart of Alabama and Mississippi.

Proceeding up the street at the foot of which he had landed, he soon came to the public square, one of the most beautiful resorts, he thought, that he had ever seen, and filled with live oaks that threw a most inviting shade on the green sward beneath, and, noticing a livery stable beyond, he proceeded thither, and inquired of the proprietor if there were any carriage shops in town.

"There's three or four repairing shops here, if that's what you want, and not much at that," was the reply. "Are you a carriage-maker?"

"Yes, sir; that is my trade."

"Trimmer?"

"No; a wood-worker."

"Ah, ha! Let me see. I could give a trimmer a job for a couple of months or so. Put a painter at work this morning, and don't know but what I should like to have two or three buggy-bodies made if I can get the lumber in town. Come and look at them," and the proprietor led the way to a large lumber room in rear of his repository, which was filled with old broken-down carriages of every description, from a trotting sulky to the finest coach. "Am a little short of buggies just now, and would not mind getting two or three of these old ones fixed up if it would not cost too much. Pick out say three of the best ones in here, and let me know what you will fix up the wood-work for, so as to put them in good order. When you get through, you'll find me in the office," and Gloner was left alone.

"Why don't he take his old buggies to the shop and get them repaired," he thought, as he began to inspect them. He soon picked out three of the best, and noted

what repairs, in the wood line, were needed, when he returned to the office.

"Well," said the proprietor, "what will you fix 'em up for?"

"First let me see what accommodations you have here for work," he answered.

"Got a good room up stairs next to the paint-shop. Jake, go and show this gentleman the wood-shop."

"Is the painter at work?"

"Yes; he is up in the paint-shop now."

"Where is he from?"

"Haint the least idea. Up in Yankeeland somewhere, however. Run across him last week up at Brandon, in Mississippi, and brought him down."

"What is his name?"

"Loring, I believe."

"Ah! I know him, then; and a first-rate painter he is. We'll go and see your shop, and then I think we can strike a bargain," and he followed the darkey through the long stable and up a broad pair of stairs that led to the paint-room. On entering it, there was Frank, sure enough, applying color to an old carriage part.

"Why, hallo! Gloner," he exclaimed; "glad to see you, old boy. Expected to see you before long. I only got here last night, and just found out an hour ago when the New Orleans boats get in, else I'd been down there this morning. Have you seen old Hardy, the proprietor of this establishment?"

"Yes."

"Did he offer you a job?"

"Yes; or, at least, in part. He wanted me to look at some old buggies and say what I'd repair the wood-work for."

"And you told him?"

"Not yet; I wanted to see what accommodations he has here first."

"Good for that! Don't tell him till after dinner. There's a chance for a speculation here for you, at least; but he has got me on the dead."

"Why so?"

"Why, he met me at Brandon the other day, and, of course, I was somewhat downhearted as I hadn't got a job yet, and he offered me four dollars a day for two months and pay my way to Mobile; so I took him up, and five dollars a day is the lowest wages paid here by the day; and if I had only known enough and worked by the job, whew! why I could have got twenty dollars for painting an old buggy. So I want to post you a little as to the prices here. It is now dinner-time, so we'll go down to dinner and talk over this matter."

"Tell me one thing," said Gloner, when they got on the street, "why does not old Hardy, as you call him, take his work to a shop and have it repaired?"

"That's just what bothered me," answered Loring; "but I found out this morning. It's because they charge so high; and then there are half a dozen stables here that can and do give employment to a painter and trimmer half the time. Why, at a shop below here on Centre street, they charge thirty dollars for repairing a buggy, fifty dollars for a new set of wheels, fifty for a duck top, and everything else in proportion; so you see if a buggy is pretty badly broken down, it's cheaper to buy a new one; and there's two or three repositories here all filled with Northern work."

"Let's have a good Havana cigar to settle our dinner," said Loring, after they had left his boarding-house; "they are the best I ever burned, but, of course, you tried them in New Orleans. We don't find such cigars up at St. Louis."

"So you found nothing to do at Vicksburg?" asked Gloner, as they left the cigar store.

"Not a thing. All the river towns are filled up. Could have got a job at Jackson if I had waited a week or two, until the boss sent after stock, and was told they wanted a painter at Canton, some twenty miles north of there; but it was out of my route, so I didn't go up. It cost me twenty dollars to get from Jackson to Brandon, which I thought rather expensive traveling; so when old Hardy made me an offer of four dollars per day and expenses paid up, I jumped at it. Will stick it out for a couple of months, though, and then the hot weather will begin, when I mean to get up country, and out of the way of the Yellow Jack, as they call the yellow fever here. But there's a list of prices that one of the hands at the repairing shops below here gave me this morning. Look over it and make out your bills accordingly.

A little later, Gloner was closeted with Mr. Hardy, and the result was that, after half an hour's talking, a bargain was made, by which Gloner was to repair the three buggies already alluded to, for a specified sum, provided the lumber suitable for the work could be had in the city. The lumber was easily found, however, by Gloner, who volunteered to go out and look for it, and before night was safely housed in the shop, ready for work the following morning. As Loring's boarding-house seemed every way a desirable one, he had his books moved thither, and his tools in the shop before night.

Well, did you make a good bargain with old Hardy?" asked Loring, after he had finished his day's work and was joined by Gloner.

"Yes; I think so. If I have good luck I can make about seven or eight dollars a day at it; but, as I want to get another and a larger job out of him when these are finished, I will take it rather slowly, and make about five. Then, when I get through with him, I think there will be a chance for a speculation in buying some of his broken-down buggies and repairing them for sale."

"That's what I've thought, and we'll see what can be done in that line in the meantime. Now, if we only had Margrave here; of course you have not heard from him?"

"Not a word. I will write to Montgomery to-night, and if any letters come there for either of us, we'll have them forwarded to this point, and by that means we may be able to get him here, for Hardy must have a trimmer before he can finish his work."

"I do not know as you are aware of the fact, but I worked for two years in the trimming-shop before I went to painting," returned Loring, "but, of course, I would not attempt it in a regular shop; but here, and on repair work, too, I think I could do a good job after I got my hand in. At all events, I intend to try it as soon as my two months are up, and if a trimmer does not come along, for I want to get even with the old fellow for that other dollar a day. After supper we'll call on Rhodes, a blacksmith that works down at Wright's shop, and then take a stroll over town. It's a beautiful place, they tell me, although I have not seen much of it yet."

After supper they carried out Loring's programme, and passed a very pleasant evening. Government street, with its broad sidewalks and huge live-oaks, pleased

Gloner more than any other street in the city, while Royal and Dauphin streets were Loring's favorites on account of their business, and as the fashionable thoroughfares of the city. It was late that night before they returned, for the evening was warm and pleasant, when, after a cup of most delicious coffee, they retired to their rooms, and, for the hundredth time, blessed the lucky thought that took them away from St. Louis, with its ice and snow and cold nor'westers.

PORTE PENCIL ON MODES OF TRAVEL.

There are usually sixteen modes of traveling, namely, by steamboat, sailing-vessels, batteaux, canal-boats, rafts, canoes, and skiffs, upon the water, and by railroads, stages, wagons, coaches and sleighs, on horseback, on foot, on stilts, by velocipedes, upon land, and by balloons through the atmosphere. Each mode has its peculiar advantages, and each again its various sub-divisions with their separate merits, any one of which may be adopted to accomodate the character, mood, or habit of the traveler.

The sub-divisions are more numerous than the divisions would seem to indicate. Steamboats, for example, are of several kinds, viz., large and small, with one or two engines, sometimes four, tow-boats and passenger-boats. Sailing vessels may be divided into ships, brigs, schooners, sloops, cutters, scows, fishing smacks, and skiffs. Batteaux are constructed in various ways, and there are three kinds of canal boats, viz., packet boats to carry passengers, line boats for merchandise, and scows for stone, lumber, earth, &c. Rafts may be made of logs, boards and plank, or of slabs and brush. Canoes are cut out of a log, or made of green hides or birch bark.

The term *stages* is associated with a long catalogue of calamities, inconveniences and horrors, almost insupportable. A stage is a heavy, unwieldy vehicle, generally drawn by four jaded horses, urged along by a vulgar, insolent driver. There are some exceptions, some drivers being respectable, and some stages mere lumber wagons.

Railroads are of two kinds. In some the rails are longitudinal, the upper surface being sheathed with iron, are adapted to the wheels of cars, which are impelled over them with great rapidity. In others the rails are rough, unhewn, and plaeed crosswise of the road, for the purpose of enabling the horses and wheels to pass without sinking into the mire; they are used in marshy places, and are termed *corduroy* from their ridgy and striped appearance.

As to wagons, coaches, and sleighs, those technicalities include an almost innumerable variety of vehicles. There is the heavy Pennsylvania Conestoga wagon, drawn by six horses, guided by one line; the lumber wagon; the pleasure wagon; the express, baggage and the peddler's wagons. Coaches differ chiefly in shape, circumferences and diameters, and the relations which the bodies and wheels sustain to each other. For instance, some coach bodies are above the axles, others below; some are poised upon thorough braces, others upon cross and combination C-springs, and not unfrequently on cross *rails*. There are many vehicles comprised under the very indefinite denomination of *carriages*, which I have not thought proper to classify in distinct orders, for the very good reason that it is impossible to do so. But I will say they partake of the nature of both wagons and coaches, and frequently bear the same relation to both. It will be readily perceived by the enlightened reader, that I allude to those vehicles usually denominated chariots, phaetons, barouches, coupés, buggies, chaises, sulkies, &c. These are by no means public conveyances, but they are found in the employ of private gentlemen, and are kept at liveries, for the accommodation of pleasure parties, and of people who have been miscarried or who are benighted.

Sleighs, in a country where knowledge is so universally disseminated, must be widely known. In no civilized community, where there is a wholesome association of the sexes, is an individual to be found whose heart is not animated at the mere mention of these indispensable luxuries of a snowy winter. I know of no situation in traveling in which a gentleman is apt to feel so amiable, as when he is nicely ensconsed in furs, in a sleigh or cutter, with a pretty country cousin at his side, a fast horse and merry bells ahead. But precisely such enviable circumstances are not the boon of ordinary travelers, they are more peculiarly the pleasures of the home and the town. The traveler must content himself with the comfort of a stage sleigh, a lumber sleigh, a cutter, or wood sleigh, a sled, or jumper. By the solitary traveler, the jumper, in my humble opinion, is to be preferred over all other kinds of sliding vehicles. It is easily constructed, and easily disposed of. It consists of two hickory poles, which should be tough and pliable, placed about three feet apart and parallel with each other, with *uprights* at both ends, supporting a crate, comfortably filled with straw, and pins in the shaft portion to attach the harness. In this article the traveler moves on enjoying a reasonable portion of the pleasures of sleigh-riding, without the fear of detriment from man, beast, storm, or snow-bank, and should the snow leave him, it can be deposited in some fence corner, without much loss to the owner.

Sir Walter Scott asserts, that Dr. Johnson's chaise driving, in point of pleasure, must yield the palm to pedestrianism. Dr. Johnson was decided in his preference, but Sir Walter Scott was merely of opinion, that pedestrianism was superior to chaise riding, not intimating, however, but that riding on horseback might be preferable to both. A horse, seventeen hands high, sagacious, spirited, free and easy, with a soft saddle, and a firm rein is just the thing above all others that I should first select for traveling purposes. There is something *du militaire* in a gentleman upon horseback, above ground, dryshod, independent, ready for high deeds and daring purposes. There are no incumbrances upon him, or about him; if he meets a bridgeless stream, he swims it; if a stump, or a h e, he goes around it; if a log, or a fence, he jumps it; in fine, he rides when he pleases, and where he pleases, without danger; he stops without trouble, and travels at a trifling expense.

Besides, it is a wholesome exercise, it invigorates the spirits, clarifies the mind, and purifies the body. The muscles become full and strong, the appetite is excellent, the digestion perfect, and the blood is driven briskly and freely through every part of the system.

Again, riding upon horseback is by no means unfavorable to the cultivation of the social powers, the feelings partake of the general stir and animation of the system, and when two travelers happen to jog along together, conversation is promoted, their sympathies unite, and casual acquaintance often ripens into a permanent friendship. "If you choose to annex a pillion to the horns of the saddle you may accommodate a female companion, and he who can appreciate the value of female

society, will find this the grand climax of pleasurable traveling. It is most opportune for those Cabial contortions which are such notable auxiliaries of love and courtship and therefore very favorable to the prosecution of the latter; distance, also, is annihilated, and difficulties surmounted in this manner with remarkable facility. Again, therefore, I repeat, that all modes of transition upon land must yield to that of riding on horseback.

Velocipedes, now raging like the base ball fever, deserve mention, they consist of two wheels, one following the other, and connected by a shaft, which the traveler strides. He propels the vehicle by moving his legs, much after the manner of running.

Traveling on foot, is, upon the whole, the surest and safest method. There is no boiler to burst and scald you to death, no vessel to sink you to the bottom of the waters, no carriage to turn you over at the imminent hazard of your neck, no driver or proprietor to insult you, no toll-gatherer to stop you, no horse to run away with you and break your bones, you are entitled to the space you fill, whether it be upon the surface or under the sod, you can stand up or lie down, climb over, creep under, or circumvent; in fine, you are free and independent. There is this disadvantage, however, which though small, is still a disadvantage, you move intolerably slow, and are inevitably inclined to get leg weary in the long run.

Balloons pass more rapidly in a strong wind, than anything I have *ever seen*, except it be mere *straws;* some pretend, that they have traveled in a balloon at a rate which would have carried them round the world in a fortnight, I cannot think that such a rapid passage is so wholesome as traveling upon horseback. In a hurricane, balloons are *too swift.* They are constructed of oiled or varnished silk, covered with a netting of twine, and inflated with gas. The secret of their buoyancy is, they are lighter than the air. It is necessary to observe great care in making use of balloons, to avoid electricity and *trees*; the first explodes the gas, and the second rends the netting and silk; in either of which events, a *downward tendency* is created, which is manifestly unfavorable to repose. The continual propinquity to this awful danger, is the great objection against traveling in balloons.

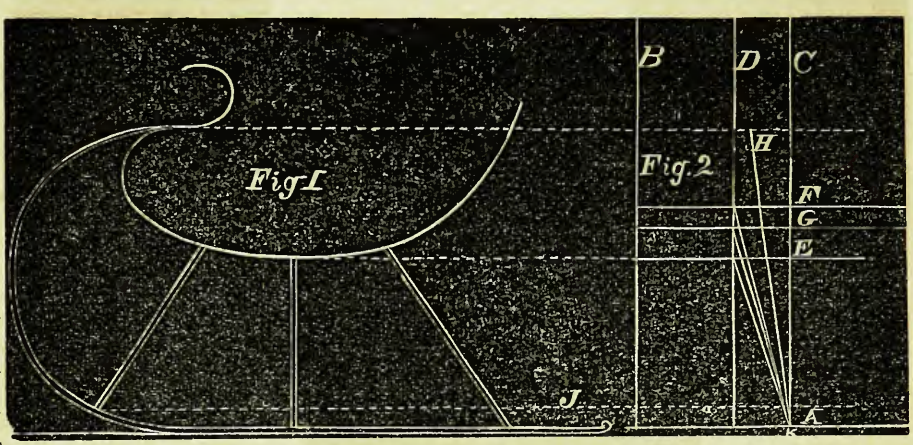
Easy Draught with Large Wheel.—G. B., in the *Scientific American*, in giving the reason why large cart wheels are easier in draught than small ones, says, the cause is, change in the angle formed on one side, by the line of draught from the axis of the wheel to the top of any object in front and against the wheel. The axis of the wheel being the apex of the angle, it will be seen that the smaller the wheel the more acute this angle will be, the line of draft being then lowered comes more behind the object to be overcome and increases the draft. If the wheel be so small that the line of draft coincides with the line of resistance the cart cannot be moved at all; he further maintains that draft has twice the leverage on small wheels that it has on large ones.

FRAMING SLEIGHS.

BY BODY-MAKER.

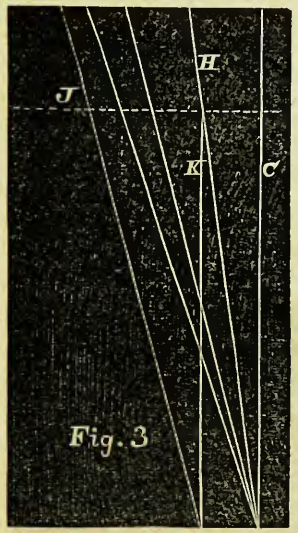
Mr. Editor:—Not having learnt my trade in a shop where sleighs were made, but having occasion since to build a few, I was led to enquire what was the rule to be observed in the framing of the beams, knees, and runners. Finding no one at hand that practiced any very definite rule, I studied out a rule for myself. I herewith give an illustration of it, hoping that if any one has a better rule, they will give it to the public for the benefit of the craft.

Having been taught to work by the square, or square rule, in everything, I have applied it in this case as far as I was able.

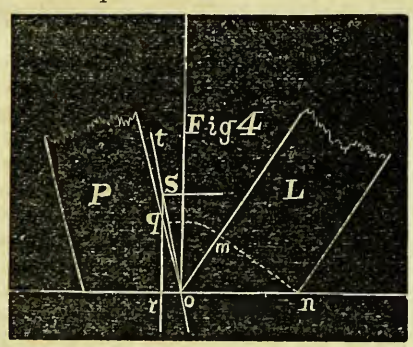


After completing the side-draft, Fig. 1, to your satisfaction, proceed to lay off for the length and angle of the knees and beams, as shown in Fig 2. First draw the horizontal base line A, at the height of top line of runner, Fig 1. Then erect perpendicular center line B. Measure from foot of B on base line A, half the width of the track of the sleigh outside the runner and erect perpendicular line C. Next determine the width of the sleigh where outside line of the knee strikes the top line of the beam. Measure half this distance from B on base A, and erect perpendicular line D. Now draw horizontal line E at the height the middle beam strikes the body of the sleigh, Fig. 1. This is the top line of the middle beam. Next measure length of back knee on side draft from the longest point of the shoulder where it strikes the runner, to the top line of the beam before it was beveled off. Take this distance and measure up from the base line A, on perpendicular line B, Fig. 2, and draw horizontal line F. This is the top line of the back beam. Measure in like manner the forward knee on side draft. Take the distance obtained and measure up from line A on center line B, and draw horizontal line G, which is the top line of the forward beam. H represents the outside line of the runner, drawn according as you want the runner to incline from the perpendicular, the lower end of H striking base line A at the junction of C and A. Now draw a straight line from the junction of C and A to the junction of D and E. This is the outside line of the middle knee, and gives the angle and length from the lower shoulder to the top of the beam. Draw a line in like manner from

junction of C and A to the junction of D and F. This gives the length and angle of back knee from the longest point of lower shoulder to top of beam. Now draw horizontal dotted line J at the height of the longest point of the shoulder of forward knee where it strikes the runner in Fig. 1. Now draw short perpendicular line K from the junction of J with H to the base line A. This will be more readily seen and understood by referring to Fig. 3, which is an enlarged section of Fig. 2, near K. The letters refer to like parts in each. Draw a line from junction of K with A to junction of D with C. This gives length and angle of forward knee. It will be seen that foot of forward knee is nearer center line B than the foot of middle and back knees. This is because the runner at the height the forward knee is framed into it is nearer center line B than it is where middle and back knees are framed into it, the forward knee striking the runner line at the junction of J and H, and the other knees striking it at the junction of C and A. See Fig. 3.

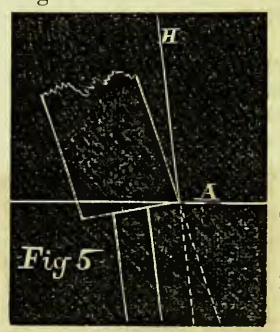


In dressing the back knee, it is necessary to bevel off the back outside corner, at the lower end, before framing, in order to have the tenon square with the runner. The amount of bevel is ascertained as shown in Fig. 4. L shows the forward slant of the knee. If it is dressed square, the point at *m*, where the dotted line crosses the back line of knee, will be the same distance from the center line as the point *n*, and the point *o* will be further from center line *n*, because of the outward slant of the knee, consequently, if the tenon is made on a square knee, it will not come square with the mortice in the runner; therefore the knee requires to be beveled before framing. The amount of bevel is obtained as follows: Lay down the forward slant of the knee, full size, as represented by L, Fig. 4. Opposite to it, lay down the inward slant of the knee, which is P. Next draw dotted line *m*, *n*, at right angles to the knee L; then, with one foot of dividers at the point *o*, continue the dotted line with the other point from *m* to *q*, where it strikes the inward slant of the knee P. Draw perpendicular line *r* through the junction of P with dotted line at *q*, to the short horizontal line *s*, the distance from the base line A to short line S being the same as from *m* to *n*, or the same as thickness of the knee. Now draw the straight line *t* through the junction of lines *r* and *s* to the junction at *o*. Set your bevel by this line, *t*, *o*, and it will be right for



beveling of the back outside corners of the back knee at the foot. The bevel at the foot of the front knee varies a little from the back knee, but so very little that the bevel of back knee will answer for the front usually.

After beveling as above, strike the shoulder-line of the lower tenon on the knee, the angle of the shoulder to be obtained from side draft, Fig. 1. After striking the shoulder-line, the knees should be scarfed off below and from the shoulder-line before gauging for the tenon. To get the amount of scarf, lay the knee to its line on draft, Fig. 2. With the shoulder-line at base line A, lay a straight-edge edge along the runner-line H, and mark off the point of the knee for the scarf, as shown in Fig. 5. In framing the runner, lay it on the draft, Fig. 1, and mark off the mortice by straight-edge, or by laying on the knee and marking by that. The angles of upper shoulders of knees and mortices in beams are obtained from Fig. 2. The bevel of the top of the beams is obtained from side draft. This beveling is done after framing the knees into the beams, but before making the tenons for the fenders.



OUR GRECIAN CARRIAGE MUSEUM.——I.

Greece is supposed to have been settled by the descendants of Javan, otherwise Ion, the grandson of Noah. In the prophetic writings of Daniel (chap. viii., v. 21) Alexander, King of Macedon, (one of the late portions of Greece) is called the King of Javan. Among the Hebrews, Chaldeans, and Assyrians, the Grecians were known as Ionians, from Ion, the name given to Javan as before noticed. Grecian history covers the space of two thousand one hundred and fifty-four years, commonly divided into four periods, the first beginning with the petty kingdom of Sicyon in A.M. 1820, and ending with the siege of Troy in A.M. 2810—previous to which this people do not appear to have placed much confidence in chariots as instruments of war.

The second period begins with the taking of Troy, in A.M., 2820, ending with A.M., 3483. At this date its history becomes intermixed with the Persian, in the reign of Darius, the Son of Hystaspes. The third period extends from A.M. 3483, to the death of Alexander in A.M. 3641. This period was the most prosperous of its duration and probably the period when art reached its highest perfection. The fourth commences with the death of Alexander, A.M. 3641, ending in A.M. 3974, when the Grecians became subject to Roman power.

Although we have given the credit of chariot-making, as well as other vehicular construction to the Egyptians; and, as we think, shown ample proof in this volume; the question we find has been disputed both by Grecian and Roman writers.* Homer, in his Hymn to Venus, tells us that Mars first taught mortal workmen to make wagons and various chariots, while the invention of the use of

* As elsewhere shown, Egypt's greatest prosperity was during the reign of Sesostris, A.M. 2513, B.C. 1491; Assyrian, A.M. 3287; and now that of Greece about 3350. Supposing that art reached its climax among these several nations in the periods mentioned, we fix the chronology of our carriages; the Assyrian, seven hundred and seventy-four years later than the Egyptian, and the Grecian, sixty-three years later than the Assyrian.

the chariot is ascribed to Erichthonius, the fourth King of Athens, who, to hide his dragon-shaped foot, rode in one.

Pliny, another Roman author, with greater probability, says the Phrygians invented putting two horses to a

chariot and gives to Erichthonius the honor of attaching four. We are informed by Herodotus (*Euterpe*, 63) that long before King Erichthonius saw the light, the Egyptians in their religious ceremonies performed at Pampremis drew the war-god, Mars himself, seated in a miniature temple mounted on a four-wheeled carriage, thus proving that the Athenian crippled King cannot even claim the doubtful honor of having even "invented the use of a chariot," much less the construction of one.

Notwithstanding the doubt we have expressed in regard to the invention of chariots by the Grecians, still it will be conceded by every candid student of art, that in beauty of outline as well as finish, ancient Greece was far in advance of the nations preceding her in every detail pertaining to the "World on Wheels." Her carriage nomenclature was smaller than that of Rome, yet it was not an insignificant one by any means. This we shall prove hereafter from the relics of antiquity, in bronze as well as bas-relief. The first example we shall give represents a Grecian Biga, employed for domestic purposes. As appears from the engraving which exhibits a Grecian lady mounted thereon, probably making an afternoon call upon her friends, in times less formal than the present.

The chariot, highly ornamented and open behind, is very elegant in accordance with other objects of Grecian art. The following description of Juno's chariot in the fifth book of the Iliad, is beautiful and ought not to be omitted in this connection. We subjoin a literal translation: "Juno, venerable goddess, daughter of Saturn, quickly moving, harnessed the gold-caprisoned steeds, but Hebe [the daughter of Jupiter and Juno, afterwards the wife of Hercules] speedily applied to the chariot, to the iron-axle-tree on both sides, carved wheels golden with eight spokes. Of these, indeed, the felloe is of gold, imperishable; but above [are] brazen tires fastened on them, wonderful to be seen; but the circular naves on both sides are of silver; and the body was stretched on with gold and silver thongs (there was a double circular rim), from this projected a silver pole, at its extremity she bound the golden beauteous yoke, and to it attached the beautiful golden poitrels. But Juno longing for conquest and battle led the swift footed steeds under the yoke."

Another passage in this same Iliad describes the shining chariot of Minerva as having a beechen axle groaning under its weight, "for it bore a dreadful goddess and [Diomede] a very brave hero." The pages of Homer are crowded with mention of the chariot, and the poetical descriptions given in his works furnish us with some of the most beautiful passages found in the classics. Indeed, such a powerful influence has his pages had on succeeding writers, that they have tried their hands in the same line, but with inferior results.

That the felloes of chariot wheels were sometimes made of poplar is indicated by a passage found in the fourth book of the Iliad. "He [Simoisnis] fell on the ground in the dust, like a poplar which has sprung up in the moist grass-land of an extensive marsh; branches grow smooth yet upon the very top, which the chariot-maker lops with the shining steel, that he might bend [it as] a felloe for a shining chariot."

Home Circle.

THE MILLER.

BY CARRIE M. WHITNEY.

Softly the summer winds wandered about,
Toying with blossom and stream,
Whispering eloquent love tales, no doubt,
Till they tranced every thing in a dream.
Down by the old mill on a green, shady bank,
I watched the wheel rumble around,
And the stream gurgled on through its race-way of plank
With a lulling, sad, musical sound.

All nature was dreaming,—and why should not I,
As I sat by the side of the pond,
With the old mill in view through the willows hard by,
And the little brown school-house beyond?
So, dreaming, I dreamed on, of millers and mills,
And castles rosē up in the air,
While breezes came wandering over the hills
And wantonly tangled my hair.

A step and a whistle! a smile and a bow!
The miller had espied my retreat,
So, dreaming longer was impossible, now,
For he helps himself down to a seat.
"O, Fannie," said he "you are weary and sad,
This teaching is wearing your life,
O come to my home—to my heart, and be glad
To lay by this toiling and strife."

How noble he looked in the strength of his youth,
And I loved him, I found in my dream!
So what could I do, but just tell him the truth,
While the winds whispered on, to the stream.
Many years have elapsed, yet so happy and fleet,
I scarce can believe they have flown,
For my life has been crowned by a rest all complete
Since that day I sat dreaming alone.

WINTER RAMBLINGS IN KENTUCKY.

BY PORTE PENCIL.

Continued from page 9.

OWENSBORO is the county seat of Daviess. As I remarked in my last letter, I reached this place after a smart trot from the "Travelers Home," through quite a romantic country, over high hills and through secluded vales. The city, for by that nomenclature it is known, consists of some very fine dwellings and stores, two or three hotels, several churches, and a court house. One of the hotels had raised the temperance standard, but within the mocker wine was alluringly displayed and a large box of leaf tobacco, (which is grown in the county to a considerable extent) and pipes were supplied gratis, to all who choose that mode of inebriation. The landlord expected that you would choose both, as a consideration for troubling his house. Temperance men profess to go against alcohol, yet they will drink wine, cider, ale, &c., for the very reason that they contain alcohol.

The county supervisors were in session and the town was filled with a score or more of country aldermen, with their numerous clients and petitioners. These grand seniors imbody the authority and majesty of the county, and sit in the name of the people to canvass votes, the demerits of dogs, the outrages of squirrels, to smooth highways, erect bridges, run fences, and impound stray bovines, to superintend the poor, to supervise the county; they are a useful order of men, but, at the conclusion of a canvass, they are always at the "treat." A stranger on such occasions may acquaint himself with the whole county, for the whole county, indeed, will surely be familiar with him.

I rued the afternoon I left Owensboro, for it was a terrible day in November. A cold rain mingled with snow had been falling during the morning, which became entirely snow in the afternoon. I had been but a short time on the road to Green River, when a fierce wind began to blow with unexampled violence. The thick snow was driven horizontally through the air, literally filling the eye and blinding the sight, while just sufficient lodged in the road to impede our progress. The whole forest seemed to bend before the demon of the blast, and many of the giant trees, the monument of half a century, yielding to infuriate force, were hurled with thundering crash to the ground. At one time a huge branch, wrenched from a parent trunk, was furiously driven through the air, and swept terribly close to our heads, threatening destruction in its course. My poor horse, trembling at every breath, shot from one side of the road to the other, like an affrighted hare, while his less instinctive rider, not a little heeded each successive crash, as a signal of impending doom. In the valleys, I dreaded lest the tempest should pile its victims there; on the bleak hills, its rude salutations more fully realized to me the invariableness and terror of its power. But it is in the storm, however fiercely the elements may be at strife, that man feels his superiority. The beast of the field may tremble at each demonstration of elemental violence; the fowls of the air may fly with terror before the rising blast, but man alone, of all God's creation, is calm and deliberate amidst the confusion of the tempest, He alone, knowing its cause and forseeing its consequences, may divest it of its terrors, avert its evils and turn his bark in the midst with confidence and triumph. To feel the truth of these reflections inspired in one's self is the abundant satisfaction of a traveler who is thus overtaken in his solitary way. That, indeed, was the secret of my complacency as I rambled slowly along, with a drifting path before me, and a biting blast whistling with rage and violence by and around. This exposure, with the aforesaid internal reward, was unwittingly prolonged, until I had measured five miles directly out of my course, and sunset brought me up at Mason's Ferry. The pleasure of sitting down by a blazing fire, and partaking of a warm and hearty supper, was not a little enhanced by the reflection that I had survived that most terrible storm, and was then, at least, fortified against its rude assaults, and at the same time it seemed a partial remuneration for the time and labor lost by the mischevious misdirection of a false cicerone.

The next day I reached Green River, the neighboring country is very hilly and heavily timbered with poplar; the forests of which are of immense extent, the trees large, tall, and excellent for coach or carriage work; also, the best of hickory, and *gum*, which is of such little worth for fire-wood that no account is made of it. This section of the country would be an Eldorado for some speculative contractor or manufacturer of bent stuff and hubs; the timber of which is equal if not superior to the best eastern; a market for the logs is found at this time down the Ohio River, much of it stops at Evansville, Ind., and Henderson, Ky., but a great deal of it goes to New Orleans. The logs are principally cut and hauled in the winter, the rafts are made on the ice, and are thus conveniently set afloat in the opening of the rivers in the Spring.

About four miles above Mason's Ferry there is a fine level plot of ground, considerably elevated above the bed of the river, and gradually rising into the hills as it retires, which has been selected as the site for a new city, under the auspices of the Henderson land sale, a gift enterprise. Nothing now animates that primitive spot, but now and then a chirping squirrel, a screaming jay, or a bounding deer. We do not know what name this embryo city will glory in, although, at this time, it may be styled emphatically the City of the Woods, or more literally, the City of the Imagination. It is only the city that is to be. Stand in the midst of that fine land and listen to the exuberant voice of a speculator, shut your eyes and give freedom to your fancy, and anon, by a sort of a phantasmagorian operation, the city, with its spires and domes, its storehouses and dwellings, its shipping and levees, its paved streets and brick walls, its boxes, bags, crates, and wagon loads of merchandise, its immensely busy trade, and its thousands of inhabitants hurrying to and fro in the confusion and activity of multifarious pursuits, all being summoned to the mind, you feel yourself a "looker on" as it were in the midst; but open your eyes and the illusion is gone. It was not our purpose in coming here to speculate in land but to join others in the excitement of the chase, an account of which we will give in our next.

(*To be continued.*)

EDEN AND BABYLON IDENTICAL.—Sir Henry Rawlinson says that Babylon stood on the site of the Garden of Eden, and that the Babylonian documents now extant give us an exact geographical description of man's first disobedience.

Pen Illustrations of the Drafts.

PHAETON CARRYALL.

Illustrated on Plate IX.

Hitherto it has been a very difficult thing to find a design suited to the wants of our watering places, without following the old plan of the *char-a-banc* or *vis-a-vis* of the French very closely. In the one we produce, this difficulty has been obviated by a combination of the char-a-banc with the calechè—if we may use such a term—in connection with a topless vehicle, as in this instance. The entrance here is through a door in the side, instead of at the back, which, while it affords room on the middle seat for two passengers, furnishes an uninterrupted line of seat at the hind end, for the social party, not found in any other vehicle under such *aristocratic* circumstances. The Salisbury Boot is arranged in the most fashionable manner and is both light and very becoming. This somewhat expensive carriage will be just the thing for the Central Park drive for a family.

Wheels 3 feet 3 inches and 4 feet 1 inch high; hubs 4½ by 7½ inches; spokes 1⅜ inches; felloes 1½ deep; tires 1¼ by ½ inch.

The linings ought to be blue-black cloth, as not likely to soon fade when exposed to the sun and rain, as this must necessarily be. Painting should be for finishing color English patent-black. Striping is now generally omitted on the sides of the spokes and only put on the hubs, fronts and rims of the wheels.

SIX-SEAT EXTENSION-TOP SLEIGH.

Illustrated on Plate X.

We have thus early introduced to our readers this drawing of a first-class six-seat extension-top sleigh, to remind them that the time has come when, if they intend to make such, active preparation should be undertaken for the coming winter so as to be ready for the earliest fall of snow. In the design we have thrown the top of the runners well back, giving it a rakish look, which is considered a great advantage in the appearance of the sleigh when on the street. For long travel in cold weather top sleighs are very useful, but for home pleasure rather too much confined for popularity. It will be observed that in this instance we have ignored the old double-sweep lines so long in use for the top of the side quarter, and struck out a new course in which the lines are made to assume a more graceful as well as scientific curve. This feature ought to recommend this sleigh to the attention of the public, if for no other reason.

This sleigh should track about 3 feet 4 inches, the bottom-sides be about 5 inches wide and placed about 3 feet apart on the beams, and the side swell some 6 or 8 inches. Trimmings red, green and other plushes. There are so many colors used for painting that we forbear saying anything on that head further than to recommend the "wood filling" advertised in this magazine for the preparatory coats, both on the score of expedition, economy and durability. A sleigh of this description well made would be worth about $700. In making this sleigh the manufacturer will find the rule for framing on page 37 very useful.

BUGGY SLEIGH.

Illustrated on Plate XI.

This design is an attempt to improve the Portland by an application of the coal-box buggy, which has had so successful a run for the few past years. It will make a very pretty thing for a light sleigh.

PHYSICIAN'S PHAETON.

Illustrated on Plate XI.

This very neat design, for a Physician's Phaeton, in which the pump-handle is successfully used in connection with eliptic springs, originates with our own artist, and is made with close top, which almost all physicians prefer to any other, such being less liable to get out of order in constant use, to which they are invariably subjected. Vehicles for physicians should always be trimmed with dark linings. Wheels 3 feet 6 inches and 4 feet high; hubs 4¼ by 7 inches; spokes 1¼ inches; rims 1½ inches deep. Price of this phaeton $450.

PHAETON SLEIGH.

Illustrated on Plate XII.

Our artist in this design has—we think successfully—combined the gig and phaeton, and produced something novel in the way of a sleigh. The turn-out seat fits it for carrying either two or four passengers when necessary, and when not in use the back seat may be turned in, hiding the whole from sight.

ROAD BUGGY.

Illustrated on Plate XII.

We give on this plate a novelty in the line of buggies, which with a flat panel is painted in the fashion shown in the drawing; springs 1¼ inches No. 3 steel, 34 and 38 inches long. Wheels 4 feet and 4 feet 1 inch high; hubs 3½ by 6½ inches; spokes ⅞ inches; rims 1 inch; tires (steel) ¼ by ⅞ inches. Price of buggy $300.

Sparks from the Anvil.

CARRIAGE SPRINGS.

Springs are about the most important portions of the carriage, and it is therefore not strange that great pains has been taken to improve them, ever since the day they

were first invented. Some of these improvements (so-called) have ended in failure, and we venture little in saying that for practical purposes none have yet equaled the elliptic, nor is there any probability that there ever will be. These elliptics, however, may be so much improved in detail, by the operations of machinery, as to make them more perfect than was formerly done by hand labor alone.

Acting under this belief, a gentleman in Bridgeport, Conn., has recently patented mechanism or devices of a novel character and construction for bending and hardening the leaves of springs, elliptic or semi-elliptic, including a former, so shaped and made, capable of axial adjustment, as to present faces of different curvatures for the formation of leaves of different sweeps, aud a devise for holding the springs up against stops on the former, together with adjustable and jointed benders or pressers for bearing down on the spring in bending the leaf the shape of the former. Another contrivance facilitates the introduction of water so as to harden or temper the springs while under pressure.

CASE-HARDENING IRON.

MR. EDITOR,—It is perhaps not generally known amongst carriage-smiths, that the salt called prussiate of potash, which may be had of all the druggists, is now much used in case-hardening; the process is easy, and saves a great length of time.

The method is to powder the salt, and sprinkle it upon the iron, which, when in a state of redness, will be found to run like oil, and when plunged into cold water the iron will become as hard or even harder than iron case-hardened in the usual way. Among the numerous uses to which it can be applied, are the bearing of the fifth-wheels, or any other bearing where there is friction and consequent wear and tear. "KEEP."

Paint Room.

ON THE SCIENCE OF COLOR.

(*Continued from page* 12.)

BUT the difference between the new doctrine and the old is more than a difference of terms, for the utmost latitude of interpretation can not reconcile them.

In a diagram, intended to represent in its lower part the effect of three luminous beams, red, green, and blue, falling in partly overlapping circles upon a reflecting screen otherwise dark, I have endeavored to imitate as well as I could the natural complementary colors, as seen in the spectra of white and black bands and edges, which perfectly accord with the ocular effects I have just alluded to. These colored lights produce, where the red and green lights fall together, a yellow of double brightness; where the green and blue fall together, a seagreen of double brightness; and where the blue and red fall together, a pink of double brightness; and lastly, where all three overlap, a white of triple brightness. The upper part of the diagram, on the other hand, exhibits the effects of taking away from white the same three colors, as if by laying over the white, in three overlapping circles, transparent washes of some perfect seagreen, pink, and yellow pigments, producing red where the pink and yellow washes overlap, green where the yellow and seagreen overlap, blue where the seagreen and pink overlap, and, lastly, black where all three overlap.

Except red and blue, which both admit as primaries, all the other colors differ materially. The middle primary is deep green in the one, and bright yellow in the other; the first secondary is bright seagreen in the one, and yellowish green in the other; the second is bright rosy pink in the one, and dark bluish purple or even violet, in the other; the third is bright yellow in the one, and a very red orange in the other. In the one it is endeavored to get all the colors as nearly as possible of their full strength, in which they must be as nearly as possible of equal strength, so as to neutralize each other in equal quantities. In the other, their strengths are supposed to be proportioned according to certain arbitrary rules laid down by Mr. Field, upon no sound reason whatever, and which, moreover, are not and can not easily be fulfilled. In the one, by the enlightened study of the prismatic spectrum, and the use of satisfactory methods of testing the hues and the strengths of the pigments used, we make a tolerable approach towards correctness, or at least can ascertain pretty nearly how far we err; in the other, by following rules which a mistaken theory derives from the results of mixing pigments, or super-imposing colored glasses (regardless of the fact that such a process gives neither the sum nor the mean of their separate colors), not one of the pairs of nominal complementaries neutralize each other; for the red and green compound a dark orange yellow or citrine; the yellow and purple produce a reddish mixture; and the mean between the blue and orange is a good purple—much stronger and better than that given as the color complementary to yellow.

The comparison of the natural and conventional systems of color seems to me to be much to the advantage of the former. There is a certain beauty in combinations of color devised under the latter, such as those in the diagrams for the Schools of Design; but this is attained without completeness of range or compass; without including the most powerful colors of all the several kinds, which surely ought to be included in a scheme for showing the relations of colors; and no reason is apparent in the included colors themselves why they should be placed in that particular order. The peculiar congruity of the true primaries in darkness and depth, and of the true secondaries in brightness and clearness, also tends to give, as it seems to me, a chastened richness and charm to any orderly combination of those colors which must be essentially wanting in similar combinations of the conventional primaries and secondaries.

I think, then, I am not wrong in asserting that an approach to scientific truth will be advantageous to art, and that the best natural taste may be directed and improved by understanding and observing the laws of nature. But in color true science has hitherto scarcely been in the field at all, and taste has in fact had the battle to itself, not only unaided by true science, but even misled by false or pretended science. No wonder, then, that writers on taste in color should be inclined to repudiate science altogether; and that Sir J. Gardner Wilkinson, for instance, in the

beginning of his valuable work on that subject, should make such remarks as the following:—"Every one willingly admits the great utility of rules; but we must first make ourselves masters of the subject, and be contented to seek for facts to guide us in their formation."..... "It is of more importance for the proper arrangement of colors to ascertain which harmonize in juxtaposition, than to occupy ourselves with abstruse questions respecting their properties, or the laws by which they ought to be regulated; which, though they may display great thought and scientific knowledge, are here of little practical use, and which, like the constitutions of certain wise professors, appear as plausible on paper as they are impossible in practice. From facts and actual experience we may obtain something positive and useful; from theory nothing can be expected, so long as the subject itself is not thoroughly understood, except the most vague and contradictory conclusions."*

As to the impossibility of rightly treating red, yellow, and blue, according to the same rules as primary colors, the same writer also well observes (pp. 61, 62): — "Though red and blue in juxtaposition have the appearance of purple, and yellow placed next to red gives it an orange hue, the same illusion is not caused by the contact of the other two primary colors, blue and yellow, and these do not look green when in juxtaposition, except in certain cases. Nor is the change then so marked as when blue and red, or yellow and red, are in contact. And this is one of many proofs that all the three primary colors are not under the same conditions in relation to each other. It is not, therefore, necessary to lay down the same general and invariable rule respecting the three primaries, that, in making new patterns or ornaments, red and blue should not join, nor yellow and red, nor yellow and blue, although the three combinations were exactly similar, and subject to the same laws. For yellow and blue do not deceive the eye to the same extent as the others, when in juxtaposition. Nor has red with green the same effect as red with blue and yellow, and still less have red, blue and yellow the same effect as these three colors when united in one,"—that is, according to the theory which the author received, they have not the same effect as white.

Such anomalies as those noticed in this extract are the necessary consequences of an erroneous theory. Of course, blue and yellow can not be treated in the composition by the same rules as blue and red; for blue is complementary to yellow and not to red. Still less can yellow and red be treated by the same rules as yellow and blue; for yellow harmonizes with red, itself containing the full red in conjunction with the full green, whilst it contrasts as the opposite color to blue. No wonder that red, yellow, and blue together have not the same effect as red and green together, nor yet the same effect as white; for the mean of the first combination is always reddish, and of the second yellowish, and neither of them white or neutral, whatever proportions are taken.

I believe, however, that if we dispense with false theory and admit scientific truth we shall lose these anomalies, and introduce no new ones. We shall be enabled to treat red, green, and blue under the same rules as primary colors, and seagreen, pink, and yellow under the same rules as secondaries, if only we bear in mind the differences in the depth and clearness of the pigments we use to represent them; these, of course, modifying the effects in a large degree. Two primaries of similar depth may please the eye when side by side, while the same two, equally true in hue, but not alike in depth, may fail to do so. A great step will assuredly be gained if we establish correctly the hues of the three simple color-sensations, and of their complementaries; for these, together with black and white, will give us the eight principal colors upon which to work, and will enable us to determine all the intermediate colors correctly, and to arrange them all with due regard to their natural gradations and contrasts of every kind.

* Sir J. G. Wilkinson on Color and Taste, pp. 6 and 8.

TRANSFER ORNAMENTING.

"There are many different ways of putting on the ornament, some preferring one way, others a different method, according to circumstances and individual skill. We shall endeavor to give the most simple and successful method known.

"First, let it be understood, that all pictures that show the colors complete, are only suitable for white or very light colored brown; those that are covered with a white grounding, gold metal, or silver leaf, can be used on any color, light or dark. After getting the work ready for ornamenting, give the picture a smooth, thin coat of some quick-drying copal varnish, thinned with turpentine (other preparations are used of which we will speak hereafter), being careful not to go beyond the outline of the design. Allow it to dry until it has a good tack, and put it on the work in its proper place. Roll it smooth with an India-rubber roller, or smooth it with a paper-folder, until every part adheres well. (For very large pieces, it is well to lay them, after they have the right tack, between two sheets of damp blotting-paper. It will stretch the paper and make a smooth transfer.) Now wet the paper, smoothing it down at the same time, until it has absorbed all the water possible, leave it about a minute and pull off the paper carefully. Should any parts of the design still adhere to the paper, press it down again, wet-rub it until it separates easily.

"After having removed the paper press the design on well and wash and dry it off. Should any blisters appear, prick them with a pin and press down. In a few hours the design may be varnished, which will increase the brilliancy of the colors.

"An improved method has been invented by Mr. Charles Palm, of this city, which saves time and works with more certainty. The design is coated with a 'transfer cement' of his own manufacture, without regard to outline, transferred as usual, and the traces of the cement around the design washed off, with the detergent (also his own invention), which will remove every particle of cement without injuring the colors or gold in the least. A few drops poured on a sponge or chamois skin are sufficient.

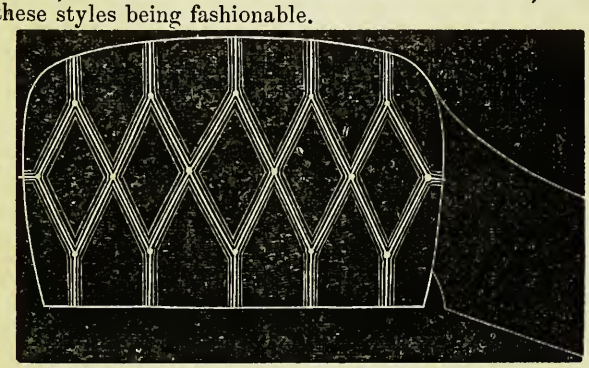
"For fine ornaments, having many fine lines and touches, it is necessary to use these preparations to make a neat job."—*Painters' Magazine.*

MONOGRAMS.—We intend to resume the publication of original monograms in our next number.

Trimming Room.

LANDAU LININGS.

There is another style of back, differing from the one in our last (see page 26), which is made up in large diamonds, as shown in this example, with the side squabs to match, the cushion to be made as described before; both these styles being fashionable.



DIAMOND BACK FOR LANDAU.

After this comes the top. But it is not necessary to explain the method of trimming the inside of the bows, as they are plain; but the outside leather, being the most difficult, requires to be fitted very accurately, so as to give a smooth, square corner to the roof. The webbing should be stretched over the corner of the bows, and the corners quilted either with cotton rolls or harness leather. I think the leather corner the best, with a layer of cotton over, so as to give a more perfect resemblance of a coach roof. The whole top should next be covered with burlaps or heavy muslin, and is then ready for fitting on the leather. The seam should be on the top of the roof, and two inches from the corner, as it is a very easy matter to make two semi-circles at the hinges, leaving enough unsewed so as to allow the hinge to work freely when the top is opened.

I may say that this style of carriage looks much better when open than it does when closed. In fact, there is no carriage so elegant as the landau; and, in point of comfort, it is so constructed that it can be made comfortable both in summer or winter, and is very easily adjusted to a close carriage or an open one. I think that the Morgan patent, which does away with the joints, is the most complete; for by the use of a tube, the footman can open or close the carriage, at the will of the passenger, by the use of a crank. G. W. P.

SMITH'S POCKETS FOR CURTAIN STRAPS.

We suppose the most of our readers have read the advertisement of Mr. J. F. J. W. Peters, in our last number; if not, they have another opportunity to do so in the present issue. The "pockets" Mr. Peters advertises are an excellent substitute for leather, as appears from the specimen sent us, being both cheaper and less liable to get out of shape than the old fashion ones. In addition to the straight, Mr. Peters informs us that he makes a curved pocket, to suit the back stay. Samples are sent free by mail, which will enable applicants to see for themselves the great advantages derived from using this improved article.

Editor's Work-bench.

THE PERPETUITY OF VELOCIPEDES.

As time wears away, the question naturally arises, will these velocipedes which have created so much sensation here and in Europe continue to be popular? We answer, we cannot say; but we think we already see evidences of their waning popularity all around us. But a few days ago and these machines were in such great demand that manufacturers could not produce them fast enough to satisfy the calls of their customers, and had to work day and night in consequence. To-day this extraordinary demand has not only in a measure subsided, but machines can now be had second-handed at nominal prices, and even new ones at very low figures. Many manufacturers who went into the business with avaricious dreams of wealth, have only awoke to find themselves visionaries, the bubble having burst at the prospect of litigation for fancied infringements upon claims made without so much as a shadow of legality.

One great drawback in their ever becoming universally popular, is the idea generally prevalent, that riding a velocipede is not manly, and only fit playthings for the boys. Very few persons have sufficient courage to take them into the public streets for exercise during day light, and the number that do so under the cover of night is not by any means large. Those who do this must *sneak away* in the Central Park, or some other secluded place where they will "be monarch of all they survey," instead of being surveyed by monarchs of manliness, and we never find a man *leading* his machine along the sidewalk without feeling a certain degree of pity for him—for their countenances in such cases show them to be ashamed of the play. To get the use of these machines adopted by grown-up men, thus far, has required a room fitted up for a riding-school at considerable expense. This, in consequence of the high rents now prevailing, places the *amusement* beyond the reach of the poorer classes, so that none but the more wealthy have hitherto patronized them. As this class of persons—if in any business—have a sedentary or easy one, with very little physical exercise during the day, they find the velocipede a capital thing for after-dinner exercise during the evening, and this use, after all, is the most sensible and profitable employment for these machines, and probably will tend more to perpetuate them than anything else. But even here—in the school-room—the larger number of the patrons are youngsters, who are attracted thither by the excitements of an improvised race, or the smiles of their female friends, who usually make up a large proportion of the lookers-on on such occasions. As warm weather increases, these rich *birds of passage* hie away to the watering places, leaving the velocipede halls deserted; but we believe that when they re-

turn again in the fall, they will find their taste taking them in some other direction, finally reducing the velocipede to a mere plaything in the hands of children.

TRADE NEWS OF THE MONTH PAST.

The Morocco Manufacturers' National Exchange held a meeting (July 8) at Cape May, N. J., when about forty local associations were represented, and discussed the question of workmen's wages, the apprenticeship system, and the transportation of goat skins....The barbers in this city work from twelve to seventeen hours week days, and five hours on Sundays, at an average of two dollars per day. They now ask that their wages be increased fifteen per cent....It is expected that the next session of the British Parliament will repeal all laws making combinations illegal, and relieve workmen from special penalties for trades union offences, and bring their funds within the provisions of the Friendly Societies Act.... Five men (all Irish), moulders in a shop in Williamsburg, N. Y., demanded an increase of ten per cent. in their wages, which being refused they struck. Others afterwards were put in their places, but were induced to leave through persuasion of the original strikers. For this interference the men have been arrested and put under bonds in $1,000 each to answer before a grand jury for conspiracy....Several members of the Potters' Association in Trenton, N. J., have now (July 14) been on the strike for nearly five months, only six of the seventeen establishments having acceded to the demands of their employees and paid the scale of prices to date. In consequence, fifty of the strikers have had to leave their homes and seek work elsewhere, some going so far as to go back to England, their native country. The association having exhausted its surplus funds, has now sent two men out to solicit aid from other trade associations, to keep up the strike still longer....Korn & Brothers, capmakers in this city, thinking to hoodwink the unionists, proposed to the thirty girls in their employ to have spurious prices concocted, thus: one wages book in which was to be inscribed the recently adopted union tariff, to be shown the union, and another the lower and real wages they were to receive, which led, on discovery, to the withdrawal of every workman and workwoman in their employ....The miners and operators in the coal mines of Pennsylvania, have formed a copartnership, the operators receiving a portion of the profits, which tends to make fuel dear—$9 per ton in New York. It is really amusing, now, to hear "the poor laboring man" grumble at the high price of coal, and declare such a combination *a shame*, never for once reflecting that the tendency of all combinations is to the same result.... The Brokaw Brothers, clothiers in New York city, have sued a man named Ames for leaving their employ, and laid the damages at $10,000. This case, we presume, is to be a test one, and will no doubt prove interesting in its results to both capitalists and laborers.

NOTES OF FOREIGN INVENTIONS.

Safety Stay.—A gentleman in Halifax, Nova Scotia, has invented a *safety stay for carriages*, by jointing one end of a flat bar of iron to the outer wheel iron of the shaft, by means of the bolt commonly called the dragon tongue bolt, the stay being capable of being turned in a vertical plane on this bolt. The other end of the stay is connected to the shaft at the distance of a few inches from the shaft bolt by means of a light collar bolt. The said collar bolt works in a slot in the end of the stay, the head of the collar bolt bearing against the outer side of the stay, and a collar and curved washer bearing against the inner side of the stay.

Cabs.—R. A. Gould, of Birmingham, England, claims to have made some improvement in *cabs*, by which he places the door at the back of the body of the carriage or cab, so that it opens outwards; and arranges the driver's seat in front and on the roof thereof. The axle he places near the front of the body and directly under the driver's seat. The passenger's seat is located in front, over and parallel to the axle, in such a way that he faces the door at the back of the cab, concealing the horse from view entirely.

STORY OF A HORSE AND BUGGY.

The *Buffalo Express* tells a capital story of how a gentleman outwitted a livery-stable keeper in that city a few days since. It is as follows:

"C——p, an *attaché* of one of the Pennsylvania railroads, but well known in Buffalo as an inveterate practical joker, happened in Cleveland the other day, and the weather being mild and warm, he conceived the happy idea of taking the fair object of his adoration out riding. Donning his best suit, he started post haste for the nearest livery stable. He was a partial stranger in the vicinity, and the livery-stable keeper, not knowing him, and imagining possibly, from the state of nervous excitement in which he presented himself, that 'something was up,' refused to let him take a horse and buggy.

"'But,' remonstrated C——p, 'I am good for a dozen horses and buggies.'

"'Very well, then, leave me some security,' demanded the suspicious liveryman.

"'How much do you consider your rig worth?' angrily asked our friend.

"'About $350.'

"'If I buy it now, and pay you $350 in cash, will you agree to buy it back again for the same sum when I get through with it?' asked C——p.

"'Certainly, sir,' politely responded the owner, who thought he saw a chance for a good bargain.

"'All right; here's your money,' and jumping into the vehicle, C——p drove off to the residence of his expectant Angelina.

"Of course she was ready, and of course a pleasant drive was enjoyed. Up one and down another of the beautifully laid out avenues of Cleveland they rode, breathing the fresh and balmy atmosphere of a glorious spring day, admiring the handsome residences which line the streets, C——p talking sweet nonsense all the while, and Angelina looking as if she felt herself transported to the seventh heaven of delight.

"For two hours did the happy couple ride and admire the newly developed beauties of nature, when the sinking sun reminded our hero that official duties awaited his attention; and leaving his fair companion at the door of her residence, he drove back to the livery stable.

"'Well,' said he to the proprietor, 'you see I am here again, and I presume you are ready to buy this rig back.'

"'Yes, sir, I trust I am a man of my word,' coolly responded that individual, at the same time handing C——p $350 in greenbacks, which our friend quietly stowed away in an inside pocket, and was moving off, when—

"'Hold on here,' cried the liveryman, 'you haven't paid for your two hours' use of this 'ere horse and buggy!'

"'What do you mean?' in turn responded C——p. 'Didn't I buy that horse and buggy of you two hours ago?'

"'Yes.'

"'Well, then, what do you mean by asking me to pay for the use of my own rig?' retorted C——p, as he moved off with well-assumed indignation, while the stable hands and bystanders smiled audibly."

FASHIONABLE GOSSIP.

At Tarrytown, N. Y., General Lloyd Aspinwall drives a showy four-in-hand and tandem turnout; Collector Grinnell, a plain substantial establishment; Wm. Moller, the sugar refiner, a very stylish equipage; the Hon. Wm. E. Dodge, a buggy similar to the shocking old vehicle in which Peter Cooper is drawn around the streets of New York; Rushton, the Broadway druggist, an antiquated affair; E. S. Jaffray, a handsome open carriage; Mrs. Remsen, of Fifth Avenue, an imported London landau. One of the handsomest equipages on Staten Island this season is owned by Udolpho Wolfe, who is summering there with his family. A Boston lady at Swamscot drives four-in-hand; and another Hub belle boasts of seven Saratoga trunks she carries with her full of elegant dresses. Many of the Newport "cottagers" drive four-in-hand.

EXTRA GOVERNMENT MEASURES.

The Government officials in this city are taking extra measures for securing revenues, and accordingly have lately warned several cart and hack owners to make detailed accounts of their business as common carriers, to be taxed thereon, although, as now appears, the question was considered as having been settled four years ago adversely for the Government. Commissioner William Orton then gave it as his opinion that "while railroads, steam and canal boats, stage-coaches, and omnibusses are employed to convey property and passengers over established routes between fixed points, it is the business of carts and hacks to gather up property and persons, and to deliver them at the points of departure on such routes, and it was therefore impolitic to require further returns and payments from the persons engaged in the business under consideration." This decision ought to have settled the question until the law is changed, we think.

LITERARY NOTICES.

The *Atlantic Monthly* for July is an unusually interesting one. The contents are: "The Drummer Ghost," "Birch Browsings," "The Foe in the Household," "Thomas Crawford, a Eulogy," "Gabrielle de Bergerac," "Three Years a Negro Minstrel," "The Restored Picture," "Marrying a Pickpocket," "The Greek Goddesses," "Our Inebriates, Harbored and Helped," French and English Art-writers and Reviews, and Literary Notices. Subscription, $4. Boston: Fields, Osgood & Co.

Our Young Folks, published by the same firm, is decidedly the best work of its kind now issued from the monthly press; always filled with fresh matter, and illustrated with fine engravings from original designs by the best artists in America. Every householder should have a copy.

Fishing in American Waters, by Genio C. Scott, with 170 illustrations, is one of the most delightful books issued from the press this season; second only in general interest to Old Isaac's "Complete Angler," and for the American lover of "the gentle art," much more instructive and entertaining. No angler should be without a copy. Published by Harper & Brothers, New York.

Carriage-makers will find much information in their business, and may save to themselves more than the cost, by keeping in their workshops a bound set of The New York Coach-Makers' Magazine, which not only treats of everything in detail appertaining thereto, but likewise exposes the frauds committed by unprincipled men upon the craft during the last eleven years. The ten volumes may be had for $40, sent free by express on receipt of the price.

Wedlock; or the Right Relations of the Sexes; disclosing the laws of conjugal selection, and showing who may and who may not marry, is the title of a new work just published by S. R. Wells, Editor of the Phrenological Journal. Price, $1.50. This work should receive the careful study of every person seeking a partner for life.

EDITORIAL CHIPS AND SHAVINGS.

How They Ride in Pekin.—The only public conveyances in Pekin are covered carts without springs—strong, unwieldy vehicles, made for endurance more than comfort. In fact, the torture in riding in one of them through the rough, unpaved streets or broken highways can never be described. The passenger gets in and sits cross-legged on some cushions, with the curtain drawn in front to prevent being smothered with the dust. A little window of gauze on each side admits the only light to cheer your misery, and you desperately brace yourself against the sides or back, expecting a dislocation of your frame at every jolt. There is not a vehicle on springs in Pekin, and with the present streets or roads one would

ELECTIONEERING UNDER THE WOMEN'S-RIGHTS ADMINISTRATION AS IT WILL BE IN 1870.

be quite useless. The carriage which Lord Macartney brought the Emperor as a present from the English government in the last century has never been used. Ladies and men of rank or wealth are carried in palanquins borne by coolies. A Pekin cart costs as much per hour as a cab in London, and a palanquin with four coolies is equal in expense to a carriage in New York.

Wall Street Livery Stable.—The visitor to Wall street in these days of speculation in stocks, where fortunes are made and lost on the same day, and bulls and bears rule, has little idea of what was going on there ninety years ago. To show we give the following advertisement from an old newspaper:

"The subscriber has excellent Livery Stables next door of Mr. Maxwell's, in Wall street.

He has a Phæton and pair——a Lady's, and a gentleman's Horse to let, on the following terms:

Phæton and pair, Two Shillings per mile, or Two Shillings per hour.

A Saddle Horse, one Shilling per mile, or hour.

The proprietor to have his election to be paid for time or distance. ☞ *By distance it is meant, that if Haerlem is eight miles, the Phæton is Sixteen Shillings; and a Horse Eight Shillings.* Stephen Rogers.

N.B. A Servant shall attend for the Phæton on horseback, &c., &c."

Strange Cuttings-up in Connecticut.—The *Republican Standard* says: Bozrah is shaken to its social and commercial centers by recent curious and inexplicable phenomena. A two story dwelling house, unoccupied, was found standing on its head, in the middle of the street, in an exceedingly undignified manner. This took place at night, and the agencies are not known. The other phenomenon occurred in broad daylight, and can be vouched for. A team wagon, loaded with three tons, and standing in its usual place of rendezvous, suddenly started towards a vacant lot, broke over a board fence, and continued running till it had broken an axle, and was otherwise damaged. Previous to this performance, it had been standing soberly in the same spot for twenty hours. There was no visible motive power whatever. "Can such things be?"

Velocipedes in Paris.—Velocipede building now forms an important branch of trade in Paris. There are not only manufactories of these new locomotives, but foundries where the iron work of which they are composed is cast. One of these employs two hundred and fifty workmen, and finishes twelve velocipedes per day for a coach-builder of Lyons. A Lyonese velocipedist is willing to take any bet that he will beat the fastest trotter in a race.

Crowded out.—In consequence of the crowded state of our advertising pages we have been obliged to lay over our name-plate list, and advertisement of Dole Hub-boxing machine, to another month. Those particularly interested will find the lists of the present prices in our June number, and send in their orders accordingly. In connection with this notice we embrace the opportunity to say that we cannot undertake to send these articles on time. They must either be paid for when ordering, or C. O. D. Those not our subscribers and strangers *must* send the cash with their orders.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.
New York, July 21, 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; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅞ 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; ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
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 *Enameled.*)
Cord, seaming, per lb. 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 54, 70c.; 64, 80c.

☞ No quotations for other enameled 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.

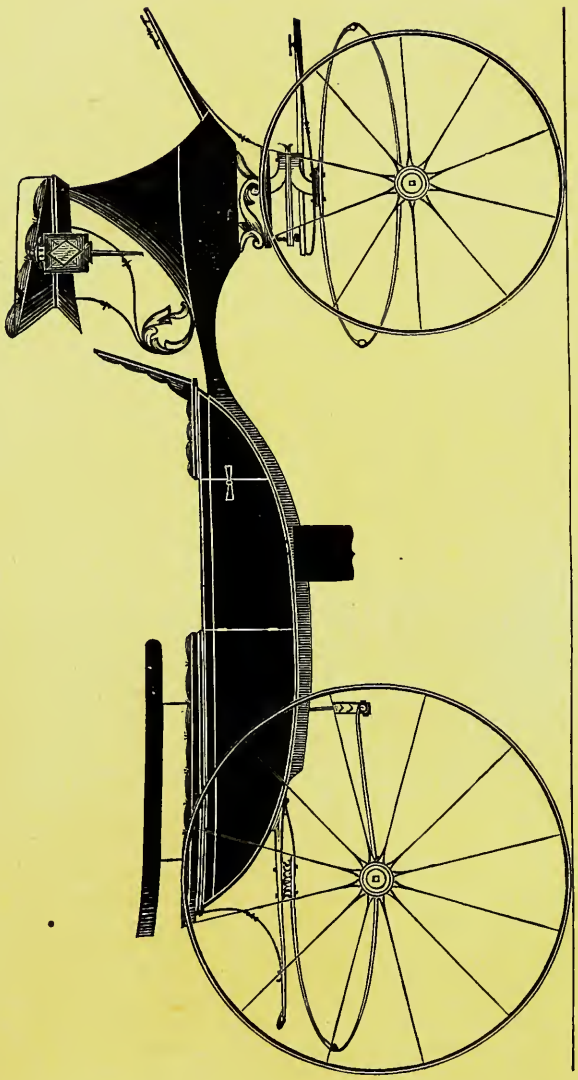
Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb. 25c. *a* 30c.
Hair, picked, per lb. 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $1.75.
Knobs, 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.; enameled top, No. 1, 26c., do., No. 2, 24c.; enameled trimming, 24c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, 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, $4.50.
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., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 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 28 lbs. If both 4 plate, 34 to 40 lbs.

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

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

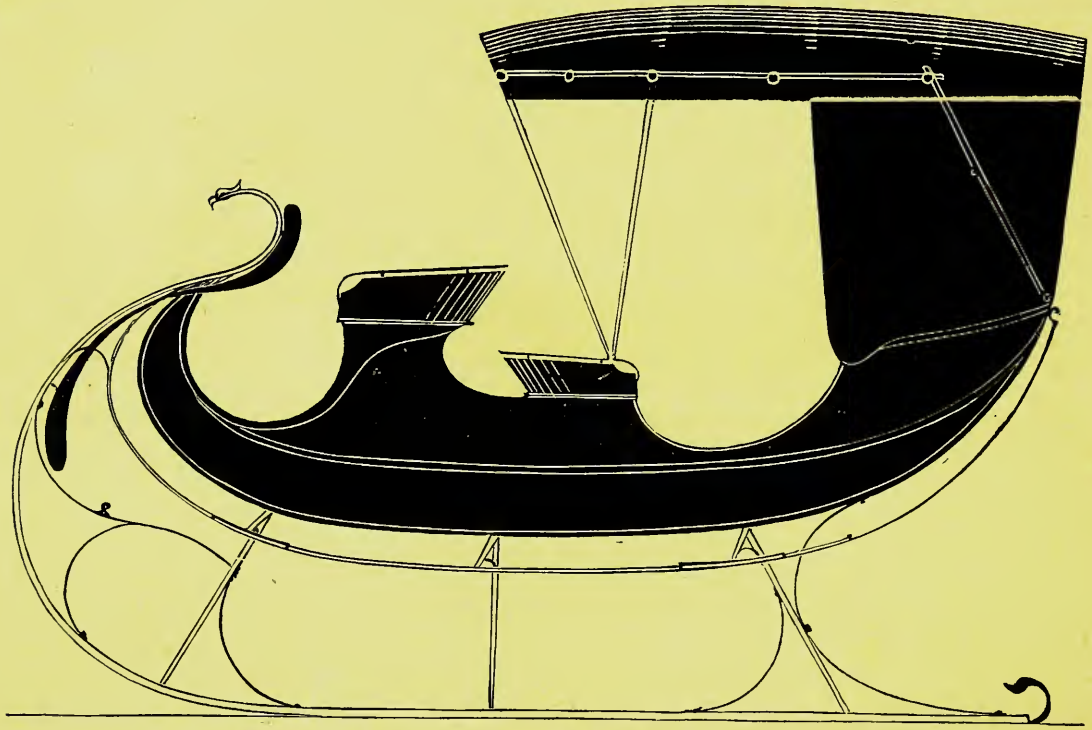
Steel, Farist Steel Co.'s Homogeneous Tire (net prices): 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 3-4; 1-16 x. 3-4 23c.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, 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 gl., 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.
Whiffle trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.



PHAETON CARRYALL.—½ IN. SCALE.

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

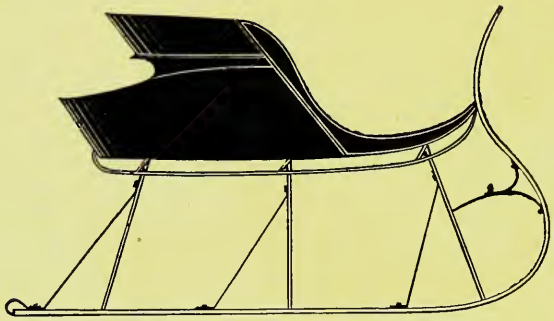
Explained on page 41.



SIX-SEAT EXTENSION-TOP SLEIGH.—½ IN. SCALE.

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

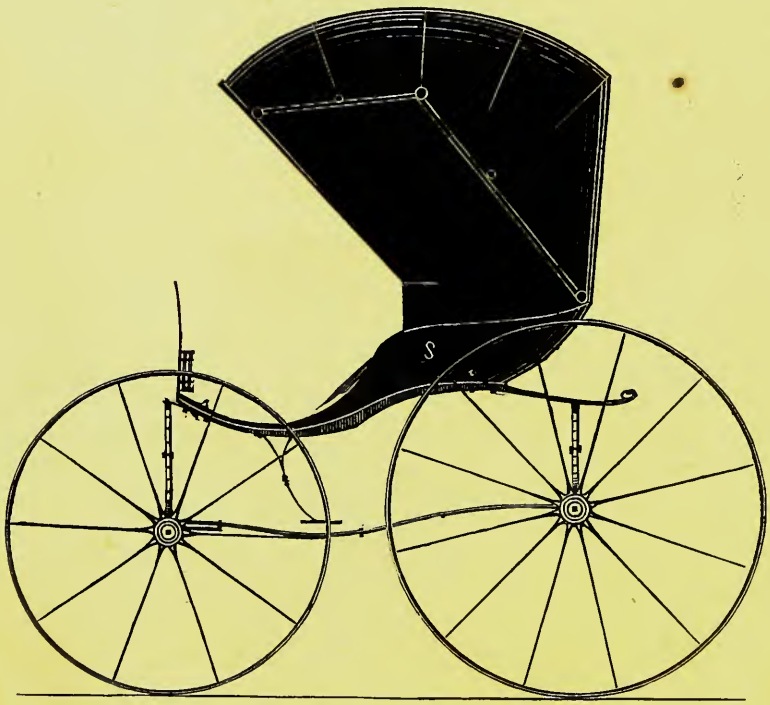
Explained on Page 41.



BUGGY SLEIGH.—½ IN. SCALE.

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

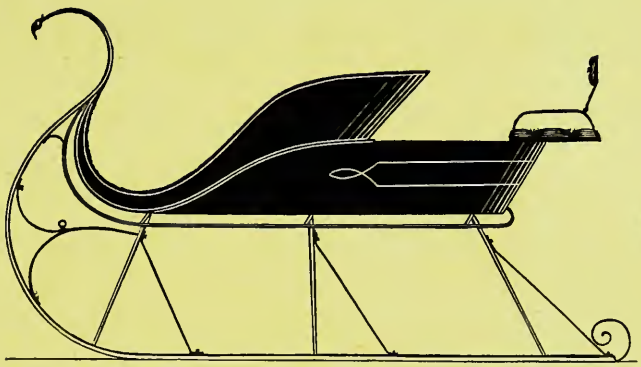
Explained on page 41.



PHYSICIAN'S PHAETON.—½ IN. SCALE.

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

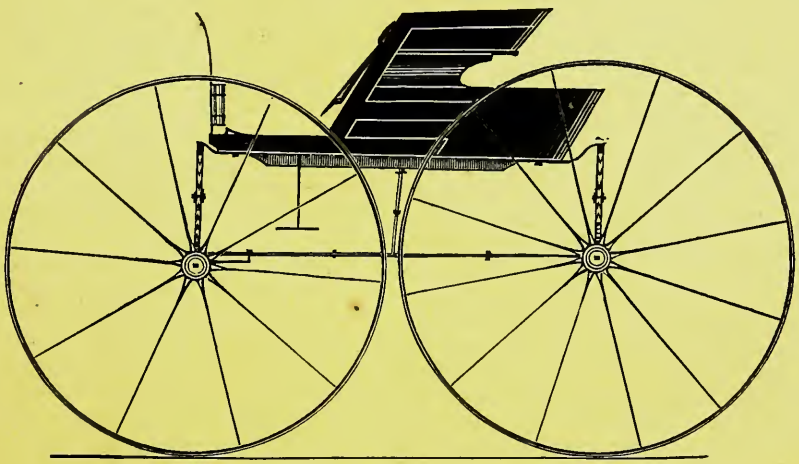
Explained on page 41.



PHAETON SLEIGH.—½ IN. SCALE.

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

Explained on page 41.



ROAD BUGGY.—½ IN. SCALE.

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

Explained on page 41.