

FARMERS' CLUB.

At the regular weekly meeting of the Club, on Tuesday, March 8th, 1864, a large number of miscellaneous subjects were discussed, from which we select the following items.

LIVE ARCHED GATE-POSTS.

Mr. Robinson read a letter from a correspondent in Wisconsin, giving an account of some beech-trees which had grafted themselves together naturally. One pair stood several feet apart at the root, and, from the point where they united, they formed one smooth trunk with a single top. In another case, a pair of beech-trees had grafted themselves together, and one of them had rotted off below the junction, being supported by the other. The sap from the perfect tree circulates through the one that is suspended, and keeps it alive, even below the point of intersection. The writer suggested that small trees might be set out for gate-posts, and brought together at the proper height to make an arch over the gate, where they could be united by grafting or "in-arching," as it is technically called, thus making a permanent, beautiful and curious gate-way.

Mr. Veeder remarked that the elm was peculiarly suitable for in-arching.

MAKING FLOWERS DOUBLE.

A young lady, in Central New York, wrote to the Club, saying, that some of her balsam and aster plants produced flowers very double, while on other plants the flowers were all single, and asking if the Club could tell her how to have all her flowers double.

Mr. Pardee said: "Mr. President, the remedy for this difficulty is simple and effectual. When a plant produces a flower with a single row of petals, it must be inexorably torn up by the roots, and trampled in the path. Balsams, pinks, asters, and all that class of plants are apt to have seeds which will produce plants that will bear single flowers; and if the pollen from these is allowed to fructify the flowers of other plants, the whole bed will be hybridized, and the following year a crop of inferior flowers will be produced. On the other hand, if the plants that bear single flowers are firmly sacrificed, the seed will improve, and frequently very fine and curious flowers will be obtained."

KEEPING GRAPES.

Mr. Carpenter presented a box of Isabella grapes for distribution to the meeting. He stated that the person who raised them is sending to market now from 15 to 50 boxes weekly.

Mr. Pardee remarked that he had tried many plans for preserving grapes, and had found that the best method is, to gather the grapes between three and four o'clock in the afternoon of a dry day, taking great care to have them all ripe, and none over-ripe, cutting out all imperfect berries. Then spread them on a floor for a few days, after which they are to be put in boxes with a little cotton, and placed in a cool, dry room.

TWO KINDS OF RED CLOVER.

An earnest discussion has run through several meetings of the Club on the subject of two kinds of red clover. The conclusion seems to be, that there are two kinds; that the large kind is far the more productive and valuable, but that the small kind is usually cultivated for seed, so that nearly all the seed in market is of the small variety. The seed of the two varieties is so nearly alike that it is impossible to distinguish one from the other. The small variety ripens the last of June or first of July, and, if then mowed, produces a second crop. The large variety ripens a month later, and yields but one crop in a year.

Amendments to the National Banking Law.

The principal amendments proposed to the National Banking Acts by the Comptroller of the Currency, which were recently sent to the Ways and Means Committee, and referred to a sub-committee for examination, are as follows:—

National Banks are to be required to redeem their circulating notes in the city of New York, at a small discount. A uniform rate of interest (7 per cent) is to be established throughout the United States for National Banks.

The lawful money reserve that is to be kept on hand is to be reduced from 25 to 15 per cent for

country banks, and from 25 to 20 per cent for city banks. Provision is also made for the closing of banks whenever the owners of two-thirds of the capital stock shall deem it expedient.

Banks cannot be organized with a less capital than \$100,000 in the country, nor with a less capital than \$200,000 in cities.

It will be made imperative that an amount of bonds, equal to one-third of the capital stock, paid up, shall be kept on deposit with the Treasurer of the United States, whether banks take circulation for them or not.

CASTING OF A GREAT GUN.—OFFICIAL REPORT.

We have received the following official report from the Ordnance Bureau:—

To Commander H. A. WISE, U. S. N.,

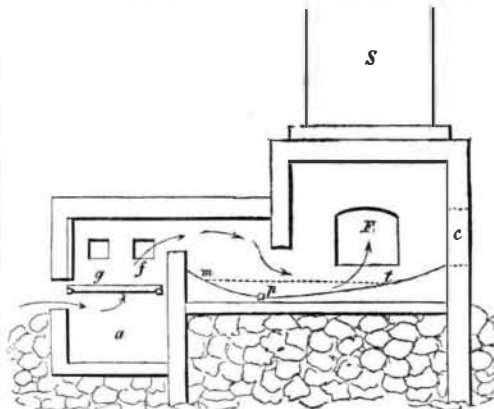
Chief of Bureau of Ordnance, Washington, D. C.

SIR:—I have the honor to report that, in obedience to your order of the 6th inst., I proceeded to Pittsburgh, Pa., and was present at the casting of the 20-inch gun for the Army, at the Fort Pitt Foundry. The casting took place on the 11th inst., and was most successfully performed. I beg to submit the following report of the operation:—

I found the furnaces ready charged, and the mold in the pit on my arrival. Five furnaces were prepared, charged with 105 tons of iron, in the following order, commencing with the one nearest the pit:—No. 1, 23 tons; No. 2, 23 tons; No. 3, 39 tons; No. 4, 10 tons; No. 5, 10 tons; total, 105 tons, or 235,200 pounds; the iron used being all "Juniata," charcoal warm-blast iron, from the Bloomfield and Rodman furnaces, second fusion.

The mold was of a cylindrical form, made in four pieces, and was prepared with a cast-iron core on Major Rodman's plan.

The furnaces were what are termed "reverberatory air furnaces," and so constructed that the metal, as it melted, ran towards the flame. The accompanying



sketch shows a vertical longitudinal section of one of them:—a, is the ash-pit; g, the grate bars; f, fuel chamber; p, tap-hole; c, charging door; F, the flue; S, the stack; and the dotted line, m t, shows the surface of the metal when melted. Troughs were arranged to conduct the melted metal from the three principal furnaces to a receiver or pool, near the pit, from which it flowed in two streams into the mold, entering it at the bottom—the points of entrance being exactly opposite each other—with openings, or "gates" at different distances, for the metal to flow through as it rose in the mold. The largest furnace—No. 3—was 54 feet from the pool; No. 2, about 25 feet, and No. 1, about 20 feet.

The fuel used was Pittsburgh bituminous coal, and in the proportion of 18 bushels to one ton of iron.

The furnaces were all lighted at 5 A. M.; weather very fine; wind west. At 11 A. M., the metal was completely fused; and it was kept in fusion for 1 $\frac{1}{2}$ h. 24m. At 12h. 1m. water was admitted into the core, its rate of flow being 30 gallons per minute; temperature 36°; temperature of air outside of the foundry 28°. At 12h. 24m. the three large furnaces, Nos. 3, 2, 1, were tapped in succession, and the filling of the mold commenced, furnaces Nos. 4 and 5 being held in reserve.

At 12h. 46m. the mold was filled; the temperature of water at the waste pipe being 42°; at 12h. 50m. it was 32°; at 12h. 58m. it was 65 $\frac{1}{2}$ °; at 1h. 4m. it was 81 $\frac{1}{2}$ °; at 1h. 20m. it was 89 $\frac{1}{2}$ °; at 1h. 25m. it was 91°; at 1h. 31m. it was 91 $\frac{1}{2}$ °.

At 1h. 46m. the flow of water was increased to 60

gallons per minute; the temperature at the waste pipe then fell to 70 $\frac{1}{2}$ °, at which it continued without change for two hours. At 6 P. M., the temperature of the water was 68 $\frac{1}{2}$ °; at 11 P. M., 61°; at 4 A. M. 57 $\frac{1}{2}$ °; at 9 A. M., 57 $\frac{1}{2}$ °; at 10.20 A. M., 57°, at which time the flow of water was stopped. In a few minutes after the water remaining in the core commenced to boil, and passed off rapidly in steam.

After the mold had been first filled, it became necessary to add to the sinking head, to compensate for the settling of the metal. This was done by means of ladles, and the surface was then covered with charcoal to prevent cooling too rapidly.

At 3.45 P. M., of the 11th, a fire of wood and coal was lighted in the pit around the flask, and was kept burning during the time I was present. February 12th, at 2h. 45m. P. M., all the water and steam having been expelled from the core, it was withdrawn; no difficulty occurring in doing so.

The quality of iron being considered rather high, it was deemed advisable to continue the cooling by the introduction of air into the bore instead of water; and accordingly, immediately after the removal of the core, a stream of air was introduced by means of a blast through a pipe passing to the bottom of the bore. Temperature of the air 57°. Its rate of flow was not determined before my departure, though steps were being taken for doing so. This current of air is to continue until the gun is entirely cooled.

The casting of this great piece of ordnance having been thus successfully accomplished, as far as it is possible to determine, until its removal from the pit—that event not being likely to occur for eight or ten days—I considered my presence no longer necessary, and accordingly returned to this place, in obedience to your orders. The whole operation was conducted in the most satisfactory manner, without accident or delay of any kind, and reflects the highest credit upon all those who were charged with its execution; so that should it be determined to cast a similar gun for the navy, every assurance has been given that it would be successfully accomplished.

Your obedient servant,

R. AULICK, U. S. N., Assistant Chief of Bureau.
Washington, D. C., Feb. 16, 1864.

The "Scientific American" as a Medium for Promulgating Inventions.

MESSRS. EDITORS:—You may remember that, in your issue of March 12th [page 168], you published a beautiful illustration of my Knife-cleaner. I was prepared to hear from parties interested in about one week, and had made arrangements accordingly. The SCIENTIFIC AMERICAN is, I believe, published every Saturday; and you may judge of my surprise when, upon the Monday ensuing, several individuals haunted my place of business in quest of the article alluded to. This is much quicker than I anticipated; and I have no doubt but that the parties would have appeared on Sunday had it been a business day. I am delighted with the manner in which you have transacted my business; and I shall not only forward several other improvements that I have in contemplation, but endeavor to increase the circulation of your most valuable journal by all means in my power.

J. H. VAN R.

New York City, March 9, 1864.

The Best Varieties of Apples and Pears.

At the meeting of the Fruit Grower's Society of Western New York, Jan. 28, 1864, votes were taken on the 14 best varieties of pears for family use, with the following result, 21 votes being cast:—

Bartlett.....	21	Belle Lucrative.....	16
Angouleme.....	18	Beurre Giffard.....	14
Louise Bonne.....	17	Beurre Anjou.....	12
Sheldon.....	17	Rostiezer.....	12
Lawrence.....	17	Flemish Beauty.....	12
Doyenne d'Ete.....	17	Winter Nelis.....	12
Seckel.....	16	Beurre Bosc.....	11

Upon the results of the past very favorable season, the following vote on the best six varieties of apples for winter market was had:—

Rhode Island Greening.....	13	Northern Spy.....	6
Roxbury Russett.....	13	Golden Russett.....	7
Tompkins County King.....	13	Baldwin.....	14

THE ATLANTIC TELEGRAPH CABLE TO BE CARRIED IN THE "GREAT EASTERN."—A telegram has been received from Mr. Cyrus W. Field (who is now in London), stating that Messrs. Glass, Elliot & Co. have chartered the *Great Eastern* for laying the Atlantic telegraph cable in 1865.

The Value of Courtesy.

A few years ago, two men, who from their conversation, appeared to be foreigners, stopped before the gate of one of our large workshops (in Boston) for the manufacture of locomotive engines. Entering a small office, the elder of the two men inquired of the superintendent in attendance if he would permit them to inspect the works.

"You can pass in and look about it you choose," said the superintendent, vexed, apparently, at being interrupted in the perusal of his newspaper. He then scanned the two strangers more closely. They were respectably but plainly dressed, and evidently made no pretensions to official dignity of any kind.

"Is there any one who can show us over the establishment, and explain matters to us?" asked Mr. Wolfe, the elder of the strangers.

"You must pick your own way, gentlemen, replied the superintendent; "we are all too busy to attend to every party that comes along. I'll thank you not to interrupt the workmen by asking questions."

It was not so much the matter as the manner of his reply that was offensive to Mr. Wolfe, and his companion. It was spoken with a certain official assumption of superiority, mingled with contempt for the visitors, indicating a haughty and selfish temper.

"I think we will not trouble you," said Mr. Wolfe, bowing; and taking his companion's arm they passed out.

"If there is anything I dislike it is incivility," said Mr. Wolfe to his companion, when they were in the street. "I do not blame the man for not wishing to see us over his establishment; he is no doubt annoyed and interrupted by many heedless visitors; but he might have dismissed us with courtesy. He might have sent us away better content with a gracious refusal than with an ungracious consent."

"Perhaps we shall have better luck here," said the other stranger, and they stopped before another workshop of a similar kind. They were received by a brisk little man, the head clerk, apparently, who, in reply to their request to be shown over the establishment, answered, "Oh, yes, come with me, gentlemen; this way!" So saying, he hurried them along the area strewn with iron bars, broken and rusty wheels of iron, fragments of old cylinders, into the principal workshop. Here, without stopping to explain any one thing, he led the strangers along with the evident intention of getting rid of them as soon as possible. When they paused where the workmen were riveting the external castings of a boiler, the clerk looked at his watch, tapped his right foot against an iron tube, and showed other signs of impatience. Whereupon Mr. Wolfe remarked: "We will not detain you any longer, sir," and with his friend took leave.

"This man is an improvement on the other," said Mr. Wolfe; "but all the civility he has is on the surface; it does not come from the heart. We must look further."

The strangers walked on for nearly half a mile in silence, when one of them pointed to a picture of a locomotive engine with a train of cars underneath. It overtopped a small building not more than ten feet in height, communicating with a yard and workshop.

"Look," said the observer, "here is a machinist whose name is not on our list."

"Probably it was thought too small a concern for our purpose," said his companion.

"Nevertheless, let us try it," said Mr. Wolfe. They entered and found at the desk a middle-aged man, whose somewhat grimy aspect and apron around his waist showed that he divided his labors between the workshop and counting-room.

"We wish to look over your works, sir, if you have no objection."

"It will give me great pleasure to show you all there is to be seen," said the mechanic, with a pleased alacrity, ringing a bell, and telling the boy who entered to take charge of the office. He then led the way, and explained to the strangers the whole process of constructing a locomotive engine. He showed them how the various parts of the machinery were manufactured, and patiently answered all their questions. He told them of an improved mode of tubing boilers, by which the power of generating steam was increased, and showed with what care he provided for security from bursting. Two hours passed away.

The strangers were delighted with the intelligence displayed by the mechanic, and with his frank, attentive and unsuspecting manners.

"Here is a man who loves his profession so well, that he takes pleasure in explaining its mysteries to all who can understand them," thought Mr. Wolfe.

"I am afraid we have given you a good deal of trouble," said the other stranger.

"Indeed, gentlemen, I have enjoyed your visit," said the mechanic, "and shall be glad to see you again."

"Perhaps you may," said Mr. Wolfe, and the strangers departed.

Five months afterward, as the mechanic, whose means were quite limited, sat in his office, meditating how hard it was to get business by the side of such large establishments as were his competitors, the two strangers entered. He gave them a hearty welcome, handed chairs, and sat down.

"We come," said Mr. Wolfe, "with a proposition from the Emperor of Russia."

"From the Emperor? Impossible!"

"Here are our credentials."

"But, gentlemen," said the now-agitated mechanic, "what does this mean? How have I earned such an honor?"

"Simply by your straightforward courtesy and frankness, combined with professional intelligence," said Mr. Wolfe. "Because we were strangers, you did not think it necessary to treat us with distrust or coldness. You saw we were in earnest in acquainting ourselves with your works, and did not ask—before extending to us your civilities—what letters of introduction we brought. You measured us by the spirit we showed, and not by the dignities we could have exhibited."

The mechanic visited St. Petersburg, and soon after removed his whole establishment there. He had imperial orders for as many locomotive engines as he could construct. He has lately returned to his own country and is still receiving large pecuniary returns from his Russian workshop. All this prosperity grew out of his unselfish civility to two strangers, one of whom was the secret agent of the Czar of Russia.—*Exchange.*

[There is much more truth than imagination in this little sketch; and our own experience convinces us that it is only too correct. Engineers are too often curt and surly in their replies to interrogatories; and some few rude and discourteous men have in this way cast a reproach upon the whole profession. Blunt speech does not make a man any "smarter" in his calling; and he will lose nothing himself by imparting information to others who are ignorant; nay, the true engineer takes pride in his knowledge and is glad of an opportunity to explain the mysteries of steam to those who appreciate it. There is no "smartness" in telling some youth who seeks after knowledge that the shaft is the piston-rod, or that the boiler is the cylinder; and no one would be guilty of it but a shallow-brained fellow who is no ornament to his calling. Engineers are not the only ones in the world who are sometimes discourteous, and the writer of the above sketch might have made a wider application of his lesson. The truth of it, however, is undeniable and should be remembered.—Eds.]

The Turpentine and Rosin Business of California.

Messrs. Hucks & Lambert furnish the following in reference to the manufacture of California turpentine and rosin, as mainly correct:—We have been deeply interested in this business from its commencement, and have purchased over two-thirds of all the rosin made; and for our purpose it has been found to far excel in quality the rosin from the Eastern States. The quantity of "crude gum" collected in Butte and Sierra counties from the beginning of March till the end of November was, more or less, 350,000 pounds. From this has been manufactured 7,250 gallons of spirits of turpentine; and boxes and barrels of rosin equal to 1,150 barrels, of an average weight of 250 pounds.

There have been three distilleries in operation during the season. J. L. Gibson, of Forbestown, Butte county, has produced from his still over 3,000 gallons of turpentine, and 500 barrels or boxes of rosin. The balance has been manufactured partly by John Hart, of Marysville (lately deceased), and by

Jacobson & Co., of the same place, who are still operating.

In conclusion, we would say there will be a wide field open for this particular branch of home manufacture, as evidenced by the countless acres of pine forests abounding all over the foot-hills of the Sierra Nevada; and which are, no doubt, destined to give future employment to thousands.—*Alta California.*

The Most Profitable Variety of Potato.

At a recent meeting of the Farmers' Club of the American Institute, Mr. Carpenter gave his experience with Goodrich's potatoes. He said that he had cultivated all four varieties, and he believed that the Cusco-white, with good culture, would yield 300 bushels to the acre.

Mr. Williams said that in 1862 he tried all four varieties in comparison with some of the best old kinds, carefully measured the ground and the crop, and having his note-book with him he could give the results. The ground, manuring and culture were the same in all cases. The rate per acre of the yield was:—

Prince Albert.....	86 bushels	6 quarts.
Jersey Mercer.....	91 bushels	18 quarts.
Nova Scotia.....	163 bushels	20 quarts.
Peach-blow.....	114 bushels	3 quarts.
Garner-Chili.....	120 bushels	3 quarts.
Coppermine.....	109 bushels	2 quarts.
Rusty-coat.....	216 bushels	6 quarts.
Cusco.....	240 bushels	7 quarts.

The last four are Goodrich's.

Mr. Williams thought that the Cusco surpassed all other varieties of potato in the abundance of its yield, and though in quality it was not perhaps quite equal to the Mercer, it brought the same price in the Newark market.

"Shunt" Rifling.

This phrase has been used a great deal of late in connection with English ordnance, and some correspondents have written to us asking its meaning. The word "shunt" is the English term applied to a railway switch or the rails that convey trains from one track to another. As applied to the rifling of guns, it does not appear to have any peculiar property and is a mere slang word adopted by the inventor of the Armstrong gun. The *Mechanics' Magazine* says:—"The term 'shunt,' is a conceit of Sir W. Armstrong's, meant to convey the idea that the projectile shifts from one set of grooves to another. But that is not the case. The ribs on the projectile, when the charge explodes, jump from the driving to the bearing sides of the grooves, just the same as all rib-rifled or mechanically-fitting projectiles do. The rifling consists of ten grooves in the bore, and ten corresponding ribs in the shot. To the ribs zinc studs, six to each rib, are affixed on the bearing sides. Yielding to the pressure of the gas, the soft metal studs are intended to equalize the friction of the bearing surfaces, and relieve the gun from the strain which might arise from inequalities of the surfaces in contact, as the projectile passes through the bore. What the merit of this description of rifling may be, yet remains to be proved."

Cultivation of Cotton in France.

We translate the following paragraph from the *Moniteur des Brevets d'Inventions*:—

"The trial of the culture of cotton has been made with a veritable success in Camargue, in the lands of the Chateau of Avignon, the most vast of the domains of the territory of Arles. Among the bolls of cotton gathered some have the long staple and others the short. The essay, made on a small scale and in the open air, has perfectly succeeded. At the end of November the plants were yet covered with a great number of bolls which continued to ripen, though very slowly. Those gathered in August, September and October were very well matured."

It will be remembered that the southern boundary of France is further north than the city of New York.

Exports of California.

The *Alta California*, of San Francisco, says:—"The exports of the productions of the State, during the past three years, may be classified as follows:—

	1861.	1862.	1863.
Products of the Mine.....	\$42,103,193	\$44,106,662	\$47,982,393
Products of Agriculture....	3,265,471	1,645,360	2,013,956
Products of the Herd.....	1,041,217	2,027,082	
Products of the Forest.....	69,931	149,680	134,086
Products of the Sea.....	21,828	21,568	11,285
Products of Manufacture....	962,576	798,191	873,864
Products of the Vine.....	8,000	25,236	81,456
Total.....	\$47,420,216	\$48,773,569	\$53,299,210

Bolster and Spring Bed-bottom.

The engraving published herewith represents a new arrangement for the construction of a spring bed and adjustable head piece or bolster. This spring bed-bottom consists of two wooden frames, A A, one above the other, the top one being supported by elliptic springs, B, two on each side. The bottom frame has legs, C, which may be taken off if necessary, and the upper one has a secondary frame, D, connected to it by a hinge; on the under side of this second frame there are hung two bars, E, which swing back and forth easily; below these bars there are series of teeth into which they fit, thus sustaining the bolster, as shown. The cord, F, has two ends and is attached to these bars, so that by pulling it one way or the other the bars are either drawn in or pushed out, thus varying the angle at which the bolster is inclined. The upper frame is covered with cane, like an ordinary chair seat, and it forms a cool resting place in summer time. The legs can be unscrewed and a mattress placed on this upper frame, thus serving for a bed; the springs are very elastic and durable, and will last a long time without repair or adjustment.

This piece of furniture is a very convenient one and was patented on Dec. 8, 1863, through the Scientific American Patent Agency, by George Frey, of New York city. The entire patent is for sale on reasonable terms, as the patentee is about to leave this country for Europe. For further information address A. Scheller, at 370 Bowery, New York.

Improved Mangling Machine.

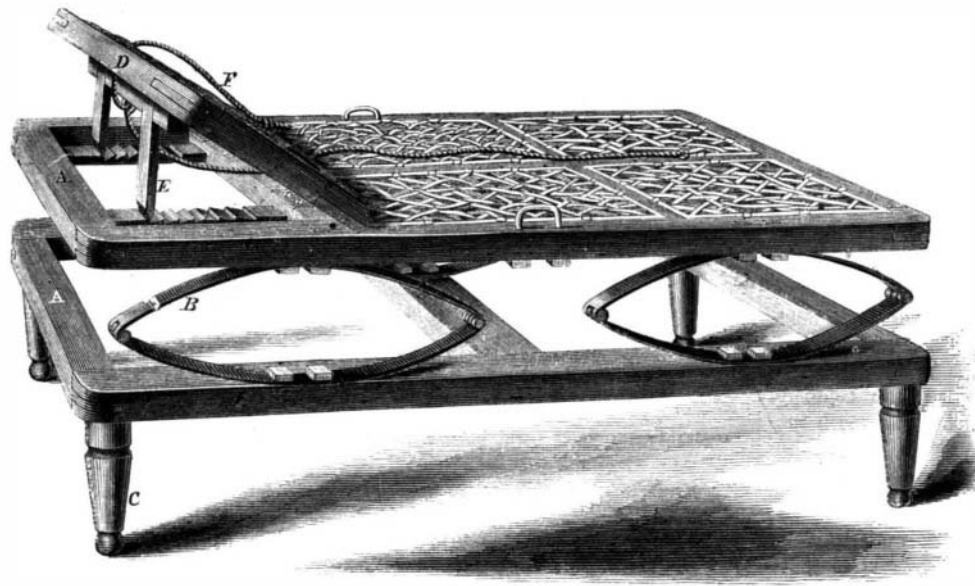
Since clothes-wringers and washing machines have become so popular with housekeepers, an increased demand has arisen for an ironing machine, so that the duties of the laundry can be wholly accomplished by mechanical aid. In the engraving published we have represented a new machine of this kind which is said, by those competent to judge, to be the very thing required, as it combines ease of operation, compactness of form and general efficiency in a marked manner.

The endless apron, A, in connection with the detached apron, carries the article to be smoothed between the rollers, B, and around them back to the operator again, so that no walking back and forth from one end of the machine to the other is required. The arrangement of the aprons is such that two sets of articles may be smoothed at once; this is accomplished by placing

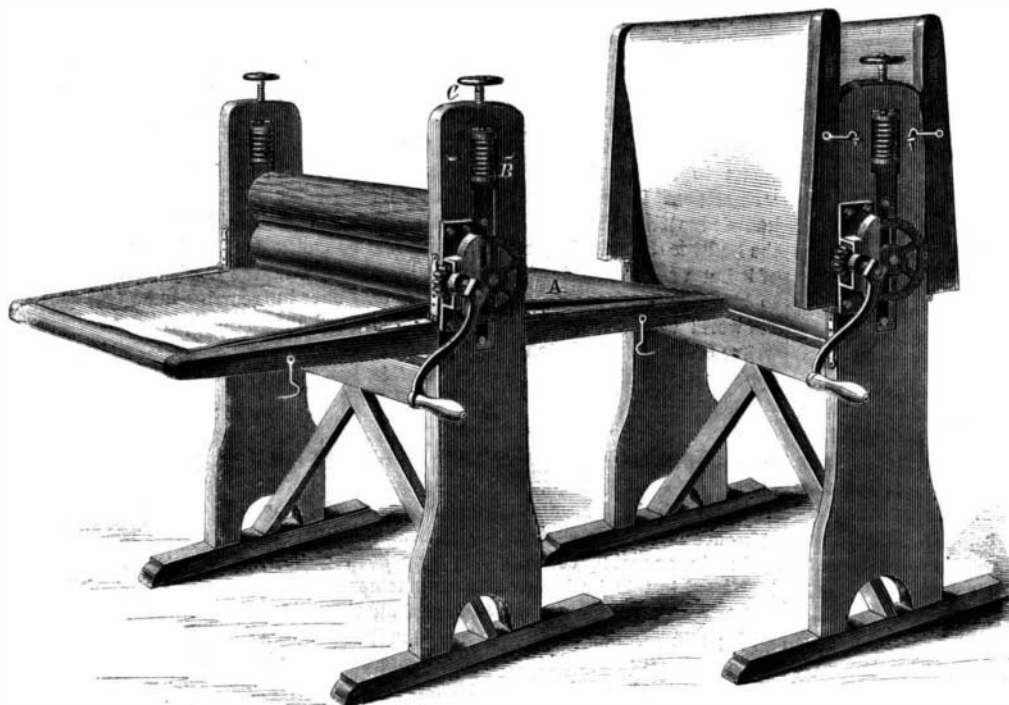
one set between the aprons and the other upon the same; the mechanical adjustment of the roller is such that even with this double load the machine can be run more easily by one person than two can operate the old-fashioned mangle. No skill is required to operate this mangle; any person strong enough to turn the crank is competent to work it, and the articles to be smoothed are fed up to the rollers on the aprons

With much greater accuracy and with less liability of arrangement than when fed by hand, as in the old mangles.

Very heavy articles, such as sheets and blankets, can be smoothed quite as readily as lighter ones, and they remain longer in the mangle, being carried round the under roller several times, so as to be fully acted on. The pressure of one roll upon the other is regu-

**FREY'S BOLSTER AND SPRING BED-BOTTOM.**

lated by the springs, B, the set of which is determined by the screws, C; these can be adjusted for the finest or coarsest fabric. Another peculiarity in this mangle is its compactness, a most desirable quality in household utensils. The figure at the right shows the mangle folded up so as to occupy a small space; this feature in connection with the chest-of-drawers which may be fitted to it gives an additional value. It must be borne in mind that no fuel is required in "ironing," with this machine, the gloss or finish being given by pressure alone. This invention is covered by two patents dated May 20, 1862, and Sept. 22, 1863. State rights for the sale of this ma-

**A NEW MANGLING MACHINE.**

chine can be had by addressing Alex. M. Lesley, 494 Broadway, New York, where also the mangle may be seen.

In England there are sixty-two individuals to every hundred acres; in Ireland but thirty-four. In British North America there is but one person to the square mile.

Glycerine for Filling Gas-meters.

We find the following in the *American Gas-Light Journal*:—"The recent cold weather which was felt with such severity, particularly in the Western States, gave a practical exemplification of the necessity for a fluid for filling wet gas-meters which will not congeal. We have recently been shown samples of glycerine manufactured by Messrs. Hartman & Laist, of Cin-

cinnati, Ohio, which will stand the most severe cold ever experienced in this climate, and yet preserve perfect mobility and limpidity. The samples brought to our notice were beautifully clear—almost colorless and odorless; and as the efficacy of this substance has been fully proved, gas companies should avail themselves of it, instead of whisky and other deleterious fluids commonly employed. Glycerine, in a pure state, is perfectly inert, and exercises no influence upon the metals of which the meter is composed. Whisky, on the contrary, undergoes the acetous fermentation, by which the alcohol is converted into acetic acid, which exerts a corroding effect on the meter, and

soon wears it out. The price of Messrs. Hartman & Laist's glycerine is remarkably low—much below that of the commonest whisky."

Armor Plates.

We find the following in the *London Engineer*:—"Upward of 300 tons of the new description of armor-plates have been landed at Chatham Dockyard, the whole of which have been sent in by Messrs. John Brown & Co., Atlas Works, Sheffield, and by the Millwall Iron Company. The plates are all intended for the iron frigate *Bellerophon*, and the iron-clad frigate *Lord Warden*, both of which are now in hand. The

armor plates already received for the *Bellerophon*, are 6 inches in thickness, and 16 feet 1 inch in length by 4 feet 1½ inch in breadth, and their weight is between 6 and 7 tons. The *Lord Warden* plates are 5½ inches in thickness. The quantity of armor-plating required for the two new iron frigates at Chatham will exceed 2,000 tons, and in anticipation of an increased demand on the factory establishment a quantity of new machinery, larger and more powerful than any hitherto in use at either of the royal dockyards, is being erected to be used in preparing the enormous slabs of iron which will be used in encasing the *Bellerophon* and the *Lord Warden*. Several weeks have been lost in laying the keel of the *Bellerophon* in the dock in which she is to be constructed, in consequence of the works at the dock entrance not being

sufficiently advanced for fixing the new iron caisson."

By a mistake in signals, at the Hoosac Tunnel, the other day, a gang of men, 360 feet below ground, were not pulled up when they fired off a blast, but were exposed to a rocky cannonade. They escaped with a fright and a few bruises.