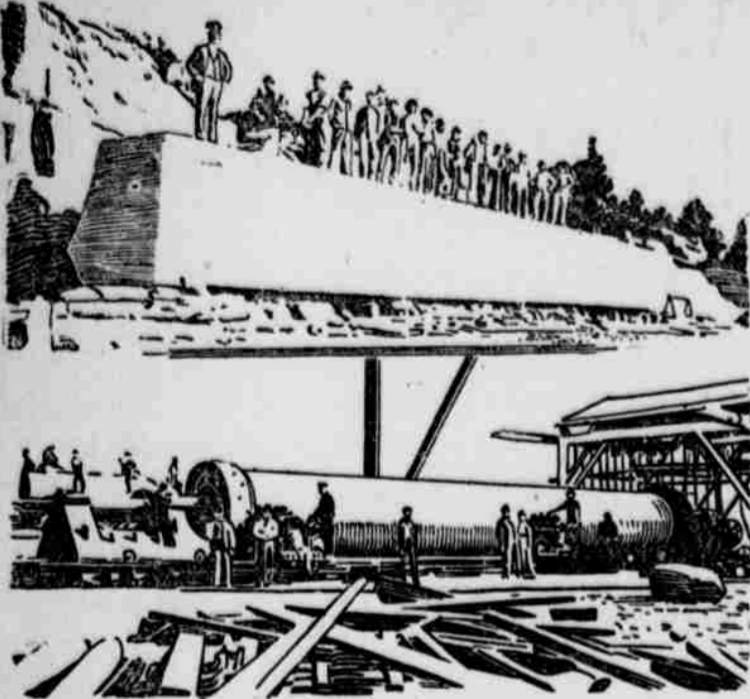


LATEST TRIUMPH IN THE INDUSTRIAL WORLD.

Look at this immense block of granite shown at the top of the picture and think of the amount of work that must be put upon it to convert it into a perfectly round, high-polished column. Then look at the companion picture taken only a few days later with the granite already reduced to cylindrical form ready for the polishing process. The machine which works this rapid transformation is the latest triumph in the industrial world. It is called a stone lathe, and the work that it has been doing since it was installed has demonstrated that it is a success. This lathe was built in Philadelphia, and has been installed in the granite quarries at Vinalhaven, Me., where



columns of many sizes are being turned out for the Cathedral of St. John the Divine, New York City. This great new cathedral is to have no less than thirty-two granite columns fifty-four feet long by six feet in diameter, which will weigh when completed 160 tons each. In addition to this it will have innumerable columns of smaller dimensions. In length the lathe that will perform this work is eighty-six feet, and when in working order it weighs 135 tons. It has swings six feet six inches by sixty feet long, and it has eight cutters. Each tool takes out a cut three inches deep, the entire eight cutters reducing the column twenty-four inches in diameter at one pass over the stone. The block of granite in the illustration weighs 310 tons; it is sixty-seven feet long, eight and a half feet high by seven feet wide.

Gun With a Remarkable Range

The 16-Inch Rifle and the 20-Inch Smooth-Bore Compared.

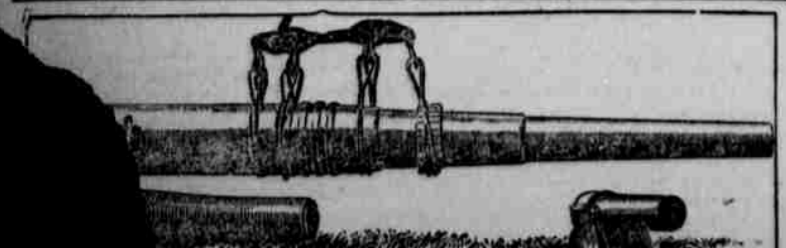
In our recent article of the new army sixteen-inch gun, we described the construction of this powerful weapon and gave some particulars of its remarkable ballistic powers. It was shown that if the gun were set up at the Battery, New York, with an angle of elevation of forty degrees, and fired with a full charge of smokeless powder, the shell would reach a maximum height of five and three-quarter miles, and range to a distance of just under twenty-one miles. With a view to showing what a vast area would be dominated by such a gun, we present the accompanying map of New York City and vicinity, from which our cosmopolitan readers may readily determine whether their nightly ride of one hour, more or less, into the suburbs would be sufficient to place them beyond its zone of fire.

By the courtesy of the War Department, we are enabled to present the



MAP OF NEW YORK AND VICINITY SHOWING AREA DOMINATED BY FIRE OF SIXTEEN-INCH GUN.

accompanying photograph showing a full-sized model of the new sixteen-inch army gun, suspended above two of the largest coast-defense guns of the Civil War period. The one to the left is a twenty-inch smooth-bore Rodman, the largest smooth-bore in the world. The gun to the right of it, below the chase of the sixteen-inch gun, is a 300-pounder Parrott rifle, which also is the only one of its size ever constructed, all the other Parrotts being of eight-inch, six-inch and smaller bores. The twenty-inch Rodman closely resembles in outline and relative proportions the celebrated fifteen-inch smooth bores, of which so many were used in the Civil War. The length of this gun is twenty feet three and a half inches, the maximum diameter five feet four inches, the diameter of the muzzle is two feet ten inches, and the total weight 115,200 pounds. For the sake of comparison we recapitulate



MY 16-INCH BREECH-LOADING RIFLE COMPARED WITH A 20-INCH SMOOTH-BORE AND A PARROTT 300-POUNDER RIFLE.

of the new sixteen-inch gun as follows: The length is twenty-nine feet 2.9 inches, diameter at breech five feet two inches, diameter at muzzle two feet four

inches, and the weight of the finished gun 300,000 pounds. The weight of the shot for the twenty-inch smooth-bore was about 1000 pounds, whereas the shell for the sixteen-inch gun will weigh 2370 pounds.—Scientific American.

A Picturesque Chinese Residence.
This cut, from the Illustrirte Zeitung, shows a peculiar and picturesque summer residence on a cone rock at Chin Kiang. This rock can be scaled by a



AN EXAMPLE OF CHINESE PERSEVERANCE
wide stairway constructed out of the rock itself. The stairway, the attractive houses on the slope of the rock, and the temple on the summit are evidence of the remarkable perseverance and industry of the Chinese.

Facts About Switzerland
Switzerland enjoys the unenviable distinction of having a larger percentage of lunatics than any other country.

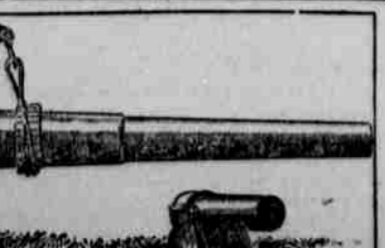
In Switzerland a favorite dish is boiled chestnuts mashed fine and served with whipped cream. In proportion to its size, Switzerland has more inns than any other country in the world. The entertainment of tourists has become the chief industry of the land, and has been officially computed to bring in \$23,000,000 a year.

Little Switzerland comes up with 125,000 men, of whom 102,507 are infantry, 3758 cavalry and 21,632 artillery. The cost of her army annually is about \$3,750,000.

The waterfalls of Switzerland are being rapidly utilized for the driving of electric dynamos, and it is rare to find a place of any size which is not well lighted by the power of some mountain stream.

The longest tunnel in the world is that of St. Gothard, on the line of the railroad between Milan and Lucerne. It is nine and a quarter miles in length and cost over \$45,000,000.—Stray Stories.

The Game of German East Africa.
The Governor of German East Africa reports to the Foreign Office in Berlin that whilst elephants have almost disappeared from the districts under his control, hippopotami, lions,



and leopards of every species abound. He says that the plantation employes have to take the greatest care in protecting themselves against night attacks of these animals.

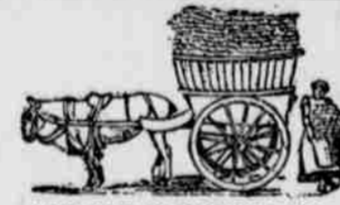
SOD USED AS FUEL

The Picturesque Turf Cutting Customs of Old England.

Threatened by the scarcity of coal, it is entirely probable that the English people will turn to their fields of peat as a resort. Besides the extensive fields to be found in Scotland and Ireland, there is considerable of it in England as well. In Yorkshire, Devonshire, Cornwall and Somerset, says a writer in the Golden Penny, peat is to be found. I believe it is only in the latter county that it is made use of for fuel. Peat or turf cutting, as the Somerset folk call it, is a matter of supreme interest to a number of people, who, in that remote part of England, look to it as their chief means of warmth in winter, coal being considered a luxury for the better or well-to-do classes, the masses preferring to burn turf.

There seems to be no exact time for commencing operations. It depends a good deal on the spring.

A good cutter prides himself on being able to cut each turf to an almost exact square. These squares are generally cut out in one great "chunk," and then divided into two or more "peats," according to the desired size. As a rule they are about eight or ten inches across, and are five inches deep. When first cut they are stowed on end, one on top of the other, something after the fashion that a child builds



CART USED IN HAULING PEAT.

a card house. The next process after the cutting is finished is the turning. This is usually done by women, and very picturesque they look in their great sun bonnets to preserve their complexions, though most are tanned already with exposure to the keen air and hot sun of the moors.

They busily and carefully turn each turf, and, coming to the end, begin all over again, as the peats have to be turned so many times before they are in proper order for use. After they have been turned well they are put up in what is locally termed "hoyles," that is to say, about six peats underneath, and say five on top. They are left like this for a few days, and are then piled up in "ruckles," which are



TURNING THE PEAT.

shaped something like attenuated hayricks.

Peat, like everything else, varies in price according to a good or bad season, and is also appreciably cheaper in summer than in winter. There are various ways of buying and selling. The richer man buys his turf by the load; the poor man by the piece, very much like one man purchases a ton of coal while his poorer neighbor buys a sack or a "hundred." A wagon-load of turf costs about sixteen shillings on the moor, and is hauled or carted at the purchaser's expense. A cart such as in the accompanying illustration, is called a turf cart proper, and would hold about five or possibly six hundredweight.

Turf burns a great deal faster than coal, and in new-fashioned grates is hardly suitable; but a good big fire of peat on an open hearth, is, to my mind,



PEAT-CUTTING TIME IN YORKSHIRE.

a picture, and tempts one to do away with fireplaces, build chimney corners and import peat.

A peat fire has one drawback; when once lit it should never be allowed to go quite out. A bellows is a necessity, as with that old-fashioned implement the glowing ashes are coaxed into flame, and with the addition of fresh peat the fire is made up for the day again. There are many old-fashioned manor houses in Somerset that still boast of an open hearth and a chimney corner in the good old style, and in these the "Squire" always has a fine peat fire going.

The great fear of most owners is that the turf will come to an end. In many parts it has all been taken out, but evidence remains of its existence

by the extreme blackness of the soil. Many things flourish in old peat grounds; potatoes like it, and rhododendrons delight in a peaty district.

QUICK BOILING KETTLE.

The Active Heating Surface Increased by Novel Design.

The gas stove, by means of its instantaneous fire, has already saved many hours in the kitchen, and the quick-boiling kettle illustrated here-



HOT WATER KETTLE WITH HOT AIR TUBES

which is designed to further expedite cooking operations dependent on a quick supply of hot water. The ordinary kettle heats water most rapidly when it is made of copper and has a large fire surface. In the kettle here shown this heating surface is further increased by four taper tubes, large at the bottom and small at the top, which pass through the body of the kettle. These act as flues for the hot gases, and, as the water in the kettle is in contact with their sides, they act as so much heating surface. It is asserted that a kettle of this design, even when made of iron, under the same conditions of fire, will bring a given quantity of water to the boiling point in one-half the time that an ordinary copper kettle requires.

The Medicinal Value of Spiders.

In some out-of-the-way districts in the south of Ireland spiders are highly esteemed in the treatment of croup. The peasants get from an old wall the webs of seven black spiders—two of which must have been the owners sitting in the middle. The insects are killed, and are sprinkled with a little powdered alum. The resulting mixture must then be boiled, and when cool the liquid is poured down the throat of the patient.

Black spiders are evidently supposed to be full of medicinal virtue, for they are largely employed in the treatment of ague as well. In Somersetshire, if one is afflicted with this unpleasant ailment, the way to get well is to shut up a large black spider in a box and leave it there until it dies. At the moment of its decease the ague should disappear. In Cornwall the treatment is more heroic. The patient must swallow the spider, which is generally taken in thick gruel.

In the extreme north of Scotland spiders' webs are believed to be a cure for neuralgia and toothache. The webs are collected and made into a small poultice, which is applied to the spot where the pain is felt.—Answers.

Ancestor of the Tomato.

In the Botanic Garden of the University



WILD TOMATO.

of Pennsylvania are some fine specimens of the plant from which the cultivated tomato has been evolved. The blossom is of the dainty whitish blue so familiar in vegetable gardens. The plant is thorny. The little tomatoes are of the same green and red as the cultivated tomato.—Philadelphia Record.

In Doubt.

"How is my son getting on?" inquired the boy's father.

"I can't speak as approvingly as I'd like to," answered the instructor.

"Whenever I ask him a question he wants at least a day to look up the answer, and when he gets it it is usually unsatisfactory."

"Well," answered the parent, with a sigh, "time alone can tell. I suppose he will turn out to be either a great diplomat or no good on earth."—Washington Star.

Snakes as Domestic Animals.

There are perhaps in no other country of the world so many rats as in Japan. The wooden buildings with their straw roofs offer the best lurking places for them. Whilst we use dogs and cats to get rid of the rats, the Japanese employ for the same purpose a certain kind of snake, the "dodajish-ok," a blue-green viper. They are sometimes as long as seven feet, and are said to be the best rat catchers in the world.



THE EDICTS OF FASHION.

New York City.—The popularity of the bolero appears to increase as the season advances. In its latest form it is collarless and includes elbow

to the waist line only. The back fits smoothly across the shoulders and is drawn down at the waist. The fronts are gathered at the neck and again at the waist line, and the entire lower edge of the waist is attached to the upper edge of the belt. The sleeves are in bishop style and are finished with pointed cuff bands that lap over at the seam and hook invisibly into place. At the neck is a shapely standing collar. The waist is closed at the front with buttons and buttonholes.

The skirt is cut in five gores and falls only to the floor. It fits smoothly across the front and about the hips, and is arranged in gathers at the back. The placket is made at the left front seam, where it closes invisibly, and the upper edge of the skirt is attached to the lower edge of the belt, the left half of the front gore being attached to the extra portion and hooked over into place.

To cut this gown for a woman of medium size seven and a half yards of material twenty-seven inches wide, seven yards thirty-two inches wide, or six yards forty-four inches wide, will be required.

The Flare Reduced.

It is noticeable that on new models of winter jackets or winter capes and cloaks the collar is carefully cut, so that the flare is much reduced from its former proportions. This looks better when the jacket is seen from the side or from the rear.

Woman's Russian Waist.

Russian styles are always comfortable and desirable and are, just now, in the height of style. The smart May Manton example illustrated is a waist at once simple and extremely tasteful. The model is made from the new vi-



PEASANT WAIST WITH BOLERO AND GIRDLE.

sleeves. For afternoon wear it is made of velvet cloth and taffeta, and is worn over a waist of soft silk. For morning wear it is shown in French flannel, and is worn over an unlined waist of the same or of figured India surah, as preferred. The May Manton model shown is in Russian green broadcloth, with the waist of soft finished taffeta in a harmonizing lighter shade with girdle, collar and cuffs of velvet in a shade deeper than the cloth. The bolero is edged with a band of the material machine stitched and has a trimming of small gold buttons arranged in groups. The foundation for the waist is a



WOMAN'S WORK GOWN.

lining cut with back and fronts only and fitted with single darts, which close at the centre front. On it are arranged the shirred fronts, the right side of which extends over the centre of the lining and closes invisibly at the left side beneath the jacket. The sleeves are in bishop style, with straight pointed cuffs that close at the seam and hook over invisibly. At the neck is a stock with turn-over collar attached. The girdle is shaped, gathered at the front and smoothly drawn to fit the figure, forming soft folds that meet at the front. The bolero is entirely separated from the waist, and includes a smooth back and fronts fitted with single darts. The sleeves are one-seamed, and are shaped at the lower edge where they are faced and turned over to form cuffs or allowed to fall in bell style, as preferred.

To cut this waist for a woman of medium size, three and three-eighths yards of material twenty-one inches wide, two and three-quarter yards, twenty-seven inches wide, or one and one-eighth yard, forty-four inches wide, will be required, with two yards of material twenty-one inches wide, one and a half yard twenty-seven inches wide, or one yard forty-four or fifty inches wide, for bolero, and one yard of bias velvet for girdle, turn-over collar and cuffs.

Gown For Housework.

Every woman who is called upon to perform such household tasks as dusting and the like recognizes the necessity for a suitable gown. The May Manton design illustrated in the large cut is essentially practicable and is so completely simple as to commend itself at a glance. Preferably it is made of washable stuff, such as percale, in order that it may be laundered and made fresh at need; but flannelette is entirely suitable when greater warmth is required, as is any inexpensive light-weight woolen material. With the gown should be worn the simplest of neckties and belts. The waist is in Spencer style, and differs from a shirt waist in extending

cuna waist cloth in Russian blue with piping of black taffeta stitching in black silk and cut steel buttons, but flannel, cashmere, taffeta, and all the familiar waist materials are equally appropriate. As shown the waist is cut pointed edge that renders it peculiarly smart, but the points can be omitted and the edge left plain, as shown in the small cut, if desired.

The foundation for the waist is a fitted lining with single darts in fronts and centre seam in back only. The back proper is seamless; fits smoothly across the shoulders, the slight fullness being drawn down at the waist line. The fronts are simply gathered in slight fullness at the neck and gathered in at the waist, while they blouse slightly over the stylishly curved belt. The sleeves are in bishop style with pointed cuff bands that hook over invisibly. The neck is finished with high stock collar having a pointed end.

To cut this waist for a woman of



RUSSIAN WAIST.

medium size three and a quarter yards of material twenty-one inches wide, three yards twenty-seven inches wide, or two yards forty-four inches wide, will be required.