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Mechanical Literature.

THE ADVENTURES OF THREE JOURS.

BY H. S. WILLIAMS.

Chapter VIII.

"So you have had a pretty hard time of it I should judge by the brief letters we have received from you," said Gloner, that night after they had eaten supper.

"Well, yes, rather hard, particularly after I left Panola," he answered. "But, if you wish it, I will give you a brief history of my trip, for it is rather amusing now to think of, after it is all over. Let's have one of your cigars, I can always talk better when I'm smoking." After lighting it and drawing a few whiffs, he commenced as follows:—

After leaving you at Memphis, I went up town to my old boss' shop, and my first greeting was, as he shook my hand, "Why, Margrave, what lucky wind blew you down this way? You are the very man I wish to see." Come to find out, he had an old omnibus that he had bought somewhere on speculation, and was fixing it up to run between the river landing and the hotels, and as there was no trimming in it, the reason of his delight at seeing me was no longer a secret.

As the holidays were near, and as business is always dull in our line about that time, I concluded to remain until New Year's, so a bargain was soon made between us, and the next morning I went to work on it. I finished it off, and we hung it up on the 24th, and Christmas morning the boss had two pair of horses hitched to it, and all hands took a *Spludge* in it during the day.

During holiday week I visited all my old friends, and among the rest the girl you joked me about in St. Louis, as you may remember. I found her as pretty as ever and a little more mischievous, if anything. In fact, she appeared overjoyed to see me, and as I was received every time I called with marked attention, I concluded I was getting on swimmingly, which supposition was firmly established in my mind by her inviting me very cordially to attend a little social gathering at her home on New Year's Eve. Of course I accepted, and what is more, I even went to the extra expense of buying a new coat, and several little articles of toilet, which, under any other circumstances, I would have thought uncalled for extravagance. On entering the rooms I was somewhat surprised to see so many there, and still more so when, on taking a survey of the company, I failed to find the principal object of my thoughts.

One of my acquaintances met me with the remark, "Why, Margrave, can it be possible that you summoned up courage enough to come here; I should sooner have expected you in the solitude of your room, either studying the works of some cynical philosopher, or contemplating suicide. But, however, there's as good fish in the sea as ever was caught, you know," and with a laugh he left me. Just then the doors from an adjoining room were opened, a gentleman with a white necktie entered with a book in his hand, who took a position on one side, and,—well that girl had the effrontery to marry a dry-goods clerk right there before my eyes. The next morning I felt disgusted with the whole world, and with Memphis in particular; so I concluded to leave it.

A semi-weekly stage-line extended to Hernando, Mississippi, twenty miles distant, and as the coach left next morning, I determined to start out. The roads were rather bad and it was midnight when we reached Hernando. I went to bed soon after supper, and when I woke up the sun was shining in my room. On going down I found the stage for Panola had been gone an hour. After breakfast I went out in town and found an old dilapidated carriage-shop, but no boss, so I concluded to go on as soon as possible. Returning to the hotel the landlord informed me that there would be no public conveyance to Panola for three days, which rather staggered me. What to do I did not know, and while studying on it, a young man stepped up and asked if I wanted to go to Panola. I informed him I did. "Well," he continued, "my name is Stirling, and I am a tailor by trade; I can get nothing to do here, and I want to go to Panola; so I propose we work our passage. It's only thirty miles, and the road is good." In a few moments I acceded to his proposition, and after settling with the landlord, we put out. For ten miles or so the road proved to be good; then, as we entered the low swampy lands bordering on streams, it became very bad. When night came we found shelter and a poor supper at a log farm-house, but as I was tired and footsore, I was satisfied with anything. We found a third traveler there, a young man of rather prepossessing appearance, who informed us that he was a printer on a

tramp, and he expected a job at Panola. After a late breakfast next morning, we started out very leisurely, for we expected to stay over night in Panola, even though we did not get jobs, and as it was only ten miles we concluded that we had plenty of time. Passing through a low swampy bottom, we reached the Talahatchie river, and the old darkey ferryman who put us across, told us that the town was just a quarter of a mile beyond. We found it a small place, principally noted as being the court-house town for the county of the same name. Putting up at the hotel we all started out to hunt a job. It took just fifteen minutes to find out three things, viz., the editor and proprietor of the *Star* done all his own work with the assistance of his devil; the only tailor in town had nothing to do; and there was no carriage shop in the place. After obtaining these several pieces of information we returned to the hotel, and took things easy for the balance of the day.

The next morning I was awakened by the bell ringing for breakfast; Stirling and myself occupied one bed, and on getting up we were rather surprised to find that the printer who occupied the same room was gone. On dressing I found my overcoat and pocketbook were gone too.

"Confound the rascal, he has stolen them," I exclaimed.

"Has he got all your money?" asked Stirling in alarm.

"All that was in my pocket-book, but I have five or six dollars in change in my vest pocket."

"Well that's a good thing," returned Stirling.

"Why so?" I asked, "has he stolen your money too?"

"No, not stolen it, for the best reason in the world."

"And what is that?"

"I had none to steal."

"What, you out of money?"

"With the exception of two bits in silver and a five dollar bill on a broken bank, I most undoubtedly am."

"Well, this is a pretty state of things; what shall we do?" I asked.

"Settle with the landlord and get out of town as soon as possible," replied Stirling.

On making inquiries no one had seen the printer since the night before; so I knew search for him would be useless, and I decided to take Stirling's advice. After breakfast I went to settle up with the landlord, and he actually wanted me to pay the printer's bill too, and he had the impudence to hint that I was acting dishonorably when I refused.

"Let's take the road back to the river," exclaimed Stirling, as we left the hotel. On getting out of town, he continued, "The best plan we can pursue is to get a boat and travel down the Talahatchie as far as Yazoo city; there we'll be sure to get work, and its the cheapest as well as the easiest way to travel."

I readily assented, and on reaching the river, we soon bargained with the old ferryman for a dug-out, for which I paid a dollar and a-half. In this we stowed ourselves, with what little baggage we had, and Stirling taking the paddle, we started down stream at a good speed. We were certainly in anything but an enviable condition. I had two dollars and some few cents, while Stirling, who had invested his two bits in a plug of tobacco, had nothing but the broken bank bill. We continued our journey until the sun had passed the meridian, when our appetites suggested the idea of stopping at the first clearing we could find and hunting up a cabin or farm-house. We soon reached a cleared field to the right, and tieing our dug-out to a root, we clambered up the bank. A house was in sight half a mile distant, and on reaching it we were rather curtly informed that we might have dinner, although it was long after their regular dinner hour. It was a pretty rough meal, nothing but corn-bread and bacon, and for a wonder the old farmer did not charge us anything for it.

After being informed that we might reach the village at the mouth of Clear Water River by dark, if we pushed ahead pretty rapidly, we left him and pursued our studies in the art of navigation. It was a wild but very romantic scene as we descended the river, huge trees almost met above our heads, nearly all of which were loaded with trailing vines, and long festoons of moss that swayed to and fro in the breeze, presenting a sombre and dreary appearance. The sun had already set, and darkness had begun to gather around us, with no sign of the village nor the mouth of the Clear Water, when our further progress was barred by a huge cottonwood tree that had fallen entirely across the river.

If the tree alone had been in the way we could easily have pulled our boat over it, but it had formed a barrier for all the drift wood that had floated down during that stage of water, so that the drift was twenty yards wide, and as it was all afloat, it presented no secure footing on which one could stand.

"Here's a pretty go," exclaimed Stirling, as our dug-out swung round and took up its position by the side of the drift.

"Yes, a fine prospect for a night in the woods," said I. "But let's land and see what we can do."

It took us a long time to do so, however, for the bank on either side was steep and slippery with mud, so that it was very dark by the time we reached the top.

"Let's try and pull up the dug-out," I exclaimed.

"Impossible," answered Stirling. "It is large, water-sogged, and so heavy that four men could not pull it up this bank."

A single trial convinced me of the truth of his assertion. "Well, what shall we do?" I asked.

"If we knew the way to that village, or to the nearest house, I could answer at once; but as it is, we will, in all probability, have to stay here all night."

In a few minutes we had a rousing fire started, for Stirling fortunately had some matches in his pocket. As the night was chilly, a good fire was very agreeable, and for an hour or so we felt quite comfortable. Then we got very drowsy; and as we had no blankets or overcoats, we could not make a bed, but had to sit up by the fire. That night was a long and dreary one. In the broad and heavily timbered bottoms, that stretched away on either side of the river, we could hear the wolves and other wild animals howl during the entire night; and one tremendous owl lit directly above our heads, and made night hideous with its dismal cries. When you reflect that the most formidable weapon we had was a pocket-knife, you can better realize our situation. As for sleep, it was simply impossible. At times we would doze off in a nap, but it was of short duration. As I said before, it was a long and dreary night; and no watcher at the bedside of the sick ever welcomed the coming morn, "with russet mantle

clad," as gladly as I did. As soon as it was fairly light enough to see, we went down and took a survey of the situation. Near the center of the river the log was the lowest in the water, in fact the stream ran over it for a few feet; and if we could but work our way to it, getting over would be but a small matter. We were hungry and tired—two great incentives to exertion,—so we got in our dug-out, and went to work with a will. The removal of the immense pile of drift-wood so that we could force a passage through may appear a small job to you, but in reality it was an arduous undertaking. For hours we worked there; and often, just as we would get one log out of the way, another would swing round in its place before we could get our boat there, so that it was noon before we reached the tree. Then we got out, and by a good strong pull we succeeded in launching our craft on the other side. Then starting down stream we had a chance to rest after our hard forenoon's work. In half an hour we reached the mouth of the Clear Water, and were slightly surprised to find that the *village* consisted of a blacksmith's shop, two dwelling-houses, and a few dilapidated out-buildings. We managed, however, to get a pretty fair meal of victuals at the smith's house, but had to pay city prices for it—viz. four bits. Just as I had settled for my dinner a gentleman approached us, and walking up to my companion, asked if his name was Stirling. On being answered in the affirmative, he informed us that he was a deputy sheriff from Panola, and had come down for the purpose of collecting five dollars for a dug-out that we had taken from the ferry. That rather surprised us; and on our informing him that we had bought the boat and paid for it, he laughed at us, and told us that the owner of the ferry had sent him, and we must pay the V., or return with him to Panola. That, of course, was not to be thought of; and after arguing the matter without avail, Stirling drew out his five dollar broken-bank bill and said that that was all the money he had, but if he would take it, why he supposed he would have to part with it.

The deputy seemed highly elated with his good luck, and fairly grabbed it; when bidding us good day, he got on his horse and left. Come to find out, he had arrived at the village the night before, and as he had rode thirty miles, paid his own bills, and had thirty more miles yet to go, we did not envy him his luck.

On making inquiries for the nearest town of any importance, we finally concluded to sell our dug-out, and take it afoot to Helena on the Mississippi River—a distance of about fifty miles through the great river bottoms,—rather than try the river any further. Stirling finally made a bargain with our host to let him have the dug-out for his dinner, the smith to put us both across the Clear Water.

The sun was about two hours high when we were landed on the western bank, and shouldering what little plunder we had, we started out at a brisk pace. We had gone some five or six miles when darkness fairly set in—having passed some two or three houses without stopping—when it was deemed advisable to seek for lodgings. At the first house we stopped at they had no room; but there was a house a couple of hundred yards further on where they could accommodate us. The couple of hundred yards proved a good long mile, and when the house was reached we were again refused, with the positive information that at the next house they would take us in. The next house proved a small, rough log-cabin; but as it was too dark and too late to be very fastidious about appearances, we opened the rude gate and entered. We were met by two huge dogs, who halted us in fine style, when the door of the cabin was opened, and we were hailed with "Who's thar?"

"Keep your dogs off and we'll tell you," I replied as we advanced.

"We are a couple of travelers," I continued as we reached the house, "and we want accommodations for the night. Don't make any excuse, for we're willing to rough it; and it is simply impossible to go any further, as we do not know the road, and we have no desire to be lost in this wilderness; so do the best you can, and we'll be satisfied."

"Wall, strangers," he answered in true backwoods style, "I guess we'll have to let you stay, providing you'll pay me for your lodgings."

"We do not expect to stay without paying," I replied, with as much independence as though I had a hundred dollars in my pocket, instead of less than a hundred cents. "So be so kind as to order supper for us, as our long afternoon's tramp has made us hungry."

"Certainly," he answered, "come in, though I don't see for my life where you will sleep, for we have only two beds—one of which I occupy with the old woman and baby, and the other is a single one where the two gals sleep; but, however, we'll manage it somehow."

Without more ado we entered and took a seat by the fire, for the evening was quite chilly. In half an hour supper was ready, and we sat down to fried chicken, hot biscuit, honey, and coffee, to which we did ample justice. Supper over, we took our seats by the fire again, and passed a very pleasant evening, telling our host of the great world beyond the wilderness in which he lived, and of which he was totally ignorant; while he in turn told us some tough yarns about his hunting *bar* in the great swamps beyond.

"So you're goin' to Helena, hey? Wall now, look o' here, I woul'ent care about taking that trip, at this time o' year in particular; if it was in the summer, now, or fall, you'd get through all right, but its an awful road now. The water is up over the bottoms in places, the roads through the swamps are knee deep in mud, and I think you'll encounter many difficulties that you'll hardly be able to surmount. And then its fifty long miles, with only two or three houses in the whole distance."

Notwithstanding this rather gloomy picture, we were still determined to proceed; and when we all got tired of talking, we went to bed—and such a bed! It was only about three feet wide, and made out of pine poles nailed up in one corner of the house. The mattress was an old sack filled with broom-sedge; and as it was higher in the middle than at either edge, one felt a natural tendency to roll out. As I managed to get in first, I rolled down against the logs, and thus felt secure from going any further; yet I passed a most uncomfortable night. Despite my vigils of the night before, the barking of the dogs, and hooting of the owls, kept me very restless, and I hailed the first faint streaks of daylight with joyful relief. After a very fair breakfast, I approached our host with a little fear and trembling, and inquired what our bill was.

"Wall," he said, taking a big quid of tobacco in his mouth, "wall, strangers, you know we can't live and feed

every one that comes along for nothin', so I guess as how I'll have to tax you about twenty-five cents for your accommodations."

You may surmise that I paid it without a word, and, bidding him and his buxom spouse good-by, we started out, but not without his yelling at us as we gained the road, "Be careful to observe the blazes on the trees, or you'll get lost sure, after you strike the swamp, and you wont see a house under twenty-five miles; when you do, better stop for the night, if you're lucky enough to get that far to-day."

Right merrily we trudged on, singing and conversing in gleeful tones, and at the first resting-place, Stirling remarked, "Our experience on the Tallahatchie convinces me that we ought to have some sort of a weapon to defend ourselves with, so as I happened to find this thing this morning, I concluded to bring it along;" and he drew out a huge home-made bowie-knife, and flourished it around in a style that would have done honor to a Natchez blackleg. We trudged on, and soon lost the regular wagon-road, and then plunged into the swamp, with only a blazed trail to guide us in the right direction. To tell you all our adventures during that day would take longer than you would have patience to listen. We saw two huge bears running off, and right glad were we to see them run, too, for we had no curiosity to make their acquaintance. In order to keep off the wild beasts, we resorted to singing and shouting and making all sorts of noises—in fact we made noise enough to scare the Old Nick himself if he had been within hearing distance. All day long we toiled on our weary way, often wading through mud and water up to our knees, but we kept up a stout heart until about sunset, when we came to a broad sheet of water—what is known as a *swail*—in the backwoods. The current was running quite rapidly, and how wide it was we could not tell, as the trees were so thick we could not see even one or two hundred yards ahead. To add to our perplexity we had not seen any of the blazes for the last half hour, and the fear that we might be lost, added to the horror of the situation.

"Well, what shall we do?" asked Stirling, as he threw himself down on the ground beside the water that seemed to put a full stop to our further progress in that direction.

"We've got to go on," I replied, "and find a house to stop in over night, for it would be all our life is worth to stay in these woods. The panthers would be picking our bones before morning if we did, I'll warrant you."

"Well, go ahead; I'll follow," he answered, getting up. Selecting a good stout stick some six feet long, I plunged in, at what appeared to be an opening in the wood that might answer for a road. For a hundred yards the water was not over a foot deep, and great was our joy then to see a scar or blaze, on a huge oak, which told us we were still on the right trail. Then the water began to get deeper and deeper, until finally it took us up to our waists.

"Hold on," cried Stirling, "let's back out; we'll never get over this in the world."

"Not yet," I answered; "the current is the swiftest here, which proves that it is the channel or deepest part of the slough, so let's try it a little further," and, stretching out my staff, I proceeded cautiously. I proved correct, for it was the deepest part of the swail, and soon the water become more shallow, and a couple of hundred yards further brought us to dry land. The land seemed to be quite an elevated ridge, for the bank was steep before us, up which we were toiling with slow and weary steps, when the loud barking of a dog ahead, caused us both to fairly shout for joy. Pressing on with renewed energy, we soon came to a good-sized cabin, situated in the middle of a clearing, and as we entered the porch, we were surrounded by half a dozen children—both boys and girls—of from eighteen down to three or four summers. Their parents, they said, had gone down on the ridge five miles to a neighbor, who was sick, and would be gone all night, but if we were satisfied with milk, bear meat, and a bed of bear skins on the floor, we might stay.

Of course we did not let the bill-of-fare keep us from accepting their proffered hospitality. By the time we had dried ourselves by the fire, our supper was ready, and as we had fasted since morning, we ate our bear meat and bread, and drank our sweet milk with a good relish, and soon after we stretched our weary limbs on the bear skins, and never did I enjoy a more delightful night's rest.

Early next morning we ate our breakfast and prepared for our departure. None of the children had ever been to Helena, but they had heard "father" say "that it was a very bad road, and from twenty-five to thirty miles distant." On asking what our bill was, we were rejoiced to be told, "Nothing at all." So, after being warned about lakes, large pools of standing water, and bears, we started out. After leaving the ridge, we entered the real swamp. High canes, briars, and brushwood lined the road on either side, while the mud and water were, if anything, more than on the previous day. About midday we reached a large creek, when we came to a dead halt, for we could see no way to cross it. Turning to the left, we followed it down stream, and after two miles or more, we were overjoyed to see, at a sudden bend, where the creek was narrow, a huge tree that had been uprooted, and which formed a most excellent foot-bridge. Crossing over, we proceeded off in a diagonal direction, expecting to strike our road, but had not gone far before we came to another creek. This we followed up, and on reaching our road, we forded it, the water not being over two feet deep.

The road now became simply impassable, so we got its direction, as the day fortunately was clear, and took the woods, picking out the dryest way we could. About three o'clock we suddenly came on a fence, and a cleared field beyond, but no house was in sight. Following the fence, we found a wagon road, over which some teams had passed lately, so, highly elated, we kept on, with the expectations of soon reaching a habitation. We left the field, and then the woods stretched out again; but we had not proceeded far before we saw a large body of water before us, that we naturally concluded was the Mississippi River. Pressing forward with great eagerness, we soon reached it, but as it was clear and no current visible, we decided it was a lake. Following it up for two miles, we reached another clearing just at sundown, and, what was still better, a good-sized house besides. Congratulating ourselves on our good luck, we hastened toward it, reached the door, and knocked. No answer followed, when we knocked again, and as everything was still silent, I raised the latch and went in. Nobody was at home, but the furniture told us that somebody lived there, and the general topsy-turvey condition of everything, together with an unmade bed in one corner of the room, told us furthermore that it must be some bachelor's quarters. Spying a cupboard, my

curiosity prompted me to look in it, where I found a lot of corn bread and some fat bacon, which satisfied me that whoever lived there had taken dinner at home that day, and consequently could not be far off. Taking a couple of chairs, we sat down on the piazza and made ourselves as comfortable as possible. We had not long to wait, for just at dark a gentleman came up, who manifested a good deal of surprise to see two strangers in possession, but five minutes talk convinced him that our intentions were peaceable, and he welcomed us with true backwoods hospitality. We soon learned that he was an overseer living on the plantation, while the owner lived off in Alabama, or somewhere else, and the negro quarters were half a mile beyond. We had a good supper and a jolly time that night. The overseer proved a capital fellow, and invited us to stay a week or two with him and take a hunt, which we finally agreed to do. For a week we remained there, and although neither Stirling nor myself killed much, yet we had plenty of fresh meat and fish—in a word, we had a "high old time," and got well rested after our long tramp. At the end of a week, as our host had to go to Helena to get supplies for the plantation, we accompanied him, and consequently got put across the river for nothing, which, when you take the condition of our finances into consideration, was a fine stroke of diplomacy.

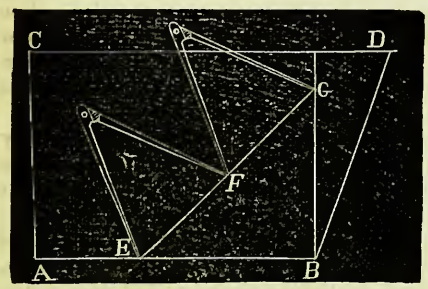
(*To be continued.*)

MECHANICAL GEOMETRY.

BY P. B. J.

In order to cut the end of a plank or board square, by means of a straight edge and a pair of compasses only, without drawing any lines or circles:

Let A B C D be the plank, the end of which, B D, is required to be squared. Having made the edge A B straight, open the compasses at any random distance, and placing one leg at A B, and the other at any point, as at F, in the direction B F, keep one leg at F, and turn the other round until it touches the edge A B at E; keep it there firm, and apply the straight edge to E F, as the figure shows, keeping one leg still at F; turn the other over into the position F G—G being close to the straight edge—and make a mark at G. Now if the straight edge is applied to G and B, and G B is drawn, it will be square to the edge A B. This problem will be found not only very useful when a square is not at hand, but may be applied to advantage in drafting bodies and full-size drafts on wall boards of the factory. It is perhaps here necessary to observe that the opening of the compasses ought not to exceed the half of the width that is to be squared, otherwise the point G will be found beyond the board; but let the direction of B F be as near a mitre-bevel, or forty-five degrees, as possible, and the solution will then of course be accurate.



A GOOD HACK.

The young man from the country, who, for the first time, penetrates from the whirl of Piccadilly to the shady silence of May-fair, will notice at the corner of a street a signboard in a more elaborate style of art than is common on modern public-houses—a sprightly youth, in the costume of the "pampered menial" of the time of George the Second, with a pole in his hand, stepping away at the rate of some six miles an hour.

The sign represents an ornamental luxury that died with the last famous or infamous Duke of Queensberry—the running footman—a class of servant without some half-dozen of which, early in the eighteenth century, no great house was complete. They ran before and alongside the fat Flemish mares of the period, and warned the innkeeper of the coming guests, or with their long staves helped the caravan-like coach out of the numerous sloughs on the northern or western high road.

Good roads and post-horses increased the coaching-pace from six miles to ten miles, and killed the trade of running footmen: leaving nothing but the costume and the long staff turned into a cane for the gorgeous creatures who still hang behind court chariots or lord mayor's coaches, and do ornamental duty in the vestibules of great houses.

With the decline of the running footman, and from the same cause—the improvement of highways and public carriages—began the decay of the famous British hackney, or roadster.

We may be sure that the roads were very bad, and that traveling on wheels was very expensive, when Alexander Pope rode to Oxford through Windsor Forest, on a horse borrowed from the Earl of Burlington, and met on his way the bookseller, Bernhard Lintot, also riding a nag borrowed of his publisher, "which he had of Mr. Oldnixon for a debt."

These roadside hacks had qualities not found in these days of Macadam and railroads, because not wanted. They were, for the most part, between fourteen and fifteen hands high. A tall horse is neither handy to mount, nor likely to last through a long day. They were strong, for they had to carry, over and above the horseman, with his large cloak and jack-boots, a heavy saddle with holsters, pistols, and saddle-bags. They were tolerably swift, for the rider might have to owe his safety to his pace. They had good shoulders and plenty before the pummel, capital legs and feet; they were hardy enough in constitution to bear rough weather, indifferent stables, and coarse fodder. They were required to carry their riders, not for an hour or two now and then, for exercise or fashion's sake, but for long days, day after day, and that with an easy, elastic walk, trot, or canter. According to a rule as old as time, the demand created the supply, and men of fortune were always willing to buy at long prices a handsome, sure-footed, easy-going, enduring hackney, while less fortunate travelers put up with every degree of utility with more or less of comfort and beauty, because they had no other way of journeying.

After half a century of stage-coaches had tempted most travelers on to wheels, came railroads, and destroyed the roadside inns, where the horseman used to find a warm welcome after a long, hard day. On the great north road, where twenty years ago the crack of the postilion's whip and the blast of the guard's horn, the rattling of hoofs and the jingling of pole-chains, resounded night and day, you

cannot now make sure of a bed, a decent meal, or a feed of corn. As for ostlers, the race is extinct; if you choose to ride or drive, you must bring your groom, or groom your horse yourself.

This decay of inns renders impossible feats performed by men of our own time, though of the last generation. Old Dick Tattersall used to have a relay of hacks on the road between London and Grantham; used to mount, after a day's work of auction at the extinct Corner, ride down one hundred and eight miles before morning, hunt the next day with the Belvoir hounds, and return by the same means to his duties. Sir Tatton Sykes, of Sledmere, the last of the real squires, who was satisfied to spend a large income at home on hospitality, field sports, agriculture, and breeding Leinster sheep, and horses to win the Derby, without troubling either the world of politics or the world of fashion, had a way of traveling (with as little baggage as Sir Charles Napier) to Epsom to see the Derby run, or to an equal distance to ride a race, that would now be impossible. Wherever he slept the first night, he borrowed next morning a clean shirt from the landlord, and left his own to be washed ready for his return. He repeated the operation at each resting-place on the road, returning by instalments each borrowed garment until he arrived back at Sledmere in his own shirt. A small valise carried the satin breeches and silk stockings that replaced his leathers and long boots in the evening. The operation was ingenious, primitive, and clean; but in 1866 the landlords with frilled shirts have followed the way of satin breeches, and are known no more.

Enduring hacks of the old sort are now only to be found in the hands of active farmers, who look over hundreds of acres before breakfast, and in the hands of country surgeons. They are generally satisfied with anything useful that will do their day's work—very different from the time when a good roadster hackney was worth as much as, and was more carefully chosen than the modern brougham horse.

In Australia you may find horses of English breed that will travel their three hundred miles in five days, and therein lies their principal merit; for well-broken, easy-going roadsters are rare in that rapid, make-haste-to-be-rich country. The Australian horse is an instrument of business, not an instrument of pleasure.

Very different was England some thirty years ago, when the tour on horseback was to be enjoyed in perfection by the horseman whose years, health, and spirits, could defy the damp days, muddy roads, dark nights, and uncertain inns, for the sake of independence, adventure, and the abstract pleasure there is in riding a good horse. "The gentleman was known by his horse." He was not tied by a mile or two, or an hour or two, and, well mounted, was not afraid of getting a little wrong in trying a short cut, or investigating a promising scene, a green range of hills, or ancient manor, buried in a park of ancestral oaks. Country folk were wonderfully kind and cheery to such a traveler; stout farmers returning from market were hospitably pressing (in the northern counties); and squires, once assured the stranger was only traveling for pleasure—not unfrequently the adventure of Squire Western on his road to London was repeated, a chance run with hounds and a dinner with a stranger to follow—were wonderfully kind. All through the counties where, at war prices, moorland had been enclosed, there were long slips of greensward on either side of the highway, inviting a canter in the morning, and affording pleasant walking ground for the last tired mile or two. Then there were many delightful short cuts through bridle-roads, across fords too deep for wheels, and—by sufferance of lodge-keepers, open to the blandishments of a smile, a pleasant word, and a shilling—through parks rich in turf, water, woodland, game, and deer. Oh, those were delightful days, when, young and full of life and hope and romance, with a good horse, a sufficiently well-filled purse, and more than one friend on the round, we set out, not afraid of rheumatism, to travel some two or three hundred miles with a definite point to reach, but no particular day or hour or route! In those days—it was before these grisly whiskers of ours had made their appearance, in spite of industrious shaving—the roadside inns, now desolate, or turned into granaries, boarding-schools, lunatic asylums, had been brought to perfection (for bachelors) by constant traffic. If you were not able to hit a great hotel, there were small publics patronized by graziers, with "accommodation for man and beast" sufficient. There were adventures, too—not highwaymen, they had gone out with the preceding generation—pleasant acquaintances were made, and unsuspected charms in the way of sport and scenery were discovered. But there were also, it must be admitted, drawbacks which few men over thirty would willingly encounter without some real object. Long rides at a footpace on dark, dirty nights, on a tired lame horse; inns full of drovers and butchers attending a fair; no stable-room; your saddle, or perhaps your horse, borrowed in the morning; and an attack of ague, fever, or rheumatism, as the reward of your enterprise and preference for a horse-ride to seats in the Tally-ho or Tantivy.

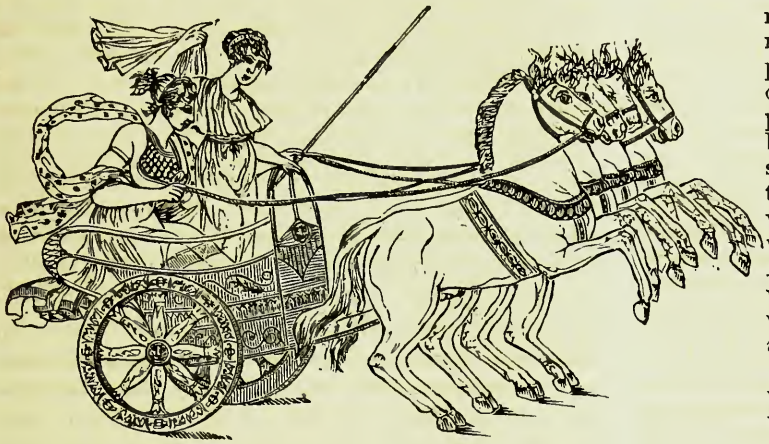
Boswell, writing just a hundred years ago to his friend Temple, of a journey to and from Glasgow, says: "I shall chaise it all the way—thanks to the man who first invented the comfortable method of journeying! Had it not been for that, I dare say both you and I would have circumscribed our travels within a very few miles. For my own part, I think to dress myself in a great-coat and boots, and get astride a horse's back, and be jolted through mire, perhaps through wind and rain, is a punishment too severe for all the offences I can charge myself with."

For these reasons it would be a waste of space to say more about the gentleman's roadster, an animal as extinct as a four-horse coachman. The cover hack is the nearest representative of the roadster hack of our grandfathers; but the spread of macadamising principles, the consequent inclination to use wheels, and the extension of railroads, have had their effect on the numbers of that once indispensable part of a hunting-stud. At one of the crack meets in the Pasture counties at the present day, you do not see one-tenth of the number of genuine cover hacks that came rattling from all points of the compass thirty years ago, when Sir Charles Knightley and Sir Tatton Sykes were the first-flight men of their respective counties. Deduct those who come in one of the many varieties of cart, phaeton, wagonette, drag, and brougham—those who make a hunter do hack's work at all near meets—those who use a nondescript general-utility animal, as familiar with a collar as a saddle—those who make their London luxury, the Park hack, do duty in the country (as one of the oldest and most famous masters of the Quorn often did), and the residuum of real cover hacks will be found very small.

(*To be continued.*)

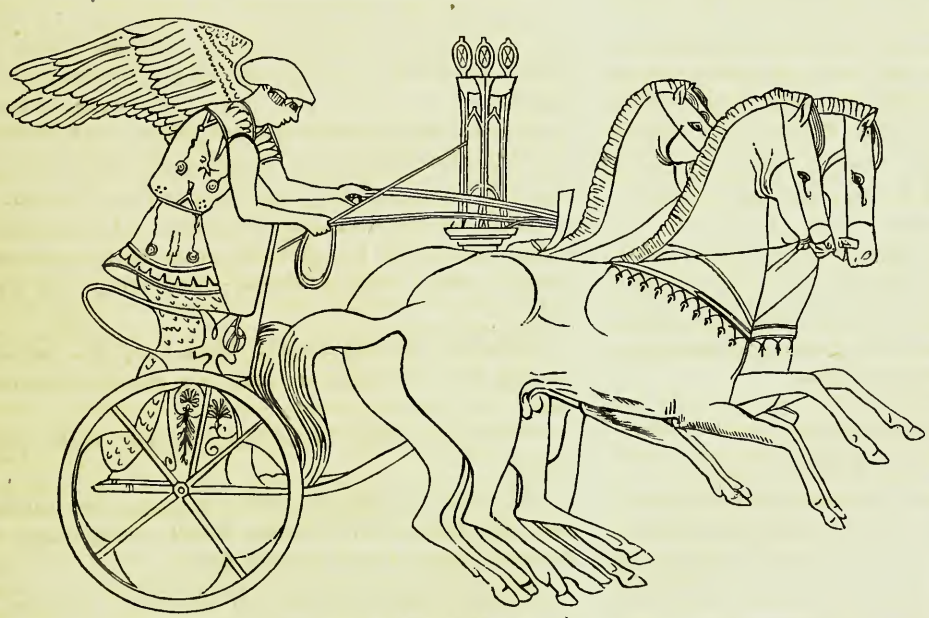
OUR GRECIAN CARRIAGE MUSEUM.—IV.

On ancient Greciau vases* we have various forms of the chariot, of which one with four horses, shown in the accompanying illustration, is a fair specimen.



GRECIAN CHARIOT FROM A GRECIAN VASE.

Although these are probably more the creation of the workman in clay than the work of the chariot builder ,still they must, in a lesser or greater degree, represent the prevailing modes of vehicular art in those times.†



EOS (THE MORNING STAR).

The second design is supposed to represent the goddess of the morning, Eos, about commencing her journey for the day, and is copied from a Grecian vase of great merit.

The Grecian war-chariot bodies, with the exception of the upper ring, in all particulars, resembled the bigas and quadrigas which were used for racing at triumphal processions, and in the most ancient times for pleasure driving, particularly in ancient Greece. The frame of these bodies was very strong in the wooden parts, as the body did not yet hang in straps, but was fastened on the axle, and thus often subject to heavy jolts, more particularly when two persons were inside. This wooden frame was then covered with either leather, basket-work, or thin wooden panels, and painted. All joints were made very exact, and secured with glue made of the cuttings of hide, besides which they used isinglass. Celsus calls it *ichtyocolla.*

It is worthy of note that all these bodies, with access from behind, were put on two wheels, as bigas or quadrigas, which means teams of two or four horses abreast; but they never were put on four wheels. The sides of these "diphrons" were higher than those of the racing biga, so that they formed a shield and protection around the warrior, but they could not go higher than the elbows without impeding his movements. The *antugas*, or metallic bows which circumlined the upper part of this species of Grecian wagons, instead of the wooden ring, gave to these vehicles a light and tasty appearance, by making the sides look open and lower, affording a better view of the fine proportions and beautiful dresses of the Grecian ladies.

The wooden axle was fastened by iron bands, held by screw-nails. These nails had an eyelet, through which a pin was put, instead of a nut-screw; here the axle was turning, and not stationary, as we have it in our days.

On the more common class of work, pointed iron nails were used, and their points, afterward clinched, were called *obliquatis clavis comittere.* On the country wagons, wooden pins were used, the same as in our day. The poles of the two-wheeled wagons were stationary.

* See Gerhard's Griechische Vasenbilder, 3 vols., Berlin, 1840; Etrusco Museo Chinsium, vol. 2. Windus on the Portland Vase, &c.

† Doubtless the designers of antiquity obtained many of their ideas from the pages of Homer. This most eminent of Grecian poets, according to the Arundelian marbles, flourished in the tenth century, B. C., the cotemporary of Daniel and Solomon, about two hundred years subsequent to the destruction of ancient Troy. Flaxman tells us that Homer supplied subjects for the painter and sculptor, who imbibed electric sparks from his poetic fire. Some modern authors have even doubted the existence of Homer, and gone so far in their persistent skepticism as to think there never was such an event as the Trojan war; and that if there really was, it must have been on a small scale, or it would have found a record in sacred history, although, according to profane history, more than 100,000 Greeks were engaged in the siege of Troy.

GENIUS AND LABOR.—It is no man's business whether he has genius or not; work he must, whatever he is, but quietly and steadily; and the natural and unforced results of such work will be always the thing that God meant him to do, and will be his best. If he be a great man, they will be great things; if a small man, small things; but always, if peacefully done, good and right; always, if restlessly and ambitiously done, false, hollow and despicable.

Pen Illustrations of the Drafts.

CRANE-NECK HEARSE.

Illustrated on Plate XXXIII.

IT has been said, frequently, that "a hearse is the carriage for all, rich and poor." Whether all will be carried to their "long home" in a *splendid* hearse, is questionable; but, that hearses of some kind will be in demand for years to come, is as certain as that man must die. Under this impression, we are induced to present our readers with an original design from our own artist, which has some new features of peculiar interest. One of these is in the shape of the glass, which differs in pattern from any we have before seen. The side glass will not allow of much swell to the side of the body.

Much of the beauty of a hearse consists in the fineness of the cloth used for trimming. In this instance we have dispensed with the gimp sometimes used in the folds, and in its place substituted a pendant ornament at the points for tying up, as we think, with some success. The corner-pieces near the ends of the glass should be done in paint of some dark hue, but a shade or two lighter than the panel. The cloths inside, as well as the hammer-cloth, should all be of the blackest color. The inside rails for steadying the coffin, the door-handle and lamps, may be plated with silver as usual, but we think prince's-metal for a change, would look better. The substitution of a crane neck for the foot-board makes the hearse look much lighter than it otherwise would. Wheels, 3 feet 4 inches, and 4 feet 1 inch high; hubs, 4 by 7 inches; spokes, $1\frac{1}{8}$ inches; rims, $1\frac{1}{8}$ inches; steel tires, $\frac{1}{4}$ by 1 inch. Builder's charge for the hearse, nicely finished, $1,400. Those in want of trimmings will find it to their advantage to write to Messrs. Shannon, Miller & Crane, 46 Maiden Lane, N. Y., whose advertisement will be found in our advertising pages.

EXTENSION-TOP CABRIOLET.

Illustrated on Plate XXXIV.

THIS month we furnish our readers with another design for another very light extension-top carriage, the body being hung off on two elliptic springs in front and platform springs behind. The "cut-under" in this instance answers two important purposes; the one is, it makes the vehicle look light, and the other is it allows of short turning, without difficulty. Width of the body at the front of back seat (in the clear), 48 inches; axles, $1\frac{1}{8}$ inches; wheels, 3 feet 2 inches and 4 feet high; hubs, $3\frac{3}{4}$ by $6\frac{1}{2}$ inches; spokes, $1\frac{1}{16}$ inches; rims, $1\frac{1}{8}$ inches; tires (steel), $\frac{1}{4}$ by 1 inch.

Painting.—Carriage-part, carmine; body, black; stripe, $\frac{3}{8}$ inch black on carriage relieved by two fine lines in dark blue.

Trimming.—Blue-black broadcloth.

Workman's price for building the body, $45; manufacturer's charge for well finished carriage, $850.

CHARGES FOR REPAIRS.—*Woodwork:* New hub, $8; spoke, $1; rimming wheels all round, $20; drafting wheels, $1; back-spring bar, carved, with center figure, $15; bolster, $8; furchels, each, $3; pole, $9; yoke, $7.50; fifth-wheel bed, $2.50. *Iron-work:* New tires and bolts, $35; tire-bolts, each, 25 cents; resetting tires, $8; new wheels (painted), complete, $85; resetting axles, $10; carriage bolts, each, 30 cents; new washers, and oiling axles, $2. *Trimming:* New cloth headlining and covering top with enameled leather, $165; headlining separately, $80; leather top, $85; recovering dash, $12; rubber apron, $10; whip socket and fixtures, $3. *Painting:* Burning off old paint and repainting body and carriage-part, $90; retouching up body, carriage-part and varnishing all, $40. *Plating:* Capping axle-nuts, $6; capping prop-nuts, $3.50; new set hub bands, $4.

ROUND CORNERED BOX-BUGGY.

Illustrated on Plate XXXV.

WE presume that this kind of buggy will never get out of fashion, but always be in demand, with a few slight alterations. Under ordinary circumstances, when manufacturing work for sale, this will be the safest buggy to keep on hand, for after following in the wake of fashion, manufacturers have in some cases been left "high and dry," with stock for which there is little demand.

Width of body on seat 36 inches; wheels, 3 feet 8 inches, and 4 feet 1 inch high; hubs, $3\frac{1}{2}$ by $6\frac{1}{2}$ inches; spokes, 1 inch; rims, $1\frac{1}{8}$ inches; steel tires, $\frac{3}{16}$ by 1 inch.

Painting.—Patent English black body and carriage; striping, $\frac{3}{8}$ broad line, red; and two parallel fine lines, blue.

Trimming.—Blue broadcloth, edged with patent leather.

Workman's charge for building body, $16; carriage-part, $8; wheels, $10; shafts, $3.50; spring bars, $6. Price of buggy, nicely finished, $450.

CHARGES FOR REPAIRS.—*Wood-work:* New set of wheels, $18; hub, $5; spoke, 75 cents; new rims, $16; shaft-bar, $2; new shaft, $4; spring-bar, $2; axle-bed, $4; perch, $5; headblock, $3; drafting wheels, $1. *Iron-work:* Resetting tires, $8; new tires and bolts, $20; tire bolts, each, 25 cents; carriage-bolts, each, 30 cents; fifth-wheel, $5; resetting axles, $6. *Painting:* Repainting, $75; touching up and varnishing, $35. *Trimming:* Covering dash, $12; body linings, $40; new top, including head-lining, $125; leathering shafts, $7; whip socket and fastenings, $3; cleaning top and oiling, $2.50.

COAL-BOX BUGGY.

Illustrated on Plate XXXVI.

We consider this a very pretty buggy of its kind, and trust that our efforts to please will be appreciated in this instance. The sham pillar should project somewhat beyond the panel, but the lines near the bottom of the body may be done in paint. The builder will notice that the tinted lines under the seat, indicate that the part shown is to be finished rounding. Wheels, 3 feet 10 inches, and 4 feet high. The general details in this case are similar to those given for the buggy on Plate XXXV. Price for making the body, $18; manufacturer's charge for the nicely finished buggy, $465.

Notice.—Next month we shall publish five entirely new and original designs, among which will be two for pony phaetons, suitable for summer use. Those who may not be regular subscribers, may obtain this number separately, through any newsdealer for 50 cents.

Paint Room.

NEW CHROME YELLOWS.

The compounds of chromium with lead have been successively treated in former numbers (pages 11, 52, 80, 139, and 334), in which are described all the varieties, from yellow orange to red. There are, however, some other compounds of chromium with zinc and baryta which give peculiar shades of color, and, thus far, seem to be but little known. They will undoubtedly come into use as soon as they are known and appreciated.

Chrome Baryta, or Barium Yellow.—This is a very beautiful pale sulphur yellow paint. It is made from a solution of chloride of barium, which is first made slightly alkaline with caustic soda, till it is at the point of giving a precipitate. Then a solution of neutral yellow chromate of potash is added as long as a precipitate is formed. This precipitate is then carefully washed and dried. It has the advantage over lead yellows that it is not acted upon by sulphurous vapors, which will blacken lead compounds.

Zinc Yellow, or Chrome Zinc, is another very important color. It possesses a peculiar pale tone, not found in the chrome compounds of lead, and has recently been introduced as a paint. It is best made from a solution of sulphate of zinc, which may be obtained very pure, and is very cheap, being a waste product of all ordinary galvanic batteries in telegraph offices, electroplating establishments, etc. The zinc yellow is a basic compound of oxide of zinc and chromic acid: the neutral and the acid compound is soluble in water, and thus can give no precipitate. For this reason a solution of red bichromate of potash gives no precipitate in a solution of sulphate of zinc; while by the combination of constituents only a soluble bichromate of zinc can be formed. Neutral chromate of potash, or bichromate mixed with sufficient caustic soda, gives a beautiful yellow precipitate; but at the same time a red solution is formed, containing the soluble bichromate of zinc; and by further addition of chromate of potash no further precipitate is formed, as the zinc is retained in the solution, so that, in this way, neither all the zinc nor all the chromate can be utilized. If, however, before the precipitation, the neutral chromate of potash is mixed with so much caustic lye that the amount of alkali is double that of the neutral salt, then a yellow precipitate will be formed with the solution of sulphate of zinc, and all the zinc may be precipitated. On these facts the following method is founded.

A quantity of sulphate of zinc is dissolved in water, and, if necessary, purified by settling and decantation. A smaller quantity of chromate or bichromate of potash is also dissolved. About ten test-tubes are now each half filled with the zinc solution, and placed in line. To the chromate solution caustic alkali is added, till a drop of it produces a precipitate in the first test-tube; and at the same time it is observed if a further addition of the mixture to this test-tube produces a red color, which would indicate the formation of red bichromate of zinc; if this be the case, a further portion of caustic solution is added to the chromate of potash, and the mixture tried in the second test-tube. If now again a red solution appears at the same time with the yellow precipitate, a new portion of caustic lye is added, and this is repeated till the yellow precipitate is formed, without a simultaneous red coloring of the supernatant liquid, which must appear either colorless or light yellow, like a solution of neutral chromate of potash. As soon as this occurs, the contents of the test-tubes are poured into the original sulphate of zinc solution, and then the mixture of chromate of potash and caustic lye is added, as long as a precipitate takes place. The precipitate is afterward washed and dried, and forms a pale yellow, in color between Naples yellow and the palest yellow chrome lead.—*Manuf. and Builder.*

WHO FIRST MADE VARNISH IN AMERICA?

In one of our earlier volumes we gave the names of the first varnish manufacturers in New York City, in 1828. We had never supposed these to have been the first to make the article in this country, by any means, for, to our certain knowledge, it was done much earlier in Connecticut. One Daniel Platt, of Saugatuck (now Westport), with whom we learned the "art and mystery of coach-making," over forty years ago, in his earlier days was accustomed to itinerate over the country, and make up a *lot* of varnish for any carriage maker willing to pay for his services. As far back as 1810, he was employed in this work, and capital varnish, too, he produced. In later years much of his varnish found its way to New York, and we have the best of reasons, personal knowledge, for believing that his varnish was never excelled. We not only helped make the article in 1825–6, but applied it to carriages with success, and what is more, we never remember to have seen it pit, as we often find it does now. As every thing relating to varnish must be of interest to carriage makers, we add the following, from *The Hub*, for January:

"In 1820, Franklin Houghton, in company with David McClure, made varnish in Cambridge, Mass. The shop was the back part of the blacksmith's shop of Dexter Pratt, situated on the leading road to Mount Auburn. This was in the vicinity of where Longfellow now lives, and it was upon this very shop that he wrote his well-known poem, the 'Village Blacksmith.' This shop re-

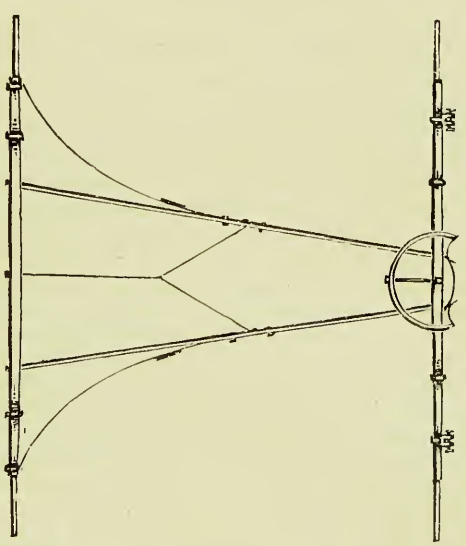
mained until three or four years since, when it was burned [down]. In the back part of this very building, Messrs. Houghton and McClure made a regular business of making varnish. A kettle holding about eight gallons was used, and, as fast as made, the varnish was taken to Boston and sold to the carriage makers. They did well at this business, finding a demand for all they could supply. It is said they realized a dollar an hour apiece for working hours, and this was considered splendid pay in those times. The business increased to such a degree that they removed to a shop which they built in the vicinity of Boston, where the business continued to prosper. Houghton retired on account of feebleness of health, caused by the varnish fumes, and McClure afterwards gave up the business in 1827, from the same cause, realizing a handsome property therefrom.

"Pike and Samuel Shed had made varnish for the Boston carriage makers many years previous to the starting of Houghton & McClure in this business, but the former had merely gone from shop to shop, when occasion required, and assisted in making the varnish in each, the materials being supplied them; whereas, Houghton & McClure manufactured and sold upon their own responsibility."

Sparks from the Anvil.

STAYS FOR A DOUBLE PERCH.

THIS month we fulfill our promise, and give our readers the design for stays to a double perch, furnished by a correspondent.



The middle stay, the only one we need notice, is so constructed that it gives the greatest possible strength compatible with lightness. This is effected by following straight lines in a rod between the two perches to near the center, and then branching off in two directions to meet the perches where the ends are attached, as shown in the diagram. The back end takes a nut behind the back axle-tree, thus making it absolutely secure.

CUTTING SCREWS AND BOLTS.

MR. EDITOR: Perhaps many of our blacksmiths have noticed bolts being largest at the ends, when cut by stocks and dies. It is our purpose to show how they may be cut true. It may be effected in the following manner: to prove the correctness of which, take a piece of round bar, and let it be two or three inches longer than you intend to cut the screw. Lay this in a good charcoal fire, and suffer it to get cold of its own accord, and then clean off the scales by draw-filing. After screwing it firmly in the vise, open the stocks and put them on the bar of iron, about an inch from the end, then screw them sufficiently tight to mark out the threads on the iron, and turn them down within an inch of the other end. After this, tighten the stocks, and bring them up again, and so on until a full thread is raised. I find from a number of experiments, that wrought iron more strongly contracts heat or cold endways than sideways. This may be proved in the following manner: let a hole be punched through the center of a square plate of iron, after which touch the edges with a piece of tallow or soft wax, then put a hot bar of iron through the hole, and that edge on which the tallow or wax first melts will be the endways, or grain of the iron. The elastic nature of the iron, and the stocks giving way, are the causes of irregularity in the screw.

CINDER HEAD.

Trimming Room.

OUR TRIMMER'S INTRODUCTORY.

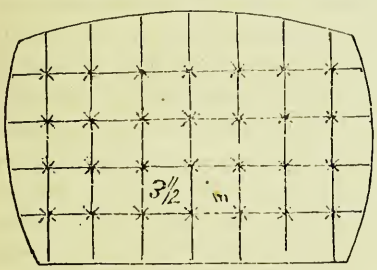
MR. E. M. STRATTON: *Sir.*—In accepting the position of regular contributor to this department of your valuable magazine, it will be my aim to make it instructive to the craft—to those in particular who are located far from the city—knowing, as I do, that there are really many good mechanics who only lack the opportunity of seeing good work done, to do it themselves. The first thing of importance in a carriage, is to have it please the eye of the purchaser. A job may be finely finished in some respects, but a twisted bow, a scooping top, or a bad wrinkle in the quarter, will condemn the whole thing.

The next thing to be considered is comfort. This is what most people buy carriages for, and, unless they get it, they will never be satisfied, but it will be a source of annoyance to the boss until the carriage is disposed of in some way. I remember a circumstance that happened several years ago. One of the particular customers of the boss ordered a wagon, which, when finished, we thought a beautiful job. This was in the day of leather rolls and herring-bone backs, which were as hard as a rock and smooth as a panel. Well, the gentleman came for his wagon, the appearance of which pleased him very much. His lady also was delighted, so they decided they must take a drive, and started for the High Bridge; but, before they returned she declared it to be the ugliest thing she ever saw. It had broken her back, *and she would never ride in it again.* The gentleman afterward brought the wagon back to the shop, saying it was of no use to him unless it could be made easy for his wife; so we recommended a squab-back for the seat, which afterward proved satisfactory.

E. B. SAMPLE.

MAKING WAGON BACKS.

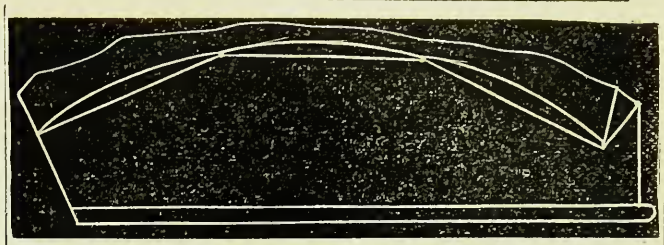
In taking a job to trim, the first thing to do is to get out your patterns. (and let me here say that no man can cut out stock close, without patterns for every thing), then paste out all your stock that it may dry gradually, for forced drying will make it draw badly. For the back to a wagon, you need three thicknesses of buckram. When thoroughly dry, square the size as near as you can; tack to your back rail, letting it down to your cushion facing; mark your corners and give an easy sweep up to the back rail. Of course, you must mark the top by your rail. Now there is a difference in taste in regard to small rolls, or squares, for the back. If you use rolls two inches is wide enough. If squares, about three and a half inches. For rolls, give one inch fullness sideways—but allow nothing for length—and one row of tufts at the bottom and top will be sufficient. Be sure and leave cloth enough at the top for building out a thick top. For squares give about one inch each way, marking off your buckram on the back side, then baste a strip of muslin on the inside about six inches from the bottom, put on a good layer of moss to bring your back out thick at the top, then draw your muslin over easy and baste it at the top. Next press your cloth with a hot iron, as it is marked off. The cloth should either be lined with muslin or a layer of cotton batting. The last is best, if well done. The French use Canton flannel as it gives a nice soft feeling to cloth or silk goods. Pricking your hair up fine, lay on a good thickness and afterward put on your cloth and tuft down, using your stick to work it into shape, being careful not to roll your cloth up in lumps; then baste the sides and bottom down; line the back with leather or enameled cloth, and let it come up under the back rail, so that the tacks will hold it. Finish by blind sewing the binding, and paste on the back side.



SETTING AND MAKING CARRIAGE TOPS.

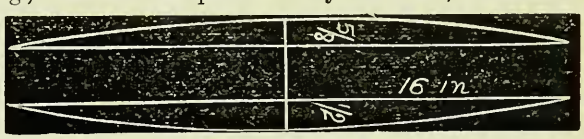
The top of a wagon is an important portion of the vehicle, and will seldom be quite exact, unless you commence in the smith shop, where the level of the seat should be found with a spirit-level, and marked on the seat, so as not to be filled with paint. Although I think it the jobber or finisher's business to set bows, yet every trimmer ought to know how to do it. This requires judgment as to size of body, shape, &c.; for, as an old boss used to say, "What is the use of rules, if you hav'nt got eyes?" The front bow should drop one-half inch lower than the back one, and the second bow one-quarter of an inch lower than the third. Now mark off the space for the roof on the side a little below the commencement of the bend in the bows, and tack the webbing outside the marks. After cutting a pattern for your quarter, mark the size of the roof, back curtain, and stays, on your straight-edge, and cut your leather, and paste it out.

When fitting your quarter, let a boy take hold of each



SIDE QUARTER FOR TOP.

end about where the bend of the bows starts, and then, bringing one hand to the center of the inside, rub it backward and forward a few times. This brings the leather over the corners easy. Next tack the leather on your bows, letting it come over the webbing three-fourths of an inch. Afterward, tack your roof on top, and find the inside of the webbing with your finger; then prick through the roof and quarter with a round awl in the center of the two middle bows, and the outside edge of the back and front bows, allowing one-fourth of an inch for seaming; then take the quarters to your bench, and mark off



SIDE SWEEPS FOR TOP.

with a sweep, as seen in the sketches. After cutting your welt, baste the three together at each awl prick, and stick a fine awl in the holes. At the edge of your bench, stretch enough welt to take the fullness out, and, whipping it over and over, then seam up. This should be done by hand. Then stuff your top, take a full width of muslin, tack it three or four inches above the webbing down to the props, paste between the bows, pick up some fine hair, and loosely lay it in about two inches in thickness, turn your muslin up over the hair, and, tacking down on all the bows, then draw on your top.

Editor's Work-bench.

PICTURES OF THEN AND NOW.

The older craftsmen among us, who enlisted in the ranks to learn "the art, mystery and occupation" of carriage making forty or fifty years ago, well remember the hardships and trials of those times. Then the manufacturer had to make his own springs, axles, bolts, top-props, wheels, &c.; nothing came to hand ready prepared, as in modern times. The single article of wheels cost a vast amount of hard labor. The workman sometimes was forced to turn his hubs in a foot lathe, and invariably to dress out his spokes and saw out his felloes by hand, and should he succeed in producing a complete set in four days—for which he was paid five dollars,—he thought he was getting along remarkably well. Every thing in the body or carriage-part line then, had to be cut out with a whip-saw, and afterward dressed up at a great expenditure of muscle, so that scarcely a day passed without exhausting the strength of the laborer, and entailing upon

him weariment which a night's rest failed to entirely remove. Such was the hard lot of the carriage makers in early times, that it gives us pain in thinking over the matter while engaged in penning this article, strange as it may seem.

When we hear the modern mechanic grumbling over his hard lot, we feel like saying to him, you do not know what hard work is: you ought to have been born fifty years earlier, and gone through the trials of those days, often prolonged through sixteen hours of the twenty-four. But we hear some *independent* working man say "I would never have submitted to such slavery." Perhaps not, but we judge otherwise. Work then was not as plenty as now. There were more mechanics in proportion to the work required to be done than in our days, and jobs were not easily obtainable. A mechanic was frequently out of work for three months at a time, and was forced to live upon the savings of the strictest economy in previous years, or the charity of his relations.

But we have fallen upon better times. For several years there has been plenty of work at good prices, and opportunity has offered for laying by something. If the working man has not improved it, that is his fault, and his alone. It will not answer to interpose the excuse that every thing required in the family costs double now what it did formerly, for while this may be true in some cases, wages received for labor has trebled. We have said—and no man who has marked the course of events for the past half century, could speak otherwise—that the working man, for the past ten years, has had better opportunities for improving his condition, than his ancestors, providing he was economical, industrious, and saving. Those otherwise inclined, are never expected to succeed in any country or age. Of this class are the runners to the grog-shops, who, if paid twenty dollars a day, would spend it all within the year. These are always grumbling about hard times, the tyranny of capital, &c. Let us say to all such, the greatest tyrant over you is alcohol. The sooner you shake off his rule, the sooner you will become a free man—a happier man.

CULTIVATION OF THE MIND.

CULTIVATION of the intellect is one of the most noble labors in which individuals can engage, and the best of all is, that it may be done at trifling expense. There is scarcely a mechanic in this country, who cannot at least find as many as two hours in the twenty-four, in which to apply his mind to study. Books are now so comparatively cheap, that they are placed within the reach of nearly all classes; and were it otherwise, there are many public libraries from which they may be had for almost nothing. Should these facilities all fail, application should be made to private collections, the owners of which, in most cases, would be but too happy to lift deserving students up the hill of science, and in so doing feel that they are amply repaid for such favors, by seeing those around them endeavoring to elevate themselves in the scale of human existence.

But there are many who tell us that they cannot find time for study from their daily toil, and if they did they have no taste for books. Allowing this to be true in a few instances, it must be conceded that, in most cases, this excuse is but a mere subterfuge resorted to as the easiest way in which to escape, and palliate the willful neglect of known duties. It has been well said that, "where there is a will there is a way." If, instead of spending his time in the "corner grocery," and placing his money in the hands of those who are working his ruin and that of his family, by putting an enemy into his head to steal away his brains, he would devote those hours to study, we should very soon see a remarkable change among the working men of the age. If "knowledge is power, is wealth, is honor,"—and who can successfully dispute it?—it is then sound policy, as well as the best interest of the laboring man, to cultivate early and strenuously the intellectual faculties which God has implanted in his head. Nearly all those persons in this country whom the laboring man terms "capitalists," and stigmatizes as "tyrants," were once poor men, who, by their own industry and study, have raised themselves from poverty to affluence. The same privileges are open to all, and those who neglect to take the flood-tide in going on to a fortune, ought not to blame others who do. It only adds an additional link to their already rotten chain of infamy.

CHARTS.

OUR friends will have noticed our reduction in the prices of charts, Nos. 5, 6, and 7, now offered at half price—50 cents a copy—in our last issue. This offer will only remain open until May 1st, and consequently must be improved to get them cheaply. We are happy to find many have sent in their orders. Remember, friends, that you get in this way, a number of valuable designs at less than two cents each, cheaper than ever before. Send in your orders, with the money, by mail. They will be filled by return post.

For those who study economy in advertising, we get up a business chart—19 by 24 inches—containing about sixteen designs of carriages as well as the business card—one hundred copies for $25, or two hundred for $35. When printed on pasteboard, these cost $20 more per hundred—one hundred copies for $45, and two hundred copies for $55. In this case, the expense incurred by framing is avoided.

Those who prefer leaflets, can see a specimen by

sending for it by mail. One containing eleven designs and a title-page will cost $15 per hundred copies, or $20 for two hundred. Carriages selected from the Magazine are always furnished free; when engraved from special designs, from $6 to $7 each, additional. When sent express C. O. D., the costs of collection will be charged.

REVIEW OF TRADE.

January, under favorable circumstances, is not generally expected to prove encouraging to trade, but this year, especially, the month was more than ordinarily dull. The second week in the month some eighteen prominent, and several less known merchants in this city, *went under*. A. T. Stewart & Co., who have a trade less fluctuating than most other firms, discharged sixty clerks; Claflin & Co., fifty-six, and Spaulding & Co., thirty. Many other houses in this city have sent away their employees, in mercantile as well as mechanical business, so that now there are more persons out of employment than have been for the past ten years. Scarcely a day passes without an application for work from some unfortunate individual. Under such circumstances, it is not expected that trade in carriages can flourish.

We learn that in New Haven, where trade was good a year ago, many workmen have been thrown out of employment. At one factory fully two-thirds of the men are now idle, and in many of the shops not more than half the usual hands are at work. These, however, entertain the hope that they may get work again in a few weeks. The same discouraging reports reach us from other cities and country villages.

In New York the picture is more gloomy than we have seen before for many years. This acknowledgment is painfully made, but, as faithful chroniclers of the times, candor compels us to say so. Whether much improvement will be made as the season advances, is a matter which time must solve. We think the prospect discouraging.

MUTTERINGS OF JEALOUSY.

The following article comes to us from a friend, lately a member of the Coach-maker's Union. Not having seen a copy of the Philadelphia publication, the editor of which is referred to, for three months, we should never have known what he is about, but for this communication. Considering the lack of principle and general character of our opponent, we had concluded to pass him by in silent contempt. His allusion to the publication of humbugs among our advertisements, is a slander on the Messrs. Allen & Co., who not only come to us highly recommended, but their advertisement appears in nearly all the secular and religious papers of the day, such as the *N. Y. Tribune*, *Independent*, *Christian Advocate*, and others. We presume the trouble all springs from the circumstance, that never having heard of our cotemporary, the respectable advertising house of Rowell & Co., in this city, did not offer the advertisement to him.—*Hinc illæ lachrymæ.*

Your censorious cotemporary, with evident ill-temper and conceit, utters the following in his prospectus. "Our course *will be manly* (*?*) and respectful to all; low personalities as practiced by other publications, claiming respectability, *will be discarded.*" In the same number of the publication alluded to, the editor of which prides himself upon his veracity, we find the following: "*Many persons decline taking the Journal* for the reason that they took a work of this kind, several years ago published in New York." Still further we find another serpent's hiss, which interpreted, reads as follows: "There are no humbugs advertised in our columns, which cannot be said of an older publication, which claims to have saved its friends from being robbed of large sums of money." Now all this appears to us clearly indicative of a slanderous disposition. If we, with others, may be allowed to express our candid opinion, we should say he was more fit to take the place of the criminal at the bar, than of the judge on the bench.

We may, in part, account for his conduct in this wise. We read of one Scholasticus who carried in his pocket a brick, thinking to convey to his friends a perfect idea of his house from the specimen. So with our cotemporary, as we may infer from the quotations above. They are specimen bricks of the many, many promises made heretofore, and "broken like pipe stems." Thus far his conduct is not calculated to provoke the indignation of any one, however stoical or indifferent to insult he may be, but instead, a feeling of compassion for a man that is so stupid and indiscreet as to show to his limited number of readers, that he is a poor, weak, narrow brained specimen "brick." The whole current of falsifications issued by this asinary editor seems to be a self glorification. Let us counsel our friend (?) not to strew his self-donned honors too broad-cast, lest the journeymen coach-makers from whom he took, by a deep-laid scheme, the assumed proprietorship of their publication, should call upon him to give an account of the property which he now holds against their honest protest, after assuming the proprietorship, and then *turning their guns upon themselves.* In order to allay the antipathy of the "bosses," he has since virtually presented to his few remaining subscribers the bad maxim, that "a lie well stuck to, is as good as the truth;" seemingly laboring under a mental hallucination, caused by the continued and increasing success of The New York Coach-maker's

Magazine. He has, this time, evidently jumped into his unmentionables wrong side front, thus throwing *his* brick into his left hand pocket, and himself into a ludicrous and unenviable position. Fortunately, such attacks do not harm in the slightest degree.

ITEMS.

Admiral Dahlgren has for his family coat of arms on his carriage panel two Dahlgren guns, a telescope, an anchor, and a furled flag with the motto: "*Quorum pars fui.*" . . . Wood Brothers, who now occupy a portion of the building 596 Broadway, as a carriage repository, have commenced building a new one in the same street, a short distance below Astor Place. . . . . Our friend John Stephenson, Esq., turned out a street car for the Harlem railroad as early as 1832, he then doing business in Elizabeth street, near Bleecker. . . . A fellow calling himself Henry Norton, of Newark, and a carriage-maker, got on a drunken frolic in New York, tried with another man to force his way into the San Francisco Minstrels, and was arrested and taken to the station house, on the 12th of January. . . . Files may easily be cleaned by holding them in a jet of steam, especially where such are filled with wood fibres. Putting water on a hot stove, and laying the file on it while boiling effects the same object. . . . In some localities we have reason to believe that the prices charged for repairs to different portions of the carriage, would, summed up, in the aggregate amount to more than is asked for in the new carriage. . . . Victor Emanuel is reported as being accustomed to ride out in a blue chariot, drawn by two chestnut horses. . . . Robert Bonner's horses are valued at $200,000—a fortune in itself. . . . Peter Cooper, when young, learned the coach-making business with John Woodward, of this city, and during his apprenticeship, invented a machine for turning hubs with greater facility. He is said to have been the inventor of many other useful things.

COACH VARNISHES.

Among our advertisements the reader will find that of our friend, John D. Fitzgerald, of Newark, N. J., the worthy successor of the late firm of Daniel Price & Fitzgerald, long celebrated for making the best American varnishes. Having used these varnishes in our own factory for twenty years, we can testify to their uniform good qualities from personal experience, and would recommend them to our patrons as being perfectly reliable, and never failing in giving satisfaction.

LITERARY NOTICES.

At the commencement of this year, *Every Saturday* assumed the form of "Harper's Weekly," and has since been made attractive with first-class illustrations, embracing views of famous places, incidents of travel, figure-pieces, copies of celebrated paintings, studies of street life, and a gallery of portraits of contemporary celebrities. The literary matter, as heretofore, is mostly made up of serial tales, short stories, essays, biographical and descriptive, poems, notes of travel and adventure, personal gossip, literary intelligence, facetiæ, popular papers on science, and translations from the Continental magazines. Fields, Osgood, & Co., publishers, Boston. Yearly subscriptions, $5.

Our Young Folks, likewise published by the same firm, is one of the most interesting publications for the little folks, ever issued from the press. The contents of the January number are: The Girls; In School-days (poetry); A Story of Magazine; The Historic Cats; Navigation and Discovery before Columbus; Jack's Victory; Old Thomy; Three Companions (poetry); Polly Sylvester's Dream; A Sketch of the Life of Professor Agassiz, and Our Pictures, with four full page illustrations (including a portrait of Agassiz), and several smaller engravings. Subscription, $2 a year.

Messrs. Fields & Osgood, likewise announced early in January, a new translation of Homer's Iliad, by our incomparable poet, W. C. Bryant, which will probably supersede all previous renderings of this immortal Grecian bard, a specimen of which appears in the January *Atlantic*.

EDITORIAL CHIPS AND SHAVINGS.

Treatise on the Wood-work of Carriages.—We regret that in consequence of the non-arrival of the proper drawings from Europe, we are compelled to omit the article under this head, this month.

Recklessness of French Hostlers.—Crossing the Boulevards of Paris is represented as dangerous business. Carriages, butchers' vans, and laundry carts rattle along in such profusion, and at such a pace, that knock-downs of foot passengers are of frequent occurrence. In case of a collision, or of a run-over, the vehicle never stops to ascertain damages, but goes ahead pursued by the police. Their address being obtained, the injured puts in his claim for damages, and an Accidental Assurance Company pays the bill. The company guarantees drivers immunity from the consequences of reckless driving, and furnishes a value for the sufferers from it.

Newhall's Surprise.—George F. Newhall was surprised by over eighty of the workmen of the Newhallville carriage factory, New Haven, on Friday evening, who gave him a very handsome and costly present of an easy chair, upholstered with scarlet plush velvet.

A Negro's Compliment.—A negro driver of a coach in Texas stopping to get some water for the young ladies in the carriage, being asked what he stopped for, replied: "I am watering my flowers." A more delicate compliment could not have been paid.

The Gray Mare the Better Horse.—The proverb "The gray mare is the better horse," as applied to known cases of wife government, is said to have originated in the following occurrence:

A gentleman who had seen the world, one day gave his eldest son a span of horses, a chariot, and a basket of eggs. "Do you," said he to the boy, "travel upon the high road until you come to the first house in which is a married couple. If you find that the husband is the master there, give him one of the horses. If, on the contrary, the wife is the ruler, give her an egg. Return at once if you part with a horse, but do not come back so long as you keep both horses and there is an egg remaining."

Away went the boy, full of his mission, and just beyond the borders of his father's estate, lo! a modest cottage. He alighted from his chariot and knocked at the door. The good wife opened it for him and courtesied.

"Is your husband at home?"

"No;" but she could call him from the hay field.

In he came, wiping his brows. The young man told his errand.

"Why," says the wife, bridling and rolling the corner of her apron, "I always do as John wants me to do; he is my master; aint you, John?"

"Then," said the boy, "I am to give you a horse; which will you take?"

"I think," said John, "as how that bay gelding seems to be the one as would suit me the best."

"If we have a *choice*, husband," said the wife, "I think the mare will suit us best."

"No," replied John, "the bay horse is for me; he is the more square in front, and his legs are better."

"Now," said the wife, "I don't think so; the gray mare is the better horse, and I shall never be contented unless I get that one."

"Well," said John, "if your mind is set on it, I'll give up; we'll take the gray mare."

"Thank you," said the boy, "allow me to give you an egg from this basket; it is a nice fresh one, and you can boil it hard or soft, as your wife will allow."

The rest of the story you can imagine; the young man came home with both horses, but not an egg remained in the basket.

"Fraid."—An old sea captain who had retired from service, and was living on a farm, had a harumscarum nephew with him. He could neither frighten nor drive the said nephew to do any thing in its proper time. Among the rest he could never get him to drive up the cows to milk till after dark; he had to drive them from a back pasture, undergrown with sugar brush. Finally, the captain asked the lad if he was not afraid to go through the woods in the dark.

"Fraid!—what is that? I never seen a fraid," replied the boy.

"Well, never mind, you will see one some of these nights, if you do not get the cows up before dark," said the captain meaningly.

That night the boy played until dusk before he went after the cows as usual. The captain took a sheet, and followed him. Now, the captain had a tame monkey, which saw all the performance, and, monkey like, he took a table cloth, and followed at a respectful distance. The captain went into the woods, where there was a big log by the side of the path. Going to the farther end of it, he wound the sheet round him, got upon it, and stood still, the monkey assuming a similar position upon the other end of the log; in this position the parties stood when the boy came along with the cows. They shied a little upon seeing the ghosts, which caused the boy to look ahead.

"Hallo, what is that?" he shouted, "I think it's a fraid!" And then espying the monkey he sang out, "If there ain't two fraids—a big fraid and a little fraid."

This caused the captain to look around, and he saw for the first time his ghostly companion. He thought it was a fraid, sure enough. The old captain ran towards home, the monkey chasing him, and the wicked nephew clapping his hands and shouting:

"Run, big fraid, or little fraid will catch you!"

Military Officer.—*Can I hire a charger for the day, at this stable?*

Stableman.—*We only let out horses. The "charger" is in the office; you can ask him yourself.*

School Examination.—"John, how do you parse grandmother?"

"I doesn't pass her at all, but always goes in to get a tart."

"What is the singular of men?"

"They is singular when they pay their debts without being axed to do it a dozen times."

"Young women are beautiful. What is it that comes after young women?"

"It's the fellows, to be sure—they are always arter the young women."

"That will do; now you are dismissed."

CURRENT PRICES FOR CARRIAGE MATERIALS.

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

NEW YORK, Jan. 24, 1870.

Apron hooks and rings, per gross, $1 *a* $1.50
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb. 7½ c.
Axles, plain taper, 1 in. and under, $5.00; 1⅛, $6.00; 1¼, $7.00; 1⅜, $9.00; 1½, $10.00.
Do. Swelled taper, 1 in. and under, $6.50; 1⅛, $7.00; 1¼, $8.00; 1⅜, $10.00; 1½, $13.00.
Do. Half pat., 1 in. $9; 1⅛, $10; 1¼, $12; 1⅜, $15.00; 1½, $18.00.
Do. do. Homogeneous steel, ⅞ in., $10.00; ¾, $10; ⅞, $11.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $8 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2; larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 35 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1; ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 16 *a* 20c.
Burlap, per yard, 10 *a* 12c.
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, $2.50 *a* $4; oil-cloth, 40 *a* 70c.
Castings, malleable iron, per lb. 15c.
Chapman rubber, $1.50, 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, 35c.; 6-4, 60c.
Enameled Drills, 45 in., 50c.; 5-4, 40c.
Do. Ducks, 50 in., 70c.; 54, 60c.; 64, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 15 to 18c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.25 *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, 23c.; railing do. 20c.; soft dash, No. 1, 14c.; do., No. 2, 10c.; hard dash, 15c.; split do., 15c.; No. 1, top, 23c.; enameled top, No. 1, 23c., do., No. 2, 20c.; enameled trimming, 20c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 12c.; ⅜, 13c. *a* 16c.; ½, lead, door, per piece, 30c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.20.
Paints. White lead, extra, $13.00, pure, $14.00 per 100 lbs.; Eng. pat. black, 20 to 25c.
Permanent wood-filling, $6 per gallon.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand-paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's, 40 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, 13c.; bright, 15c.; English (tempered), 18c.; 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.

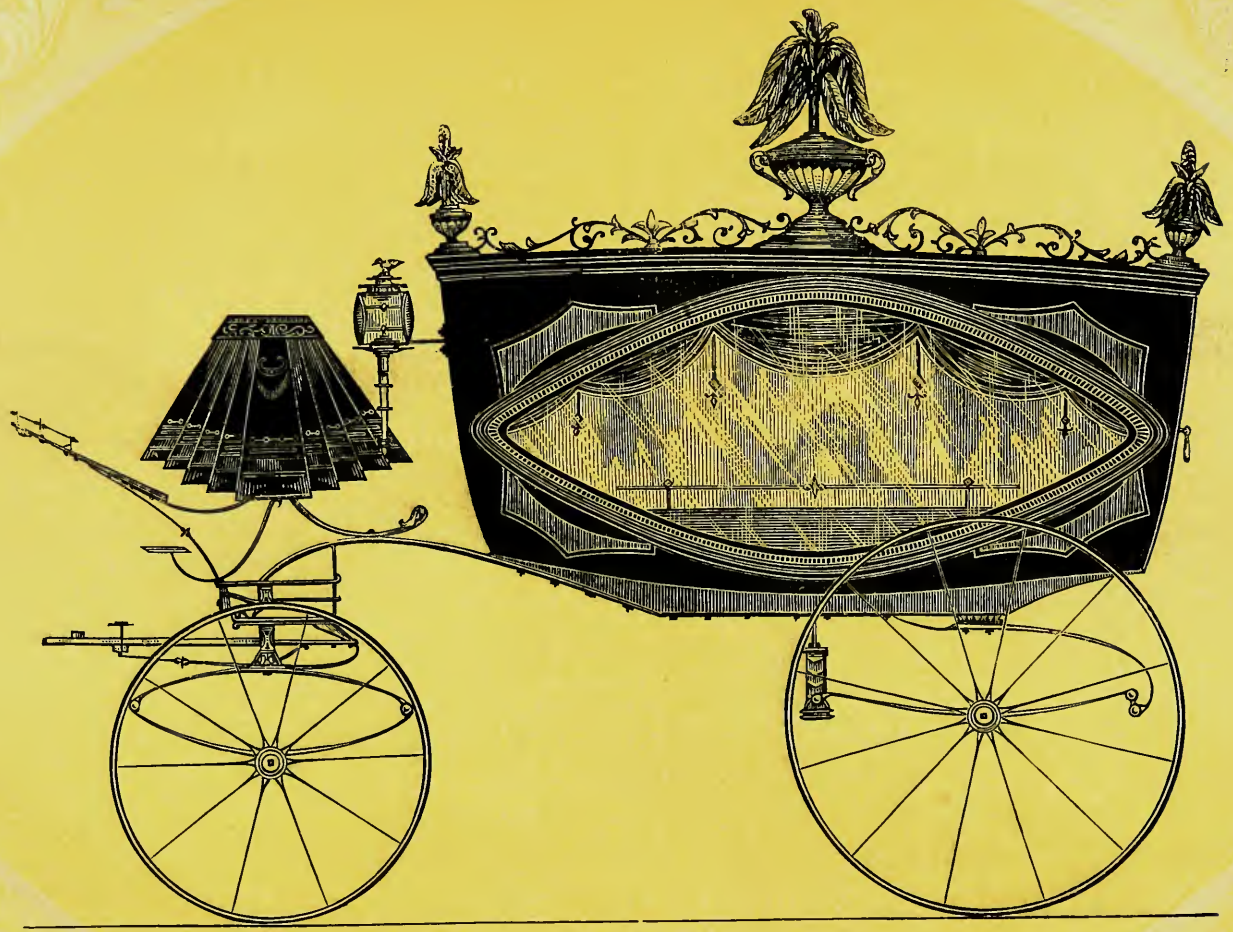
☞ For extra hickory the charges are 10c. *a* 12½c. each.

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, 12c.; 1-4 x 1, 12c.; 3-16 x 1 1-8, 13c.; 3-16 x 1, 13c.; 3-16 x 7-8, 14c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 3-4; 1-16 x. 3-4 23c.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2 Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 50c.
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.

ANSWERS TO CORRESPONDENTS.

J. B., OF CANADA.—Your Magazine is regularly sent to you, and, if not received, the fault rests with the post-office somewhere. If you are overcharged you ought to settle the matter at home. We cannot control officials out of the United States. Your U. S. postage is prepaid here, quarterly.

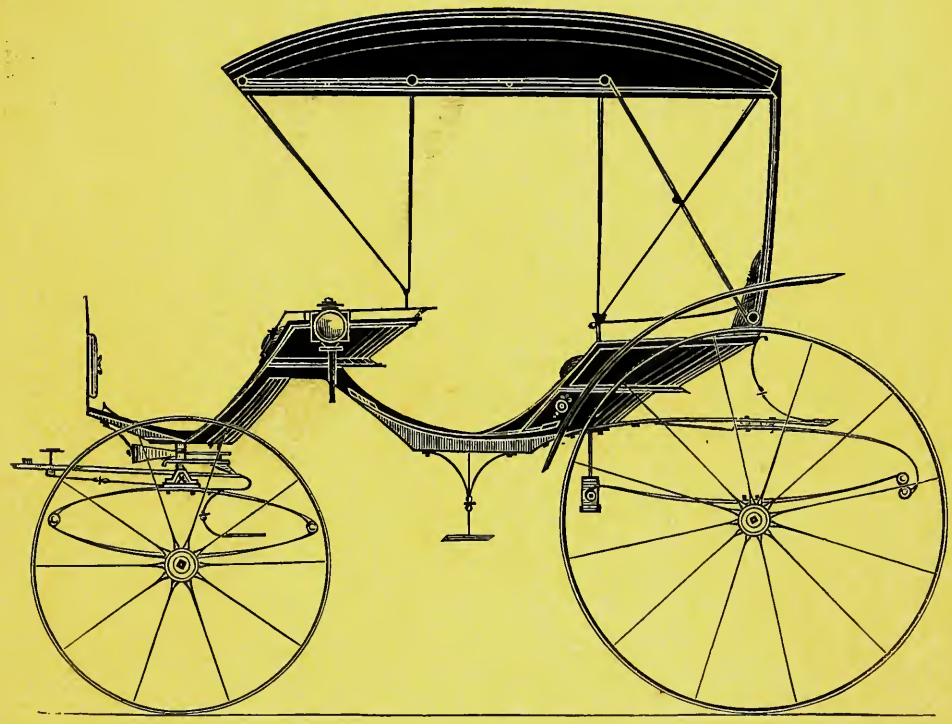
J. V. L., OF N. Y.—Your order for four plates of four carriages got up expressly for you, would cost a larger sum than you would be willing to pay. We are surprised at the ignorance some men entertain in respect to printing, and this is a case of the kind.



CRANE-NECK HEARSE.—½ IN. SCALE.

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

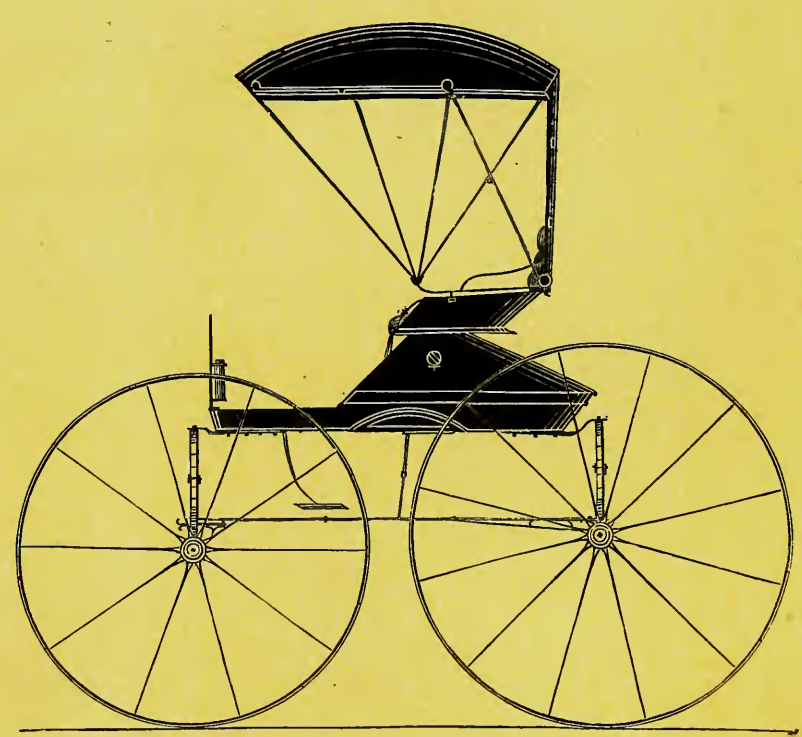
Explained on page 136.



EXTENSION-TOP CABRIOLET.—½ IN. SCALE.

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

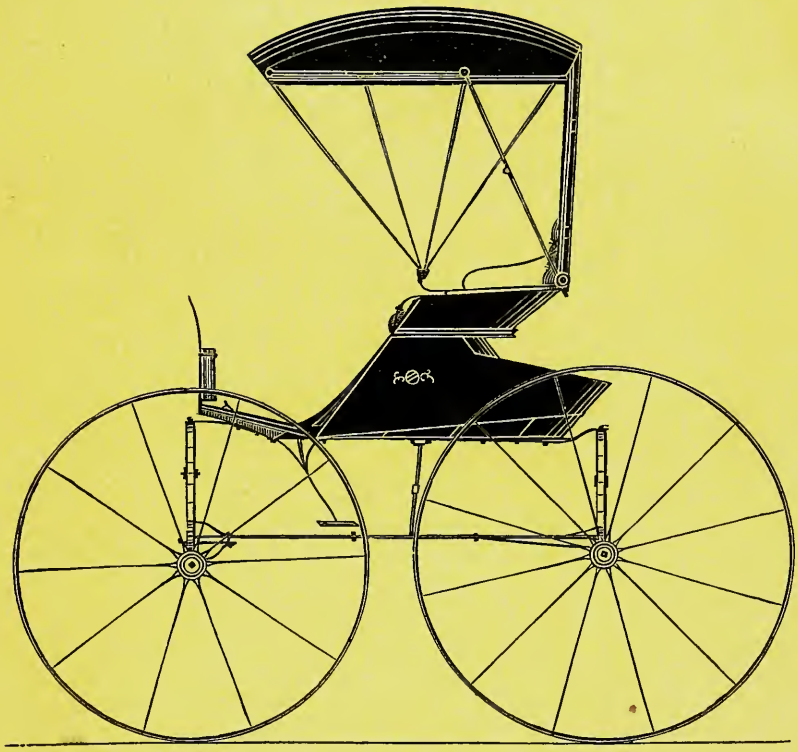
Explained on page 136.



ROUND CORNERED BOX-BUGGY. —½ IN. SCALE.

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

Explained on page 136.



COAL-BOX BUGGY. — ½ IN. SCALE.

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

Explained on page 137.