THE HOOF IS THE THING.

SOME INFORMATION FROM A SCIENTIFIC HORSESHOER.

Expect David Roberge and his Forthcoming Book, Which Has Been Prepared with the Help of Mr. Robert Bonner.

In describing the city blacksmith and his ways last week, THE SUN gave a general idea of the superior knowledge required to shoe horses properly in this city. In a general way the simple ills that affect the hoofs of horses in the country are compared with those in the city were outlined and the credit due the city blacksmith was awarded to him. But since then further interesting information has reached THE SUN, which will open the eyes of the general reader to the importance of the apparently simple art of horse-shoeing.

The person through whom this information comes is Mr. David Roberge, known to every owner of fine horses and every sporting man in the city. Mr. Roberge is usually termed the scientific horseshoer. In appearance he is a typical blacksmith. His large frame is well set off by a massive head and his features are built on a large scale. Long grayish-black Dundreary whiskers descend to about the middle button of his waistcoat and lend impressiveness to his appearance. His kindly eyes, although slow in movement, beam with intelligence. He has the brawny arms and sinewy hands of the typical blacksmith, and yet he never shoes horses himself and works with his head only.

Mr. Roberge is of French extraction and was born in Canada. He has for years superintended the shoeing of all of Mr. Robert Bonner's horses, including Maud S., and latterly Sunol. At one time when the famous mare went lame, Mr. Bonner, instead of calling in the aid of a veterinary surgeon, turned to his blacksmith and allowed him to use his arts in effecting a cure.

Mr. Roberge is now writing a scientific treatise on horseshoeing, in pursuance of Mr. Bonner's advice and with his assistance. Once or twice every week these two experts in horse matters have a conference upon the subject of this book, and the work for the following days is outlined. Usually these meetings are held in the evening at Mr. Bonner's home. Mr. Roberge indicates his own plan for the following chapter and relates or reads what he has written since he last met Mr. Bonner. The latter listens, criticises, and advises. When the book is finally finished, Mr. Bonner will edit it carefully and prepare it for publication. Very likely it will be published through the house which he founded. Mr. Roberge has a most profound respect for Mr. Bonner's knowledge about the proper way of shoeing. "What I don't know about shoeing," said Mr. Roberge recently, "Mr. Bonner does; and between the two of us, I guess we come as near perfection as is possible."

The book in many respects is revolutionary, and opposed to the hitherto accepted principles and theories of veterinary surgeons. Mr. Roberge has spent the past forty years in the study of horseshoeing. When he was a boy his father, who owned an extensive farm in Canada and a large number of horses, had a blacksmith's shop of his own on the farm. Here Mr. Roberge learned to shoe horses when he was only 12 years old. While thus engaged he met with an accident to one shoulder that has ever since prevented his doing any shoeing with his own hands. Since he set up as a smith himself he has constantly kept four road horses merely for the purpose of studying their feet and hoofs and the effects upon them of various kinds of horseshoes. The idea at the bottom of his system is a simple one. He insists that all the ills of a horse's foot, and many of the horse's leg, require mechanical and not medical treatment. It is the smith and not the surgeon, in his estimation, who should be called in to treat the many troubles which affect the horse' feet and limbs.

"It is very difficult," said Mr. Roberge to the reporter, "to explain in a few words the theories which have resulted from the experience of forty years. But I can do no better than give you a general outline of the book which I am now writing with Mr. Bonner's assistance. The horse's foot is very sensitive. It is constructed so that it is completely encased in a box which we call the hoof. The weight of the horse's body does not rest on the sole of his foot, as would be naturally supposed, but on the ligaments which connect the foot with the hoof. There are ligaments on the inside of the hoof which dovetail with those on the top of the foot. The lines of the outside of a horse's hoof show the location of the ligaments on the inside, and one of the essentials to the well being of the horse is that these ligaments should remain healthy and undisturbed. When a horse is foaled its feet and hoofs are perfect, but they are subject to change within two or three weeks thereafter. Any disturbance in the regularity of the hoof affects the standing and the gait of the horse. It also causes spavin, ringbone, buckling, and many other troubles. By actual calculation within my own experience I have arrived at the conclusion that every ad ridaldefect in the hoof results in nine troubles in the limbs. Every unevenness in the hoof reflects in the foot.

"If the ligaments are bli-tered or injured in any way very serious troubles follow. This is the reason principally to the fact that the hoof is an air-tight box, and no relief can come to the injuries, because there is room for neither swelling nor air. If an injury comes to your hands the injured part is sure to swell, and in that way relief to a certain extent is obtained. But if there were a heavy air-tight covering over this injured part so that it could not move in any direction, the healing process would be retarded. That is the trouble with the horse's ligaments. The hoof presses directly upon them and gives them no opportunity to swell. The result is that where an injury to a ligament is sustained the ligament becomes very sore, and presently affects all the neighboring ligaments. Sometimes the entire hoof has to be removed. This is the case sometimes with a split hoof, where the ligaments under it are affected.

"The first shoe ever made for a horse was very similar to that worn by man. It was simply a leather covering. Under the changing conditions of civilization, however, this shoe was found to be unavailable. It could not be used in travelling over stones and the usual forms of pavements in the cities, and an iron shoe was invented. Finally it became known to the world that a simple band of steel or iron on the hoof was as much protection as was needed, and it remains to-day." Mr. Roberge said that for ordinary horses the manufactured shoe was as good as any, and for our paving stones it was better than many shoes that are made to order.

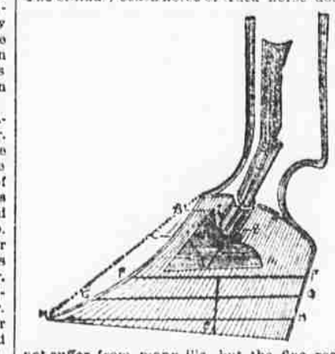
"I had a case once," said Mr. Roberge, "of a horse whose foot was injured in such a way that I could not get at it and could not treat it by shoeing as I usually do. I therefore removed the sole of the hoof entirely, and, having fixed it properly, I put on a leather covering and a shoe over that. The owner of the horse and his friends would hardly believe it possible that I had done that. They had taken the horse to the best veterinary surgeons in the city, who had all been unable to do anything for him. They were on the point of having the horse shot when he was brought to me.

"It is very necessary that a hoof should not only be kept even, but that it should be kept down to the proper length. I had a man come to me with a horse about a year ago. The horse walked lame and was unable to do the work required of him. He had been taken to veterinary surgeons, none of whom was able to afford him any relief. I saw at a glance what the trouble was. The man had allowed the horse's hoofs to grow to an abnormal length, and had thereby displaced the proportion necessary to the well-being of the animal. I cut off two and a half inches of the horse's hoof with the shoe attached to it, having rivets through the nails. The man was out when I did it, and when he came back he wanted to know where his horse was. I pointed out the animal to him, but he wouldn't believe that it was his horse. 'No sir,' he said, 'that ain't my horse. My horse was much taller than that fellow.' When I showed him what I had cut off, he ran to his horse and looked at his hoofs with much anxiety. He couldn't believe that that much hoof could be taken off without hurting the animal. The horse walked as sound as ever as soon as I put shoes on him.

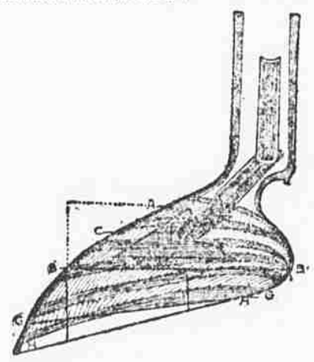
"The horse's hoof is like a man's finger nail. It must be kept pared to a certain length. A horse's hoofs ought to be pared once a month. The hoof, if allowed to grow, would be doubled in length once in twelve months. If a horse were to be boxed up for three years, he would die merely from the lengthening of his hoof. He would be unable to stand up or lie down. The majority of owners of horses are entirely ignorant upon this subject. When they come to me they say, 'Now, you mustn't cut the hoof; I don't want to have the animal injured.' Of course, if they insist upon it, I do as they say, but there is no more certain way of injuring a horse than by allowing his hoof to grow. The heel of the hoof grows much more rapidly than the toe, and in order to keep the hoof even it is necessary to pare the heel more frequently than the toe.

"Some years ago a man brought a horse to me which had been puzzling all the horse doctors in town. Every time it walked its hoof gave way and it fell down upon its knees. With the exception of the bruises it sustained in this way, it seemed perfectly healthy. The veterinary surgeons in town were greatly opposed to my theories at that time, and I was determined to make an example of this case. I therefore insisted on getting the opinions of half a dozen of the foremost of them as to what ailed the horse before I would touch him. They unanimously agreed that the horse was suffering from a ruptured ligament in one of the forefeet. I called in several friends and showed them what I considered was the trouble. I pointed out the length and unevenness of the hoof and the improper mode of shoeing that had been adopted. I set to work and pared the hoof evenly and then put on a shoe of my own manufacture. The horse walked out of the stable immediately after being shod, with as good a gait as one could wish for.

"Of course, the more blooded and sensitive the horse, the more troubles he is liable to. The ordinary coach horse or truck horse does not suffer from many ills, but the fine road horse and the trotter are very sensitive to any disturbance in the hoof. The finer the strain of the horse the more rigid will his foot and hoof be and if there is any unevenness in the hoof the very worst plan would be to drive him over a smooth and level surface, like the Park roads, for instance. The uneven hoof striking the level surface will only increase the unevenness and its effect upon the foot."



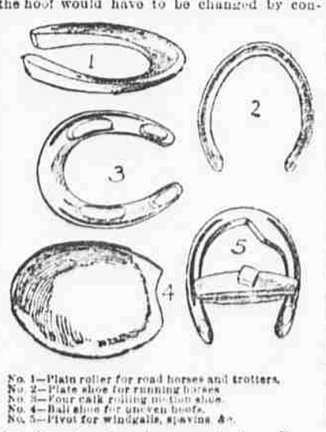
Mr. Roberge showed the reporter some illustrations of hoofs and feet and also of shoes, which are herewith copied. In the first illustration of the hoof are outlined the essential points necessary to the understanding of Mr. Roberge's theory. The letters F F indicate where the properly formed hoof should stop. The reader will notice that the perpendicular line marked E strikes in the very centre of the line marked F F. This perpendicular line is supposed to be drawn from the very centre of the bone marked I I. The full weight of the horse rests on the coffin joint, which is marked B. This joint moves in a sort of ball and socket joint. If its weight does not strike in the centre of the hoof, then it causes uneveness, and an undue pressure of that particular part of the foot, resulting in numerous complications.



The lines G G and H H show how the hoof looks when it has been allowed to grow beyond the normal length. The line E E, it will be noticed, draws further away from the centre the more the hoof extends and thus throws out of place the centre of gravity. By keeping the hoof pared down to F F it is kept in proper proportion and the centre of gravity remains where it should be in the centre of the foot. The lines which run according to the shape of the hoof indicate the ligaments. If in any way the foot, designated here as the coffin bone, should be injured, the animal would become incapable of stepping down firmly and necessarily incapable of any work.

The other two illustrations show other abnormal growths of hoofs. No. 2 shows an abnormal lengthening of the heel among other things. By paring down to F F and shoeing properly, Mr. Roberge said, a hoof of this kind could be restored to the proper form.

The third illustrations show even more serious deviation from the proper shape. Here B B would be the proper line, and the curves of the hoof would have to be changed by continued treatment and proper shoeing. Every time a horse with a hoof of this shape allows the hoof to strike the ground the entire weight rests upon the apex of the toe, and not only is it likely to result in strained tendons, but it is pretty apt to break the hoof.

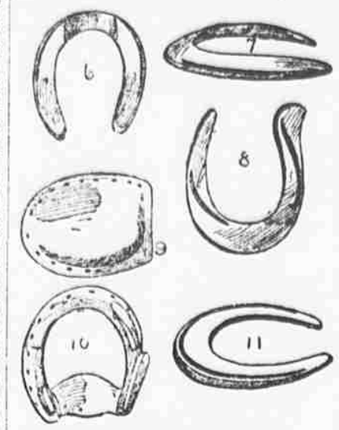


No. 1—Plain roller for road horses and trotters.
No. 2—Plate shoe for running horses.
No. 3—Four calk rolling motion shoe.
No. 4—Ball shoe for uneven hoofs.
No. 5—Pivot for windgalls, spavins &c.

The illustrations of the various shoes given herewith indicate the results of Mr. Roberge's experience in treating the various malformations of hoofs. Taking them in their regular order, the shoe marked No. 1 is known as the plain roller. It is used for a road horse or trotter that is suffering from a strained tendon. It will be noticed that it is very thick at the heel and had a curve at the toe. This shoe should strike at the centre of its outer surface and then slide off toward the front, never striking flatly anywhere. No. 2 is known as a plate shoe. It is used for running horses. It is very light, and has a convex outer surface intended to give a hold in the soft earth.

No. 3 is known as the four-calk rolling motion shoe. It is used for a foot that grows too high across the toe and for sprained tendons. No. 4 is the ball shoe. It is made for an uneven hoof, and is noted for its convex outer surface. The scoop in it is made to relieve the unevenness. No. 5 is known as the pivot shoe. The essential feature is the pivot in the centre. This is used only when the horse is standing in the stable, and its purpose is to keep the hoof off the floor. It is used for horses that suffer from spavins, windgall, and so on. This shoe is put on the hind foot only.

No. 6 is known as a grabbing shoe, and is worn by trotters on the race track. The little scoop in the centre enables the horse to get a firm hold on the earth. No. 7 is the rocker. It is used for strained joints, or to keep the hoof even. It is thicker at the heels and toe, and causes the horse to strike in the centre. No. 8 is the shoefly shoe. It is used for a horse that has a crooked hoof, and toes out and interferes. Its use indicates that the horse has too much hoof on the outside toe and inside heel. No. 9 is another style of ball shoe, and is used for a hidden lameness. It cures strained tendons and the science is that it always raises the centre. Its curative action is so perfect that it stops the action of the upper joint in the horse's leg. No. 10 is the shoefly scoop ball shoe. It is used for a horse that is troubled with navicular, and which travels with a crooked motion. No. 11 is the toe weight shoe, and is used for a horse that has a low action or a mixed gait. It will be noticed that this shoe is especially heavy at the toe. The object of this is to make the animal throw out his legs and thus spread his gait. There are many other styles of shoes made by Mr. Roberge and intended for special diseases, but these are the more important.



No. 6—Grabbing shoe for the race tracks.
No. 7—Rocker for strained joints.
No. 8—Shoefly shoe for crooked hoofs.
No. 9—Another ball shoe for hidden lameness.
No. 10—Shoefly four calk shoe for navicular.
No. 11—Toe-weight shoe for low action.

Two sons have been educated up to his business, and one of them has been sent to a regular veterinary college. This son says, however, that he finds his father's theories much more substantial and thorough than those that he learned in college. While Mr. Roberge is willing enough to point out the defects and cures of the horses which are brought to him, the manner in which he discovers these defects always remains his own secret. With the exception of his sons and Mr. Bonner no one else knows this. His workmen are simply directed in the work after Mr. Roberge and his sons have made the diagnosis. They are as ignorant of the way in which the troubles in the horses are discovered as any outsider.

IN REGARD TO SUNSTROKE.

The Things to be Done to Avoid It, or When It Occurs.

From the Boston Herald.

Sunstroke is one of the afflictions to which humanity is liable in summer, during the hottest of the weather. Heat and moisture together seem to be the conditions most favorable to its occurrence, for moisture in warm air prevents the radiation of heat from the body, and thermal fever, or sunstroke, as it is called, is probably an overheating of the blood, producing chemical or fermentive changes in it which are inimical to health and even to life. When, therefore, during the heated term, one who has been exposed to the sun's heated rays in a humid atmosphere begins to suffer from headache, giddiness, nausea, and disturbance of sight, accompanied with sudden and great prostration of the physical forces, sunstroke is probably imminent.

If such a one is wise, he will, when the symptoms above given manifest themselves, immediately seek a cool place and make use of some simple restoratives, such as aromatic ammonia, &c., and he may avoid further trouble, but if he persists with his business, he will doubtless soon become very ill, which illness usually takes the form of heat exhaustion, heat apoplexy, or genuine sunstroke, the distinction of some writers. Those who are exhausted by the heat have a cool, moist skin, a rapid, weak pulse and respiration movement, and the pupil of the eye is dilated. In fact, the symptoms are those of collapse. These patients will probably recover promptly, an event which may be hastened by the use of a tonic and restorative treatment.

Those who suffer from heat apoplexy frequently become unconscious at the outset. The heart and breathing apparatus are not markedly disturbed and the pulse may be normal, but unconsciousness deepens and the case runs on to a final termination. An artery has been broken in the brain, and the poured-out blood pressing on the nerve centres, brings about the fatal event. A treatment calculated to draw the blood from the brain to the extremities, hot foot baths, bleedings, &c., promises to be the most useful in such cases.

The thermic fever patient is unconscious and convulsed, and his body temperature may be 105 degrees Fahrenheit—that is, about ten degrees above normal. The skin of this patient feels as though it would burn your hand when laid thereon. In this case the thorough and prompt application of cold is needed. Ice to the head and cold water to the body generally will be in order.

Medical advice and assistance should be promptly had in either of the two cases last referred to. Complete recovery from sunstroke is rare, the brain being permanently crippled or affected. Residence in a cold climate, it is said, affords most hope for such patients.

NONSE SE ABOUT BLOODHOUNDS.

The Dogs Used in the South to Catch Prisoners are Only Small Foxhounds.

From the Philadelphia Press.

BIRMINGHAM, Ala., June 27.—Bloodhounds are inseparably associated with slavery in the South. "Uncle Tom's Cabin" and other stories and dramas of that character would lose half their interest without the horror-inspiring bloodhound. Since the war the bloodhound has been associated with the recapture of escaped convicts. These convict-catching bloodhounds are a myth. There are no such dogs in this section of the country. The dogs used in trailing escaped prisoners are small foxhounds, insignificant and harmless.

At Pratt Mines, five miles from this city, there are 1,200 convicts leased by the State to the Tennessee Coal, Iron and Railroad Company. To capture those who escape the company keep a large pack of hounds. These dogs are small red foxhounds. A few of them are spotted, but the majority are a solid, dull red color. They are small, slender-limbed animals, capable of fair speed and endurance, and they can without difficulty follow a trail five to eight hours old.

The dogs are kept in a large stockade a short distance from the prison, and never taken outside the enclosure, except when wanted to trail escaped convicts. To get the dogs on the right trail a coat or hat belonging to the escaped convict is obtained, if possible, and held to the nose of each dog, while Trainer Crosswell by signs and words impresses upon the scent they are expected to follow. They are then taken to the point where the convict made his escape from the mine or prison, or to the place where he was last seen. The moment they scent the trail they recognize it and give a short yelp. Their leashes are then slipped off, they are told to go, and the chase begins. Guards on horses follow close behind Trainer Crosswell, who rides a fleet horse and keeps right with the dogs.

Trainer Crosswell is proud of his dogs. Once fairly started on a trail they never lose it, unless thrown off the scent by a hard rain or the conflict trailing to water. They have trailed men through the principal streets of this city, where thousands had passed over the trail, and finally run the fugitive down. They never make a mistake. If they are started on the right trail they follow it to the end. When several convicts escape together and separate in the woods when pursued, the dogs are divided and the separate trails all followed.

On several occasions these dogs have done good service in trailing down murderers and burglars. Trainer Crosswell says he can take any ordinary foxhound when young and teach it to trail men. It is entirely a matter of education and not of breed.

THE BIGGEST HOTEL IN THE WORLD.

It Also Has the Further Distinction of Being One of the Worst.

From the Chicago Tribune.

Edwin Ashley, an English tourist, who is at the Grand Pacific, says that the largest hotel in the world is in South America. Talking about the big house he said:

"The Grand Quarantine Hotel at Flores Island, at the mouth of the River Plate, is not only the largest in the world but the strangest. While the accommodations are poor the people will stop there, in manner how anxious they are to get away. The hotel combines an international boarding house, a military camp, a prison, and a seaside resort. The roverelgnity of the Island is vested in the Republic of Uruguay. In the early months of the year Rio de Janeiro is placed under a sanitary boycott by the people of the River Plate, and not a person is allowed to pass Flores Island until he has been at sea at least ten days. That accounts for the big business at the hotel. The guests come in boat loads from 300 to 600 at a time. There are first-class passengers, immigrants, and a number of intermediate classes. Upon arriving at the hotel the crowd is assorted and packed away. Packed is a good word in this case, for you are entirely at the mercy of the management. If you make protest the officials shrug their shoulders and say they are indeed sorry, but they speak only the pure Spanish language. They will put six or seven in a room.

"If you don't like that you can get out, but you will soon return; for it is the only place on the island where you can stop. A permanent garrison is maintained on the island, and it includes a Commandant, a physician, a Secretary of State, lighthouse keepers, Postmaster, and telegraph operators. Every morning during pleasant weather a tugboat comes down from Montevideo with letters and provisions. When a norther is blowing those on the island are placed on short rations.

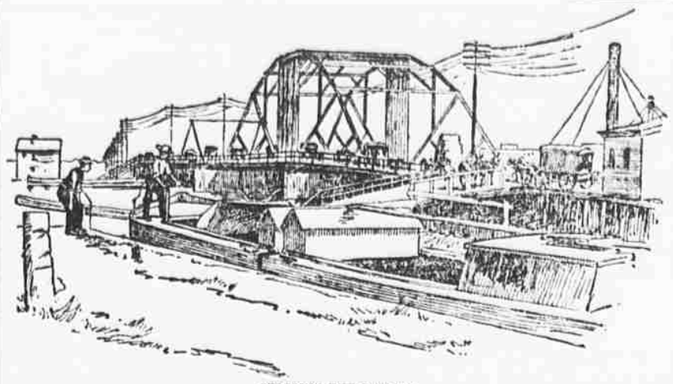
"Think of stopping at the biggest hotel in the world and of not being able to get but one or two meals a day, with bananas for one of the meals! I had this experience during a storm when the tug did not arrive for five days. When I was on the island there were over 1,000 guests at the hotel."

BY CANAL FROM NEWARK.

THE SLOWEST WAY TO GET FROM JERSEY'S METROPOLIS TO NEW YORK.

Boats Still Run Over the Old Waterway from the Seaboard to the Mountains—Curious Features of a Half Day's Voyage

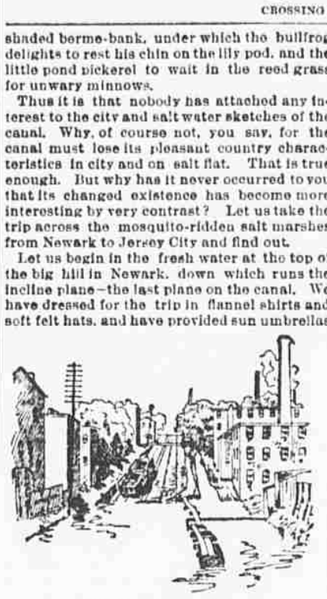
Where the overflow from the upper level of the Morris Canal foams down the chute alongside of Plane 7, west, and plunges noisily into the clear pool its current has scooped out in the lower level, one or more anglers can be seen almost any morning trying for black bass. From Lake Hopatcong either way the canal winds its cool and refreshing stretches among the Jersey hills. Everybody has seen it, and wherever met has found it the same. To think of it is to think of still, weed-grown waters, blackberry patches, towpath orchards, old wooden bridges, woods, glimpses of quiet farm life, and a bramble-covered and bush-shaded berme-bank, under which the bullfrog delights to rest his chin on the lily pod, and the little pond pickerel to wait in the reed grass for unwary minnows.



CROSSING THE PASSAIC.

Thus it is that nobody has attached any interest to the city and salt water sketches of the canal. Why, of course not, you say, for the canal must lose its pleasant country characteristics in city and on salt flat. That is true enough. But why has it never occurred to you that its changed existence has become more interesting by very contrast? Let us take the trip across the mosquito-ridden salt marshes from Newark to Jersey City and find out.

Let us begin in the fresh water at the top of the big hill in Newark, down which runs the incline plane—the last plane on the canal. We have dressed for the trip in flannel shirts and soft felt hats, and have provided sun umbrellas and transportation tickets. The transportation tickets are long, black, and odorous, and cost six for a quarter at a neighboring cigar store. We jump without ceremony upon a boat bearing coal to a New York consignee. A bearded and barefooted canalman is lazily munching one of a store of green apples clubbed from an orchard by the towpath a few miles up the country. We produce one of the tickets, which he takes with the air of a man who has been there before.

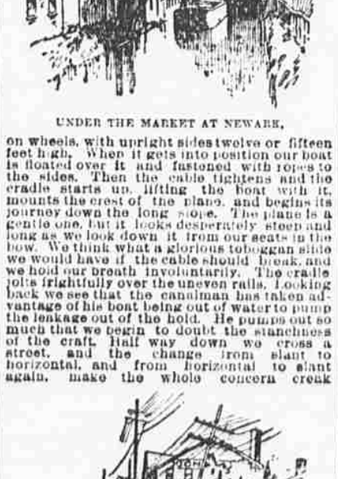


THE PLANE AT NEWARK.

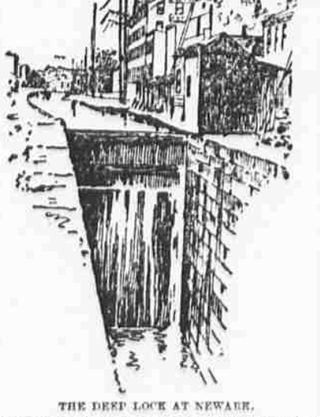
"S'pose we can ride down with you?"

"Yep," says the man, as he scratches a sulphur match on his ragged trousers and lights the cigar with an expression of great satisfaction. We go up in the bow and sit down on the hot planking, and our excursion has begun.

There is a cracking of big cables over many wheels, a heavy rumbling, and the huge cradle lumbers over the brow of the plane and splashes deep into the water of our level. The cradle or car is nothing but a huge platform on wheels, with upright sides twelve or fifteen feet high. When it gets into position our boat is floated over it and fastened with ropes to the sides. Then the cable tightens and the cradle starts up, lifting the boat with it, mounts the crest of the plane, and begins its journey down the long slope. The plane is a gentle one, but it looks desperately steep and long as we look down it from our seats in the bow. We think what a glorious toboggan slide we would have if the cable should break, and we hold our breath involuntarily. The cradle jolts frightfully over the uneven rails. Looking back we see that the canalman has taken advantage of his boat being out of water to pump the leakage out of the hold. He pumps out so much that we begin to doubt the staunchness of the craft. Half way down we cross a street, and the change from slant to horizontal, and from horizontal to slant again, make the whole concern creak and groan dismally, and we grasp the rail of the boat. At length we are down, and glad of it. The cradle buries itself in the water of the lower level, and the boat, after digging its nose so deep in the water that we think we are shooting for the bottom, lights herself, floats calmly out of the embrace of the cradle, and is hitched to a couple of mules by a long line. A bare-legged boy with a whip and no hat, whacks them unmercifully over the legs and ears, and after a long strain we are off. The mule looks as if he was hitched between the fore mule and the boat that the tautness of the tow line might keep him on his feet. But the fore mule is a lusty fellow, and we have hopes of reaching Jersey City.



UNDER THE MARKET AT NEWARK.



THE DEEP LOCK AT NEWARK.

Only a few blocks more and our mules suddenly disappear. The tow line is coiled on the deck, and the canalman, with a very discontented look on his face, picks up a long iron-pointed pole and draws a hard breath. We see lower gates open and the mules pull us out into an astonishing glare of sunlight.

We get out of Newark in a hurry, for the mules are rested and walk fast. The water is still fresh, but has suffered severely since it left Lake Hopatcong, by its long slow pass-age through many towns and cities. We pass factories and tenements in endless numbers, and then suddenly swing round a curve and the Passaic River is spread before us. The scene is refreshing after our rather harrowing experiences. The river is dotted with battered sloops, and a gay steamboat is plowing up stream, while levees and, farther on, several great roads are speeding over the flats. The canal makes a terrace up from the river following its course, and above us on the right a public road makes another terrace.

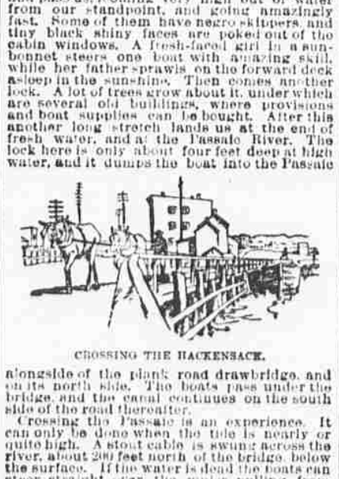
Then we leave the river, and, bending, behold spread before us the great salty marshes which end nowhere to the north and in salt water to the south, while dead ahead the lights of Jersey City seem a dozen miles distant. The canal strikes the Newark plank road here, and follows it in an absolutely straight line till both the Passaic and Hackensack are crossed. A glorious salt breeze blows over us from the bay. The plank road is astonishingly full of wagons of every sort travelling in both directions. The mules settle down to business. The bare-legged boy jumps upon the back of one of them to rest. The boatman lights a third cigar and leans contemplatively against the tiller. His wife and grown daughter emerge from the tiny cabin and begin to peel potatoes and make other preparations for dinner on deck. Ahead of us is a boat loaded with iron ore from the mines on Lake Hopatcong, bound for the furnaces in Jersey City. Jaunty boats meet and pass us, looming very high out of water from our standpoint, and going amazingly fast. Some of them have negro skippers, and tiny black shiny faces are poked out of the cabin windows. A fresh-faced girl in a sunbonnet steers one boat with amazing skill, while her father sprawls in the forward deck asleep in the sunshine. Then comes another lock. A lot of trees grow about it, under which are several old buildings, where provisions and boat supplies can be bought. After this another long stretch lands us at the end of fresh water, and at the Passaic River. This lock here is only about four feet deep at high water, and it dumps the boat into the Passaic alongside of the plank road drawbridge, and on its north side. The boats pass under the bridge, and the canal continues on the south side of the road thereafter.

ALONG THE PASSAIC.

HELPING FATHER.

Crossing the Passaic is an experience. It can only be done when the tide is nearly or quite high. A stout cable is swung across the river, about 200 feet north of the bridge, below the surface. If the water is dead the boats can steer straight over, the mules pulling from the bridge. When the tide runs, however, the boat makes a loop with a stout rope around the submerged cable to keep itself from drifting off, and the mules have a hard pull of it. At the eastern bank the mules come down to the water, and pass under the bridges on a platform, and drag the boat after them.

Getting across the river and under the bridge, we enter the canal again on tide level and pull straight away over the flats to the Hackensack. It is against the current all the way, for the tide gets into the Hackensack a little ahead of the Passaic and flows through. If the tide were going down instead of coming in the current in this stream would be reversed. The Hackensack is crossed in the same way as the Passaic, but the passage is simpler because the plank road bridge is lower and does not have to be passed under. On the east side the boat enters another lock, which carries it into Jersey City. This lock is a reversal of all which have preceded, for it raises the level instead of depressing it. This is to get rid of the tides. The old red-faced gatekeeper explains that the water to fill this long and higher level is pumped out of the Hackensack, and points to a great pump-house close by, with a fat smoke stack emerging from its roof.

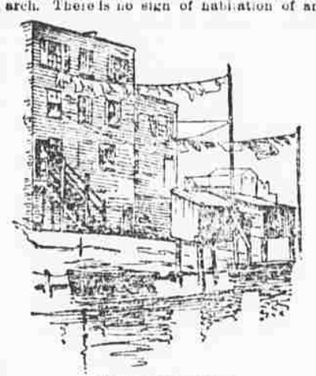


CROSSING THE HACKENSACK.

For an hour now we follow the Hackensack seaward. There is no incident for we are alone on the flats. There is no shade, but the breeze is fine. The bare-legged boy ties bags of oats over the noses of the horses and comes on board to dine. The boatman's wife and daughter have cooked ham and potatoes on a tin charcoal range on deck, which they put sizzling on the top of the cabin. The boatman invites us to "take a bite," but we decline and produce our own lunch. The boatman smokes a fourth cigar after dinner, and takes occasion to remark that "them's almighty fine weeds, they be." Jersey City Heights, now almost behind us, loom up in better shape, and a few miles dead ahead the verdure which hides Bergen Point looks cool and inviting.

The river swings away from us for half an hour, when suddenly we find ourselves on the very edge of Newark Bay. A fisherman's station, with smacks riding at anchor, and a rough pavilion over the water, looks inviting, but we resist the temptation. Some fishermen gather and look at us curiously. To our right the bay stretches out nobly. It is speckled with white-winged craft of every sort, and a few tugs and a steamer skim along at a distance. A vast number of salt-water birds fly near us. The strong on-shore breeze makes surf on the beach at our feet. An angler in a rowboat well off shore lands a large fish which may be a striped bass, after a sharp struggle.

We have not taken in all the beauties of the bay when the canal bends sharply inward and the scene changes abruptly and strangely. A wooded hill shuts off the water, and we are in the country. We travel through a valley, a few houses are seen through the trees to the left. To the right there is nothing but woods growing out of a carpet of long grass, daisies, buttercups, and clover. The scene grows rapidly more rural as we advance. The trees are larger and thicker, till finally they grow on the water's edge and meet overhead in a leafy arch. There is no sign of habitation of any sort now. Birds sing loudly overhead, and a rabbit jumps into the bush from in front of the mules. Three girls in white dresses are seen in the woods picking wild flowers. The boatman lights a fifth cigar and his daughter, after washing the dishes in a bucket of canal water, takes off her sun bonnet and sits down to gaze into the woods pensively.



NEAR COMMINIPAW.

Then the woods thin out rapidly and open into the pretty village of Pamrapo. It is a fleeting picture of shady trees, which rapidly gives place to a magnificent view of New York Bay. We are on its very edge, and note the heights of Staten Island sloping away to the Narrows, and the slopes of Long Island there peeking up the bay thread. Ahead of us the suspension bridge connects New York and Brooklyn. There are glimpses of distant sliding, while in the far foreground a white-sailed mosquito fleet are in the throes of a hotly contested race. We are in Greenville.

This is the country through which we pass into Jersey City, and then the scene changes for the last time. Tenement houses now back hard up against the north bank, while on the right such a miscellaneous assortment of dwellings, made of worn-out boats, as probably can be found nowhere else in this port, skirts the towpath for several miles. Jersey City Bay, as the offshoot of New York Bay at this point is termed, is just beyond the towpath here, and its shores are the graveyard of every sort of small craft that swims these waters. These stranded boats are now all homes.

THE OUTLET AT JERSEY CITY.

The last lock of the Morris Canal at Washington street drops us into the waters of the Hudson, there confined in a basin in which boats may be locked up by harbor tugs and towed to any desired point. Arriving here, the boatman lights a sixth cigar and pockets two more as he bids us a terse "Good afternoon."

It has taken half a day to travel from Newark to Jersey City.

PITS IN THE YORKTOWN'S BOTTOM.

A Scientific Examination May be Made to Ascertain Their Cause.

Orders have been received at the navy yard for the United States steam-ship Yorktown to go into dry dock. The vessel was docked at Malta about two months ago, when she was on her cruise with the Squadron of Evolution, and her bottom found to be fouled slightly and in some places very badly pitted. The pits at that time were all very carefully located, but the present examination is made in order that the department may reassure itself as to the exact amount of damage done. It is suggested, too, that there may be scientific reasons for the present examination. Pits which generally form on the bottom of steel-clad cruisers about the size of a pea, have as yet eluded satisfactory explanation. The present examination may be of interest from a scientific point of view. Capt. Chadwick thinks that perhaps two or three of the plates may have to be replaced. Some of them have been worn thin in spots by the action of the water. The ship's bottom will be scraped and treated to paint and an anti-fouling composition.

Relative to the Yorktown's being short handed, Capt. Chadwick said: "When we left the Cape de Verde Islands on June 7, all the men of the squadron whose time was up, or nearly up, and the chronic sick, amounting in all to ninety two men, were transferred to our ship. About an equal number of our men were transferred to the other vessels to fill their places. We are now short, therefore, about ninety men, or will be soon, when the time of a number of the men yet on board will be up. These places will be filled by men who have yet two years to serve, and the difficulty lies in finding just that class. All the crew of the Talona, which is going out of commission, who have yet two years to serve will be transferred to the Yorktown.

The officers and crew of the Vesuvius are living by candlelight now while awaiting their electric lighting outfit. There are four lamps aboard. The black paint of the Vesuvius is being scraped off preparatory to her receiving a coat of white paint to comply with the regulations of the department, that all steel cruisers shall be painted white. The Vesuvius is going into dry dock within a week or ten days to have her bottom scraped, and to put in a pair of new screw propellers. They will have a coarser pitch than the old ones, for the purpose of comparing results. Some time after she has been overhauled, the Vesuvius will go experimenting with her pneumatic guns.

One Fish a Day Supplies the Market.

From the New York Times.

TARPON SPRINGS, June 21. Tarpon fishing is now the great sport on this coast. John Dover caught one each day last week, and could have caught many more if he had tried, but as there was no market for more than one a day he confined his catch to that number.

Every Toilet Table

Should have a bottle of Ayer's Hair Vigor, the best preparation ever made for dressing the hair, restoring its color when faded or gray, preventing baldness, and keeping the scalp cool, healthy, and free from dandruff.

"I have used Ayer's Hair Vigor for some time and it has worked wonders for me. I was troubled with dandruff and was rapidly becoming bald; but since using the Vigor my head is perfectly clear of dandruff, the hair has ceased coming out, and I now have a good growth, of the same color as when I was a young woman. I can recommend any one suffering from dandruff or loss of hair to use Ayer's Hair Vigor."—Mrs. Lydia O. Moody, East Pittston, Me.

"Several months ago my hair commenced falling out, and in a few weeks my head was almost entirely bare. I tried many remedies but they did me no good. I was finally induced to buy a bottle of Ayer's Hair Vigor, and, after using only a part of the liquid, my head was covered with a heavy growth of hair. I recommend your preparation as the best hair restorer in the world. It can't be beat."—Thomas N. Munday, Sharon Grove, Ky.

Ayer's Hair Vigor,

Prepared by DR. J. C. AYER & CO., Lowell, Mass. Sold by all Druggists and Perfumers.

For the Cure Of colds, coughs, and all derangements of the respiratory organs, no other medicine is so reliable as Ayer's Cherry Pectoral. It relieves sufferers from consumption, even in advanced stages of that disease, and has saved innumerable lives.

Ayer's Cherry Pectoral, Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Sold by Druggists. Price $1. Six bottles, $5.

The Confidence That people have in Ayer's Sarsaparilla as a blood medicine is the natural result of many years' experience. It has been handed down from parent to child, as a favorite family medicine, perfectly reliable in all scrofulous disorders.

Ayer's Sarsaparilla, Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Price $1; six bottles, $5. Worth $5 a bottle.

Many Rise In the morning with headache and without appetite—symptoms of torpidity of the liver and a deranged condition of the stomach. To restore healthy action to these organs, nothing else is so efficacious as an occasional dose of

Ayer's Pills, Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Sold by Druggists and Dealers in Medicines.

HORSES IN A FIGHT.

A Savage Battle Between an Irish and a Norman Stallion.

WEST CHESTER, Pa., July 5.—A battle between two horses was fought last Saturday on Mr. Michael Murphy's stock farm, on the Brandywine, near Milford Mills, this county. On the farm, which covers an extensive territory in East Brandywine and Wallace town ships, Mr. Murphy has been laying out a half-mile driving track for use in training and exercising his blooded horses, among which are a half dozen imported stallions, one of these was recently bought in France for $2,500.

On Saturday Mr. Murphy rode this animal from his home at Milford to superintend the completion of the driving track, and on reaching that part of the track where the workmen were putting on the last touches in levelling, he dismounted and hitched the horse to a post. In a few minutes one of his grooms, seated on another valuable horse, a Norman stallion, appeared and tied the second horse to a post near the first. The Irish stallion immediately grew restless, and in a moment contrived to work his bridle off. Then with a shrill neigh of exultation he leaped clear out into the air and landed with one mighty hoof upon the Norman stallion. The latter answered the challenge with a loud cry, and viciously kicked up his heels to receive his antagonist on horn. Being secured, however, the Norman was at a disadvantage, and his Irish adversary inflicted upon him several dreadful bites on the head and neck. But he received in exchange from the Norman a shower of tremendous heavy rear kicks in the body. Upon this the Irish stallion retired a few paces for a other charge.

The Norman saw him coming, and rearing, up broke away from his fastenings and jumped forward to meet the foe. The collision was terrific. The beasts fought with a degree of savagery that was surprising. The shrill cries of anger and pain were heard on the neighboring farms, and men hurried to the scene from all directions, and tried to separate the combatants. Clubs, fence rails, shovels, and hay forks were alike useless, however, for both stallions were in a frenzy of rage and could not be controlled. One of the grooms had a finger bitten off by one of the furious beasts.

Finally at the suggestion of Mr. Murphy, the men at school aloof and allowed the horses to finish the fight undisturbed. In a few minutes the Norman, uttering one more of pain, turned tail and ran off over the field, closely pursued by his Irish opponent. Thus they ran, almost neck to heels, until they reached Glen Moore, three miles away, where, after a short but decisive contest, both stallions were captured and eventually stabled. The Norman was winner beyond all odds in the final meeting, although he fought in the defensive.

The Irish stallion is the more seriously injured, and it is thought that he will not recover. There are not less than a hundred terrible scars on his body from bites and kicks. Big strips of skin and flesh were torn from his flanks and hips by the sharp teeth of the Norman. The victorious Norman is, however, almost as seriously damaged, and may have to be killed to end his misery.

HAD CROW FOR DINNER.

A Low Down Trick Which a Boy Played On His Father in Northwood.

NORTHWOOD, N.