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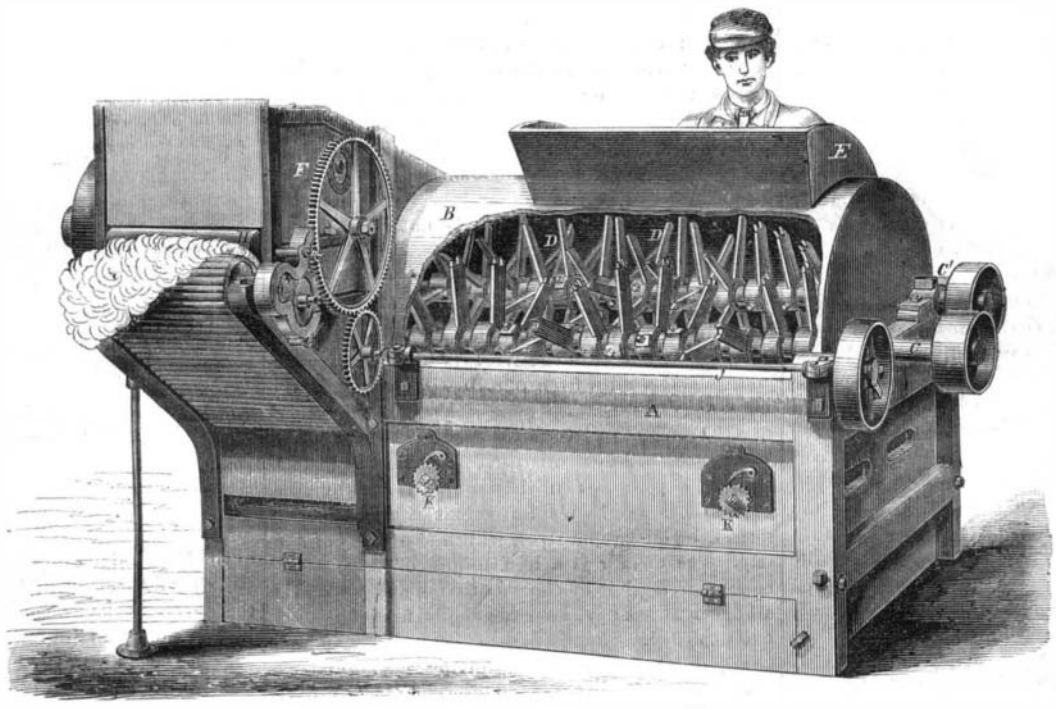
Improved Cotton-opener and Cleaner.

The accompanying engraving is a representation of a new and improved cotton-opener and cleaner, which has been recently introduced in various parts of the country. There are no feed rollers to it, and the general arrangement of the several parts will be fully understood by referring to the subjoined description and illustration. All parts of the machine are not visible in the position it stood at the time it was photographed, but the explanation will supply what is lacking.



VAN WINKLE'S PATENT WILLOWER.

The oblong casing, A, is covered with a hood, B, and constructed with suitable bearings for the two horizontal shafts, C C′, which run lengthwise through it. The shafts are parallel with each other, and have beaters, D, secured upon them spirally about their axis in such relations to each other that, those upon the shaft, C, revolve between the spaces of those on the shaft, C′; the shafts themselves revolving in opposite directions. The grating under the shafts (not seen in the engraving) is accommodated to the circle described by the ends of the beaters. On the top of the machine is a hopper, E, in which the cotton to be fed is placed, and near the other end of the hood there is a box containing a rotating screen, F, placed on one side of the machine, which has a free communication with the box, A; the shaft of the screen is parallel with the beater shafts. The beaters are arranged along the whole length of the shaft, as may be seen through the hood, a portion of which is broken away to show the interior. An endless apron, G, is provided, which runs on two rollers arranged parallel with the beater shafts, and extending from the end of the grating within the box, A, to the box, F, and out through an opening in the back of the same; this apron works close under the rotating screen. The roller, H, is capable of being revolved by the endless apron, or by the friction of the cotton upon it. In the end of the box next to the hopper, there are openings, I, above the grating, and also one below for the admission of air; the latter is fitted with a slide to regulate the force of the draft. The driving shaft, C, transmits motion to the screen through the medium of a shaft, J, arranged at the back of the box, A, which shaft is driven by a belt or gearing, as desired, and so connected with the rotating screen that it revolves very slowly. The apron is driven by suitable gearing, and the fan runs at a high velocity, through a belt, from a pulley on shafts, C and C′. There are also two shafts, K, fitted with pawls and ratchet wheels below the grating, D, which carry two cams, quickly operated by wrenches, for the purpose of raising or lowering the grating as may be required, according to the length or condition of the fiber to be cleaned. These are the principal details. Respecting the operation of them the inventor says:—

The cotton is fed in at the end opposite the blower where it undergoes a semi-scutching operation; this is afterwards repeated by the second cylinder returning it again to the first—the cotton being drawn along lineally through the shafts by the draft of the blower. The lighter portions of the fiber are drawn through quickly with very little working, while the heavy or more compact portions remain in the machine until they become as light also, they having received much more beating in consequence of their remaining longer in contact with the revolving beaters, while dust and all fine particles of foreign matter are most effectually separated and blown away.

It will be seen that the cotton receives no violent tearing operation, as is the case in most willows when it is held by feed-rollers, and chopped off and thrown out at a single blow, but is acted on as if a piece was loosely beaten about by the hand operation until it is perfectly softened and cleaned. All rolling is prevented by placing the draft apertures below the grate; the air passing up through keeps the cotton suspended among the beaters in a lively manner.

In offering this machine to cotton manufacturers the patentee would say that manufacturers in and about Paterson have already adopted them, also others in Pennsylvania, Massachusetts, Rhode Island, and Connecticut; some are running in each of those States, and orders have been received for more. The first machine that was made, as an experiment, was sold to a manufacturer in Connecticut. All of those persons who have used them give the highest testimonials in their favor over their own signatures, while not the first word of fault has ever been found with them. To the operatives in factories they are a great benefit, by ridding the picking room instantly of the dust which is so oppressive and detrimental to their health. One machine is able to run through about four thousand pounds of cotton per day, of any quality suitable for twist, or by setting it close and feeding slower it will clean and open from ten to fifteen cwt. of the worst refuse—hard, moldy cakes, or any other damaged or dirty stuff.

The price of this improved willower is $250. It is manufactured exclusively at the Machine Works of J. E. Van Winkle & Co., of Paterson, N. J. The patent for this invention was procured through the Scientific American Patent Agency, on June 2, 1863, by J. E. Van Winkle, of Paterson, N. J., of whom further information can be obtained.

THE ELECTRIC LIGHT FOR LIGHTHOUSES.—A parliamentary paper, recently issued, contains further reports of Professor Faraday on the employment of the Electric Light at Dungeness, on the English coast. It has been on trial for nine months: failed only once, for two minutes, another time for thirty seconds, and, on a few other occasions, for shorter intervals. Professor Faraday estimates the light to be eight times as intense as that of the Grisnel lighthouse, which is one of the most brilliant in sight of Dungeness. No reliable experiments have yet been made to ascertain the superior degree of power of the electric rays in penetrating a foggy atmosphere—which is a point of great importance. Regarding the question of cost, it appears from the parliamentary return, that the expenses incurred for the establishment of the apparatus at Dungeness, amounted to £6370; and that the estimated annual charge for maintaining the electric light is £724, or $3.620 per annum. Its great cost has caused it to be rejected by those who have charge of the lighthouse system.

A CUPOLA iron-clad has lately been built for the Royal Danish navy, at Glasgow, Scotland, by Robert Napier & Sons. She is called the *Rolf Krake*, and has two revolving cupolas 4½ feet above deck and 21 feet in diameter. Her length is 185 feet; breadth, 33 feet; depth, 16½ feet, and she is 1,246 tuns burden. She is armed with 4½-inch plates from stem to stern, increasing to 7½ inches at the port hole lined with teak 9 inches in thickness. The engines are 240 nominal horse-power; the decks are 5 feet out of water, with folding bulwarks. She is intended for a good sea-going vessel, and her speed, upon trial, slightly exceeded ten knots per hour.

THE Corinth (Vt.) copper mines are being worked under the direction of a New York company. A number of English miners have already gone to work, and more are expected.

A MIXTURE in equal proportions of flour and salt will have the desired effect in stopping bleeding grape vines, when grafting wax and burning have failed.

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Testing Gilded and Silver Articles.

The following methods are employed in the German revenue-offices for testing the value of articles that are gilded and silvered, as described in the *Zeitschr. Deutsch. Ingenieure*:—

Testing of Gold.—The ordinary method of testing gold is founded upon the insolubility of this metal in nitric acid. If a mark be made on the "touchstone" with the article under examination, the gold is not dissolved by this acid, whereas golden colored alloys of inferior value are dissolved and disappear immediately. When articles are very thinly gilded, the detection of the gold in this manner is uncertain, in which case the following method may be used withadvantage. This process depends upon the fact that an aqueous solution of chloride of copper is without action on gold, whereas on golden-colored alloys, as brass, piuchbeck, &c., it produces a black spot.

A little carbonate of copper is put into a test-tube, and to this is added, drop by drop, pure hydrochloric acid till the blue powder has dissolved to a clear green fluid, occasionally warming it over a spirit lamp. This concentrated solution of chloride of copper is diluted for use with from ten to eleven times its volume of distilled water. Before testing, the metallic surface must be well cleaned. This can be done effectually, by brushing it for a minute or two with a little spirits of wine; or better, with absolute alcohol.

The surface having dried, a little of the testing fluid is dropped on, and allowed to remain in contact for about a minute. The fluid is then removed by means of a small pipette, and the surface of the metal completely dried with bibulous paper; if no dark spot be then visible, the article is coated with pure gold. If the metallic surface is but lightly gilded, a very slight blackening is sometimes remarked, which may throw a doubt upon the result. In such a case, to make quite certain, a little of the surface may be scraped off, and then the testing fluid again applied. If a dark spot is then perceived, the article may be considered as very thinly gilded.

If a further and more direct proof of the presence of gold is required, the article to be examined, or a piece of it, may be put into a porcelain cup, and as much pure nitric acid poured over as will half cover it. The thin layer of gold covering the surface does not prevent the metal from being attacked by the acid, and the gold becoming separated, floats in thin films on the top of the liquid. The green metallic solution is now removed, and more nitric acid poured over the gold spangles: it is then somewhat warmed, and water finally added. The gold has now been fully tested by its insolubility in nitric acid, and it only remains to ascertain that it dissolves to a yellow solution in warm aqua regia.

Thin gilding of this description is often met with in the French mock jewelry; the coating is sometimes so thin that it not only deceives the eye, but it is difficult to test by the ordinary methods. Instead of putting the entire article into the acid, and thus risking its demolition, a portion of the surface may be scraped off with a knife, and tested with the nitric acid. When an article appears to be made of massive gold, the testing by means of the "touchstone" should be first resorted to.

Testing of Silver.—The ordinary and very accurate method of testing of silver is founded upon the insolubility of chloride of silver in dilute acids and in water. This otherwise satisfactory test is, however, difficult to carry out when an article is very thinly plated with silver; but in all these cases a simple and very accurate test can be used, which is based upon the reaction of chromic acid upon metallic silver. For this purpose testing fluid is prepared by adding pure nitric acid to powdered red chromate of potash, and mixing them in such a manner that a part of the latter remains in suspension, the whole being kept well stirred during the mixing. Equal parts by weight of each may be taken. The nitric must be quite free from hydrochloric acid, and have the proper degree of concentration, being neither too fuming nor too dilute; it should have a specific gravity between 1.20 and 1.25. When the mixture has been prepared for a few hours, and then stirred several times, the reddish-colored liquid is poured off from the residue and kept in a stoppered bottle. A drop of this liquid is then brought in contact with the metal to be tested, and immediately washed off again with water. If a visible blood-red spot remains, silver is present.

This method requires only the following precautions:—Firstly, the metallic surface must have been quite cleansed from grease, &c., with spirits of wine; secondly, water must be poured over the treated surface before judging of the color, as that of the testing fluid is altered by the metal, and the red precipitate is not distinctly visible until the colored liquid has been washed off. The red spot can afterward be very easily removed with the finger.

By this method the slightest trace of silver in an alloy may be ascertained. When an article is suspected to be only thinly plated, a very minute drop of the testing fluid should be used. With no other metal or alloy does this red spot, so characteristic of silver, appear. In some cases the testing fluid only corrodes the surface of the metal, while in others colored precipitates are formed; which, however, cannot be confounded with those of silver. German silver, brought into contact with the testing fluid, affords no red spot after being washed. The spot will, however, have been strongly corroded.

Britannia metal yields a black spot; zinc is strongly corroded; platinum is not attacked; lead gives a yellow precipitate; tin is strongly affected by the fluid; when the brownish-colored testing fluid is washed off, a yellow precipitate is perceived, which adheres tightly to the metal; copper is strongly attacked; a tarnished surface of this metal is brightened by the action of the acid. Bismuth yields a yellow precipitate; antimony does not; by this means, therefore, these two metals, somewhat similar in many respects, can easily be distinguished. Mercury, or an amalgamated surface, yields a reddish-brown participate, which, however, is entirely washed away by the water, and is not likely to be confounded with the silver reaction.

Who makes the Bad Shells?

"A rebel 13-inch mortar, and, I believe, the only one that they have in the West, is located in a casemate, about a mile from our lines, in a frescade of trees and vines. It has done some splendid execution. Four out of five of their shells strike within a radius of three hundred feet, and ninety out of a hundred explode. You will naturally ask why ours do not do as well? We have eight of just the same size in the Mississippi river, within two miles of the city. The answer is a humiliating one. The ordnance that is made by contract for our army is nearly all deficient. I have seen ten shells fired but only two exploded. The rebels collect our shells, and get the powder out of them—giving six dollars a pound to their men for it. This is blameworthy beyond denunciation. The blame is with contractors and inspectors. We pay for good ammunition, and receive what is worthless.

"Our artillerists are as good as any in the world. I have seen a cotton bale pointed out at 1,600 yards, struck with a Hotchkiss shell; and a bush that concealed a rebel sharpshooter a thousand yards off, torn up by the roots with the same, and it was because they could calculate on two of them being alike. I don't know where they are made, but they are the only water-tight contract shells that I have seen. In most of them the lead plug is not tight, and there are sand holes in the shell. In some of them, by actual timing, a fuse cut the same length and fired at the same elevation, will explode a hundred feet further off than another of the same length and same charge from the same gun. This should not be. Under the old regular army, when ammunition was inspected, and all other things, they could fire a howitzer with such precision as to strike a summer house, or any small object, say a tent or wagon, at a thousand yards, nine times in ten. This is a thing that can and should be remedied immediately. It is enough to risk the fire of the foe, without having to fear an enemy in friends at the rear."—*Exchange.*

The Italian frigate, *Re d'Italia*, is rapidly receiving her plating at the Novelty Iron-works. A number of streaks are already in place. The plates are 4½ inches thick, about 20 inches wide, and 10 feet long, rough computation. They are all planed on the edges, and the work is being thoroughly executed.

Incidents before Vicksburgh.

The Western papers are full of interesting occurrences constantly transpiring before Vicksburgh. A correspondent of the Louisville *Journal*, writing from the beleagured place, on June 3d, says:—

"The enemy having put some 64's in position in our front yesterday, thought it would be a fine thing to try their range to-day, so boom! er-r-r er-r-r-pop! went a shell, loftily, over our promiscuous heads. Next came a solid, conical shot, singing whiz-z-z-z-en-done-chuck! Full three miles this traveled, and anchored in our cattle-yard, but did no damage. Another shell burst over some of our troops, but did no harm more than to frighten them; they having just arrived, and never having been shelled before. The next salute was with canister, which did us no injury. By this time our war-dogs commenced barking. The first was a 10-pound Parrott, called our 'Fist;' the second a 20-pound Parrott, called our 'Pointer and Setter;' the third class—30-pounder—the 'Lion,' whose roar is terrific, and whose effect is terrible.

"One of them first tried a shell, with such good success that the officer in charge thought it would be a fine thing to try the efficacy of a solid shot on one of the enemy's 64's. The 'Lion' took the dose—the medicine soon worked (worse than lobelia)—then, flash—chit—chit—bit—it—t—t—crash! and up goes Mr. Reb.'s 64, end over end, to trouble us no more that day.

"Cannonading soon ceased, but the eternal din of musketry kept up its warring pop—pop—pop—all along our lines. It may be good policy to shoot musket-balls at twelve-feet walls, but 'I can't see it.' If a rebel's head sticks up, why, of course, pop! but if nothing can be seen of an animated rebel, hold your fire. Bullets do not grow on bushes, any more than soldiers do on pumpkin-vines; therefore, a little moderation, and a long pull at this horn of the dilemma, I think, would accrue to our advantage."—*Exchange.*

Slaughter in War.

The *Revue Contemporaine* publishes an article by Count de Latour, on the important part which cavalry is likely to play in future wars. The Count, among other things, says that the opinions now generally held regarding the power of fire-arms are greatly exaggerated, and shows that many more men were lost in the great battles of the "Empire," than in the last Italian campaign. At Austerlitz, the Russians lost 30 per cent, and the Austrians 44 per cent of their army. The French lost 14 per cent. At Wagram, the loss of the Austrians was 14, that of the French 13, per cent. At La Moskowa, the Russians lost 44 per cent. At Waterloo, the Allies lost 31 per cent, the French, 36 per cent. At Magenta, on the contrary, the Austrian loss was not more than 8 per cent, that of the French only 7. At Solferino the Austrians sustained a similar loss, and the Franco-Sardinians only lost one-tenth. This may be explained by the fact that a long range obliges the projectile to describe a large curve. Thus, according to M. d'Azemar, if the "column" of the Place Vendome was placed between the gun and the mark, the latter being at a distance of twenty-five hundred yards, the projectile would pass over it without touching.

It is thought that one of the large screw propellers cast for the Italian frigates, will be lost to the manufacturers. The screw is of brass, and is an enormously heavy and complicated piece of work, weighing no less than 30,000 pounds. Some defect in the mold when it was cast, caused a portion of it to give way, whereby a large quantity of metal was diverted from its proper place, thus destroying one of the large bearings. Efforts have been made to remedy this disaster, by burning on a quantity of metal to supply that lost; but so far the operation has not been successful.

Two out of the six new steam revenue-cutters ordered by Government, have been launched. They will have direct-acting oscillating engines, with cylinders of 36 inches bore and 30 inches stroke. The models are very handsome, and give promise of speed.

The wool crop for Somerset county (Maine), the present year, will not be far from 200,000 pounds. At 60 cents a pound, it will amount to $120,600.

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An Iron-clad Vessel for California.

An armor-clad vessel for the defense of San Francisco harbor, was recently constructed by Messrs. Secor, of Jersey City,—Mr. Birbeck Superintendant—in sections, which were put together at the works, then taken apart, and shipped for their ultimate destination, there to be again fitted together, completed, and equipped. This vessel, which is of the Monitor class, is called the *Camanche*. Her dimensions are as follows :—

Extreme length over armor, 300 feet; extreme length of boat proper on water line, 190 feet; length outside of stem and stem posts, 159 feet; extreme beam over armor, 46 feet; breadth of beam of boat proper (mold) 37 feet 6 inches; depth of hold amidships, from top beams to skin, 11 feet 10 inches; crown of deck amidships, 5 inches; shear of deck measured on gunwale, 12 inches; distance from stem to extreme end of armor forward, 16 feet; distance from stern-post to extreme end of boat aft, 20 feet 3 inches; distance from stern-post to extreme end of armor aft, 25 feet.

The keel is of the best quality of flange iron, $\frac{3}{4}$ of an inch thick, butted and strapped every six feet, hollowed out 4 inches deep, and 18 inches wide, forming a "water-limber." The fore-and-aft vessel straps are $\frac{3}{4}$ of an inch thick, 8 inches wide, and thoroughly fastened with four rows of $\frac{7}{8}$ inch rivets. The fore-and-aft center keelson is formed of plates 32 inches wide, $\frac{1}{2}$ inch thick, and $71\frac{1}{2}$ inches long, well bound with angle iron. Around the outside of the vessel, and in plane with the hip portion of the hull, there is a horizontal armor shelf 46 inches amidships, diminishing by a fair line, to 62 inches wide near the ends. The side armor, which is fastened to the wooden bulwarks, is composed of five courses of plates, measuring 5 inches in thickness. The armor extends $3\frac{1}{2}$ feet below the water line, all round the vessel; projecting 3 feet 8 inches beyond the hull.

The turret is 21 feet internal diameter, 9 feet high, and composed of 11 plates in thickness, which measure together 11 inches through. These plates are applied in twenty sections, and join vertically, breaking joints. The top of the turret is formed of wrought-iron plates, $\frac{1}{2}$ inch thick, resting on forged beams and railway bars, placed 3 inches apart inside the turret. In the center of the plating is a circular aperture six feet in diameter, over which the pilot-house of equal diameter is placed.

The engines consist of two cylinders, 40 inches in diameter, and 21 inches stroke; combined in one piece, and supported by a strong frame, cast in one piece, firmly secured to the wrought-iron keelson. The blower-engines and blowers are of greater size than those of the *Monitor;* and, instead of being placed in the engine room, are applied under the turret, for the purpose of drawing down the cold air through the turret roof, and forcing it into the boiler room and other parts of the vessel.

Two boilers are attached, on Martin's plan, of 10 feet face, 9 feet 3 inches high, and 12 feet 6 inches long, with 8 furnaces in each. The propeller is made of cast-iron, 12 feet in diameter and 15 feet pitch.

The Siege of Port Hudson.

The public suspense in reference to Vicksburg being ended by its surrender, general attention is now concentrated on the progress of the other siege at Port Hudson. Though the fall of Vicksburg ensures the fall of Port Hudson, yet the conduct of the siege by Banks is a subject of interest. That skillful commander appears to be pushing forward his work successfully in every movement. The annoyances upon his rear from the rebels do not seem to disturb or make him apprehensive. He has a splendid corps of engineers, and under their direction his works have advanced in one place to within fifty feet of the rebel breastworks. Major Bailey has thrown up a battery to confront the rebel citadel, which is armed with two 9-inch navy guns, three 24-pounders, two 30-pound Parrotts, three 20-pound Parrotts, two 8-inch howitzers, and six Napoleon guns. There are besides, three mortars, one 8-inch howitzer, and a separate battery along side. The breastworks are laid out in two straight lines, meeting almost at an angle of forty-five degrees, and cover an extent of little over four hundred feet, the whole being constructed of cotton bales, sand bags, and earth. The rebels did not attempt by firing to interfere with the construction of this fort, but when it was finished, a fierce artillery fight occurred and the rebel citadel was knocked to pieces. The diary of an officer, captured upon his person, states that the Union artillery was tearing their camps to pieces, that the men were getting sick, and food was very scarce. This is further confirmed by the great number of desertions which occured daily. The rebels had suffered very severely from the fire of our artillery, several hundred had been killed and wounded. The soldiers were very much disheartened, and were ready to yield if their leaders would consent. They all admit that the Confederacy is gone so soon as Port Hudson and Vicksburg have fallen, and the glorious intelligence from Port Hudson is, that it has passed in under the Union flag, never to go out again.

Coolness of our Soldiers under Fire.

History is full of anecdotes of the remarkable nerve and indifference displayed by soldiers of different nations when under fire. It is to be hoped that the future historian of the present war will not omit to chronicle, among other incidents, the following paragraph illustrative of the qualities referred to :—"We asked an officer if the loss of life had been great from rebel shell. 'No,' said he, 'we take them as a joke; there will be one along directly and you can see. What time is it, Ben? Just fifteen minutes since the last—time is up—here she comes—hello, old fellow!' Plash! and the shell buried itself, exploding in the ground, throwing the dirt over the tent, and some of the pieces falling within reach of us—the hole only twenty feet from the door. They laughed heartily, why, we could not tell; it was anything but amusing to us. We were about to bid them good day, when they kindly invited us to stay and see another. 'It will not be long, gentlemen, there will be another in fifteen minutes; don't hurry.' We did not see it in that light, and sped on our adventurous way. Had the ground been hard or rocky, the shell would in all probability have exploded on the surface, and then there would have been two enlighteners shot."

Government Laboratory.

A laboratory for the preparation of medicines for the army, has been established in Philadelphia. It is designed to manufacture in this laboratory all the quinine for the Government. A building in New York is used in bottling liquors and putting up prepared medicines, but not in their manufacture.

The employes, including laborers, number fifty-one. Of these, twenty-eight are girls, occupied in the sewing-room, and bottling and labelling department. As far as practicable, the male employes have been selected from discharged soldiers, and the females from those who have parents or relatives in the army on whom they are more or less dependent for support.

The establishment is an experiment of Surgeon General Hammond, the object being the production of a superior quality of drugs at less cost than the contract prices. From the laboratory there are now being furnished to the army, drugs and liquors of every sort. Fourteen sewing machines are also employed, in making sheets, pillow cases, and other articles of a like character, for the hospitals.

The Cumberland Valley.

There is no richer, better cultivated or more prosperous agricultural region in the whole North than that which has recently been overrun and plundered by the rebels. The Cumberland Valley extends from the Susquehanna to the Potomac, a distance of about eighty miles. It comprises the counties of Cumberland and Franklin, in Pennsylvania, and the county of Washington, in Maryland, containing an aggregate population of nearly one hundred thousand souls. From two and a half to three millions of bushels of wheat are annually produced in the valley, together with vast quantities of rye, oats, corn, hay, potatoes and all manner of produce. The soil is a rich limestone, not easily affected by drought, and admirably adapted for grazing, as well as grain-growing. The number of horses and cattle in the valley was very large, and the southern end has been quite stripped by the invaders.

The ancient Indian name of this valley was the Kittatinny, and the mountain range that forms its north-western boundary, from the Susquehanna to Chambersburgh, still bears that name. At the latter place this range ceases abruptly, and thence to the Potomac the valley widens and is bounded by the Tuscarora.

Manufactures in the Vermont State Prison.

The State Prison contains seventy-nine convicts, about two-thirds of whom are French and Irish, and of this number six are females. The male convicts are occupied chiefly in the manufacture of scythes. Thirty dozen are made daily; the concern being run by Goodnow & Lamson, 53 Beekman street, New York The company furnishes all the machinery and some workmen, and pays the State thirty-five cents per day for each man. The State has about a dozen men as a police, supplied with loaded muskets. The income during the last ten years has paid the expenses, to wit, about $8,000. The Episcopal rector, the Rev. Malcolm Douglas, preaches to the convicts at 1 o'clock P. M. every Sabbath, many of them taking part in the exercises. The solitary cells, tier above tier, with their iron bedsteads, some of them decorated with crosses and pictures, the convicts with their endless industry, their dress one side grey and the other almost black, the huge style of cooking, the high walls with the bastion-like houses thereon, the neatness and good order prevailing over the whole, and the kindness and skill of the superintendent, Mr. Harlow, all combined, compose a picture infinitely less repulsive than is presented by some of our county jails.

The rifle factory located on Mill Brook, contains a steam engine, and has about 275 employes, who have been engaged for nearly two years on a contract to supply the United States Government with 50,000 rifles at $20 each. It now daily turns out about 100 rifles, and is owned and managed by Goodnow, Lamson & Gale. The stocks are made of black walnut, obtained chiefly from Pennsylvania, sometimes from Indiana.

Paris Manufactures.

It is stated that the Paris manufacturers of bronze ornaments returned from the International Exhibition with orders so numerous for the products of their skill, that, after having engaged all the unemployed artists and mechanics, they found it necessary to prolong the ordinary period of work by three hours a-day. The Exhibition has also conferred immense benefit, not only on the manufacturers of bronze articles, but likewise on the French gunmakers, who at present export immense quantities of arms. The Parisian shoe-makers allow that the English beat them in the manufacture of men's boots and shoes; indeed, there are several shops in Paris established expressly for the sale of men's boots and shoes of English manufacture. On the other hand, none can compete with the Parisians in the manufacture of ladies' boots and shoes, of which they export immense quantities to England, to Russia, and the far East; they export also a second quality to the French West Indies, Brazil, and Chili. The twenty-five thousand cabinet-makers in the Faubourg St. Antoine claim that no country can compete with them in the form or delicacy of the articles manufactured by them, the suitableness of each for its intended purpose, the excellence of the sculpture, and the care exercised in avoiding every useless ornament of great expense but of doubtful taste, with which the produce of other countries is overloaded. French artisans and French tools are employed in the most celebrated English cabinet manufactories.

BOTTLING CHERRIES.—In answer to "A Country Curate's" inquiry, I can assure him, if he try the following recipe, he cannot fail to have delicious fruit for tarts through the winter :—To every pound of fruit add six ounces of powdered lump sugar. Fill the jars with fruit; shake in the sugar over; and tie each jar down with two bladders, as there is danger of one bursting, during the boiling. Place the jars in a boiler of cold water, and after the water has boiled, let them remain three hours; take them out, and when cool, put them in a dry place, where they will keep over a year. We have tried this recipe for several years and never found it fail.—*London Field.*

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