Correspondence

The Distillery Business—Malting.

[Continued from page 134.]

The object of malting is to form diastase. This substance, dissolved in water and mixed with dextrinified starch, has the property of converting this dextrine into sugar, when a certain temperature is applied to the mixture. This process is called saccharine fermentation. The decomposition of the thus-formed sugar into its two parts, carbonic acid and alcohol (whisky) is called alcoholic or vinous fermentations. The conversion of starch into dextrine is called dextrinification.

The grains or cereals consist more especially of two principal substances—starch and gluten or vegetable albumen. When moistened, the grain begins, under favorable circumstance, to sprout or to germinate, and a chemical change begins to take place. The gluten is then changed, among other products, into a white, soluble substance called diastaste. In germinating barley, or any other grain, the quantity of created diastase varies essentially, corresponding with certain circumstances, as stated below, and it is therefore of the highest importance to inquire how the greatest quantity of diastase can be produced in the smallest quantity of grain.

Here we must state, in the first place, that, after many careful experiments, it has become an established fact that 100 parts of dextrinified starch, to be transformed into sugar, requires, at a temperature of 151° Fah., 33$\frac{8}{100}$ per cent of rye malt, 33$\frac{3}{100}$ per cent of wheat malt, 35 per cent of oat malt, 30$\frac{8}{100}$ per cent of two-rowed barley malt, and 29 per cent of six-rowed barley malt. It appears from this, and practical experience has proved, that six-rowed barley is the best kind of grain for malting purposes.

In the second place, there is more or less diastase produced, according to the different degree of growth which the grain has attained.

1. Suppose the roots of grain are grown half as long as the grain itself, then there are 116 per cent of such malt required to transform 100 parts of the dextrinified starch into sugar.

2. Suppose the roots of grain are grown as long as the grain itself, only 47$\frac{6}{100}$ per cent of malt are required to transform 100 parts of dextrinified starch into sugar.

3. Let the roots of barley be grown one and a half times as long as the grain itself, then 100 parts of dextrinified starch are transformed by 26 $\frac{5}{100}$ per cent of malt.

4. If the roots are grown twice as long as the grain itself, 33 per cent of malt will be necessary to convert 100 parts of dextrinified starch into sugar.

Hence it is seen that the malt of six-rowed barley, which is germinated until the roots are from one and a half to twice as long as the grain itself, is best. The quantity of diastase, as already stated, is not always the same in germinated grain. It will increase to a maximum and decrease to a minimum until it entirely disappears. The moment the stem of any grain appears by breaking through the tegument or skin of the grain (the grain is graminating), the diastase will be consumed by degrees, because, during the first period of its appearance and life, the stem lives exclusively on diastase and sugar prepared accurately by nature for its food.

Another remarkable fact deserves to be noticed. The more roots a germinating grain produces, the more diastase will be created. Thus, wheat and rye malt, putting out only three or four roots, contain less diastase, while barley malt, with five or six roots contain more; the quantity corresponding exactly with the number of roots produced in each case. The faster grain germinates the fewer roots will be produced and the sooner does graminating take place.

Moistening germinating grain is a very wrong practice, because graminating is then accelerated just as much as when the temperature of any germinating grain rises above a certain degree, as when daylight, or, what is worse yet, the beams of the sun strike it. Hence, any germinating grain, whose temperature has risen to 63° or 66° Fah. should at once be worked so as to lower the temperature and arrest in this way the growth of the stem (the graminating); and hence, too, the malster's guide should never be time, but the thermometer. Diastase is a very delicate substance. Exposed to a temperature of 167° Fah. it will be destroyed in the main, while a temperature of 212° Fah will destroy all of it.

All the component elements required for a saccharification are present in malt, viz., moisture, starch, diastase; and as soon, therefore, as the requisite temperature is applied, the saccharification sets in and part of the diastase is consumed. But this consumption of diastase is not the object of malting for distillery purposes, because the distiller needs all his diastase for the saccharification of the mash. Hence we must be very careful in drying malt on the kiln—preventing, in the first place, the diastase from being destroyed by too high a temperature, and, in the second place, avoiding any reaction of it on the starch in the malt grain.

These few hints (perhaps never known to many distillers and malsters), we suppose, will show sufficiently how much knowledge and experience is required in making a good and powerful distillery malt, how carefully a malster should proceed, and of how much importance the malting process is, as an inferior malt will cause an imperfect saccharine fermentation, and make an inferior yeast also.

A good deal remains to be said in regard to what constitutes the best kind of malt. We will be, for the present, as short as possible in this connection, making merely the following statement:—

1. That good malt for distillery purposes must not taste sweet, but should be *jejune*—that is, tasteless.

2. Malt grain, when cut between the teeth, should not appear vitrous or brown.

3. Every grain of barley malt should have five to six roots, of wheat and rye malt three to four roots, the roots in both cases being one-and-a-half to two times as long as the grain.

3. The grain should not be shrivelled—a sign that it has been exposed to a temperature too high, especially in the commencement of drying on the kiln.

In conclusion, let me call particular attention to a fact which I have sought to elaborate all through this article, namely, that the process of drying malt on a kiln or in the air is unprofitable, and should be abandoned by practical distillers. The process of drying neither augments the quantity of diastase in the malt, nor does it make the diastase more effective, but, on the contrary, it generally proves injurious to its saccharifying quality. It is, besides, very expensive, requiring the establishment of a kiln, and further, a constant expenditure of money for labor, repairs and fuel.

Now, all these difficulties are obviated by the use of malt in its *green* state, and the intelligent distiller will at once comprehend the advantages which a correct and careful production of malt and its use in the green state, just when the diastase has arrived at its highest point of development, must necessarily secure.

[To be continued.]

Breech-loading versus Muzzle-loading Guns.

MESSRS. EDITORS:—The advantages of rapidity in loading fire-arms are so apparent, and the settlement of the principle so conclusive in the adoption of the revolving pistol in preference to the single-loader by the people and by the Government in the army, that it would appear to be no longer an open question. Such, however, is not the case. General Ripley, Chief of the Ordnance Department at Washington, opposes their introduction into the army, and has recently said that he prefers the old flint-lock musket to any of the modern improved fire-arms, and that he believes nine-tenths of the army officers will agree with him. It is not, therefore, surprising that there is doubt upon the subject by the great mass of the people, who have not the proper means of investigating the matter. Hence, a few considerations of the question may not be out of place at this time.

The chief properties of a good gun are accuracy, power, and rapidity of loading. Accuracy depends mainly upon the weight of the barrel and the finish of the bore. The greatest accuracy is attained by the target-rifle, the barrel alone of which weighs from ten to twenty pounds, and sometimes even forty pounds, with a thickness at the muzzle equal to the diameter of the bore. This makes a weapon entirely too heavy for the masses of an army, and one which can only be made available to a limited extent for sharp-shooters. As all reductions of this weight are at the expense of accuracy, no such accurate results can ever be obtained from a barrel light enough for general use in an army. Power depends upon the quantity and quality of the powder used. Both of these properties are entirely independent of the mechanism or working parts of the gun, by which rapidity of firing is attained. The time of firing and aiming, or taking sight, is the same in all guns. By "guns" we mean all those classes of small-arms known as rifles, muskets, carbines, &c. Hence, to attain rapidity of firing is to reduce the time necessary to load; and for this purpose breech-loaders have been introduced, and to this point all inventors have turned their attention. All patented inventions are confined to the mechanism of the lock and frame, and appurtenances for loading and closing the breech. I know of no invention applying to the barrel or charge; any form of barrel or proportion of charge are common property. The aiming or taking sight will vary only with the skill and expertness of the operator.

I divide the guns into three classes—first, muzzle-loaders; second, single-shot breech-loaders, or those which have to be raised to, and lowered from, the shoulder, to be reloaded at every discharge. This latter is a numerous class, of which "Burnside's Rifle" may be taken as a specimen for illustration. The third class are the repeating breech-loaders, or magazine guns, which can be placed at the shoulder and fired fifteen times, more or less, without removal. This is a very small class, and we take for illustration "Henry's Repeating Rifle."

The muzzle loading gun requires sixty seconds to load and fire; Burnside's can be loaded and fired fifteen times a minute, or an average of four seconds to every shot. The Henry rifle can be loaded and fired thirty times per minute, or an average of two seconds for each shot. These are the claims of the advocates of each of these varieties, and are understood to mean the actual time for loading and firing, without any allowance for taking sight.

We assume that each of these styles of arms are of equal force and accuracy, as they may be, if they are not. Thus, if any muzzle-loading gun has a barrel carrying a charge giving better results than Burnside's rifle, Burnside has only to adopt that barrel and charge to have an arm of equal power and accuracy. If Burnside uses a barrel and charge giving better results than any other, Henry has but to adopt his barrel and charge to produce results equal to the best. Allowing, then, four seconds for aiming or taking sight, and we get from each muzzle-loader one shot in sixty-four seconds; from Burnside's one shot in eight seconds, or eight times more effective power in rapidity than we get from a muzzle-loader. From the Henry rifle we get an average of one shot every six seconds, or eleven times the same effective power in rapidity.

Now, place two bodies of men in the field, in numbers and in all other respects equal, and arm one with a muzzle-loading gun, and the other with Burnside's rifle; can there be any question about the result of a conflict? Or place a body of men armed with the Burnside rifle against double their number armed with the muzzle-loader, and even then can the result be doubtful, when the former have a target twice as large as their opponents? How much greater, then, would be the advantages of a body of men armed with a gun that can be loaded and fired twice as rapidly as Burnside's? A magazine gun like the Henry rifle, carrying fifteen charges, which can be refilled in fifteen seconds, and the fifteen shots fired with deliberate aim in sixty seconds, or fifteen times before the enemy could reload once, must produce a sheet of fire and lead before which no troops could stand to receive the last shot.

The only reason, or excuse rather, we have ever heard against the use in the army of arms susceptible of such rapidity of loading is that the troops would waste the ammunition. Will this bear the test of examination? Consider that it is admitted that, in the use of muzzle-loading guns, but five per cent of the shots would take effect, showing a loss of ninety-five per cent of the ammunition! Can a greater waste be well expected under any circumstances?

Thus far we have looked at the subject from a mathematical point of view only. Now, as to the moral effect upon those armed with such terrible weapons and upon those opposed to them armed with such comparatively defective arms. If, as we think, it is a consciousness of power that makes men brave, and a sense of imminent peril that "makes cowards of us all," and oftentimes strikes with panic the best armies, is it not reasonable to suppose that such a weapon would give a soldier the courage and coolness needed to send each of his fifteen shots with more unerring certainty than his trembling opponent could send his single shot? If, *to save ammunition*, it is essential that every soldier should remain for sixty seconds while re-loading, a helpless target, to receive his opponent's fire of from one to fifteen shots, why not reverse the order of progress and turn the ingenuity of inventors to the production of a gun that will require twice the length of time or more to re-load, and thus *double the saving of ammunition?* Saving of life does not appear an element worthy of consideration in this connection. Yet this is West Point opinion—the deductions of West Point science! Are these results worth their cost to the country?

There are other qualities requisite in a good, ram such as simplicity of construction and durability. Every inventor of a new improvement in fire-arms claims for his particular gun both of these advantages. As it is not our purpose to decide between them or any particular weapon, we leave those points without discussion. It is simply the principle involved in the rapidity of loading; believing that all time unnecessarily spent in loading is time lost, and that the most perfect arm—everything else being equal—is that which can be loaded with the greatest rapidity. O. F. W.

Tea in Russia.

The Russians attribute the superiority of their tea to the fact that it is sent overland from China, and does not get spoiled by the sea air. I should be inclined to think that the real reason is that it comes from provinces in China near the Russian frontier, where there is a better growth of tea than in the provinces from which comes the article we use. I think, also, that they understand infusing the tea better than we do. They drink it as soon as the boiling water is poured on it, whilst we allow it to stand until it becomes as black as one's hat and as bitter as hops. The gentlemen mostly drink their tea in tumblers, without milk, sometimes adding a slice of of lemon, whilst the ladies take it in cups, with any amount of cream. We were afterward, especially when traveling on the Moscow and Nijni railroads, surprised at the large and constant use of this beverage at all hours of the day and night, but we very soon became as large consumers of it as the native Russians themselves. Indeed, after a night in the railway-carriage, we found a tumbler of tea in the early morning more exhilarating than the "blest sherbet," and more refreshing than even hock and soda-water. When at St. Petersburg, we sought a small quantity of a fine sample of caravan tea, for which we paid at the rate of thirty-eight shillings the pound (about ten dollars), but of course this was one of the fancy sorts, and not that which is in common use, which costs about six shillings and sixpence the pound. At the shop where we bought this tea we were informed that they had some as high as seventy shillings the pound. As we were accompanied by a resident in the city who always dealt there, we knew that we were not being victimized.—*Bentley's Miscellany.*

The Mint at Philadelphia.—The commissioners for making trial of the gold and silver coinage of the United States, for the year 1863, are Professor Joseph Henry, Smithsonian Institute; Charles D. Drake, Esq., St. Louis; Professor Agassiz, Harvard University; Hon. Edward Everett, Massachusetts; T. S. Bell, Esq., Louisville, Ky.; Dr. S. M. Smith Columbus, Ohio; Professor John Torrey, New York; and Professor J. H. Alexander, Baltimore. The *ex-officio* commissioners are the U. S. Judge and U. S. Attorney for the Eastern District of Pennsylvania, and the Collector of the port of Philadelphia.

There are in Switzerland 1,483,298 Protestants and 1,040,469 Catholics.

Curious Relics of Old Egypt.

An interesting feature in the Museum of Egyptian Antiquities (recently founded by the Pasha in a commodious house overlooking the Nile) is an addition of gold ornaments discovered by accident at Gournon, Thebes, by some boys, in ground unmarked by any tomb; the fine mummies upon which they were placed passed into the hands of the Pasha of Keneh, who was induced to deposit them in the viceroy's museum. The mummies were unwrapped and more than twenty-five pounds weight of gold ornaments found upon them. The series of necklaces, with figures of jackals in gold, and the golden bracelets, enriched by enamel colors, are extraordinary works of art, as well as of great intrinsic value; one of them is very remarkable, having the sacred hawk for its central ornament holding the emblem of eternal life; its surface is brilliantly colored in *cloisonne* enamels. A hatchet of gold, with a hunting scene embossed on the blade; a mirror, with a heavy lotus-shaped handle of gold; and a large variety of minor decorations for the person crowd this unrivaled case of antiquities. Two small models of funeral boats, with the rowers all formed of silver, are even more precious in the eyes of the Egyptian student from their extreme rarity. The room is appropriately decorated after the style of the tombs at Beni Hassen, and the whole arrangement honorable to the viceroy and his curator. As he is still prosecuting new researches and has prohibited wanton mischief to monuments or the exportation of antiquities, he promises a useful guardianship in future over those interesting remains.

Live Temperately.

Americans as a people are prone to eat too much and too fast. The advantages of temperate living are well set forth in the following paragraphs:—

Solomon tells us that the glutton shall come to poverty; warns us not to be among riotous eaters of flesh; and even bids us to put a knife into our throats if we be men given to appetite. Is there no less desperate remedy?

Jefferson says that "No man ever repents eating too little."

Sir Isaac Newton very often dined on a penny's worth of bread.

Abernethy cured his indigestion and regained his flesh by going into the country, where he was able to get good milk and eggs, and living upon it three times a day, with no drink but ginger-water. On this quantity of food he regained his flesh and uniformly got better.

Marion and his men waxed strong and valiant with no food but sweet potatoes, no drink but water, and no shelter but the sky.

Besides brown bread, the Greek boatmen subsist almost solely upon their native fruits—figs, grapes and raisins. They are the most nimble, active, graceful, cheerful and even the merriest people in the world.

Grant Thorburn attributed his cheerful old age to the fact that he "never eat enough," and thousands of his countrymen are wearing out their bodies not so much by the excess of business or the multiplicity of cares, as by the over-work that they crowd upon them in digesting surplus and unnecessary food.—*Exchange.*

New Scarlet Dye.

A new scarlet dye of great richness is attracting considerable attention in Canada. It is prepared from an insect, a species of *coccus*. This new dye closely resembles true cochineal—a most expensive coloring matter, capable of being produced in warm countries only, and which is employed to give a fine and permanent dye in red, crimson and scarlet, to wool and silk. Unlike cochineal, the new dye is a native product, and capable of being produced in temperate countries. Having been but recently observed, a sufficient quantity has not yet been obtained to make a complete series of experiments as to its nature and uses; but the habits of the insect, as well as the properties of the dye, seem to indicate that it may become of great practical importance. In color it closely resembles ordinary cochineal, having rather more of the hue of the *adonis autumnalis*, and no doubt is entertained that other shades will also be obtained.—*Massachusetts Plowman.*

The Pacific Railroad.

The famous "war of the guages," which agitated Great Britain several years ago, is renewed here on the establishment of a gage for the great Pacific Railroad. Senator Fessenden advocates a 6-feet gage, and Senator McDougal is of the opinion that a 5 feet 6-inch gage would be best adapted to the turns and grades of that portion of the road leading across the mountains. In a recent debate on the subject Senator Harlan said:—

"There are 3,369 miles of railroad in New England, all of which are established on a gage of 4 feet 8½ inches, except one road, the Atlantic and St. Lawrence, of 149 miles in length. In New York there are 2,709 miles of railroad completed, all of which have the gage of 4 feet 8½ inches. New Jersey has 560, Pennsylvania 2,540 and Ohio 2,999 miles, all of which are established on a gage of 4 feet 8½ inches or 4 feet 10 inches, so that cars on one shall be able to run on the other. Missouri has 817 miles, of which 207 are on a gage of 4 feet 8½ inches, and the residue on a gage of 5 feet 6 inches. Maryland has 380 miles and Delaware 136 on a gage of 4 feet 8½ inches. Kentucky has 570 miles—except about 100—which are on a gage of 4 feet 8½ inches. The Baltimore and Ohio Railroad, leading from Washington to the Ohio river, through Western Virginia, is on a gage of 4 feet 8½ inches. There are now completed in the United States 1,199 miles of railroad which are on a different gage, and 20,567 on a gage of 4 feet 8½ inches. Those that are different from this gage have cost the owners \$60,000,000, and those that are on this gage have cost \$849,000,000."

Hours of Labor required of Railroad Employes.

The hours of labor exacted by some of the Brooklyn railroad companies are so many and the work is so severe that it is astonishing that men can perform the labor and live.

The Brooklyn Central Railroad Company require seventeen and a half hours of labor, and allow no time for procuring meals; the food necessary to sustain life being eaten in the cars. The compensation for conductors and drivers is \$1 35 per day.

The Brooklyn City Railroad Company exact but thirteen and a half hours' service, allow twenty minutes for dinner, and compensate their conductors at \$1 50, and their drivers at \$1 38 per day.

The Brooklyn and Newtown Railroad Company require about twelve hours of labor, allow ten minutes for dinner, and compensate their conductors and drivers at \$1 50 per day.—*Exchange.*

Bad for the Generals.—Senator Nesmith, of Oregon, in speaking recently of the necessity of more discipline, vigor and activity in the army, and the evil of having so many officers off duty, said: "We see thousands of them about the streets here, and in Willard's Hotel they are tucked up in feather beds like heroes with their martial cloaks around them. Some one told me that he threw a rock at a lame dog at Willard's the other night, and knocked down two Brigadier-Generals; and it was not a good night for Generals either!" The same Senator also advocated that members of Congress should not be exempt from the military conscription law; suggesting that they might be useful in stealing Richmond or the Southern Confederacy, if they were left out over night.

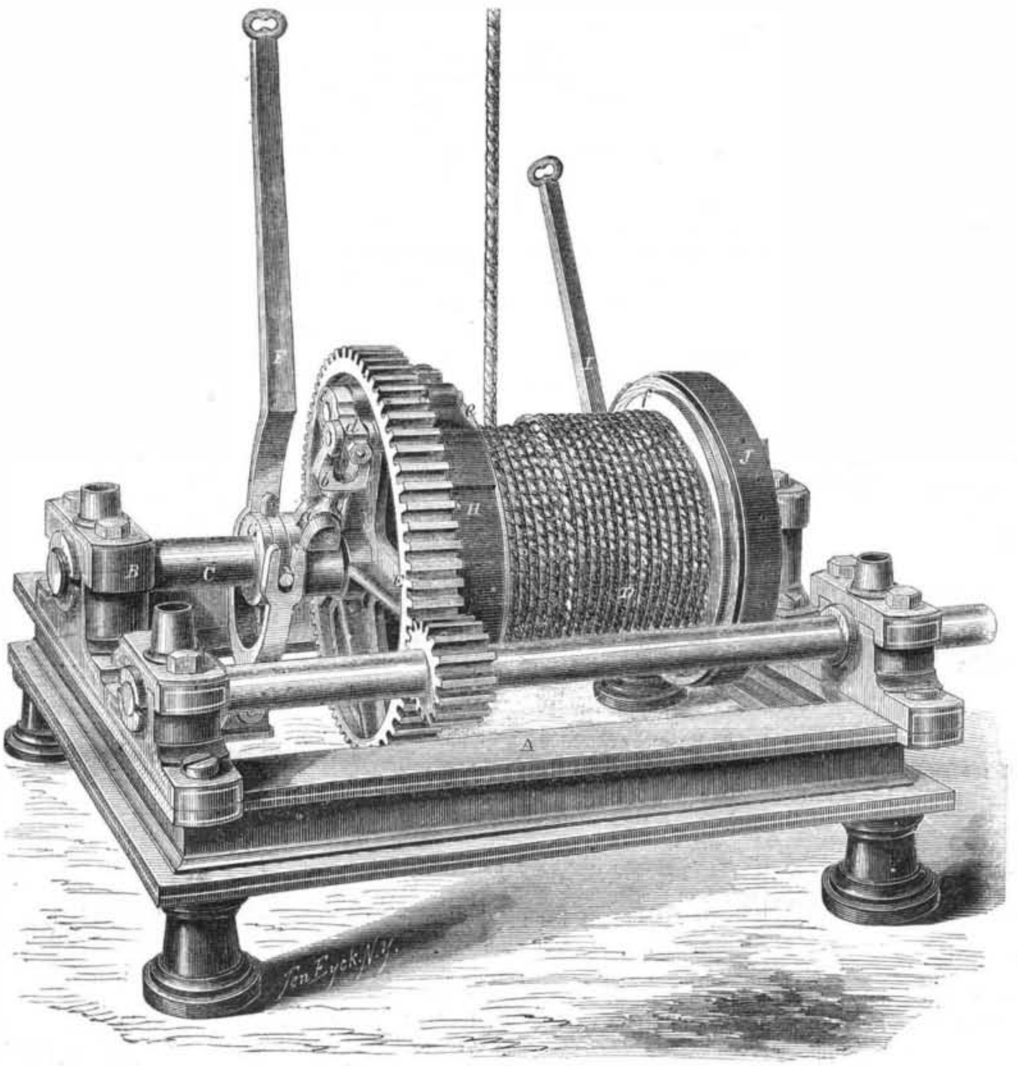
The last sensation in Paris is a man who has a perfect genius for making and fitting women's dresses. He is called the "pontiff of the petticoat." He not only makes ladies' dresses, but he puts on the ladies' dresses. Sometimes as many as fifty carriages are in front of his door at the same time, the feminine owners being up stairs having their dresses put on, as a dress should be put on. For cutting a dress he charges \$10. When dressing a lady, he charges \$15 for "fitting" her for a dinner, and \$25 for an evening party.

A Rare Bird.—It seems that there is one inspector who won't wink at the rascality of contractors. A few days since, a New Jersey shoe manufacturer had a lot of shoes returned on his hands, with a large hole cut through the bottom of every one, so as to effectually preclude the possibility of their subsequent acceptance by any less conscientious inspectors.

Improved Friction Brake.

In manufactories, mines and other situations where hoisting machinery is employed, it is desirable to have some apparatus whereby the motions of the weight hoisted can be under proper control. This is particularly the case in coal or other mines where men are raised from or lowered to the bowels of the earth; should the engine which hoists them give way suddenly in any part, they would either be thrown out or else descend with such violence as to endanger their lives; indeed, in almost every mechanical operation, some such machine is necessary. The machine herewith illustrated is a very efficient apparatus for the purpose, being easy of access in all its parts, strong and very reliable. It consists in detail of the following parts:—The bedplate, A, has the pillow blocks, B, bolted to it, in which the main shaft, C, carrying the drum, D, and the spur wheel, E, revolves. The lever, F, is jointed at the bottom and secured to a coupling, G, on the main shaft; one end of this coupling has a jaw, *a*, worked on it, which receives the end of the toggle arm, *b*, the other end of the toggle is connected to the short lever, *c*, by the square block, *d*, which works loosely on the end of the lever. This lever is further connected by a short shaft and a crank or eccentric pin, on the opposite end, with the friction brake, H. The brake is lined with wood and works in a recess formed for it on a pulley, one edge of which is shown at *e*. The handle, I, seen at the opposite end of the machine, has a joint at the bottom where it is jointed on the frame, and also another short toe which is secured to the strap, J, encircling the wheel, *f*. The works to be hoisted or lowered is done through the medium of the rope. The drum on which the rope is wound revolves independently of the coupling apparatus, the latter can be thrown out of connection with the work hoisted, instantly. By moving the lever, F, in the direction indicated by the arrow, the coupling follows it, and by drawing down the short arm, *c*, relaxes the pressure of the band upon the pulley, and consequently permits the drum to revolve alone; when, however, it is in the position shown in our engraving, the force exerted by the compression of the band, through the agency of the joints and lever, is sufficient to impart the power exerted on the spur wheel by the pinion to the work in hand. Therefore, by simply throwing the lever forward or back, as occasion requires, the elevation becomes continuous or is intermittent; the lesser brake affords, through friction, a means of guarding against accident should any part of the machinery give out. Several modifications of this principle may be adopted, whereby two shafts may be coupled together without shock or jar, and without cessation on the part of the prime mover; also changes in its construction which permit of stopping or starting lathes or other tools, without the intervention of a loose pulley.

This friction gearing is in use on the hoisting apparatus of the Hudson River Sugar Refining Co., Havemeyer, Townsend & Co.'s refinery, Brooklyn, and at other large manufactories in New York city and its vicinity. Further information may be had by addressing A. & F. Brown, patentees and manufacturers, 125 Mott street, New York.



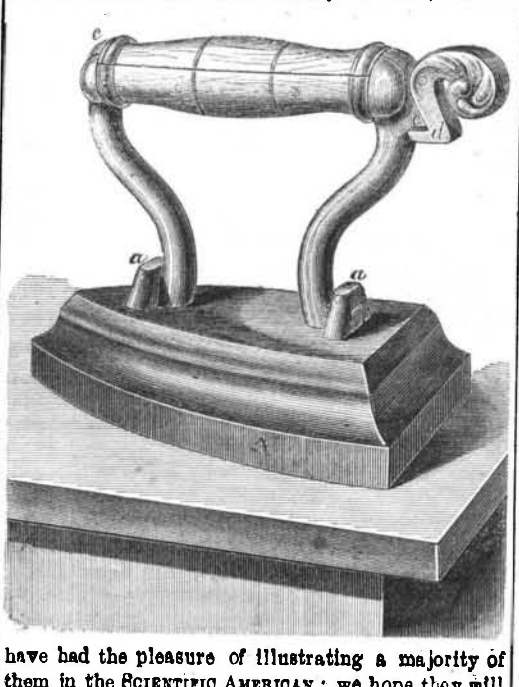
A. & F. BROWN'S PATENT FRICTION BRAKE.

Steam on City Railroads.

We are gratified to observe that the Brooklyn Central Railroad Company have petitioned the Legislature at Albany for the privilege of adopting the dummy engines on their road. We hope they will convince that body of the propriety of acceding to their demand, and that, having obtained the necessary permission, they will stock their line with the best possible machines of the class. Surely when we can have our carsdrawn and warmed by steam, there is no longer any excuse for shivering in discomfort or for employing horse or mule power in the place of the all-conquering steam.

CHRISTY'S PATENT SAD-IRON.

A great many little conveniences and comforts to the housewife have been already invented, and we



have had the pleasure of illustrating a majority of them in the SCIENTIFIC AMERICAN; we hope they will increase and multiply rapidly, as the labor saved by them is almost incalculable, and they generally are the best class of patents on which to make money. The sad-iron which we herewith illustrate is not a labor-saving contrivance, but is an exceedingly ingenious arrangement to preserve the hands from injury by the heat of the iron—obviating the necessity of using a holder to shield the hands from injury. A brief description will render its construction and operation very clear. The iron proper, A, has two small eyes or staples, *a*, cast on each end, in which the square ends of the handle are inserted; this handle is split in half, and has a joint at *c*, and a catch or hook, *d*, which engages with the shoulder, *e*; this catch is also jointed; by unhooking and raising it the upper half of the handle lifts with it, and disengages the forward leg from the staple, *a*. The advantages of this device are manifold. The appearance of the iron is much improved, and the cost of it diminished, as one handle will suffice for a dozen or more irons; moreover, as the handle is detachedfrom the base, when the same is heating, no "holder" is required. The grip of the handle is constructed of wood or any other non-conducting substance, and is not in contact with the hot iron sufficiently long to acquire an inconvenient temperature.

This invention was patented through the Scientific American Patent Agency, Feb. 25, 1862, and further information may be obtained by addressing the patentee, John Christy, Baltic, Conn.

The "Keokuk."

This vessel has made two ineffectual attempts to get out on a trial trip, but has been prevented, in both instances, by mismanagement. On the last trip the boilers primed so badly that the engines were unable to work to any advantage, and she finally put into the navy yard, having been just one hour and a half in getting there from the foot of 11th street (East river). It would save the press, generally, much valuable time if the engineers would see that their machinery is in order before notifying editors to be present. We spent the best part of two days in pacing the *Keokuk's* deck, and were obliged to return home disappointed at last. The contractor, Mr. Whitney, has, we believe, done all that he could to forward the interests of the Government.

A CHANCE FOR THE INGENIOUS.

Under this head we lately called the attention of our readers to the evident want, on board of our naval vessels, of some machine or contrivance for quickly cutting off or removing piles from rivers, this being the favorite mode adopted bo the enemy to prevent the approach of our gunboats. Mr. Van Horn, of Springfield, Mass., who, by the way, is one of our most talented engineers, writes us that he used an apparatus last year in cutting off the piles for the railroad piers at Havre De Grace, Md., which would do the work at a depth of from five to forty feet. We were aware that devices existed by which piles could be cut; but we believe that there is none that is sufficiently compact, light and simple, to be carried and operated from on board our iron-clads; and we think that inventors have a clear field in this respect. There is no limitation as to the mode of removing the piles.