

SCIENCE AND INVENTION.

Work of the World's Busy Brains in Discovering, Inventing and Creating.

DIAMOND SHOAL LIGHT.

A Great Beacon for the Dangerous Sands of Cape Hatteras—A Wonderful Engineering Achievement.

At last there are hopes that the deadly reef off Cape Hatteras, which is the dread of sailors, shall bear a warning beacon. It is said that within the last 30 years 70 vessels and 72 lives have been lost by these terrible sands. The great difficulty has been to devise some form of a lightship or lighthouse that would hold upon those shifting sands, which are beaten by the most powerful tempests. Every suggested plan, until recently, has met with the disapproval of competent engineers as being impracticable. What is now being done is the plan of Capt. Albert F. Ellis, of Massachusetts, and a vessel owner. Fif-

ty men will enter these chambers and assist the hydraulic dredging machinery by excavating with powerful water jets, nozzels and special tools to form the sand toward the central tube, where it will be pumped upward and discharged through the outside shell of the caisson by ejectors or sand pumps. Sand and material, wreckage, for instance, should be encountered in the sand while sinking, it is proposed to work it toward the central shaft, where it may be removed by grappling dredges. Smaller obstructions may be removed by divers through the airlocks provided for the men.

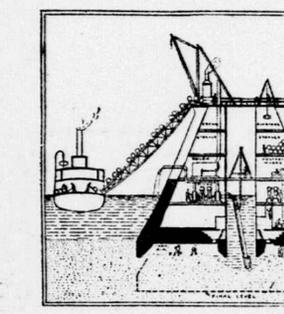
While the dredging is being done, the work will be carried on as fast as possible in filling the different chambers with concrete. The material, cement, crushed stone, granite blocks, bowlders, supplies, etc., will be brought to the caisson in lighters and taken aboard by aid of the steam hoisting engines and stored in the different rooms until required. A balance will be maintained between the increasing weight of the structure and the increasing buoyancy of the surrounding water as the caisson sinks to its final depth. The caisson may thus be held temporarily at the same level to facilitate certain details of the excavation, or it may be made to sink more rapidly into the sand. As soon as the caisson has reached its proper depth, about 28 feet below the surface of the sand, the bottom being about 50 feet below the surface of the water, the work of filling will be carried on by slip-rap from 12 regular granite blocks or bowlders will be deposited on the surface of the sand entirely around the foundation, extending to the center of the caisson. The stones will be brought in scows or lighters, and may be placed directly by these lighters, or by the travelling cranes, and will be secured to the deck of the caisson. The spaces within the large stones will be filled with small ones, and the smaller spaces will quickly be filled with the drifting sands.

Remarkable Dredging.

After the caisson has been sunk as far as possible by open dredging and compressed air process. The dredging will be done in and through the central well or shaft, and the caisson will be sunk as far as practicable by open dredging around this well. This work will be done preferably in the Spring of the year, as at that time the prevailing winds are from the shore and therefore the seas do not run so high.

THE DIAMOND SHOALS LIGHTHOUSE.

Caisson sunk and filled with concrete. As it will look when completed.



Sinking the caisson into the sands. Caisson sunk and filled with concrete. As it will look when completed.

teen years ago he went out on the shore to see one of his vessels ground and one of her sailors frozen to death in the rigging. Then he resolved to form a society to spend the rest of his life in endeavoring to protect the coast and prevent such sickening disasters.

The marine insurance companies, National banks which do a marine business, the vessel owners and all of the organizations representing vessel owners, officers and crews, have been impugning the Government's plan to erect a lighthouse off Cape Hatteras, and the only obstacle has been the engineering difficulties. In 1902 Acting Secretary Spaulding of the Treasury reported that the plans proposed would make the cost of such a lighthouse \$1,588,000. There was little confidence at that time in the safety of the structure proposed. The plan which is now being carried out and which was elaborated by Capt. Ellis, who has received a contract for the work, comprises for the foundation a massive steel caisson in the form of the lower portion of a cone, with cylindrical base. Upon this will be erected the lighthouse proper, a plate steel cylinder with a slight batter from base to top, supporting a light of the first order at 150 feet above tide level.

The caisson will be 108 feet in diameter at the bottom, 80 feet high and 50 feet diameter at the top. It will consist of a double shell of steel plates, parallel to each other and about six feet apart, attached to 24 upright inclined plate girders, which will divide the space between the shells into 24 watertight compartments. It will have a double bottom about seven feet above the outer bottom edge of the caisson. This space between the two floors is divided into 24 sections by 24 frames, or trusses, extending from near the bottom of the 24 outer inclined girders horizontally on the radial lines, within eight feet of the center of the caisson, and forming part of the caisson will be in the form of an open vertical shaft, 18 feet in diameter, extending from top to bottom, inclosed by steel plates riveted together and attached or riveted to the steel girders, extending horizontally from this shaft to the inner edge of the 24 inclined girders above described. These horizontal girders, being about 13 feet one above the other, act as temporary floor beams that will divide the caisson into five large circular rooms.

The construction is simple. Twenty-four upright inclined plate girders extend from the top to the bottom of the caisson on the radial lines. These girders are identical in shape, size, weight, and form the principal framework of the caisson. Twenty-four plate girders, which form the floor of the caisson near the bottom of the inclined girders, extend horizontally on the radial lines to within eight feet of the center of the structure. Rolled steel plates about one-half inch thick are riveted together and form the outer shell, covering the inclined girders from top to bottom, and also similar steel plates are riveted together and connected to the inside edge of the inclined girders, forming a double conical shell separated into 24 air- and water-tight sections or wells by the inclined girders. The horizontal floor girders at the bottom of the caisson are covered above and below, thus forming a double shell floor made of rolled steel plates riveted together and to the floor girders.

A Weighty Caisson. The central tube in the caisson, which extends from top to bottom, is also made of curved rolled steel plates attached to the ends of the horizontal floor girders and to the bracing of the caisson. It is riveted together, forms the caisson into a self-contained vessel of circular shape, built sufficiently strong to stand a sea voyage and the wind and wave pressure after its final settlement into the sands of the shoal. All the inside horizontal girders are covered at the different elevations to make temporary floors and rooms in the caisson, and it is proposed to place in these rooms at the time of towing the boiler, engines, pumps, derricks, dredging apparatus, concrete mixing machines, etc., and the different materials necessary for sinking and filling and supplies and equipment for the workmen.

It is proposed to fill a portion of the space between the two outer shells and part of the bottom with concrete before leaving the shipyard, so that the caisson will draw about 21 feet of water, and when all is in readiness to be towed to the location on the shoals.

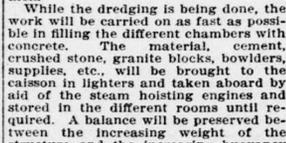
While being towed to its location in case of a storm the draft may be increased by partial scuttling, leaving a smaller area above the surface of the water exposed to the wind and waves. Even in case of a storm, the caisson will then ground in deep water, where it could easily be floated again after the storm by forcing the water out by air pressure or by pumping until it again draws about 21 feet. It may then be towed to its location, and after reaching its destination will be held in place by suitable anchors. It will be scuttled by pumping water into the interior compartments, and it will only matter a few hours before enough water will have entered to sink it so as to rest on the sand and gradually draw down to the level of the shoal at the location selected. For the lighthouse on the four fathom contour covers an area about two miles long and one mile wide, and gradually deepens on the seaward side.

The edges of the caisson with the additional weight from scuttling will settle into the sand a few feet immediately until the bottom rests on the surface of

combined widths of the usual separate top and band plies of a fold collar. There is a separate top ply with concealed edges, lined and concealed between said plies.

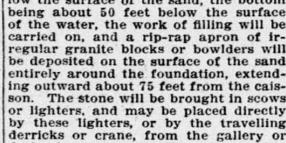
Tea Kettle.

Wilbur S. Day, Warren, Minn., has patented a peculiar form of tea kettle



Machine for boring stumps.

Otis B. Moyer, Sperton, Ga., has received a patent for a device for boring holes in stumps, etc., which is a lever

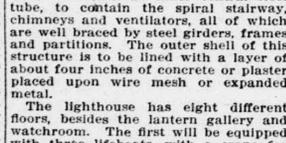


Machine for boring stumps.

held against the stump by a chain and holding a bearing through which passes the handle of the auger. The lever holds the auger in place so as to bore the hole with the greatest certainty and the least effort.

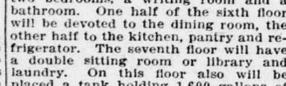
Saw.

Joseph Baumgartner, Silverton, Ore., has patented a combined saw and hatchet. The saw is concealed within



Enamel.

Hugh S. Stevenson, Philadelphia, Pa., has patented a watch-supporting case formed from a single sheet of pliable material.



Foreign Patents.

The Patent Office announces the following rule:

"Rule 29. The receipt of Letters Patent from a foreign Government will not prevent the inventor from obtaining a patent in the United States, unless the application on which the foreign patent was granted was filed more than 12 months prior to the filing of the application in this country, in which case no patent shall be granted in this country."

ECONOMY OF LUCIN CUT-OFF.

Saving in Operating Expenses Already More Than Paying for the Investment. (January, 1905.)

On the 18th of September, 1904, passenger trains were first sent over the cut-off, and from then until the middle of last January only 34 minutes, at the cost of \$100,000, was required to run the track, far less than the average delay on the old road. Dec. 23, 1904, was the last day of the record. That day 600 feet of fill near Rambo went down and a little more than a foot. The Lucin cut-off is complete, and Mr. Hood, the engineer, is justified for his faith. So, too, Mr. Harriman, the financier; for in January, 1905, the operating expenses of the new road were \$61,000 less than the operating expenses of the old road in January, 1904, although the traffic was greater.

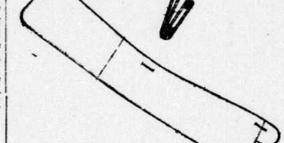
With 600,000 tons of through freight annually, and that amount increasing, the old road had reached its limit. It took three locomotives to handle 950 tons, and often required 20 to 30 hours. Over the cut-off a single engine has hauled 3,860 tons in less than nine hours. Passenger trains that used to take two or three hours now take two locomotives, now run 14 to 17 coaches with one engine. When you sit in the observation car and gaze a mile or so into the distance you will not see a strikingly peculiar piece of engineering accom-

Work of the Patent Office.

For the week ended Dec. 5, 1865, the Patent Office issued 671 patents, 13 designs, 100 trade-marks, 17 labels, seven prints, three re-issues, making a total of 820, of which 609 patents and 132 trade-marks and designs went to citizens of the United States and 75 patents and one trade-mark to citizens of foreign countries.

Fold Collars.

John M. Belmermeister, Troy, N. Y., has patented a peculiar method of making fold collars by forming a continuous top and band ply equal to the



making fold collars by forming a continuous top and band ply equal to the

A TRIUMPH OF ENGINEERING.

Dream of a Road Across Great Salt Lake at Last Realized.

(Oscar King Davis, in the January Century.) When the first survey of the Union Pacific Railroad came out of the mouth of Weber Canyon, a little southeast of the present city of Ogden, it found the Great Salt Lake lying across its path westward to a junction with the Central Pacific. Even at that early date some idea of the possibilities of the later-day triumph of rail across this water was suggested to the engineers of the survey, for they discussed a little, though perhaps more jocularly than seriously, the possibility of driving straight across the lake, or at least across its eastern arm. Of course, they gave it up. The idea then was almost chimerical. There was neither the genius in finance nor the genius in engineering that a stupendous work nor the traffic to warrant such an expenditure. It may be doubted, too, if there was engineering skill enough to build a road across the north end of the lake.

But that light talk of the early 60's was not without its fruit. The idea remained the dream, the hope, the faith, of one of the young men employed in building the Central Pacific. William Hood was of that company of across the mountains who have not only their mark and their fame in the development of California and the Pacific Slope. As he worked his way up to the position of Chief Engineer of the Southern Pacific System, owner of the old Central Pacific, he never lost sight of the possibility of that line across Salt Lake. In 1870, when he was master of the Pacific Railroad, he inclined to think that it might be done; but the time was not yet ripe, the traffic was not heavy enough to justify the expense, and such enterprise was not easy to finance. But after Mr. Huntington's death there came to the head of Southern Pacific affairs a man whose financial ability and vision matched the engineering skill and pluck of Mr. Hood. In Edward H. Harriman, Mr. Hood found a man who sympathized with his plan, and who was able and willing to provide the money.

The times had changed. The day of great and bold enterprises had come. The old era of the pioneer false economy, that let roadbeds and rolling stock run down in order to squeeze out an unjustified dividend, was ended. The old era of the false economy, that let roadbeds and rolling stock run down in order to squeeze out an unjustified dividend, was ended. The old era of the false economy, that let roadbeds and rolling stock run down in order to squeeze out an unjustified dividend, was ended. The old era of the false economy, that let roadbeds and rolling stock run down in order to squeeze out an unjustified dividend, was ended.

THE IDEAL POTATO.

How to Produce New Potatoes at Christmas. (London Mail.)

"Your modern potato has as much taste as the rice" and yet, did the public desire it, it could be produced in a few weeks. The speaker was a prominent potato exhibitor at the National Potato Society's show, which opened yesterday at the Horticultural Hall.

Just from the speaker was a wonderful exhibit, consisting of a basket of 222 potatoes, weighing 43 pounds, taken from a single root.

"That," he said, "is the sort of thing that the growers want. It is a potato 15 or 20 tons to the acre, but practically no flavor. Here is another variety, the Peacemaker—not particularly good, but it will produce only some seven tons to the acre. Yet it has a wonderful flavor, rather resembling that of a good potato, and the demand in existence, we could live the public exquisitely flavored potatoes."

The Messrs. Sutton, of Reading, who are exhibitors, demonstrated a novel method of producing new potatoes at Christmas time.

Ordinary seed potatoes are placed in a dark spot and lightly sprinkled with earth. After six weeks, they produce shoots. These are broken up and more shoots appear. The process is repeated until the tuber grows disintegrating, and the seed is ready to be planted. It argues that the seed, when young potatoes, which are replaced when picked by others, until the original potato is exhausted.

INFORMATION BUREAU.

PRESERVING EGGS. Editor National Tribune: Please give me a good recipe for preserving eggs.—C. J. Craighead, Bloomingburg, O.

The following are some of the methods recommended for preserving eggs through the winter:

1. Dip the eggs into a solution of two ounces gum arabic in a pint of cold water; let them dry, and pack in powdered, well-burned charcoal.

2. Packing Liquid.—Lime, one bushel (sifted); corn water, one quart; two or three pounds; cream of tartar, one-half pound; water sufficient to form a mixture strong enough to float an egg. Eggs thus prepared are safe, it is said it will do for two years, by simply keeping them in it.

3. In the common "liming" process a tight barrel half-filled with cold water, into which is stirred slaked lime and salt in the proportion of about one-half pound each for every quart of water. Some dealers use no salt, and others use a pound of each.

4. A much better method of storing eggs is the following: Having selected perfectly fresh eggs, put them in a dozen or more at a time, into a small woven basket, and immerse this for 24 hours in a solution of water containing about five pounds of brown sugar per gallon of water. Place the eggs immediately after on the top of the scalding water, and allow them to remain for 24 hours. Place the eggs in the inner surface of the shell, the sugar effectually closing all the pores of the shell.

5. The eggs are then packed, small end down, in an intimate mixture of one measure of good charcoal, finely powdered, and two measures of dry bran. Eggs thus stored have been found perfectly fresh and unaltered after six months.

6. A French authority gives the following: Melt four ounces clear beeswax in a porcelain dish over a gentle fire and stir in eight ounces of olive oil. Let the resulting solution of wax and oil cool somewhat, then dip the fresh eggs one by one into it so as to coat every part of the shell. A momentary dip is sufficient, all excess of the mixture being wiped off with a cotton cloth. The oil is absorbed in the shell, the wax hermetically closing all the pores. It is claimed that eggs thus treated and packed away in powdered charcoal in a cool place have been found after two years as fresh and palatable as when newly laid.

7. Dry salt is frequently recommended as a good preservative packing for stored eggs, but practical experience has shown that salt alone is but little better than dry bran, especially if stored in a damp place or exposed to humid air.

8. A mixture of eight measures of bran with one of powdered quicklime makes an excellent packing for eggs in transportation.

9. Wet glass—silicate of soda—has recently been used in Germany for rendering the shells of eggs non-porous. A small quantity of the clear, sirupy silicate is smeared over the entire surface of the shell. On drying, a thin, hard, glassy film remains, which serves as an admirable protection and substitute for wax, oil, gums, etc. Eggs thus coated in charcoal powder and bran would keep a very long time.

10. In storing eggs in charcoal the latter should be kept as cool as possible. If the eggs are not stored in perfectly fresh they will not keep under any circumstances. A broken egg stored with sound ones will sometimes endanger the lot. In packing the small end of the egg should be placed downward; if in charcoal or other powder they must be packed so that the small end of one egg does not touch that of another, the interspaces being filled with the powder.

Under all circumstances stored eggs should be kept as cool as possible, frequent change of temperature must also be avoided.

Editor National Tribune: Will you please publish the following: The columns of The National Tribune contain the number of soldiers engaged in the Revolutionary War and the number slain; also, about the number engaged in the civil war and the number killed?—W. S. Donaldson, Charleston, Ill.

The total number of soldiers and sailors engaged in the Revolutionary War has been put at 184,028, which does not include many civilians who did temporary service in expeditions against the British and the Indians. It is not known how many were killed, as no records were kept. The number did not much exceed 1,500. There were probably 2,213,385 Indians in the United States during the civil war from first to last, and the number of them killed was somewhere between 125,000 and 150,000.—Editor National Tribune.

Loved Their Country.

Editor National Tribune: For the past quarter of a century I have been a regular reader of the soldiers' great friend, The National Tribune, and I always take much interest in what the boys say of their campaigns, and in the pride they justly feel in their records and personal history. Many records of brothers in the service show patriotic teachings in which a patriotic pride is manifest. For this reason I send a brief military record of my grandfather's family.

Moses B. Wheaton moved from Richmond, N. H., in 1815, and settled in Jackson, Pa., where he reared 12 children, all of whom married and all were settled near him at the opening of the civil war. Nearly all of these who were of military age went into the Union army, aggregating about 24 years' service for saving the country, and all survived to come home!

Military History of Descendants of Moses B. Wheaton.

1. Son, Thomas J. Wheaton, U. S. Iron-clad Dictator, Sept. 8, '64, to June 23, '65.

2. Sons-in-law, M. T. Whitney, First Lieutenant, Co. B, 17th Pa. Cav., Sept. 15, '62, to Jan. 22, '62; R. V. Whitney, Sergeant, Co. B, 17th Pa. Cav., Sept. 15, '62, to March, '63; Stephen Jenkins, Co. B, 17th Pa. Cav., Sept. 15, '62, to June 14, '65; Emory Larrabee, 17th Pa., Oct. 10, '62, to July, '63; 18th Pa., Aug. 1, '63, to July, '65.

3. Grandsons, Alfred W. Larrabee, Sergeant, Co. E, 1st Pa. L. A., July 12, '61, to March 6, '63; Corporal, Co. M, W. H. Larrabee, Co. E, 43d Pa. Art., March 23, '61, to May 23, '65; O. G. Larrabee, Sergeant, Co. F, 1st Pa. L. A., July 12, '61, to June 10, '65; W. W. Larrabee, Corporal, Co. —, 1st N. Y. M'd Rifes, August, '62, to June 12, '65; J. W. Larrabee, Co. F, 1st Pa. L. A., August, '64, to June 10, '65; H. A. Larrabee, Co. B, 17th Pa. Cav., Sept. 15, '62, to June 16, '65; M. B. Aldrich, Co. F, 141st Pa., Aug. 5, '62, to July 6, '65; D. D. Bagin, Co. F, 1st Pa. L. A., August, '61, to September, '62; N. D. Whitney, Co. A, 1st Pa. L. A., March 25, '61, to July 25, '65.

4. Grandsons-in-law, M. B. Washburn, Co. M, 2d Pa. H. A., Aug. 12, '62, to June 12, '65; E. A. French, Sergeant, Co. B, 17th Pa. Cav., Sept. 15, '62, to June 16, '65; W. H. Whitmarsh, Sergeant, Co. J, 1st Pa. L. A., August, '61, to July 25, '65.

5. Seven of these died since the war. The survivors are all in favor of the National Tribune Service Pension Bill.—Moses B. Aldrich, Co. F, 141st Pa., Binghamton, N. Y.

Revolutionary Soldiers.

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SCIENTIFIC NOTES.

After the bursting of a flywheel in an American mill the superintendent designed and had constructed a large wooden flywheel 30 feet in diameter and nine feet high. The rim was 12 inches thick, and is built up of 44 courses of ash plank. The segments break joint, and are glued and bolted together. There are two hubs and two sets of arms. 12 in diameter, and all of cast iron. The wheel weighs about 104,000 pounds, and was tested to a speed of 76 revolutions per minute, corresponding to a rim speed of 1.35 miles per minute.

Pension Economy.

Thomas G. Higgins, 76th Ill. Grand Junction, Colo., thinks that there are many economies in the administration of the Pension Office which should be made and the money saved given to the veterans. The great expense for Examining Surgeons, Special Agents for multiplicity of Soldiers' Homes could be much reduced. Though he was wounded several times he would, under no circumstances, go to a Soldiers' Home.

Gen. Pleasant Porter, Chief of the Creeks, may be the first Indian to sit in the United States Senate. He will be one of the leading men of the new State, composed of Indian Territory and Oklahoma, when it is created. He is 65 years old. One of his grandfathers was white.

The Magnates.

The special features of the American Monthly Review of Reviews for this month are a keen analysis of the Russian situation, by W. T. Stead, a character sketch of the new King of Norway, by Hroff Wisby; a description of the German-American University Alliance, the terms of which have just been announced by Librarian-in-Chief of Columbia University; and an illustrated study of modern American church architecture, by Charles de Kay.

The leading articles in the New England Magazine are: "New England Stage Children," by The Harvard Dames; "Last of the Wampanoaga," "Story of the Cup and Saucer."

Duty of Married Soldiers.

It does not follow as a matter of course, if a man is a soldier, even if he is a pensioner, that it will be an easy matter for his widow to get a pension. As a matter of fact widows' claims are unnecessarily delayed and in some cases never allowed for lack of evidence, which the husband, usually, could have supplied during his lifetime.

This important matter has been discussed, from time to time, in the columns of The National Tribune, and has been the subject of orders by Commanders-in-Chief of the Grand Army, but every appeal heretofore was deficient in one essential particular: no safe and permanent place was suggested for the custody of the information.

The National Tribune Co., in a practical way, proposes to supply this deficiency. In a fire-proof room, in its own building and under lock and key to insure privacy, it will care for such papers and information until such time as they may be needed, even if such time is many years distant. The National Tribune Co. is incorporated, and has a perpetual existence, the death of the present managers of the Company will not disturb the business or change the custody of the papers. No safer place in the world can be found for the purpose.

Preliminary Report

To aid my widow, if I leave one, in getting her pension.

Note.—This report is short, and can be easily written out on letter or legal cap paper. This course avoids cutting the paper. Be sure to write the names and dates clearly and distinctly. When report is ready mail it to THE NATIONAL TRIBUNE, Washington, D. C.

Date....., 1905.

Soldier's Name..... Present P. O.....

State..... I was in the service from..... day of....., 186..... to..... day of....., 186..... as a..... (Give rank, also company and regiment.)

and was honorably discharged at..... on the..... day of....., 186..... Are you a pensioner?..... At what rate? \$..... per month (Yes or no.) (The new law is the act of June 27, 1890.)

Were you pensioned under the old law or the new?.....

What wounds, diseases or disabilities, if any, are written on your pension certificate?.....

I was married to..... on the..... day of....., 18..... (Give wife's name before marriage.)

by..... at..... (Give name of clergyman or person officiating.)

I was born..... day of....., 18..... She was born..... day of....., 18.....

Is there a court or church record of this marriage?.....

Were either of you previously married?.....

If a prisoner of war, state for how long.....

Remarks:.....

An Interesting Relic.

Henry E. Stamback, of Buffalo, N. Y., Secretary of the 116th N. Y. Association, will present to the Historical Society of Buffalo the original roll of Co. A of that regiment, which has been preserved in good condition throughout all the years since the war. The roll has been nicely framed and is now on exhibition in the office of Pension Agent Charles A. Orr. The roll bears the signatures of 98 men, and was signed at East Haverburg, N. Y., in August, 1862. The signers were mostly farmers and sons of farmers of that vicinity. The Captain was Ira Ayer, a farmer, who lived at Andover. He served seven months' service, because unable to stand the hardships of the field. The regiment left Buffalo Sept. 5, 1862, and soon thereafter fought the battle of Port Hudson, where it charged the rebels and drove them off the field. There are 29 members of the company now living.

A 5th W. Va. Comrade.

Comrade L. D. Evans, 5th W. Va. Hendersburg, O., wants a little space to say that he has been a reader of the good old National Tribune for more than 20 years. He regards it as the veterans' best friend. He cast his first vote in 1864 for President Lincoln on the battlefield of Cedar Creek, and has since that time been a devoted reader. He is now 64 years of age, and gave Uncle Sam four of the best years of his life. He wishes that any of the boys of Co. D, 5th W. Va., who are yet alive would write to him.

Plucky Boy Patriot.

Comrade William W. Aspinwall writes: "I served in Co. H, 4th Ind. Infantry in November, 1861, was mustered out Oct. 23, 1865. I was born May 25, 1845; went all through the civil war; was never in hospital, except when wounded; was in every engagement that my regiment was in; was shot four times at Champion's Hill, Miss., May 16, 1862; was taken prisoner while unconscious from shot in head; after regaining consciousness I got away from the rebels and rejoined my company during the hot battle; afterwards went into the trenches at Vicksburg, with swollen head and my shoulder a running sore from first buckshot wound; and, at the end of the war, I got \$6 a month pension."

SI and Shorty.

Samuel Walker, 14th Ill. Sycamore, Kan., wonders if SI and Shorty did not come to the Osage Reservation in 1869, as he did, and live among the Indians, who would beg and steal from them and also throw stones at them. He says that he and Shorty were taken to Blackshear Station and from there back to Andersonville.

PARALYSIS

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PATENTS—PENSIONS

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The firm is worthy of confidence upon the ground both competency and honesty.—THE NATIONAL TRIBUNE, April 1, 1897. Founded 1841 by Milo B. SEVENSON, No. 24, 25 & 26, N. W. Cor. 4th & C Sts., WASHINGTON, D. C.

Loved Their Country.

Editor National Tribune: For the past quarter of a century I have been a regular reader of the soldiers' great friend, The National Tribune, and I always take