

ST. JOHN, N. B., SATURDAY, JUNE 20, 1896.

THE WAYS OF DYNAMITE

IT IS DANGEROUS ONLY WHEN MIS-UNDERSTOOD.

Frying, Driving, and Thawing Dynamite, and the Results—The Water Cure for Internal Machines Not a Success—Moving Large Quantities of It.

Among the early experiences of a scientific career I reckon as the most important the happenings of a hazardous method of earning my living, says a writer in the N. Y. Sun. I was an inspector in one of the bureaus of the Fire Department in a large city. Among my various duties were frequent expeditions to seize dynamite, illegally stored, and having secured the explosive, to carry it to the city "magazine" or "arsenal." The best way I found was to put in a hand satchel filled with sawdust or loose cotton, get on a street car, and avoid placing the bag where any one might stumble over or fall on it. This is a general practice.

It is not quite safe to transport dynamite through crowded streets, for being run into violently might be hazardous. A seat in the far end of a public conveyance does not inconvenience passengers innocent of the contents of the satchel. Dynamite needs a severe shock to develop its destructive qualities.

The ordinary conception of dynamite as a terrible and erratic explosive, apt to go off if one happened to look at it without proper awe, an uncertain quantity prone to let loose its anger without warrant or warning, is altogether wrong. Dynamite is nitro-glycerine absorbed in a composition of earth, sawdust, or ashes. It is a very simple chemical, absolutely harmless when properly handled, and free of any animosity against humanity other than occasional destructive manifestations of disapproval at carelessness and ignorance. As it takes a considerable concussion to set it off, it can really be as freely handled as many other commercial commodities. To warn the careless that it is not meant to be tossed about, it is sometimes labelled dangerous. When made into a cartridge for industrial uses, the dynamite is exploded by the concussion of a detonator, a cap of the fulminate of mercury.

The necessity for the destroying chemical is acute in an age of active industry when mountains must be removed without the aid of faith, and it is manufactured in tremendous quantities. The mills are not regarded as healthful localities, and owing to the positive carelessness of men too familiar with their risks, are not rated desirable by either property or life insurance companies. On the other hand, the commercial traveller, according to an incident in my memory has no dread of the dynamite manufactory. One of them once called on the manager of the works at Baychester, N. Y., to sell him fire extinguishers. The shock of the proposition, in the proximity of tons of dynamite, is alleged to have come close to winding up, or rather sending up the business. "You have mistaken your bearing," remarked the manager. "If you should see even a match burning about here don't wait to experiment with your extinguisher, but flee as a bird to the mountains." The enterprising salesman did not see the point, and when he continued talking about the advantage of fire extinguishers in a dynamite factory he had to be ejected, though violence there is against the rules.

One of the singularities of dynamite is the fact that it freezes at 39 degrees Fahrenheit, and that when frozen it is absolutely harmless. To be of use it must be thawed out, and the process gives starting opportunities for exhibitions of ignorance. Heating it before open grates is a common custom of those who constantly handle the destroyer. They understand that dynamite will not explode even if it catch on fire, but persistently, that is, in successive cases, forget that the usual detonator is set off by a spark.

It was only last winter that a workman, warming his dynamite before an open fire, noticed one cartridge blazing. He saw the danger, and, grabbing a hatchet, attempted to cut the burning dynamite from its detonator. In his excitement his aim was bad. He struck the cap and was disintegrated. More than one shanty in the mining districts has violently disappeared, carrying with it shreds and patches of the occupants, last busy in thawing dynamite.

It well to remark that the only proper method of bringing to life the frozen dynamite is to place it in a can and insert that in warm water. If the cartridge be placed directly in the water the nitro-glycerine rapidly soaks out and is just as explosive as it was before its release. Nitro-glycerine rapidly soaks into the water. When the water is thrown out, then is the time for disappearing.

A common practice of policemen forced to handle suspected bombs is to place them in water. This form of idiocy came from the days when powder was the standard explosive, and continues, notwithstanding the developments of chemistry. It was once my duty to investigate a package of

what was believed to be dynamite. It had been brought to a police station. The officers had placed the suspected package in a bucket of water, where it had been standing for some hours. At a glance I knew it was not dynamite. Indeed, I had developed a sort of instinct, or second sight, in regard to explosives. It seemed that the policemen needed a lesson, and I gave it to them. With the greatest care I extracted the package and placed it in the sawdust in my satchel. Then I casually mentioned the explosive properties of water in which there had been dynamite and asked that the policemen wait until I had gone before they poured out the dangerous liquid. They were brave men, but the water stood in the station yard until it disappeared by absorption, and the next mysterious package was placed carefully and properly in sawdust to await the investigation of authorities on the subject of explosives.

My mission in life, when I became a confessor of contraband dynamite, was largely one of preaching for fearlessness and intelligence in the handling of explosives. It seems that the average person will persist in growing careless when he handles dynamite, like the man in the old joke, who just before his demise cried out: "Mike, hand me the sledge. The dynamite cartridge is too big for the hole."

I know it is so myself, for one cold winter day I was carrying wrapped in a piece of newspaper, a stick of dynamite that had been discovered in a park. I was on my way to the arsenal, when I spied a policeman, intent on nothing but counting the snowbirds. The temptation to call him to the possibilities of his position was irresistible, and I asked:

"How many are there?"

"How many what?" said he.

"How many people carrying dynamite on your beat?"

"What do you mean?"

Then I showed him my parcel, and in an unwilling way he asked me to "come along." My hodge saved me, but it ought not to have had that power. I deserved trouble for trifling with serious subjects, even if my frozen dynamite was as harmless as a bundle of ashes.

Occasionally I was brought to a vivid idea of the perils of my occupation. There was a complaint brought to our office that a gang of workmen were using too heavy charges in blasting within the city limits. I was sent to investigate the matter and saw an Italian running down one cartridge after another. "Take that out!" I cried, and he grabbed the last cartridge by its detonator, hauling it out in a way that made me feel faint. He started to pry the second one out with a stick. I excused myself and walked away—in fact a long way off. Only a mysterious Providence saved that son of sunny Italy. His method of removing the "sawdust" was playing with fate. Perhaps he is alive to-day. I am not sure.

The ugliest assignment is when one is sent to gather in any great quantity of explosives. In the days when I dealt with dynamite I had on one occasion to carry to the arsenal over a ton of dynamite. A private magazine belonging to a contractor had been confiscated because it was within the city limits. Big parcels are not allowed on the street cars, and so I hired a team. I could not get a driver and had to take the reins myself. I had no trouble to secure help in loading the wagon, but no one would ride with me over the cobblestones to the city arsenal. I drove in solitary state. The only pleasure in that ride was in the enormous authority I exercised. I had but to announce the character of my load to get a wide berth and plenty of room to guide the horses.

It would seem to me that cities ought to have big wagons, upholstered inside, and with pneumatic tires on the wheel. These vehicles should be painted red, with the word "dynamite" in large letters on the sides.

I had with me on that trip dynamite enough to blow to atoms the British navy, and it is my belief that the improvements in guns throwing high explosives are being perfected to a degree that will before many years make powder obsolete in war.

Dynamite, however, as I have remarked before, is a most uncertain quantity. At a recent trial of the pneumatic gun, dynamite was thrown great distances with exceeding accuracy. When, however, the gun was tried with a dummy charged with ordinary powder, it exploded in such a manner that would make it in any fort more dangerous than the enemy. The trouble was the gun barrel was slightly clogged, and the gases generated by the powder were restrained. Just what would happen if a shell loaded with the high explosive should meet with a similar accident, it is difficult to tell.

To avoid explosion by shock, this new gun is made with three tubes, two of which on either side of the main barrel, form air chambers which start the projectile from the main barrel without any great shock. Then there is for the same purpose a sort of cushion to the projectile. When it has

finally left the mouth of the gun at a tremendous velocity there is no danger of its exploding until it hits the desired object.

A singular fact about the dynamite confiscated by the Government when a Cuban filibustering expedition was caught in New York harbor is that the officers of the various forts refuse absolutely to have anything to do with it. Indeed, it would seem that soldiers are as fearful of dynamite as ordinary policemen.

When the Bermuda was captured on her first attempt to get away to Cuba, the dynamite was a difficult problem. The United States army officers expressed no desire to experiment with it, and positively refused to store it in their magazines. It had to be put somewhere, and was finally placed in the city magazine, where its giant power slumbers without danger of any rude awakening.

The use of dynamite by the Cuban insurgents has been too frequently described to need comment. It makes the railways perfectly useless to the Spanish troops. Indeed, in Cuba dynamite is as much a means to warfare as gunpowder, and in the event of conflict between the great nations will undoubtedly play a dreadful part.

The discovery of gunpowder was made by the Chinese, who hid the secret of the explosive and only made use of it to add proper emphasis to their religious ceremonies, scaring off devils and other evil spirits. It seemed to the philosophical Celestials that the tremendous explosions must naturally intimidate wicked workers against the human weal, and that they had in their hands a mysterious power of assertion that must bring panic to any phalanx of occult evils.

Europe learned the secret many centuries later and applied it in a practical form. Gunpowder became the right-hand bower of the game of war and saltpetre a synonym for destruction and death.

Chemistry has been keeping on its course and working out its evolution. The scientific catalogue of explosives has been added to with an increasing ratio of destructiveness until even the dreaded dynamite is far back in the list, but there is no other explosive of equal commercial utility, nor is there one quite as expressive of the dread of mankind of the awful power of tearing to pieces. It is rapidly taking its place as a means of settling disputes.

TRAINING CANINE PETS.

A Lady who Makes Money by Educating Cats and Dogs.

There is money in small dogs for any woman who will cultivate the fashionable and not too finely bred species according to the simplest rules of canine hygiene. This is the opinion of a girl who has a small dog farm in her father's back yard and is making it pay. She began three years ago by rescuing a batch of fat puppies from a watery grave simply through tenderness of heart and, when the orphans were thrown on her hands, volunteered to find them homes when they arrived at the months of discretion.

"It was a big bar sinister somewhere in their pedigree that made them worthless to their original owner," she explained when telling about her experiment, "but I saw they were developing into very fair specimens of middle class fox terrierhood so I



TEACHING HIM TRICKS.

gave them the advantages of a decent education. I don't think their rearing cost me a cent, some nice large dry goods boxes made suitable kennels. I fed them with milk and kitchen scraps and out of pure affection for their race I had them properly docked, collared and named and gave them a plain solid education in deportment suitable for house animals. At the end of three months I didn't give them away. I sold every one of the four at \$25 apiece to women who were willing to pay that price

for dogs possessed of good habits, sound digestion, sweet temper and showing some pretty ticks like mine.

"That stroke of luck put ideas into my head especially when my front door bell was besieged by women anxious to buy up any more, 'darlings little beauties' like those I had just disposed of. I merely increased my row of dry good boxes, picked up here and there any likely looking puppies I could lay hands on and find I can sell them, directly their educations are finished at a very large profit on my original investment. I can almost guarantee to convert a five dollar fox terrier into an enchanting little piece of \$25 property by the time he arrived at the age of twelve or fourteen weeks. He may not have the smallest right to register his name in the dog's book of pedigree, but because of the proper food and influence thrown round his infantile days, he can command any place he chooses in the right sort of feminine heart."

"First of all I select for my dogs capital names, cultivating stout constitutions, sweet, cheerful tempers carefully break them to the lash, inculcate perfect house habits, train them to understand children and strangers and teach every one a few pretty tricks. Of course it takes time and patience and a genuine love of the dog itself to cultivate these excellent habits and varied accomplishments, but really the outlay is small and every dog I sell turns up at his future mistress's door in collar and ribbon neck bow, but all of them are not fox terriers."

"I both breed and raise Yorkshire and Scotch terriers, Dandie Dimmonds, Water, Cocker and King Charles spaniels, a few pugs, an occasional poodle and a great many Dachshunds. These are what I call the standard small dogs, easy to raise, readily trained and always in fashion."

Ladies' Whitewear Department.

LADIES' NIGHT GOWNS, full size and length, at 57c, 65c, 75c, \$1.00, up to \$4.25 each.

LADIES' CHEMISE, at 40c, 50c, 75c, up to \$1.90 each.

LADIES' DRAWERS, embroidery frills, at 40c, 50c, 70c, up to \$1.75 per pair, including extra wide widths.

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LADIES' SKIRTS, embroidery frills, at 85c, 95c, \$1.25, up to \$5.75.

Also Plain Skirts, with 10 inch lawn frills, at 75 cents each.

We have also placed on counters in our Ladies' Room a special line of LADIES' NIGHT GOWNS, at reduced prices.

Manchester Robertson & Allison, St. John.

EMBARRASMENTS OF SMITHS.

Social Complications Growing Out of Bearing a Too Common Name.

It is emphatically true that Washington society is funnier than fiction, though there is a great deal of story telling about high officials that passes for fact without any good reason. Mrs. Hoke Smith, however, can tell some absolutely true incidents which are funny enough to have been made to order. She appreciates the humorous side of life, and her way of telling a story adds a story to it that is quite irresistible.

One concerns a lady by the name of Smith, who spent this season in Washington and received a great deal of attention. Soon after her arrival she attended Mrs. Hoke Smith's reception, and the wife of the Secretary in turn attended hers. When the latter entered the drawing room, it was evident that none of the receiving party recognized her, and by the way of introducing herself she stepped up to one of the ladies and mentioned her own name: "Mrs. Hoke Smith."

The hostess took it for an inquiry, and her reply was tart in the extreme. She remarked that she was not Mrs. Hoke Smith and had been regretting that her name was Smith at all, because during her stay she had been mistaken for the wife of the Secretary of the Interior a dozen times a day, and she was making it her object in life to make people understand that Secretary Smith was not her husband.

Mrs. Hoke Smith admits that she had hard work to keep her temper, but her sense of the ludicrous came to the rescue, and she said very sweetly that she was glad to hear it, "because," she added, "the Secretary of the Interior is my husband and it would be extremely embarrassing if he were yours also."

Apologies, explanations, and laughter followed, but although Mrs. Hoke Smith was very pleasant and good humored about it, the other lady did not return the call, and the acquaintance lapsed. But that wasn't the end of it. Months afterwards, and lately, Mrs. Hoke Smith met another Mrs. Smith at the house of a friend, and in the course of the conversation a story telling began, and Mrs. Hoke Smith told this story. The next development was that the lady to whom she was telling it was the heroine of it. Mrs. Hoke Smith having forgotten her face. It seemed to be a case of "too much Mrs. Smith."—Washington Capital.

Shameful Poverty.

"Mamma," said little Helen one day on returning from school, "some little girls asked me to-day if I had any little brothers and sisters, and I just ran away without saying anything."

"Why did you do that, dear? Why didn't you say so?"

"Because, mamma, I was too ashamed to tell them that we were so poor that I was the only little baby we had ever had at our house."

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The most remarkable innovation, however, is in the use of five cranks in the engine. It is described as follows in Industries and Iron:

"In regard to the engines, the most interesting feature is their arrangement of five cranks, their being two low pressure cylinders, and the cranks being set at equal angles round the crank path. The engines, therefore, work on the quadruple principle, each of the five cranks being driven by one of the five cylinders."

"The cylinders are all in a straight line on the centre line of the ship, and all the valves are on the same line, immediately over the crank shaft, and driven by the ordinary link-motion type of valve gear. The crank shaft is in five equal and interchangeable sections, each made on the 'built' principle, the several parts being of the finest ingot steel. The five cranks being set at equal angles round the crank circle, cause the propeller to receive no less than ten impulses per revolution, and the angles being equal, the impulses are delivered at equal and regular intervals of time—a matter of great importance. This arrangement also gives an even balance of forces, such relatively light reciprocating parts, and such rapid reversal of the up-and-down initial stresses, as to enable the engines to run almost noiselessly, and entirely to obviate vibration of the ship, even when light. All the valves are on the centre line of the ship, and are driven by ordinary link motion, the work on the valve gear being unusually light owing to the smallness of the valves, and the power passing through each crank being only one-fifth of the total instead of one-third, as in the three-crank engine. The smallness of the low-pressure cylinders enables the centres of the engines to be closer than usual, and the engines altogether go into an engine room only one frame space longer than is usual with the three-crank engine."

A Different Opinion.

"Remember, my son," said the prudent father, "that politeness doesn't cost anything." "Yes," was the reply, "I've heard that." "You don't doubt it, do you?" "Well, it certainly cost me about 10 shillings a week to get any politeness out of the waiters at our hotels."

The big dogs are too expensive to board and are not nearly so clever or so saleable as their smaller brethren, while the dogs of purely aristocratic strain and rarities I never invest in. Now and then I will take a high born puppy and raise and educate him for his owner and since my dog experiment is proving so profitable I am trying my hands on cultivating cats for the same market.

"Just now I am testing a litter of charming Maltese kittens, bringing them up with my puppies. I got the whole batch for a