

## MASSACRED IN RED CANON.

California Bill, the Sole Survivor in a Party of Seven, Telling the Story.

A recent Black Hills letter says: Our discussion of mining locations, prospecting parties and other subjects kindred to a mining centre has been suddenly changed by the return to the frontier of William G. Felton, better known as "California Bill," whose reputation as a scout is widespread on the plains. His return brings to mind the Indian massacre of April 16, 1876, known as the Red Canon massacre, from which in a party of five men and two women, California Bill alone escaped. The party, consisting of Andrew Metz and wife, John Burgess, of Carson, Nevada, a Mr. Grasham, of Missouri, Mr. Stimpson, of Colorado, and a colored woman, started from Custer City for Cheyenne April 14, 1876. They were attacked by Indians in Red Canon two days afterward, and all the above were killed outright, or received wounds that soon resulted in death. California Bill received a number of wounds, but escaped. These wounds, however, have made an invalid of him. Though as yet not really recovered, he has returned to the frontier full of fight. He has related the story of the massacre, particulars of which have not before been published:

"I started from Custer City on my way out of the Hills to Cheyenne on the morning of the 14th of April. The first night we spent in Pleasant valley. Next morning we moved on, reaching Big Springs early in the afternoon of the 15th, and there going into camp. I felt assured that the passage through the Red Canon would be unsafe for a small party, and concluded to await the arrival of a larger one that was expected to overtake us. A short time afterward, Metz's party arrived with two horse teams, having Mr. and Mrs. Metz, a negro woman from Custer, and a Mr. Stimpson as passengers. They stopped to water the stock at the spring, and laughed at my fear of trouble ahead, saying that they were not afraid of Indians. With this they went on, and at the continued urging of my passengers, though against my own judgment, I hitched up and followed. We traveled together undisturbed in the afternoon, and went into camp at the head of the canon about five o'clock. Everything went off peacefully during the night, and early on the morning of the 16th, Easter Sunday, we started down the canon, seven in number. About half way down the canon, where stands a giant cottonwood tree, there is a line of low hills, and close to the side of one of them, skulking well down, I discovered ten or twelve of the painted imps, under the lead of Sioux Jim, well known at the Red Cloud agency, waiting for us. This was about ten in the morning, and my party was then about a quarter of a mile ahead of the Metz outfit. On seeing that they were discovered, with a terrible yell the Indians fired at us, putting a bullet through Burgess's leg and one through my hip. Seeing the attack upon us, the Metz party turned about their teams and endeavored to turn up the canon. Grasping my rifle, I jumped from the wagon, and using it as a breastwork, returned their fire with interest, knocking two of the cowardly scoundrels off their pins, and keeping the dust in a cloud around them, where most of my hurriedly sighted shots struck. As I began to fire, Graham started to run, and was shot through the stomach. He fell. After several volleys, sending a shower of bullets over our heads and into the wagon, but doing no further damage, the Indians disappeared behind a neighboring hill, and thinking they were running after their ponies to cut us off, we mounted the wagon and again started to run the gauntlet. We had gained only a few rods, however, before the red fiends as suddenly appeared on an adjoining ridge, and gave us another unexpected volley, plugging me through the left arm into the breast, through the fleshy part of the calf of my right leg, and again through my shoulder. For a moment it seemed as though I was perfectly riddled with bullets, but I leaped to the ground just as another volley came, one of the bullets striking Burgess in the thigh, knocking him into the wagon box. Keeping close to the front wheel furthest from the Indians, I drove and ran alongside the wagon for half a mile down the canon, when in crossing a small stream the axle broke, and the wagon was left in the mud. There we were, all severely wounded, the Indians close upon us, and we unable to move. There was no time for thought, and though rapidly losing courage and strength from many wounds, I quickly unhitched the two lead mules, managed to get Burgess on one, and while Grasham, who did not then appear to be severely wounded, ran on down the canon, I mounted the other and sent them forward as fast as possible. After riding about a mile and a half we met a party of six en route to Custer, and they took us to the Cheyenne river stage station, where Burgess and Grasham died on the following morning.

"The mutilated bodies of Metz and his wife and Stimpson and the colored woman were found the next day. Metz and Stimpson had evidently been shot out of the wagon. Mrs. Metz and the colored woman must have jumped from the wagon, tried to escape, and been murdered some distance from where the bodies of the two men were lying. The bodies were brought into camp, and all buried side by side, and on the evening of the 17th of April I found myself the sole survivor of this ill-fated party.

"After lying, more dead than alive, for eight weeks at Cheyenne River," continued the scout, "a few soldiers of Capt. Egan's company took me to Fort Laramie hospital. Four months afterward I was sufficiently recovered to return to my home in Colorado; but two years have passed, and the wound in my hip is not fully healed. I'm back again in the Hills," he concluded, with much emphasis, "and though a little the worse for wear, am ready at any moment to mount the saddle, throw the cartridges into my pot rifle, and give the red men another chance to get the scalp of California Bill."

There are 777 potteries in the United States, paying annually \$2,247,751 wages, and turning out products to the value of \$3,045,636.

## The American Reindeer.

The artist, Mr. C. C. Ward, has a paper in *Scientific American* on "Caribou-Hunting," from which we quote as follows: The animal is very compact in form, possessed of great speed and endurance, and is a very Ishmaelite in its wandering habits; changing, as the pest of flies draws near, from the low-lying swamps and woods where its principal article of diet, the *Cladonia rangiferina*, or reindeer lichen, abounds, to the highest mountain fastnesses; then again as the cold nights give warning of the changing season, descending to the plains.

Horns are common to both sexes, but the horns of the bucks are seldom carried later than the month of December, while the does carry theirs all winter, and use them to defend the fawns against the attacks of the bucks. Both sexes use their hoofs to clear away the snow in searching for mosses on the barrens. In their biennial migrations they form well defined tracks or paths, along which the herds travel in Indian file. I have often studied their habits on the extensive caribou barrens between New river and the head of Lake Utopia, in Charlotte county, New Brunswick. These barrens are about sixteen miles in extent, and marked with well-defined trails, over which the animals were constantly passing and re-passing, here and there spending a day where the lichens afforded good living, then away again on their never-ending wanderings.

A friend of mine, who visited Newfoundland on an exploring expedition, informs me that there the caribou holds almost exclusive domain over an unbroken wilderness of nearly thirty thousand square miles, in a country wonderfully adapted to his habits, and bountifully supplied with his favorite food—the reindeer lichen.

The caribou is possessed of much curiosity, and does not readily take alarm at what he sees. Where his haunts have been unmolested, he will unconcernedly trot up within range of the rifle. I am inclined to believe that a great deal of this apparent fearlessness is due to defective vision. If this is so, he is compensated by having a marvelous gift of scent, quite equal, if not superior, to that of the moose. And well for the caribou that he is thus gifted. The wolf follows the herds throughout all their wanderings. On the plains or on the hills, where the poor caribou retire to rear their young, he is constantly lurking near, ready to pounce on any straggler, or—if in sufficient numbers—to boldly attack the herd.

The woodland caribou is very swift, and cunning in devices to escape his pursuers; his gait is a long swinging trot, which he performs with his head erect and sent up, and there is no animal of the deer tribe that affords better sport or more delicious food when captured. The wandering habits of the caribou make it very uncertain where one will fall in with him, even in his accustomed and well-known haunts. When once started, the chase is sure to be a long one, and its results doubtful—in fact so much so that an old hunter seldom follows up a retreating herd, but resorts to strategy and tries to head them off, or at once proceeds by the shortest way to some other barren in hopes of finding them there.

The caribou is very fond of the water, is a capital swimmer, and in jumping he is more than the equal of any other deer. His adventurous disposition, no doubt, in some degree influences the geographical distribution of the species. In the month of December, 1877, a caribou was discovered floating out to sea on a cake of ice near Dalhousie, on the Restigouche river in New Brunswick, and was captured alive by some men who put off to him in a boat.

It is said that in very severe seasons large numbers of caribou cross from Labrador to Newfoundland on the ice. His admirably-constructed hoof, with its sharp, shell-like, cutting edges, enables him to cross the icy fices; when traveling in deep snow, its lateral expansion prevents him from sinking.

## A Strange Romance.

A tramp's queer romance is reported from Lebanon, O., pathetic in its details and cruel in its termination. A young woman at Westchester, Pa., had a lover at Wilmington, Del., some years ago, and her father smiled on the suit, until William Udderzook was hanged for murdering Goss, to get the insurance on his life, and it was known that the lover was a relative of the criminal. Then the father forbade the suitor to come to his house, which threw the daughter into an insane melancholy, and angered the young man into a course of dissipation. The old man finally sold his Pennsylvania home and moved to Ohio, but the maiden was true, and a few years ago she threw herself into the arms of a tramp who came to the door to beg for bread. It was the missing lover, who had a sad story to tell of a downward career and of wanderings, in which he had been to the South African diamond fields. The young woman was too glad to find her lover to recoil at his rags or at the story of his dissipation, but when the father appeared on the scene he was possessed with an insane fury, and beat the tramp so that his life was despaired of. After going for the doctor, the father became insane, and the daughter was with difficulty persuaded to leave the wounded man long enough to allow the doctor to attend him.

## How He Astonished the Bull.

A Glen Sutton (Vt.) correspondent relates that while a young man named Pelkie was out hunting a few days ago he chanced to spy a fox industriously digging for mice about a decayed stump. Between himself and the mouse-hunter, reclining upon the ground, quietly chewing his cud, was Z. D. Wilson's bull. Cautiously advancing, our hero reached the unsuspecting bovine; dropping upon his knees and carefully resting his gun across the animal's back he pulled the trigger. The aim was true, and sly Reynard fell dead. But wasn't the bull astonished though! Springing to his feet with a roar, he ran over Pelkie about forty times, and rushed away snorting with terror. The first thing our friend saw on opening his eyes was the bull's tail cleaving the air like a meteor, about a mile away, and the dead fox lying upon the ground hard by. The sight of the latter reassured him, and securing it, he limped homeward, resolved that though great the tribulation he would never again use a live bull for a breastwork.

## CARPETS.

Where They Come From, Who Use Them, and How Made.

Carpets come from the East, says an American paper, and their manufacture dates far back into antiquity. The Babylonians made them; they formed a noted branch of manufacture in Turkey and Persia before they were known in England. They belong to that Oriental luxuriousness of taste which was the exact opposite of the Saxon. The Mohammedan who prostrates himself many times a day upon the ground found it convenient to have something on which to kneel and which he could easily carry with him, while a like habit of sitting cross-legged upon the floor made the same material first a comfort, then an ornament to his house. To these uses we may probably trace the custom in all Oriental countries, copied largely by France, of having carpets in one piece and then to only partially cover the floor, or of the use of rugs merely before the principal pieces of furniture. It is only in America, England and Germany at the present day that carpets are universally used covering the entire floor, and where the plan of waxing floors, as in France, is almost entirely unknown. Those who have painfully walked through some of the palaces of Europe, shuffling along in felt slippers, or endeavoring to stand upright without them, realize the comforts of a well covered floor, as well as the great addition to the beauty of a well-furnished home.

It is somewhat singular that the English should have been so late as they were in discovering the utility of carpets, for while they did not need them for the act of worship, the climate would naturally suggest such an addition to warmth. Yet we learn from history that as late as the reigns of Queens Mary and Elizabeth rushes were used, even in the palaces, though carpets had been imported to some extent from the East. Shakespeare occasionally refers to them, and Bacon, who was contemporary with him, describes a reception thus: "Against the wall, in the middle of the hall, is a chair placed before him with a table and a carpet before it," from which it will be seen that the first carpets in use then were the same as we find in the East now, mere squares or rugs. At that day they were considered as luxuries, and for common daily use the English adhered as tenaciously to their straw and rushes as they do now to their rosette and blue.

Not much is known of the earliest Eastern fabrics, but as these nations change but slowly it is safe to assume that the first carpets were thin tapestries, made by hand, as they are made at the present day. The process of fastening tufts of woolen into a warp with the fingers was exceedingly slow and tedious, but this is of small account in countries where labor is of so little value. The same process in France at the present day makes the Gobelins tapestries of immense value, so that they rarely, if ever, come into the market, but are reserved for royalty. Many years are sometimes occupied in producing some of the more ornate pieces. Portraits and pictures of birds, animals and flowers are accurately and beautifully reproduced, and what is more wonderful is, that the artist does his work with the back of the tapestry toward him. He can only see what he has accomplished by going round to inspect it when he stops for dinner or leaves at night.

From this tapestry has sprung undoubtedly all our modern carpets. When the manufacture was taken up in England, devices were employed to multiply the fabrics and to cheapen them. This led to hand-loom and subsequently to machinery and the use of power. Good imitations of Turkish carpets were made at Axminster, and were called after the name of the town. Few people have any idea of the process of manufacture. It is one of the few remaining branches of Turkish industry.

The methods of work in the ancient towns of Oushak, Honla and Ghoirdof are of the simplest and rudest description. A vertical frame supports two horizontal rollers about five feet apart. The warp, of any required length, consisting of an upper and lower thread, is wound around the upper roller and the ends fastened to the lower one by the girls, who sit cross-legged in a row before the frame. Each workwoman has a certain width allotted to her, and proceeds to knot the tufts which form the pile in rows, using different colors to form the pattern. The tying of the tufts and the picking out of the various colored wools, which hang in balls over the frame, is carried on with surprising rapidity, the pattern being worked solely from memory. Yet with the aid of the rude frame, a pair of shears and comb, the workers contrive to produce the most harmoniously colored and certainly the most durable carpets in the trade. European taste has done much to foster this manufacture, but has never been able to improve it. A livelier class of goods is produced to meet the American demand than those used by transatlantic purchasers.

It would be interesting to follow the growth of this manufacture, and to describe the machinery by which it is produced, but that is impossible here. It is only fair to say, however, that no country has made more rapid strides than this branch of manufacture.

More has been accomplished in one hundred years than in all the centuries preceding. Public taste, united to a desire to economize, has led to an immense production of ingrain, three-ply and Brussels, and this demand has stimulated the inventive genius of the weavers and artists, until, in colors, designs and quality of fabric, there is nothing left to desire. It is a perfect mystery how goods uniting such qualities of beauty and of substantial wear can be produced at such prices. The ingrain can be had as low as the home-made "rag" carpet, and the Brussels as low as the ingrain were formerly, while in the latter there is hardly an end to the patterns that may be produced.

The largest concern in America runs 700 looms, and employs thousands of hands. There is a different form or manner of mechanism employed for every carpet, from the methodical East-lake to the elaborate Queen Anne. Wonderful effects are produced in tapestry.

Mr. Astor, of New York, has an income of \$600 an hour.

## Natural History Studies—The Baby.

"What animal is this?" "This is a baby. He is now about three years old, and at the wickedest point of his earthly career."

"What countries does the baby most inhabit?" "He can be found in every inhabited country on the globe, the same as mosquitoes and boils."

"Can they be tamed?" "Yes, quite easily. After a little judicious discipline they cease to struggle, and become subservient to the will of man."

"Does the baby eat grass?" "Yes, or anything else. They swallow pocket knives, thimbles, buttons, spoons or any other object a little smaller than a teacup. If offered milk they seldom refuse it."

"Do they graze during the day, or only at night?" "They are always grazing, paying not the least heed to the hour. When not actually eating they generally give utterance to a peculiar cry. Strong men often jump out of bed at midnight in the coldest weather when hearing this cry."

"What meaning is attached to this cry?" "Men of deepest thought have agreed that it signifies to wake up the neighborhood and have some fun."

"Of what benefit to mankind is a domesticated baby?"

"They are of no earthly account for the first few years, but by-and-by they can slide down hill on a cellar door and carry articles out of the house and trade them for a wooden sword or lose them in the grass."

"Do you know of any instances where the baby has attacked the household and killed or injured any one?"

"Such instances have been related by such eminent naturalists as George Francis Train and Texas Jack, but we don't put much faith in them. However, if the baby was maliciously and persistently provoked, there is no knowing what it might do."

"Are they a healthy animal?"

"No. On the contrary, no druggist could make enough profit in a year to buy him a pair of Arctic overshoes for the presence of the baby in every household. There is hardly an hour in the day that the baby does not demand peppermint, paregoric, milk, sugar, cordial, cod-liver emulsion, ipecac, or something else costing money."

"What machinery is made use of to compel the baby to take a dose of castor oil?"

"There are several patent machines for the purpose, but most people follow the old rule of knocking him senseless and getting the dose into his mouth before he recovers."

"Is a teatime bald-headed baby more domestic than others?"

"Not a bit. He kicks around after the same fashion, and has even a worse time fighting flies and mosquitoes."

"What music do they seem to prefer?"

"A bass drum is their first choice, but they have a heavy tendency toward the sound of the stove-handle knocking the nose off the pitcher with the emptings in it. This is all about the baby."

—Detroit Free Press.

## A Washington Society Incident.

A Washington society correspondent writes: In the last year of the reign of Mrs. Fish, as the wife of the secretary of state, there happened an amusing incident, which I will relate to instance the trouble to which the wives of public men are often unnecessarily put. I will call the lady Thomas. Her husband is a clerk, on small pay, in one of the departments. She made no social pretension, lived in a quiet, humble way, in a very petite house in the suburbs, kept no domestic, and did her own work. All this greatly to her credit. Being one Wednesday afternoon in the neighborhood of the "Fish mansion," she proposed to her sister "to go in just for a look and see what the high-flyers were doing." At the door the footman presented his salver for a card. They had none. The assistant servant handed another salver with a blank card and a pencil. The little woman wrote her name and address, thinking it a mere form, and the train were issued into the drawing-room, where the courtly Mrs. Fish received them with all the *impressment* due a queen. About ten days after this the industrious housekeeper was mounted on a step-ladder in front of her modest little home, engaged in the unpleasant task of washing windows.

She noticed coming down the street an elegant carriage, with servants in livery, driving superbly-caparisoned horses. It came on and presently halted at her door. The footman sprang down, came to the window, took a card, and, approaching the ladder, asked:

"Does Mrs. Thomas live here?"

"Yes."

"Is she at home?"

"No," replied the quick-witted housewife, as she took the pasteboard and stowed it in her pocket. The story was too good to keep, and her husband told it in great glee to a friend of ours who gave it to me. Mrs. Fish was very punctilious about returning visits, and no matter how obscure the person from whom she received the compliment of a visit, she never failed to go in person and return it.

## "Pith and Point."

Wood crushed to pulp will rise again—in the paper mill.

How many men are born before the world is ready for them?

"Early to bed and early to rise," but above all come early to advertise.

Be plain in your speech and dress, particularly if your features are plain.

The figure one, when we express "ten" by numerals, is next to nothing.

"We come to this conclusion," as the last leaf of the book said to a yawning reader.

We have always detected a mean-spirited man by his wholesale denunciation of others' selfishness.—New York News.

Said a mother to her little son: "There! Your toes are out of your stockings again. Seems to me they wear out in a hurry." Giving a comical leer, he said: "Do you know why stockings wear out first at the toes?" "No." "Because toes wriggle, and heels don't."

## Christmas Carols.

Carol is said to be derived from *cantare*, to sing, and *role*, an interjection of joy. That quaint writer, Jeremy Taylor, observed that "glory to God in the highest; on earth, peace and good will to men," which the angels sang at the birth of Christ, was the first Christmas carol.

In Shakespeare's time carols were sung in the streets at night during Christmas by the waits, who expected to receive gratuities for their singing. The "wakes" ketches on Christmas eve are mentioned by many a writer of old times and customs. After the reformation, the singing of Latin hymns was abolished in the churches, and the sweet Christmas carols substituted. There were two kinds of Christmas carols, those of a religious nature, which were sung not only in the churches, but also through the streets from house to house, on Christmas eve, and, after that, morning and evening until twelfth day; the others are of a livelier character, and adapted to the revel and the feast. Some of these latter were also called wassail songs, and originated with the Anglo-Normans, who were of a most convivial nature. No Christmas entertainment was considered complete without the singing of carols, and thence came the old motto: "No song, no supper," for every one at the table was expected to join in the carol. Says an English squire at his Christmas feast:

Not a man here shall taste my March beer, Till a Christmas carol he does sing. Then all clasped their hands and shouted and sang.

Till the hall and the parlor did ring.

From a quaint old work we clip the following: "The antient master of the revel is, after dinner and supper, to sing a carol, or song, and to command the other gentlemen present to sing with him and the company."

Some of these Christmas carols had queer titles enough, and they seem to have referred to all sorts of subjects. Here is the dedication prefixed to one in the last century:

"Christmas carol on 'Peko Tea'—a sacred carol, which, like tea that is perfectly good and fine, will be most grateful and useful all the year round, from Christmas to Christmas forever. Humbly addressed to Queen Caroline and the Princess Caroline and the Royal Family. By Frances Hoffman. London, 1729."

A curious piece of antiquity is the old *Christus natus est*. It was something in this manner: The cock croweth, *Christus natus est*—Christ is born. The raven asked, *Quando*—when? The crow replied, *Hec nocte*—this night. The ox cryeth out, *Ubi? Ubi?*—where? where? The sheep bleated out, *Bethlehem*—Bethlehem. A voice from heaven sounded, *Gloria in excelsis*—glory be on high.

Another carol represents the Virgin contemplating the birth of the Divine Infant:

"He neither shall be clothed In purple nor in pall, But all in fair linen. As were babies all; He neither shall be rock'd Bet in a wooden cradle That rocks on the mold."

Carol singing continued in all its vigor until the close of the last century, since when it has gradually declined, except in the schools or churches, where the sweet Christmas carols are chanted by young voices.

But in the northern part of England they still sing carols; and even in the great metropolis, London, some solitary veteran, who had not forgotten the merry customs of the good old days, may sometimes be heard upon Christmas eve, singing, in a plaintive voice, "God rest you, merry gentlemen!"

## Words of Wisdom.

Despise no one, for every one knows something which thou knowest not.

Where gold and silver dwell in the heart, faith and hope are out of doors.

He who thinks he has nothing to fear from temptations is most exposed to a fall.

The higher you rise the higher is your horizon; so the more you know, the more you will see to know.

No single moment in any life accurately represents the motive and worth of that life; yet who that judges others takes more than the act of a moment to judge by.

Kindness seems to know of some secret fountain of joy in the soul which it can touch, without revealing its locality, and cause it to send its waters upward and overflow the heart.

Prosperity has this property: It puffs up narrow souls, makes them imagine themselves high and mighty, and look down upon the world with contempt; but a truly noble and resolved spirit appears greatest in distress, and then becomes more bright and conspicuous.

The tree-frog acquires the color of whatever it may, for a short time, adhere to. If you always live with those who are lame, you will yourself limp, is a Latin proverb. A man is sure to be influenced by those with whom he associates. The future success and prosperity of young people depend largely upon their inclination to associate with their superiors in age, goodness and intelligence.

If we can by honest effort change a way-worn thought to a manly purpose, encourage the halting mind to correct views, remove all prejudices, unkindly chaste desires, and strengthen a noble purpose, our efforts in life shall not be in vain. Feeble our efforts may be, as the breeze that kisses the mountain summit, yet it may be the morning breath that shall help on his mission of mercy, virtue and usefulness, some waiting pilgrim.

## Religious Statistics of Europe.

According to Hubner the following are the religious statistics of Europe:

	Protestant	Catholic	Greek	Jew	Total
Germany	1,500,000	14,000,000	20,000	50,000	15,570,000
Austria	1,000,000	10,000,000	20,000	50,000	11,070,000
France	1,000,000	20,000,000	20,000	50,000	21,070,000
Great Britain	1,000,000	1,000,000	20,000	50,000	2,070,000
Spain	1,000,000	1,000,000	20,000	50,000	2,070,000
Italy	1,000,000	1,000,000	20,000	50,000	2,070,000
Sweden	1,000,000	1,000,000	20,000	50,000	2,070,000
Norway	1,000,000	1,000,000	20,000	50,000	2,070,000
Denmark	1,000,000	1,000,000	20,000	50,000	2,070,000
Portugal	1,000,000	1,000,000	20,000	50,000	2,070,000
Greece	1,000,000	1,000,000	20,000	50,000	2,070,000
Turkey	1,000,000	1,000,000	20,000	50,000	2,070,000
Other countries	1,000,000	1,000,000	20,000	50,000	2,070,000

Portugal, Greece, Turkey and Denmark are not included in this table.

## A Torpedo-Boat.

The second exhibition of the Hardy torpedo-boat took place at Pamapo, N. J., in the presence of numerous naval officers and representatives of foreign governments, and was a complete success—the operator directing the movements of the destructive boat half a mile at sea by means of an electric current, transmitted through a wire unreeled from the stern of the craft. This formidable opponent of the heavy frigate is an iron shell, cigar-like in form, and tapering at both ends to a point. In the shell are three chambers. That in the bow is prepared to hold dynamite, which will be exploded either by percussion or an electric spark. The central chamber of the shell contains tanks of carbonic acid and the engine which propels the torpedo. This engine is driven by the expansive force of carbonic acid gas generated under pressure in the tanks, and drives a screw-propeller. In the chamber in the stern of the shell is a reel of insulated wire connected with a battery on shore. By touching different keys of this battery the torpedo is put in motion, turned to the right or left, backed or stopped, as desired. A spark from this battery can also be used to explode the torpedo, if explosion by contact is not found to be the better method. The length of the shell is about twelve feet, and its greatest diameter nearly eighteen inches. At 1.30 o'clock the signal was given and the torpedo was gently lowered to the water. It was nearly submerged by its own weight. Little red pennants floated from slender rods at the bow and stern. Hardy, the inventor of the torpedo, who has worked for more than twenty years, struggling against discouragements of every kind, in order to perfect his invention, manipulated the keys of the battery. The boat rested for an instant quietly, and then Hardy touched a key of the battery. A sharp hiss of escaping gas followed. The water bubbled under the stern of the torpedo and the blades of the screw began to churn the water. The torpedo moved forward, at first slowly, then faster and faster, heading straight out to sea, and cutting through the water like a rocket. A broad ripple extending many yards on both sides marked its course. It swerved from side to side in response to the various keys of the battery, the trailing wire running off the reel like a long serpent. Half a mile out Hardy pressed another key and the boat stopped short. Then it began to turn slowly to the left, and swung around with a grand sweep, under perfect control. The torpedo was out of sight under water, but the line of the little flags at her bow and stern marked her motions perfectly. Coming up from her sweep to the left, she described a corresponding circle to the right, and returned to the same point, having cut a figure eight on the water. Then she shot backward and forward, as Hardy touched the keys. "Let her go at full speed, Hardy," exclaimed a delighted spectator. The torpedo obediently started off, hissing through the water, while a slender jet of spray forced by the escaping gas through a hole in the bark of the shell, drenched the little flag in the stern as it fell. The spurt of the torpedo ended, it turned docilely and headed for the wharf. The little flag at the bow was seen plainer and plainer. The bow was driven under water, but the stern rose above the surface as the reel of wire uncoiled. Near the wharf the hissing gas was shut off. The shell shot on with its own momentum and came quietly to a stop at its starting place.

## The Station Index.

Mention is made of a device adopted on the New York elevated railroad to supply the place of the mellow-voiced brakeman in letting the passengers know the names of the stations the train comes to. The details of the invention are as follows: A shaft made of wood or iron, one-third of an inch in diameter, runs from end to end of the car above the windows, and to it is attached a crank wheel that is worked by the conductor, who stands on the platform. The wheel is just above the window at the side of the door, and is to be about six inches in diameter. On the shaft is a spool, around which thin canvas or linen-cloth rolls are wound, and on this canvas are painted at regular intervals the names of the different stations. In the sides of the boxes which inclose these rolls are windows about fifteen inches long and six inches wide. One turn of the wheel by the conductor on the platform revolves the spool in the indicator-box and places before the window the name of the station the train will next reach. The model shows three indicator-boxes, one at each end of the car and one in the middle. Over the windows are painted the words "Next Station." The boxes at the end of the car are just over the doors. The boxes can be put on any part of the shaft and as many of them as may be necessary can be put on. When the conductor closes the platform gate he turns the wheel and the name of the next station appears in the windows of all the indicators. As the train nears a station the conductor pulls a knob attached to a wire, which strikes a gong near the center indicator, and that warns the passengers that they are near a station; and when the train starts from the station the gong is again struck. The apparatus can be operated from both ends of the car, and thus one man can work two cars. The wheel is turned in one direction until the end of the route is reached. On the return trip the wheel is worked in the reverse direction. The indicator-boxes are to be of wood, and about twelve inches square. The names of the stations painted on canvas rollers will be in plain, bold letters four inches in height.

At a dinner recently given by a well known English peer, one of the guests, a very young man, made himself obnoxious by persistently laying down the law on every possible subject, and talking long and loudly. At length he expressed, in no measured terms, his hatred of a class of people whom he called Philistines. An elderly gentleman, sitting opposite to him, mildly