## MAKING BIG ARMY GUNS

# THE ARSENAL AT WATERVLIET AND ITS HEAVY WORK.

# Making a Gun Thirty-Five Feet Long That Will Throw a 1000-Pound Projectile Fifteen Miles.

The big army gun factory at Water-vliet Arsenal, says an Albany (N. Y.) letter to the New York World, has passed safely through the experimental period, and is now fairly established as one of the two extensive ordnance pro-ducing plants of the Government. Rapid firing field-guns and eight-inch and ten-inch steel rilles have already been made here, and there is now in process of com-

here, and there is now in process of com-pletion a twelve-inch rife—the largest gun yet attempted by the Government. There is only one step more to be taken, the manufacture of the sixteen-inch guns, and this will not be attempted until the south wing of the new gun facuntil the south wing of the new gun fac-tory has been built.

The new 12-inch rifle has passed safely through the ordeals of the shrink-ing pit and the first of the boring pro-cesses, and now rests flawless and in all the majesty of its fifty-two gross tons of cold steel upon a lather in the old shop. It is an imposing looking affair, but does It is an imposing-looking affair, but does not bear a very close resemblance to a cannon from a layman's point of view. It is thirty-five feet long and about three feet across at the breech, and looks like an exaggerated lamppost lying upon its an exaggerated lamppost lying upon its side. It is not yet ready for its breech mechanism, so if any one has a mind to climb up on the lathe he can look through the gun. This giant is the big-gest piece of ordnance ever attempted by Uncle Sam's gunmakers, and the officers in charge of its construction watch every movement of the workman and inspect every tool used upon it with the greatest care. Thus far every gun that has gone care. Thus far every gun that has gone out from Watervliet has withstood the

out from Watervliet has withstood the Government tests most successfully, and they do not intend that the 12-inct rifle shall prove an exception. This gun when completed is expected to throw a 1000-pound projectile, with an initial muzzle velocity of 2000 feet per second, a distance of fifteen miles with a charge of about four hundred pounds of powder.

'All the guns made at the Watervliet

All the guns made at the Waterviet foundry are known as "built up" guns, and are made by shrinking a series of bands of rings upon a steel tube. The most delicate part of the work is yet to be done upon the gun. That is the rifling. It will have seventy-four grooves, each .06 of an inch deep. The cutting of these is a very particular piece of work, as a single erratic movement of the cutter will ruin the piece. As soon the cutter will ruin the piece. As soon as the boring of the gun is completed it will be once more adjusted on the lathe, and a fine calculation made to determine just the proper twist for the grooves. On the lathe, next to the 12-inch gun,

On the lathe, next to the 12-inch gun, is the 10-inch wire wound gua, a cheaper arm and an experiment. On a central tube is wound square steel wire at a ten-sion of about two hundred and fifty pounds, and over this is forced, without heating, a steel jacket. This is just in the winding stage at present. In the central contain of the new sup

the winding stage at present. In the central section of the new gun factory is the shrinking pit where the guns receive their jackets. This pit goes down fifty feet into the solid rock, and will accommodate any gun that will be made at Watervlict. When a gun is ready to receive its jacket it is placed in the pit in a vertical position. The jacket is placed upon an iron car and run into a big oven made especially for heating jackets. When the workman in charge of the heating thinks that the proper of the heating thinks that the proper degree of expansion has been reached, the doors are opened and he makes a test. In testing he uses a stick with steel points which are set at the required measurement. This stick is fast-ened crosswise to the end of a long pole. If the steel points on the end of the cross If the steel points on the end of the cross stick will pass inside the diameter of the jacket, the proper degree has been reached, if not the heating must be con-tinued. When sufficiently hot, the car is run out, the jacket hoisted upon a crane and swung over the gun. Then it is carefully lowered into position. Great core is taken to prevent excessive heat-ing as that causes the metal to scale. ing, as that causes the metal to scale, yet it is necessary to heat it enough or it cannot be fitted upon the gun.

Outside of the gun factory proper probably the most interesting point with-in the arsenal yard is the projectile foun-dry and finishing shop. It looks very much like an ordinary foundry, save that the imposing array of cranes suggests heavy work and rows of 10 and 12-inch projectiles indicate the kind of work. The 12-inch projectiles weigh 1000 pounds, and standing on end reach about to the middle of the thigh of an ordinarto the middle of the thigh of an ordinar-ily tall man. It takes a day to cast one, the pouring being made in the forenoon and the sand shaken out of the flasks in the afternoon. The metal used is a mixture of cast iron, wrought iron and steel, combined in a proportion that makes it very heavy and tough. From the moulding shop the projectiles are taken to the finishing shop, where they are turned down smooth and have a copper band set into their circumference to receive the rifling from the grooves in the cannon.

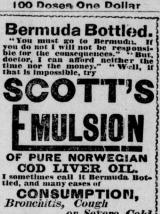
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NEWS AND NOTES FOR WOMEN,

Soft colors prevail.

Metal belts are a novelty.

Prune is one of the favorite-colors. Decorated china is having its innings, Orange spoons are made quite small. The turquoise is again becoming popu. lar.

The new woolens look very spring. like.

A Turkish fcz in very dark red is worn

The bell-shaped sleeve is restricted to coats.

Cravats have suddenly become popular Again.

Plaid cheviots vie with plain or striped patterns.

Necklaces are growing in popularity and size. It's a French fad for a belle to have an

assortment of fans.

The success of a hostess is mainly dependent upon her tact.

The principal dentists in Australia have we omen assistants.

This is the season for replenishing the supplies of house linen.

The pointed bang is disappearing from the forehead of fashion.

Bracelets are appearing formed of gold beads of successive size. Beaded chatelaine bags and purses still

appeal to teminine favor.

Velvet sleeves in silk or wool gowns are still very fashionable.

Colored lingerie is not so fashionable as it was a little while ago. Very few Spanish women ever even dream of speaking in public.

"Aunt Fanny" Barrow has written forty-five books for children.

All the "coming out" fans are made of white gauze or ostrich plumes.

A simple manner is the distinguishing trait of a well born man or woman.

Trained skirts for the street is a fash-

ion that can never be made popular. Boas and neck ruchings of partrid Examples of Long Life.

Examples of Long Life. The recent death of George Bancroft in his seventy-first year, and the con-tinued prominence and activity of Von Moltke in Germany at the age of ninety, and Ghadstone in Great Britain at the age of eighty-one, recalls other examples of long life. Lophoeles was ninety years old when he was summonéd before the board having control of the dramatic performances at Athens on the charge that his intellectuai facultues had de-cayed. His triumphant answer was the reading there and then his just completed and greatest tragedy, "Œdipus at Colo-nus."

nus." An esteemed contemporary gives the following list of nonogenarians and cen-tenarians: Isecrates, the "old man elo-quent," was ninety-six when he wrote his celebrated "Panegyric" oration, and he lived to be over 100. Gorgias, the famous sophist, died at 108. Hierony-mus, the historian lived to be 104, with-out any loss of mental energy Zenoph mus, the historian lived to be 104, with-out any loss of mental energy. Zenoph-anes wrote his memorable elegy at ninety-two. Theophrastus composed his "Char-acters" at ninety-nine. Agathocles, tyrant of Syracuse, kept a firm grasp on on that city until he died at the age of ninety-five. Passing to the Romans, we find tha Juvenal died at 100; that, according te Pliny, Lucia, the comic actress, acted of the stage when a centenarian, and tha M. Valerian Corvus was in full possession

the stage when a centenarian, and tha M. Valerian Corvus was in full possession of his faculties when he died in his one hundredth year. Coming to relatively modern times, we note that the penci. fell from the hand of the immortial Titian only when he was smitten by the plague at the age of nearly 100; and that, no diminution of Michael Angelo's im-aginative capacity was observable at the age of ninety-five.

agnative capacity was observable at the age of ninety-five. We might add that similar instance. are on record in ancient and modern French and English history; whil, Whittier and Oliver Wendell Holmes, in America, are already walking close in the steps of George Bancroft.—St. Loui Republic. Republic.

#### Will a Madstone Do Good?

What is in the madstone idea anyway That is the question many people have asked, since reading a Memphis dispatch telling of a death from hydrophobia there

there. "Answer the question, doctor, won't you?" said a Constitution reporter to Dr. Virgil O. Hardon. "The medical profession is a unit in pronouncing it a superstition," said he. "I have never yet heard of a person being cured of the dread disease by its application, and never expect to. The application, and never expect to. The idea of thinking that a stone applied to the wound caused by the bite of a mad a mad dog will cure it, and ward off hydro-phobia, is simply preposterous. The notion is about on a par with the one which some people have that a pan of water placed under the bed will cure night sweats. I don't believe there is one intelligent respectable uncetitized one intelligent, respectable practitioner in the land who believes in the madstone theory."—Atlanta Constitution.

#### Railroading in the Himalayas.

"The magnificent scenery in the Grand "The magnificent scenery in the Grand Canon in Colorado is nothing when com-pared with the view from a railroad coach when passing over the Himalaya Mountains," said Colonel Tanner, of Cal-cutta, to a Chicago *Tribuñe* reporter, the other day. "The Bolon railway runs over the Himalaya Mountains 7000 feet above the sea level, winds in and out of goorges and passes over bridges spanning gorges and passes over bridges spanning streams flowing 4000 feet below. The sight is enough to turn a man's hair gray. But accidents there are not frequent. The road-bed is the best in the world, The road-bed is the best in the worl and the engineering work is a marvel.<sup>1</sup>

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There's a good deal on guarantee business in the store keeping of to-day. It's too excessive. Or too reluctant. Half the time it means noth-

ing. Words - only the This offer to refund the money, or to pay a 'reward, is made under the hope that you won't want your money back, and that you won't claim the reward. Of course. So, whoever is honest in

making it, and works-not on his own reputation alone, but through the local dealer whom you know, must have some-thing he has faith in back of the guarantee. The business wouldn't stand a year without it.

What is lacking is confidence. Back of that, what is lacking is that clear honesty which is above the "average practice."

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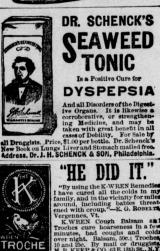
"German Syrup"

G. Gloger, Druggist, Watertown, Wis. This is the opinion of a man who keeps a drug store, sells all medicines, comes in direct contact medicines, comes in direct contact with the patients and their families, and knows better than anyone else how remedies sell, and what true merit they have. He hears of all the failures and successes, and can therefore judge: "I know of no medicine for Coughs, Sore Throat, or Hoarseness that had done such ef-fective work in my

Coughs, Sore Throat, Hoarseness, at my store, who was

suffering from a very severe cold. She could hardly talk, severe cold. She could hardly talk, and I told her about German Syrup and that a few doses would give re-lief; but she had no confidence in patent medicines. I told her to take a bottl, and if the results were not satisfactory I would make no charge for it. A few days after she called and paid for it, saying that she would never be without it in future as a few doses had given her relief." ③ a few doses had given her relief." @

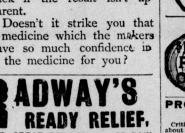




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is the medicine for you?

#### Needle Works Monstrosities.

Needle Works Monstrosities. In the garrets of old country massions of the past trunks that hold the relics of the past. Examining the contents, one can see what hideous monstrosities grew beneath the fingers of the ladies of the day, says Mrs. Dallas. What crude horrors in "cross-stitch," what flat, wishy-washy" "flower paintings," what queer shell grottos. The fashionable girls of this generation are artistic even in their "fancy work." They under-stand the principles of decoration, they have systems of color, and where the without me educated to day; then they ere "accomplished." Is not the pres-ent system better? I think so.—Boston Transcript.

feathers are light and graceful in effect. Parlor carpets come in light and medium grounds with scroll in floral

patterns. A pair of ornamental letter scales is an appropriate gift for any woman who pos-sesses a desk.

Fur is used as borders even ugon even-ing dresses—around the low bodice and short sleeves.

The sealskin is now made so soft and pliable that it is ruffled and platted like a dress fabric.

A woman may be attired most stylishly without wearing a single fashionably made garment.

The smallest French bonnets-and they are all little more than medium sized pancakes—are crownless.

Mrs. Hetty Green, who had \$18,000,-000 left her some time ago, has increased her inheritance to \$30,000,000.

The New York Presbytery, a majority of that body at least, is opposed to insti-tuting the Order of the Deaconesses.

Dress skirts for street wear are lengthening in spite of all protests. But ex-tremely tidy women do not adopt them.

Very youthful "rosebuds" band their locks with velvet ribbon, which is tied on the top of the head in a saucy little bow.

Corselet bodices, over bodices proper, are very much in vogue, and they can be adapted to almost any figure by cutting the corselet higher or lower. By varying the shape the most opposite types may be suited.



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