

THE DAILY BEE.

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THE BEE PUBLISHING CO., Proprietors. F. H. FISH, Manager Daily Circulation.

THE cold weather is damaging the base ball crop.

HAVE we no offensive partisans outside of Plattsmouth?

WINTER lingers too long. It is about time for it to seek some other lap.

IT is now the general impression that Gen. Logan will be his own successor.

WHAT has become of the exposition? Has it been frozen out by the polar wave?

THE skill-hunt for offensive partisans is becoming thresome to the thirsty and hungry.

GRANT'S doctors say that his death is only a question of time. So it is with all of us.

THERE are too many cattle running at large in Omaha. The ordinance prohibiting the nuisance ought to be more strictly enforced.

CANADA now has the opportunity of learning what an Indian war really is. She will no longer ridicule the Indian wars that have taken place in the United States.

THE Herald continues to publish a daily list of Nebraska postmasters who have resigned. The Omaha democrats so far have failed to discover the name of Postmaster Contant.

ARBITRATION has settled the railroad war, but whether it will settle the Anglo-Russian difficulty depends upon whether the international arbitrator possesses as clear a head as Judge Lake.

THE recent death from alleged hydrophobia is suggestive. In the first place there are too many dogs running at large in Omaha, and in the next place there are too many doctors who cannot agree.

BIDS will be received for the removal of the new court house to the vacant lot adjoining the Republican office, which is in danger of taking a tumble to itself unless it is propped by something substantial.

WE understand that the Republican will file with the county commissioners a petition for the immediate removal of the new court house from its present site because Rosewater and the Bee Publishing company own a half block facing the court house.

THE postmaster at Aurora, Illinois, against whom charges of a political nature had been filed, has been removed, not by the president, but by the hand of death. He was one of the few who would rather die than resign.

WHEN such an inveterate office beggar as Tom Hendricks says that he can hold out no hope to such democrats as are anxious for a general and rapid change in the civil service of this country, and that Cleveland will probably continue his present policy, it begins to look as if the office-seekers will have to curb their impatience and give up their frantic appeals to the president to rush things.

A MOVEMENT is on foot to establish a Baptist college in Nebraska. It is proposed to secure a suitable site and erect a building to cost at least \$25,000 to start with. An effort is to be made to establish an endowment fund of \$100,000 to pay the current expenses. The city or town that offers the best inducements will secure this institution. It strikes us that Omaha, if a proper effort is made, ought to be able to get this prize.

THE Baltimore postmaster, who has been removed, says that he is now well satisfied that the appointment of Mr. Pearson as postmaster of New York was the payment of a political debt, and that he can and will prove it. It is entirely unnecessary for the deposed Baltimorean to offer any proofs, as the administration has virtually acknowledged what he charges. The appointment of Pearson was in response to the demands of the mugwump press and politicians, and it was nothing else but the payment of a political debt. Civil service had nothing whatever to do with it.

BOYD WINCHESTER, who has the reputation of being the best poker player in Kentucky, goes to Switzerland as consul-general, instead of to Nice, and gets an increase of salary from \$1,500 to \$5,000 by the change. This will enable him to play his hand a good deal higher than if he had accepted the berth at Nice. Mr. Winchester is under obligations for this piece of good luck to editor Watterson, of the Louisville Courier Journal, with whom he has had many a tilt at poker. Watterson is anxious for Winchester to have a large salary because he thinks he stands a good chance of winning it from him.

AN INSULT TO THE ARMY.

The appointment of Gen. Fitz Hugh Lee, of Virginia, as one of the honorary visitors to the national military academy at West Point is an insult to every man that wears the loyal blue. It is not only a high premium paid to treason in its most odious form, but it is a demoralizing example to the rising generation of the future commanders of our armies and navies. The naval and military academies of the United States above all other institutions are entrusted with the sacred guardianship of the honor of the American flag. At the very threshold of West Point academy a solemn oath is taken by every cadet to uphold and defend the flag against all enemies, whether domestic or foreign. The highest ideal of every American officer, educated at West Point, must always be loyalty to his country, even unto death. No obligation rests heavier upon the shoulders of any officer than his oath, and no power on earth can absolve him from it.

When Fitz Hugh Lee was chosen as grand marshal by the managers of Grover Cleveland's inauguration it was, to say the least, decidedly in bad taste. The fact that he was cheered more vociferously and received with more enthusiasm than the president himself, was, as we are credibly informed, very distasteful to the many thoughtful democratic leaders as well as to Grover Cleveland himself. There was, however, no official responsibility attached to this choice. It was purely a blunder of the managing committee who had the inauguration in charge. But when President Cleveland and the secretary of war deliberately selected Fitz Hugh Lee from among all others to represent our government at its national military academy they set at defiance every precedent and all the traditions of the republic. There are thousands of democrats all over the land who were loyal and true to the flag during the war, and whose career would entitle them to honorable distinction as visitors to West Point or Annapolis. Such men as Generals Slocum, Rosecrans, McClellan, Buell, Bragg, Butler and others are passed by for such a man as Fitz Hugh Lee. Any man who, like Fitz Hugh Lee, received a military education at the country's expense, and who swore answering fidelity to the national emblem, and then turned traitor, is utterly unworthy of any such honor as visitor to West Point. Rebellion may be condoned and treason has been condoned. Fitz Hugh Lee has been restored to citizenship and his own state may confer upon him any honor that it may see fit, but there is one place at least in which he, and all like him, should never be allowed to set foot, and that is the military academy. Like the traditional arch-angel with the flaming sword at the gates of the garden of Eden, the national conscience should stand at the doors of West Point to bar out every scoundrel who violated his oath, raised his sword against his own country, and trampled the flag in the dust. How can the cadets of West Point salute a man like Fitz Hugh Lee when they remember his base betrayal of the highest trust of a soldier? How can they reconcile the lessons of undying obedience and fealty to their oaths with the act of the commander-in-chief of all the armies in appointing as one of their honorary visitors one of that class of West Pointers who had no regard for the teachings of their alma mater?

This is no partisan raving, but an expression of the sober sense of loyal Americans regardless of party. There must be a line drawn somewhere. We have no desire to revive the issues of the war, or wave the bloody shirt. We have no spite to vent upon ex-confederates because they are democrats. We would regard the appointment of Longstreet, or Mosby, or even Mahone just as execrable and improper as that of Fitz Hugh Lee. We know that Grover Cleveland as governor of New York would hardly have dared to select among all the citizens of his state a man who had defied the blue for the gray. Then why should he do so as president of the United States, when his constituency comprises the whole republic?

MARSHAL CUMINGS has an important duty to perform, and it must be done at once. There are too many thugs, slugs and thieves in Omaha, and consequently the slugging and robbing of our citizens has become an almost nightly occurrence. There has recently located in this city a portion of the old Canada Bill three-card monte gang, and it is fair to presume that among them are a number of slugs who are doing all this villainous and murderous work. Marshal Cumings is not responsible for their coming here, but he is certainly responsible for their remaining here. If he does not know them he can easily find out who they are. It is his duty to immediately rid the city of this gang, and then drive out all the other desperate characters. If he does not act at once in this matter, the citizens, among whom there is great indignation, will probably make up a round-up for him and make it safe for people to be out after dark. These villains have been driven out of Denver, and there is no reason why they should not be compelled to move on.

THE supreme court of Massachusetts has just rendered a decision of great importance to the people of that great and good commonwealth. The public statutes declare that "whenever travels on the Lord's day, except from necessity or charity, shall be punished by fine not exceeding ten dollars for each offense." It was upon this law that the court was called to pass judgment, and in doing so it defined what a Sunday walk in Massachusetts must be in order to be lawful.

A short walk for air or exercise or to call on a neighbor is not, in the opinion of the court, a violation of the Sunday law.

It would seem therefore that Sunday calling is not a sin, but the decision is defective in that it does not give any idea of how long a walk must be in order to be punishable. There certainly must be a limit, and until that limit is fixed the matter must be left to the opinion of a jury.

The great desire of General Grant is to complete his memoirs, and the probability is that he will succeed. His improved condition permits him to dictate for several hours each day to a stenographer. The first volume is written and revised, and only about one hundred pages are needed to finish the record. Each volume will contain about five hundred pages. It having been published in several newspapers that the work was in reality being written by General Badeau, General Grant has sharply repudiated that any such statement is wholly false. General Grant says that the composition is entirely his own, which assurance adds value to the work. It is gratifying to know that these memoirs will have an immense sale, and consequently prove a source of revenue to the author. It is said that over 100,000 orders have already been received by the publishers without solicitation or advertising. They expect to issue the first volume about the last of next December and the second about March 1st, 1886.

SENATOR DAWES is authority for the statement that the last days of the Indian reservations are near at hand. It is about time that the reservation system be done away with and the vast tracts of land thus tied up be given up to the actual homesteaders. Nearly all the game having disappeared and the support of the Indians being entirely thrown upon the government, they should be allowed to have no more land than a white man. If it continues necessary to support them it will be just as easy for the government to take care of each family on 100 acres of land as it is on the reservation plan. To make the Indians self-supporting is only a question of time, if proper and systematic steps are taken. With each succeeding year they will need less assistance and less instruction, and finally they will become not only self-supporting citizens but will have a surplus for a rainy day after the manner of industrious and economical agriculturists and stock-raisers among the whites.

DR. MEIERE, of Colorado, will not go as consul to Nagasaki, Japan, after all. His appointment has been revoked because he got drunk, and shouted that he was a rebel and glad of it, and was a rebel still, but for an entirely different reason. It was supposed that by giving him an office and getting him out of the country, a great favor would be conferred on his wife by securing support for her, but just as his commission was about to be delivered to him it was discovered that on the very day that he got drunk to celebrate his twenty-fifth wedding anniversary, as he said, Mrs. Meiere got a divorce from him on account of his continued brutal treatment. This elegant gentleman was indorsed by a petition longer than the moral law, and the president is more than ever convinced that petitions and testimonials as a rule are not worth the paper they are written on.

MR. LEPPER, the defeated legislative candidate in the thirty-fourth district of Illinois, declared immediately after the election that it was fair and honest, and that he would not make any contest. Mr. Lepper's declaration was a little too previous to suit the leaders of the democracy, who summoned him to Chicago. The result of his visit to that city is that he has been persuaded to change his mind, and has signed the necessary papers to contest the election. It is fair to presume that the promise of a fat federal office in the near future was the inducement that led him to take this step. It is a desperate move on the part of the democrats, and possibly by delaying matters it will prevent the election of a republican senator, and thus after all leave the appointment to be made by Governor Oglesby.

THE Wisconsin half license law, owing to some oversight or trick, permits brewers to retail their own beer without paying a license. The supreme court having been called to pass upon this point held that under the law the privilege was unquestionable. The consequence is that Milwaukee brewers have recently purchased a quarter of a million dollars' worth of corner lots in the central part of the city and are now opening "agencies" for the sale of their own products. The license paying liquor sellers are not pleased at the prospect, as the brewers will naturally monopolize the retail beer trade.

HON. G. W. FROST has received a letter from Rev. J. P. Newman who says that he has no doubt that Gen. Grant's improved condition is in answer to prayer. It is true that Gen. Grant began to improve almost immediately after Rev. Dr. Newman offered up prayer in his behalf, and it has strengthened his faith in the power of prayer. Our private opinion, publicly expressed, is that the credit for Gen. Grant's temporary recovery should fairly be divided between Rev. Newman's prayers and Lord Stanford's clover tea remedy.

THERE are nearly 52,000 postoffices in the United States, and they will all, with a few exceptions, be supplied with a new postmaster within six months at the farthest. So says a prominent postoffice official. This ought to afford some little comfort to the hungry democrats in general, but the Omaha democrats hereabouts would like to know whether the Omaha postoffice is included among the exceptions.

IN Valencia, Spain, they are trying inoculation with the cholera virus as a means of lessening the force of the scourge, and success appears to have attended the experiment, the persons inoculated generally recovering from the disease within forty-eight hours after the operation.

Whether cholera inoculation, even if conceded to be a success, will become popular, is a question.

SPEAKER HAINES, of the Illinois house of representatives, has been robbed in New Orleans of \$400. When he furnished a description of the man whom he thought committed the robbery, the police expressed the opinion that the thieves belonged to the Illinois excursion party. This is rather rough on the Suckers.

THE offensive partisan charge works like a charm. It has been tried in Nebraska on a route agent. It is said that he made himself very obnoxious during the last campaign, and he has accordingly been let out. It strikes us that any republican office-holder is and always was obnoxious to the democrats.

MR. LATHROP, the Michigan road who goes to St. Petersburg as minister plenipotentiary, is credited with having been a warm supporter of the government during the rebellion. Among the many foreign appointments he is, therefore, a notable exception.

IN the contest between roller skating and baseball, the former plially has the advantage. It even gives the circus a sort of a knock out.—Philadelphia Call.

YOU ought to come to Omaha next Saturday, and see the circus get away with everything.

CLEVELAND has been president two months, and there have been only about half a dozen Nebraska democrats rewarded with office. Are we never going to have reform? Are the rascals never going to be turned out?

STATE JOTTINGS.

Hartington's creamery is ready for business. Papillon has four saloons and six churches. Grand Island is manufacturing a base ball club.

A weekly stage runs from Gordon to Rushville.

Eight tramps were fired out of Fremont one day last week.

The West Point creamery employs fifty men and women.

A new bank is to be opened up in Hartington on the 1st of June.

Musinger, the Clay county fire-bug, got ninety days and \$50 fine.

The business at the Nebraska land office here is improving.

Imperial is the latest town and prospective county seat of Chase county.

The professional tramp and footpad are becoming dangerously numerous in Blair.

A Nebraska City brewery plugged its bung holes rather than pay \$1,000 license.

Twenty thousand dollars will be expended in improving the Port Nebraskan this season.

Nebraska City claims to rank third in the state, while Fremont travels on her shape.

The commissioners to select the site for the new postoffice in Nebraska City are on the job.

The board of public lands and buildings are examining four plans for the Norfolk insane asylum.

The temperance revival in Fremont yielded a large crop of moderate tipplers and several veteran soaks.

C. D. Olin is confined in the Osceola jail, awaiting the certain approach of death from hydrophobia.

Building material is so scarce in the White river country that intending settlers are advised to bring tents along.

York county has a bonded debt of \$90,500, all but \$500 being railroad bonds, which are to be refunded in six per cent.

The squatters on the Santee reservation are organizing for their own protection.

Thirty Baptist pastors concluded a "profitable season of prayer" at Central City last week. This explains the cold wave.

Dr. A. Bowen, a man of sixty, fell down the stairs at his home in Nebraska City, and was severely injured.

Settlers and squatters along the Nebraska are getting into trouble by cutting timber on government land. Several have been arrested.

Efforts are being made to secure a new mail route between Washfield and Ponca. Congressman Dorsey has indorsed the petition.

The Northwestern transportation company will transfer its entire freighting business to Chadron or vicinity by the middle of August.

Mr. Camp, a Kearney business man, was knocked down by a frightened team in Shelton, and three dangerous gashes cut across his scalp.

Dr. Witheropon, of Fremont, claims to be the possessor of the watch worn by his grandfather while signing the declaration of independence.

Humboldt is building a large brick school house, and a firm in the same town is building a large factory for the manufacture of a patent churn.

The Wisconsin Water Works and Gaslight company has been incorporated. The company proposes to illuminate and liquidate at an early day.

Central City's bank account shows a balance for the year ending May 5, of \$134,890. The municipal expenditure for the same time was \$28,875.

Quinn Bohanan, the condemned spelling professor, has improved his dreary hours before death by inventing a corn sheller, which he has patented.

Kansas coal mines are raiding western Nebraska for speculative purposes and permanent settlement. Many Nebraskans return to the coal-mining districts of the west.

Henry Fink is Nebraska City's missing man. He was in poor health, has been missing some time, and is thought to have drowned himself in the Platte river.

Disappointed burglars, evidently amateurs, unable to crack the safe in the granger store at York, made kindling of the till and surrounding shelving.

A gang of ten or twelve confidence men are busy visiting green in the neighborhood of Valentine. The citizens sigh for the regulators of other days.

The long-drawn-out school contest in Central City was brought to an end last week by a majority vote in favor of building. The election was a close and lively one.

The report is abroad in Gage county that the Burlington & Missouri is about to build a branch from Beatrice to Fairbury. Contractors are looking over the ground.

The offer to build a \$10,000 opera house at West Point, conditional on the donation of \$1,200, has not as yet been accepted by the county spirited citizens of the town.

The wheat and oats in Valley county never looked better when May came than this year. The plowing for corn is well under way, and

quite a number of fields are already planted.

W. B. Cushing, of Juniata, lost an eye by falling to hit a nail square in the head. It flew at his eyes and instantly the light went out.

The stand pipe of the Lincoln water works will not be completed for several weeks yet. Meantime the old stuff can be had till 10 p. m. without a prescription.

Ed Perkins is fabricating a new theme to be sold by the yard in the interior towns of the state. It is reported he is lying low in western counties at the present time.

The editor of the Humboldt Sentinel recently wrote "The fact that we are bald-headed seems like a God-send to our enemies."

Contracts have been let for the Burlington & Missouri branch from Republican City south into Kansas. The line will be seventy-eight miles long, and will be completed by fall.

Will Dill, an employe in the West Point paper mill, was caught in the shafting, and before released his clothing was entirely torn from his body, but fortunately, without injury to his person.

Four companies of the Fifth United States regular cavalry have left Fort Niobrara for the military art. They will be replaced by the Ninth United States colored regiment, now in Texas.

Hastings builds high hopes on securing an extension of the Chicago & Northwestern to the town of Hastings. The Democrat urges that "municipal action be taken to end inducements."

A widow in Boone county calls of the bondsmen of two saloonkeepers for \$8,000 damages to her health. Her husband, who was killed while under the influence of liquor purchased of said partner.

The B. & M. has built a depot at Blue Springs. The attempt of the company to give the town a perpetual road by giving rise to the law compelling railroads to build depots in all towns of over 500 inhabitants.

Eight society young ladies of Hastings have organized a cooking club to perfect themselves in the culinary art. They recently gave a reception to their gentleman friends to test the quality of their viands. None of the cases are reported fatal.

Several towns in the state have adopted an ingenious method for diverting a portion of the liquor license from the school to the town treasury. A plain, unvarnished license costs \$75, but by the same means in the form of a town tax costs \$250.

Broken sidewalks are more dangerous to town treasurers than the average safe cracker. A verdict of \$1,000 has just been rendered against a contractor who allowed a hole and a plank disjuncted a man named Mitchell. A nail in time saves a thousand.

Pedagogue Dorchester, of Central City who discarded text books in teaching morals to the young girls of his school, was threatened to challenge the Omaha team and knock them out with stuffed clubs. They are the remnants of that famous nine that did not lose a game during last year when the victors were thirty miles away.

During a heavy rain and wind storm at Kearney last week a heavy cow, blown from a livery stable, smashed in its flight a buggy, and as its wheels rolled over a number of lighter buildings were also shifted from their foundations, but no one injured.

We are pained to observe the serious effect of that Latin joke, the joint production of the N. Y. Herald and Tribune, by them at an unsuspecting and undeserving state press. The equally unfortunate authors of that consolidated pun did not know it was loaded. We cautiously conclude with the fraternal fraternity.

Three horses, two cows, one bull, buggy and harness, 500 bushels of corn, 100 bushels of oats, fifteen to twenty tons of hay, two barrels of meat, one barrel of flour, set carpenter's tools, all his agricultural machinery and many other valuable articles were destroyed by the burning of the barn of V. P. Peabody, in Nemaha City on the night of the 6th.

A baby cyclone struck a portion of Dawson county on the 28th ult. For fifteen minutes pino-egg hailstones fell, smothering 1,500 lights of glass in Plum Creek. Several teams were driven from the streets. The editor of the Pioneer measured the whirlwind of wind and found it was 38 feet around the waistland.

The U. P. is said to be getting away with the stock and baggage of the B. & M. at Crete. Droves of cattle are driven to Lincoln and shipped over the former road, effecting a saving of \$20 per car.

The Vidette suggests that the B. & M. reduce rates and give cattle shippers the price of the prod.

E. J. Nichols has made a proposition to the city of St. Paul to plant twenty miles of the Union Pacific branch in that county, if the proper financial encouragement is given; if not, only three miles of the road will touch the county. E. J. lays great stress on the point that if the county votes aid it will secure ample returns in the increased mileage of road to be taxed. The people are thinking it over.

There is a prospect of abundance of small fruits in the gardens of Blair says the Republican. Grapes have wintered well and plum trees are full of beautiful bloom. Planting fruit and shrubbery and general improvement of lawns and grounds bear a promise of future usefulness and beauty. Such improvements are cheap, permanent, and within the reach of all who own homes.

The Ulysses Dispatch thus comments on the Omaha Bee's most enterprising journal in the entire west. Last Wednesday it raved Gladstone's speech on the fifty-five million dollar war cry. The dispatch contained nearly four thousand words, and in order to reach the city it was transmitted over five wires for Chicago to Omaha in forty minutes. The cost of the same must have run up into the hundreds of dollars. The Bee takes the lead for news.

The Lincoln Journal cannot see any "further necessity for the B. & M. holding its headquarters at Omaha, on a switch off from its trunk line. The Journal does not want to see the business of the company in Omaha as great as to require an addition, \$2,132, to the present headquarters, making a building 78x122, and four stories high. The Journal says that the B. & M. business. But the company forgets not its duty to the capital, and the Ashland cut-off is specially designed to bring the Journal's miles nearer the Union hog yards.

The unloaded shotgun continues on its travels. Up in Dakota county last week a farmer named Tuttle removed the caps from the muzzle loader and started for town. His thirteen-year-old son, who had the gun, borrowed caps of a neighbor, and commenced experimenting. Three caps were exploded, but the charge would not waste itself on nothing. As soon as the boy's little sister appeared in the range the gun was ready as well as the boy. The charge entered the child's breast, killing her almost instantly.

John Wirt, of La Platte, has commenced suit in the county court of Sarpy against Henry Schuman, for the value of a horse promised him for services rendered in securing a wife for Schuman. Schuman, the victim of Wirt's wiles, is a prosperous young German farmer, and his new wife is a winsome German maiden. As the story goes, Wirt has been working on Schuman's credit for months, and finally really did bring him in contact with and induce his present wife to marry him. Schuman was to give Wirt a good round horse for his services in bringing about the match, but after securing his bride he had no further use for Wirt, and refused to give him the horse. The animal was valued at two hundred dollars and Wirt uses for that amount.

Corn Contracts Awarded. New York, May 9.—The board of Indian commissioners to-day awarded corn contracts for the ensuing year. The principal awards are H. C. Stevens, 300,000 cwt. to be delivered at Caldwell, Kansas, for Cheyenne and Wapahoe agencies at 95 cents per cwt. B. F. Moorhouse, 300,000 cwt. to be delivered at Nebraska City, Nebraska, for Pine Ridge agency, at \$1.15 per cwt. and 400,000 cwt. to be delivered by some contractor at Valentine, Nebraska, for the Rosebud agency, at \$1.00 per cwt. The highest price given is \$2.35 per cwt., awarded to H. C. Stevens for 200,000 cwt. for Navajo agency, and the lowest price given is \$1.00 per cwt. for 100,000 cwt. at which price Asel Keyes is to deliver 200,000 cwt. at Sioux City.

Big Whale at the Old Museum.

STRIKING OIL BY TORPEDOES.

Interesting History of an Important Factor in Opening Oil Wells.

St. Louis Post-Dispatch.

On August 28, 1859, twenty-five years ago, Col. Drake completed drilling on the flats, near Titusville, Pa., the first oil well ever sunk in the United States. It was compared with some of the great wells afterward discovered, a "small affair," pumping only twenty-five barrels of oil a day, but it was sufficient to cause an influx of adventurers from all parts of the globe, rivaling anything known in the gold excitement of '49. Thousands of wells were soon put down along the banks of Oil creek, and every day brought forth some new phenomenon in the new industry. Among other things it was discovered that one well sunk within a few feet of another already producing was not certain to be a well. Often one dry hole was drilled in the space between two flowing wells. This fact and others gave rise to the "crevise theory," which, turned into common English means that the oil is not always held, as water is, in a sponge, in all the rocks in which it is found, but runs through the rocks in veins or veins. These veins of oil wind through the strata of sandstone by thousands, and in zigzag tortuous courses. Now, although these veins are very close together it is possible that the drill can enter the rock and pass through it without touching or breaking one of them, and hence the well is dry. It occurred to several men independently and about the same time that were a torpedo lowered into the well hole and exploded at the bottom it would shatter the rock and open the fissures to the oil veins. Of the several men who had the idea, only one carried it to practical results. In 1865 Col. E. A. L. Roberts, of the army of the Potomac, now deceased, visited Titusville with six torpedoes which he had constructed in the fall of the previous year.

People looked upon the invention rather oddly at first, and it was not until the 21st of July, 1865, that he was allowed to put up two of his torpedoes in the ladies' well on the Watson flats to the east of this city. The well had been pumping oil, but after it had been torpedoed it commenced flowing. People began to think that there might be something in this torpedo after all, and in December, 1866, one was lowered into the Woodin well on the Blood farm and exploded. The well had never produced a drop of oil, but it now commenced yielding from eight to forty barrels a day. One month later another torpedo was used, and the production of the well increased to eighty barrels. This assured the success of the torpedo for purposes other than destroying ships by blowing them up.

After the result at the Woodin well the torpedo came into general use throughout the oil region. A company was formed with a capital of \$300,000 to work the patent, and a torpedo factory was erected in Titusville. The effect of torpedoes upon the production of oil in the region was marvellous. At the time the Woodin well was shot (1866) the production of oil was declining rapidly, and alarms were being predicated of a speedy collapse of the petroleum industry. With the introduction of the torpedo the condition of affairs rapidly changed. In the summer of 1867 the output of the wells on Oil creek was increased by many thousands of barrels in 1868 the total production was 3,697,527 barrels. Wells that had never produced a drop of oil were torpedoed and caused to flow; wells of small production were converted into "gushers," and old wells nearly exhausted were revived and in their second lease of life did more than ever.

But the great part played by the torpedo in the oil business did not really begin until the opening of the Bradford field in 1875. The sand in this field is blackish and hard, and yields its oil reluctantly. The district, however, is of great extent, and contains thousands of wells that have been abandoned for producing years. Had it not been for the Bradford field the immense stock of oil above ground, now amounting to 38,000,000 barrels (of forty-two gallons each), would not be. It is safe to say that fully one-half of the production of this field is directly due to torpedoes. There are to-day nearly twenty thousand producing wells in the region, and there are thousands of exhausted wells abandoned, and their derricks slowly rotting. It is estimated that on the average three torpedoes have been put in every well drilled. Many wells are torpedoed pretty nearly every month for the purpose of cleaning away the paraffine in the hole, opening fresh fissures in the rock, and thus maintaining the production of the well. The Modoc well, on the McGuffee farm, in the Church run district, near Titusville, was torpedoed twenty-four times.

The first torpedoes were comparatively inefficient when compared with those now in use. The torpedoes with which Col. Roberts made his experiments in the ladies' well and the Woodin well were small cylindrical tubes, from four to six inches in diameter, and holding a few pounds of gunpowder. These were lowered into the well hole, covered with water so as to prevent the force of the explosion from acting upward, and were fired by means of a weight dropped upon a fulminating cap fixed at the top of the torpedo. Later on nitro-glycerine was substituted for gunpowder, and the charge of explosive increased until now torpedoes containing as much as 350 pounds of nitro-glycerine are not uncommon. A few days ago such a charge was used at the Markham well in Thorn creek, and the explosion was felt for seventy-five yards on the surface around the well-hole. The torpedo was down 1,600 feet in the earth. Thousands of pounds of nitro-glycerine are daily used in the oil wells; indeed, nitro-glycerine was first brought into commercial use in the oil regions. In 1847 Schombold discovered gun-cotton. This was immediately followed by the discovery of a score of analogous explosive substances, such as starch, dextrine and sugar, with a mixture of nitric acid and sulphuric acid. The manufacture of nitro-glycerine was described as early as 1847. On July 27th of that year a paper was read before the French academy detailing how to make from glycerine an explosive "analogous to fulminating cotton." The process is to cool a mixture of two volumes of sulphuric acid, density 66 degrees Baume, and one volume nitric acid, density 43 degrees, in a freezing mixture, and into this pour glycerine, with agitation so as to prevent elevation of temperature. The entire mixture is to be emptied into water. The nitro-glycerine collects as an oily liquid at the bottom of the water.

Throughout the oil regions there are many manufacturers of nitro-glycerine. When a well is ordered is ordered to be "shot" a wagon constructed in numerous small padded compartments, each large enough to hold a can containing three or four pounds of the explosive, departs from

the magazine with as many quarts of nitro-glycerine as may be needed. At the well the contents of these tins are emptied into a long torpedo, and this is lowered into the hole. The greatest care is needed to avoid explosion, for the compound goes off with a very slight blow. Accidents, of course, have been numerous. Only a few weeks ago six thousand pounds of nitro-glycerine exploded in a factory near Bradford. Several men were present at the time, and all that remained of them, a few pounds in weight, could have been put in a bureau drawer. Materials subjected to the action of this fearful explosive seem to be vaporized. Another strange thing to be noted about nitro-glycerine explosions is that the force acts principally in a downward direction, scooping an immense hole in the ground.

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