# Scientific American.

What is Doing to the Ericsson ?-Heat.

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The Ericsson Hot Air Ship, having all her former engines taken out at Green Point, was removed three months ago to the North River side to have great alterations made in her machinery, at the engine works of Hogg & Dela mater. We have not visited this vessel in her new berth, nor do we know personally what changes are making or are to be made in her new engines, but we have been informed that the new engines making for her are identical in nearly every particular with those of Dr. Stirling. If the former engines of the Erricsson were completely successful, as asserted by so many persons, why were they taken out? Has not the result so far confirmed all we said about the impossibility of hot air being able to compete with steam? It has. Why is it then, that those papers who deceived the public with false representations about its success, have not said a word about their being mistaken? We cannot look upon their conduct as that of honest journalists. Capt Ericsson has shown himself to be a most skillful adept in the Fabian tactics of literature, in staving off his discussion with Major Barnard.

An article on the mechanical action of heat by F. Ronbaud, translated from "L'Illustration," has been published in one of our city magazines, which commences thus :--- "When a body is exposed to the action of heat, there is produced the phenomena of dilatation, that physicians explain by saying that the caloric has penetrated a body, and taken the place of the air or water, or other substance interposed in the pores of the body. In order to penetrate a body thus, the caloric has had to overcome a certain resistance, and to exert a mechanical action. In consequence, caloric is a force that can be utilitized in the arts and in machines identical with the steam engine. It is this idea that Capt. Ericsson is endeavoring to realize in his new caloric engine."

There are not a few errors in the above, mixed up with some truth. It speaks of caloric as a ponderable body, which it is not, for it penetrates a body, and does not displace either air or water in the pores of the body, but combines with the air or the water. &c., producing dilatation. The caloric or heat when it enters water, forms steam. It is not correct to say "the mechanical force of caloric," any more than it would to say "the mechanical force of force." It requires the combination of caloric with a known ponderable body to produce mechanical force. Water is the best substance known to us when combined with heat to produce the most economical mechanical effects in moving bodies. We What our Readers think of the Scientific Amerihave many strong arguments in proof of this, which we have not yet advanced, because we tor of the celebrated oil press which bears his deem it prudent to reserve some charges against name, and his good opinions both cheers and such a guerilla machine as the "hot air engine," encourages us to greater and renewed efforts to which no doubt will make a second advent bymake the "Scientific American" more worthy and-by, and perhaps reproduce not a few speech, still of the esteem of such excellent and honorand paper feats superior to any it has yet made. able judges :-We perceive that Prof. Barnard, of the University of Alabama, has a long article in the last to your paper for two years, and I now wonder number of "Silliman's Journal," on a proposed how I had got along previously without it, I improvement of Ericsson's engine. It is an exfind it it invaluable. A hundred dollars a year ceedingly dull article, and exhibits a decided expended in other ways would not furnish me want of practical knowledge in engineering. with the same amount of useful and interesting

## Burning Fluid.

According to a record kept by Mr. E. Merriam, there were, during the year ending September 1st, 1853, some thirty-three fatal and disastrous explosions of burning fluid and kindred preparations, mostly in the cities of New which nineteen persons were killed, twenty- useful in my business. I make these remarks

[Continued from the First Page.] the top flue, N, which communicates with the gine by a pipe. chimney, P. The steam generated from all

ber, K, from whence it is taken off to the en-

 $\Lambda$  very large heating surface is presented in these heating surfaces rises into the steam cham- this boiler in a very small space, and these sur-

Figure 3.



faces are covered with a small quantity of water, ] well adapted to withstand great steam pressure so as to absorb the heat rapidly and generate One of these boilers has been in operation at the porcelain mannfactory of Cartlidge & Co., steam in the best way, to save the escape of heat in the gases of combustion. The boiler is inten-Green Point, L. I., for nearly a year, and it has ded to be kept full of water except the dome. given great satisfaction, and saved more than K, which affords sufficient steam room. It is almost impossible that the water level can be reduced in the water jackets to such a degree as to be dangerous. The form of the boiler is

can.

The author of the annexed letter is the inven-

MESSRS. EDITORS .- I have been a subscriber

information. In fact, I should be at a loss

where to go for many things if I were not fur-

nished them here. And I had rather furnish my

workmen, and particularly my engineers, with

the paper at my own expense, rather than they

should be without it, for the items which they

half the fuel previously expended in a cylindrical boiler to do the same work. More information may be obtained by letter addressed to the assignees.

bony frame-work to resist the compressive power

We admit that half a dozen skirts weighing many pounds are worse for the constitution of the weater than the drawers and pantaloons as worn by the men, but worse only because the quantity is greater, and the pressure necessary to sustain them is more. The principle is the same. Females should suspend their skirts mainly by the shoulders.

The hips of boys and men are constitutionaly narrower than thee of the female; and therefore the clothing thus worn requires to be tighter, to prevent slipping down.

Around the waist and hips, the very place where freedom of action and expansion should, of all the other parts of the trunk, be enjoyed, there is tightnesss, compression, and a destructive lack of freedom.

We plant ourselves on this point, and claim that our position cannot be disturbed, viz.: the animal economy, from head to foot, should never York, Brooklyn, Williamsburgh and vicinity, in would get in it would make them much more be dressed in such a manner as in the least degree to cramp the freedom of any action of the body

room, kitchen, and wine cellar, with icing apparatus for fifty bottles of wine; in fact, apartments furnished elegantly and comfortably. It was built under the immediate direction of the Comte de L -, and he can now travel at home from one end of Europe to the other.

## Our Steam Navy-The Princeton.

Since we published a brief history of our Steam Navy (page 381 of our last volume) many of our cotemporaries have directed public attention to it, by publishing, in some cases the whole, and in others, extracts of our article. One of our objects has been obtained already, and we hope that a searching investigation as to the causes of the inferiority of our steam frigates will be instituted, which will result in good to the country.

It is a shame to our navy managers that the most recent steam frigate built has been, so far, an entire failure : we allude to the "Princeton." A correspondent of the New York "Times," writing from Pictou, Nova Scotia, about herperformances, in protecting our Yankee fishermen, says : ---

"The U.S. steamship ' Princeton' arrived here on Saturday night at 9 o'clock, after grounding twice in sight of the light-house, while in charge of a branch pilot. She left the Gut of Canso on Saturday morning, about six o'clock. The day was beautiful, and the 'Princeton' was making more miles under steam than ever before. About mid-day the alarm of fire was sounded, the men were beat to quarters, the hose and fire apparatus were brought into play, and by the vigilance and activity of the officers, the danger was soon over. An hour afterwards smoke was pouring out from the hold, and another beat to quarters was sounded. The axmen cut away the felt and lead and clap-boarding in the vicinity of the boilers, and the wood was found to be thoroughly charred. The coal in the bunkers was so hot as to make it advisable to overhaul this black, bituminous furnace-food before trusting it another day in its quiet, sombre, but volcanic cell. Accordingly, to-day, the decks and the coal-heavers are one color. Mr. Shock, the able, skillful, and reliable chief engineer of the 'Princeton,' has made some improvements in his department, by which more steam is generated than she could on Saturday use, with a saving of over one-third of a ton per hour. The amount of coal consumed while steaming from Eastport, Maine, to Halifax, N. S., was 39 1-2 tons in 38 hours-an average of one ton and and three-tenths per hour. Steaming from Halifax to the Straits of Canso, 18 1-2 tons in 25 hours, showed au avcrage of three-fourths of a tou under Mr. Shock's improvement. From Canso to Pictou she carried 20 pounds of steam, performed 32 1-2 revolutions, and accomplished eight knots. This is the 'Princeton's' utmost-her climax of speed under the most favorable circumstances."

From this extract (if correct) we learn that the slothfulness of the "Princeton" is not owing to a want of steam, but something else, and that it is dangerous to "fire-up" and keep a good head of steam on. The boiler quarters must be badly planned on the one hand, and either the engines or the screw-propeller (we do not know which) badly constructed or .planned on the other. We have seen it stated in some of our cotemporaries, that Chief Engineer Isherwood, who has written so much in some of our magazines about the performances of our naval steamships, had charge of the construction and fitting up of the machinery, boilers, and screw of the "Princeton. This may not be correct; somebody, however, is to blame-but who that person (or persons) is, we cannot tell. Our

three persons fatally or severely injured, three	for your encouragement; I hope they will re-	or limbs. Let this be the rule with all, and	object, however, is not to reach individuals, but
persons slightly wounded, and some three or	mind you that your labors are appreciated.	one-half of our doctors might be spared to culti-	the system—as our whole Steam Navy is a dis-
four buildings fired. The preparations alluded	Yours, &c., D. L. LATOURETTE	vate the soil.	grace to our country.
to are buring fluid, camphene, spirit gas, rosin	St. Louis, Sept. 2, 1853.	[The above is from the "New York Phrenolo-	A Juvenile Æroneaut.
oil, etc.	SuspendersTheir Benefits.	gical Journal," and contains no small amount of	Charles Wise, aged 17 years, son of Mr. John
Table Bock.	It is the prevailing fashion, especially in cities,	sound sense and solid truth. A case within our	Wise, the well-known æroneaut, ascended in his
All the "Table Rock," once so famous at Ni- agara Falls, is now in the boiling cauldron be- low. The remaining portion of it fell with a tremendous crash on the morning of the 9th in- stant.	for men to dispense with suspenders, and sup- port their pantaloons by having them made to button tightly around the person, above the hips. It is our settled conviction, that this practice is decidedly detrimental to health. Much has been justly said against tight lacing, as applied	own knowledge, of inflamation of the bowels, which resulted in the death of a young man, 23 years of age, was caused, we believe, by the too tight belting of his pantaloons around his waist. Light elastic suspenders are more com- fortable than tight lacing the waist.	father's baloon, the "Irene," from Shanondale Springs, Va., last week, in the presence of a large concourse of spectators. The ascension took place at 20 minutes past 2 o'clock P. M., and at 10 minutes after 4 the baloon descended on the farm of Mr. E. Turner, five miles above Shepherdstown.
There are twenty-one hundred miles of rail-	to females; and of suspending heavy skirts to	A new sort of carriage has been constructed	It is only great souls that know how much
road in operation in the State of New York, and	the hips, by fastening them tightly around the	for the Orleans Railroad, France. It is a com-	
ten thousand more under contract.	waist or loins, where there are no ribs or other	plete house, consisting of a drawing-room, bed-	glory is in being good.



### ]Reported Officially for the Scientific American.] LIST OF PATENT CLAIMS

Issued from the United States Patent Office FOR THE WEEK ENDING AUGUST 30, 1853.

FOR THE WEEK ENDING ACOUST 34, 1853. HEMP AND FLAX BREAKING MACHINKS-BY O. S. Leavitt, of Maysville, Ky.: 1 do not himit myself to the precise construction and arrangement of parts specified, as 1 have only described the mode of application which I have essayed with success. I claim the combining apparatus, as described, in con-nection with the pieces which move alternately up and down, to hold the hemp or flax against the action of the combs.

MAGENNE FOR DISTRIBUTING AND COMPOSING TYPE-By Wm. H. Mitchel of Brooklyn, N. Y.: I do not claim ar-ranging the composing apparatus so that each type has to travel nearly the same distance to the point of deli-yery from the point at which it is dropped, as this has been effected by grooves, but I an not aware of any ap-paratus in which a combination of belts has been aran-ged with a view to all the types taking an equal i me to travel from the point of deposition to the point of deliv-ry, thereby carrying the types with certainty, and avoid-ing all hiability to stick or get inte disorder.

ry, thereby carrying the types with certainty, and avoid-ing all hability to sitck or get into disorder. I do not limit myself to the precise arrangement of the belts as long as the same end is attained, neither do I li-mit myself to the number or size of the parts, as these must be varied to suit the types, and the capacity read-red. But I claim, first, thefreding belt or beits combined with the inclined plane, wheels, and grooves, to distri-bute the type in themannerspecified. Second, I claim the mode shown for forming the distri-buting stick, with the points, spring, lips, and keys, so as to drop one type at a une on its side, as specified. Third, I claim the bridge and for a of groove to sepa-rate the thick from the thin types as they slide down the incline, as specified. Fourth, I claim a series of belts of length increasing towards the point, of delivery of the types, in combina-tion with a chagonal belt to receive and convey the said types from the series of belts to the composing table, or other point, in the order in which the types are dropped on the series of belts, as specified. Fifth, I claim fitting table, for dropping the types so that it shall give a partial fotary motion to the shaft, to operate on the fork and blocking piece or stopper, to

operate on the fork of any analogous where a structure types. Systh, I claim the fork and blocking piece or stopper, to drop one type at a time, when moved by the key, or any similar means, as specified. Seventh, I claim the composing wheel to receive and set up the types, either in the composing or distributing apparatus, as specified, and I claim the combination of the said wheel with the fugers on the wheel or with the bar, to supply said wheels, as specified.

GRAIN HARVESTERS-By Frederick Nishwitz, of Wil-iamsburgh, N.Y.: I claim, first, the combination of the ingers and cutters, or their equivalents, constructed, arliamsburgh, N. 1... tingers and cutters, and operat

Tanged, and operating as described. Second, I claim the employment or use of the fianged pulleys, arranged as shown, for the purpose of throwing oi detaching the grass or grain from the belts.

[A notice of this invention is published on page 228 of

GRINDING AND SHAPING METALS—By Samuel Darling, of Bangor, Me.: I claim the combination of the holder of the article to be ground with a griadistone or grinding disc, as set forth, se that the article and the stone will change positions relatively to each other during the ope-ration in three directions, nanely, towards each other, and parallel with and transverse to the axis of the stone.

and parallel with and transverse to the axis of the stone. Saw MiLLS-By Andrew Ralston, of West Middletown, Pa.: I claim, first, sawing loss or other descriptions of imber into lumber by means of a reciprocating saw ope-rated in a horizontal positio, as set forth. Secondly, I claim such an arrangement and combina-tion of the horizontal saw with the other parts of thesaw mill, that the saw vill run through and beyond each end of the log, or other description of material operated upon, and whist in that position, will be automatically let down a distance equal to the thickness of suff desired to be cut, and the motion of the carriage reversed to bring the saw again into action without stopping the ma-chine, and so on unfil the log or other material operated upon shall be entirely sawn into the dimensionsrequired, as set forth.

as set forth. Thirdly, I claim connecting the operating pitman, with the saw gate, through the medium of a secondary pit-man, connected with the saw frame and saw gate, sub-stantially as de cribed, so that the operating force shall be applied in a direction mearly coincident with that of the saw in its successive positions, for the purpose set forth.

MACHINE FOR CUTTING SHEET METAL—By Stephen P. Ruggles, of Boston, Mass.: 1 claim so hanging a traver-sing and a fixed cutting blade, one or both, as that their cutting edges shall not overlap or come in contact with each other, by which means I an enabled to dividesheets of metal without twisting or warping their edges, and at greats aving of Power, sub stantially as described. I also claim connecting theupper and lower portions of the frame when each carries one of the cutters on eccen-tric bolts, suitably provided with screw and nut or their equivalent, for giving the blades on the said two parts of the frame a perfect adjustment one above the other, as described.

As described. PAPER FILSS-By Daniel Winslow, of Westbrook, and Perley D. Cummings, of Portland, Me.: We do not claim a file or bill holder as made of two plates of wood or pasteboard, or metal, held together and upon the file of paper by one or more elastic bands; but we clain the combination of the plates with the elastic bands, so ar-ranged as that the side edges of the top plate shall be bent down upon facebunds and hold themsecurely, while the side edges of the bottom plate are turned, nut left far enough from the bottom plate for the bands to move, freely between them and the said plate, the edge lips of both plates being so beat inwards, and rounded on the corners as to protect the bands from being chaled or worn, as described.

MACHINES FOR SPILITING LEATHER-BY Charles Weston, of Saleun, Mass. : I claim the arrangement, as described, for exerting a constant and uniform pressure upon the leather, and at the same time allowing the spring plate to yield to the inequalities of the hide, the same con-sisting in a spring rack for holding the arm which is con-nected to the spring plate, by the turning shaft and cams, as set forth. which affords the best evidence of its good or independent of the method by which it was tanbad qualities." ned. [Our readers will find a notice of this useful invention We cannot-in a chemical point of view-SPECIFICATION OF A. K. EATON, OF ROCHESTER, on page 276, last Volume ] see what superior effects can be produced in BOTTLE FASTENINGS-By James Spratt, of Cincinnati, N. Y., FOR IMPROVEMENTS IN TANNING Ohio: I claim the application of the cup or cavity, and aperture, for scaling preserved edible substances, as set forth. APPARATUS FOR PURBYING GAS-By William Wigston, of New York City: I claim constructing the scrubber or feat with a cavity, to receive the gas above the surface of the fluid, and partly submerged passages leading from the suid cavity through the sides of the fluid to allow the escape of the gas from the cavity, and cause its distribu-tion over the surface of the fluid in thin streams to pro-duce a diffused contact with the fluid, as described. tanning by the sulphate of potash, any more than LEATHER the chloride of sodium (common salt,) the use of My invention consists of a combination with MACHNERY FOR PLANNG METALS-By W. W. Spafford, of Boston, Mass. : I claim the combination of the receiv-ing table or plate and its arm(composing the radial arm) the adjustable center-pins, or their equivalents, and the brace, together with the main planing table, and its sup-porting frame, the same being made to operate as speci-fed, and for the purpose of adapting the planing ma-chine to planing in curved lines, as set forth. which has been long known to tanners, exceptmy tanning liquor of certain substances which ing some change takes place in the sulphated have the effect of facilitating its action, and also Mr. Wigston is an experienced Gas Engineer, and has salt itself, whereby the sulphur unites with the of preventing the extraction or other matter of introduced several valuable improvements in its manuskins and produces a vulcanizing effect-which the bark or substance, from which the tannin is facture. A notice of this invention is published on page chine to planing in curved lines, as set Jorh. CourN'ERFERT COIN DETECTOR-By Gideon B. Smith, of Baltimore, Md. if caim a gauge or hole just large enough to permit the genuine coin to pass through, arranged in combination with a lever, acting below said gauge, ba-lanced, so that the weight of such coin will depress it so as to let said coin sip down through said gauge, which is too small to allow any spurious coin to pass which is targer than the genuine, the lever being so balanced that any coin lighter than the genuine will not be heavy enough to depress it; so that all spurious coin, whether too large or too light, will stop in the gauge, while the geduine will slip through and fall out below, as descri-bed. change cannot take place by the process descriobtained, from acting injuriously upon the lea-252, Vol. 8.] MACHINERY FOR CETTING AND RENAME METALLIC DISCS —By Elliot Savage (assignor to Franklin Roys & Edward Wilcox), of Berlin, Conn. : I claim the combination and arrangement of the roller M with the roller B, and the bending roller, so as to operate together, and indepen-dently of the clamps, as specified. bed, so far as our experience and reasoning exther. In order to tan hides and other skins by my tend. improved process, they may be first soaked, un-Bedouin Arabs Distanced. haired, and bated by the usual processes SHINGLE MACHINES-By Elijah Valentine, of Palmer, Mays. (ussign or to Abel Bradway, of Monson, Mass. : I clain the series of rollers &c., p aced above the platform, when they are combined with the ledges, which rise from the sides of that portion of the platform that receives the rived shingles to be operated upon, and so arranged that when a rived shingle is first carried forward, the said rollers will be elevated above its upper surface by the said ledges, and when the driver is draw m back, it will at the same time passfrom under the sald shingle, and When the bating is accomplished they are When, on the 6th of June, a locomotive was genu bed. run for the first time "on the Egyptian Railroad, ready for the tanning liquor, which may be pre-Corros Guss-By Henry L. Weeks, of Hannahatchie, Geo.; I claim, first, arranging and securing the boxes in which the ginning rollers operate, in a revolving or ad-justable frameor box, or its equivalent, so that the roll-ers can be adju ted, or et at such an angle as may be pared from any vegetable substance from which the Bedouins galloped alongside on their hortannin is usually obtained by adding to the de. ses for some time, until they found they had 39) coction of the substance certain chemical sub- no chance of keeping pace with the locomotive.

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from under the rollers, thereby allowing the shingle to fall upon the platform, and the rollers to fall in succes-sion upon the upper surface of the shingle, for the pur-pose of giving to the said shingle such a shape and posi-tion upon the platform, that it will be carried outwards again by the next forward movement of the driver and be operated upon by the dressing knives, as set forth. FOR THE WERK ENDING SEPTEMBER 6, 1853.

STRAW COTTERS-By Jas. T. Ashuny on Taylorsville, N. C. I claim the combination of the three cutting knives, as described, with the recessed arms, whereby one-third of the feed of straw is cut successively by each knife, the protruding uncut portion passing through the recesses in he arms during the operation, as specified.

d the feed of straw & cut successively by each knife, the protruding uncut portion passing through the recesses in he arms during the operation, as specified. NGC GACCRRS-BY Philes Black, Eli W. Blake & Inc. A. Blake, of New Haven, Conn. Ante-dated March & 1835. : We do not claim the use of laws forced togsther by a lever, to crack nuts, since that device is found in the common nut cracker: nor do we claim the mete diver-gence of the laws, irrespective of their position in rela-tion to the axis of motion, since the laws of the common nut cracker diverge when opened to receive a nut : and it also diverges in a plane which is a tright angles to the axis of motion, and consequently nuts of different sizes are received between them at different distances from the axis is whereas, the jaws of our instrument di-verge in a plane which is parallel to the axis of motion, and consequently nuts of different sizes are received be-tween them, at the sume uniform distance if motion, which condition, or a near approximation thereto, is indispensable to the cracking of nuts of differ-ent sizes, between jaws whose motions, are limited by stops in both di zetrins, as described . We claim, therefore, first, the divergence of the jaws in a plane which is parallel to the axis is motion. Second, We claim the divergence of the jaws in a plane parallet to the axis of motion is conbination with the invostops, collectively, which limit the motions of the morable jaw, as described . Third, We claim the divergence of the jaws in a plane parallet to the axis of motion is combination with the invostops, collectively, which limit the motions of the morable jaw, as described. The foregoing claims we do not intend to confine turestores to a strict parallel is between the plane of the jaws and the axis of motion is norbination with the fine of the axis of motion is norbin the plane of the jaws and the axis of motion, since it is obvious that one variation thereform would not defere the object aimed at by approximating to parallelism in

MACHING FOR EDGING LEATHER STRAFS-By James Barnes, of Franklin, N.Y.: I claim the combination of the parallelogram and inverted dividers, as a regulating gauge to work in front of the edge of a curved knife, so that stirps of leather of different widths may be rounded to feather edges, with the same perfection without the change of knife or any part of the machine, the whote being as described.

being as described. PRINTNG PRESSES-BY Victor Beaumont, of New York City: I do not claim a type cylinder or any particular mode of holding the Jpe in place or the using any por-tion of the periphery of the type cylinder for a distribu-ting surface. But I claim, first, the combination of two or more im-pression cylinders with a type cilinder. So arranged as to print all over on one side a continuous sheet of paper, as described. Second, the combination of the eccentric and rod, and the folder, so arranged as to lay the continuous sheet in piles, after being printed on one side, as described. Third, the combination of the indented knife with the roller, and so arranged as to cut the sheet into proper length, as printed. PlaNcovers. Bw W-

PINOPORTES-By Wm. Comp on. of New York City: I claim the means shown and described for securing the strings into the angles of the T's by the combined opera-tion of the up-bearing bridge or rest, to which the Ts are connected, and crossing and drawing the strings to gether at said bridge or rest, for the purpose of relieving the sounding board or rest plank of vertica pressure, as specified.

SEALING PRESERVE CARISTERS.—By Henry Hunt, of Brooklyn, N.Y.: I chim excluding air from articles put up in closed canisters, on other vessels, by providing the canister or other vessel with a metallic tube, or its equivalent, attached thereto, and after the air has been exhausted through said tube, pressing it together air-tight, that it may be soldered or cemented to render the joint permanently air-tight, as described.

HORSE COLLARS-By Jos. R. Lindner, of New York City : I claim the union of the hame plate and collar, in combi a chain the union of the hame plate and collar, in combi-nation with the lock plates, as set forth. I also claim the triple fasteming of the lock plates, in combination with the outward and backward spring of the hance plates, as set forth.

[A notice of this invention is published on page 32,

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STRAW CUTTERS-By John Moyle, of Martinsburgh, Va.: I claim the combination of the rake and holder, construc-ted as described, for feeding the straw to be cut, and binding it to the box, as specified.

PRINTING PRESSES—By Chas, Montague, of Pittsfield, Mass. : I claim such a combination and arangement. of the cylinder and bed, that whilst one sheet is receiving its impression, the sheet to receive the mextimp ression will be carried for wads upon the cylinder, meanly to the bed, for the purpose of being in readiness to consence receiving its impression the moment after the bed starts upon its next forward movement, as set forth.

PRINTING PRESSES-By Charles Montague, of Pittsfield. Ass. : Having described my press for printing on a con-tinuous sheet, I claim the combination of the internit-tently winding cylinder and feed roller, or their equiva-lents, with the reciprocating pressure cylinder and bed and rollers, arranged and operating in such a manner as to successively make an impression on the continu-ous sheet, at each movement of the bed, as setforth. In combination with a double set of inking rollers, I also claim the arrangement of the arms for inking both sets of rollers from a fountain placed, vertically he low the impression cylinder, substantially as described.

low the impression cylinder, substantially as described, FEED APPARATUS TO GAS GENERATORS--By Stephen Me-redith, of Erie, Pa.; I claim the peculiar construction of the retort, as described, viz, having the retort of the cy-lindrical shape or of other suitable shape, and placing within it a revolving cylinder, which, as it rotates, con-stantly presents a heated surface to the fluid, and con-verts it into gas, preventing the fluid from cooling the retort, and also preventing the fluid from cooling the tation on the same, as set forth.

requisite or desirable, as the condition of the cotton or other circumstances may require, so as to discharge the seed, or facilitate the falling from the rollersafter the cotton is drawn off by the rollers. Second, giving to the feeding aprons, or equivalent feeding devices, different veloci les, for the purpose of spreading, distributing, or arawing apart, the balls of otton, so that sand and dirt may fall out, and not be rided to the ginning rollers. Thirdly, passing the cotton, after it is ginned between double aprons, or equivalent devices, when said aprons or devices move with less velocity than the ginning mole-rs, for the purpose of compressing and making more compact the cotton after it is ginned.

MAKING TWISTED GUN BARRAD-BY Thos. Warner, of Chicopee, Mass.: I claim, first, a new manufacture of gun barrels, made out of solid bar, with the fibres of the metal having a gradually increased twist from the inside to the outside as specified. And in the process I claim making twisted barrels by twisting a bar of metal of the required size, when in a heated state, and then boring out the caliber, for the purpose specified.

PADDLE WHEEL-By Benj. Irving, of Green Point, N. Y.: I claim arranging and combining the floats so as to form a series of buckets of rhombic, or substantially siz milar form, as set forth.

We would state, that we have seen a working model of this paddle wheel tested with a model of those in common use, and the test was favorable to the new wheel. We would like to see this wheel fairly tried for some time on a stea: ship or steamboat, in order that all its qualities might be fully tested, in omparison with the common radial bucket wheel.

radial bucket wheel. STRAW CUTTERS-Ily Thos. Allison, of Milton. N. Y. : I do not claim cutting straw in an oblique direction by means of splital knives set obliquely around the periphe-ray of a cylinder which has its axis set parallel with the axis of the feed trough, and which operate in combina-tion with a parallel feed roller. But I claim the construction and arrangement of the adjustable feed roller, which is made gradually tapering from its ends to its center, or middle, in the line of a curve, and arranged at an angle to the axis of the feed trough, and made tooperate in combination with the cy-radic of the machine, as set forth-this arrangement tendering the machine less expensive and more easy to be managed and kept in order. IThis is a very simple improvement and is likely to

[This is a very simple improvement and is likely to take the place of spiral knives which have been so much in use ; it operates on the same principle but under a different construction.?

CORN SERILERS-By L. H. Davis, of Kennet Square, Pa.: claim the introduction of the wheels and armsattached of the springs and regulated by the screws, as descri-ed, for the purpose of stripping the ear of the kernels,

a specified. I also claim the flanges upon the gear covering for pro-tecting the gearing from the admission of shelled corn, as set forth.

CORN SHELLERS-By Porter Dickinson. of Amherst Mass. I claim the combination of the revolving spring shellers, with the tooth rollers, operating as described.

IRON CAR BRANKS-BY Stephen Morse, of Springfield, Mass. : 1 claim the spine having the point of suspension and socket, with the open spaces, and brace plates, in combination with the rubber of friction surface plate, as set forth.

set forth. BRICK MACHINES--BY H ram Sands, of Cambridge, Mass., and Gary Cummings, of West Derby, Vf.: We do not claim the mode of operating the mould carriage by means of a crank acting upon bars running across or at-tached to the mould carriage, asthat has been employed before in the brick machine of James Dank-, patented Oc-tober 24, 1848: nor do we claim the mode of operating the pressing piston, by means of a lever, actuate by revol-ving cams. and connecting 'od: nor do we claim the ar-rangement thereof with the cam shaft made to pass be-neath the pug mill, and thus operate the mould car-riage by means of a reversing gear applied to said shaft, as the like arrangement is contained in the patent of Dane, Healy & Cummings, Aug. 5, 1851; ante-dated June 17, 1851. But we claim the modification of such arrangement. by

Dane, Healy & Commings, Aug. 5, 1851; ante-dated June 17, 1851. But we claim the modification of such arrangement, by substituting for the shaft, with reversing gear, the shaft with continuous motion operating the carflage, and pro-ducing the intervals of rest, by means of the crank pin acting alternately upon the study connected with the mould carflage, whereby we obtain greater certainty and precision of action in the machine, with greater simpli-city and durability. Also, in combination with the piston and the lever, we claim the slot in the ever, the slotted bearings and the mevable fulcrum pin, the connecting fork and hand le-ver, the same being for the pumese of acreasing or di-minish'ng the amount of pressure of the piston on the clay in the moudid, as specified. PRINTRE's INF-TBY Sampel H. Turner, of Brocking N.

PRINTER'S INE--By Samuel H. Turner, of Brooklyn, N. Y.: I claim the employment of colophoric tar, produced and combined as stated, both in the manufacture of printing ink, and also as a varnish used by printers to modify the condition or their ink to suit the temperature 6 the weather, and the kind of work to be executed, as specified.

DESIGNS.

MILK STOOL FRAME-By P. A. Palmer, of Leroy, N. Y. COOK STOVE | By Frederick Schultz, (assignor to Chas, & Samuel Gilbert, of Philadelphia, Pa.

PARLOR STOVE-By Garrettson Smith & Henry Brown (assignor to J. G. Abbott & Archilus Lawrence,) of Phi-ladelphia, Pa.

STOVE--By S. W. Gibbs, of Albany, N. Y. (assigno to North, Chase & North, of Philadelphia, Pa.

COOKING STOVE-By Wm. F. Gray, of Penn Township, Pa. (assignor to Abram & Jos. Cox, of Philadelphia, Pa.

#### Tanning --- Eaton's Short Process.

The annexed specification is that of Prof. Eaton, for which a patent was granted on the 10th of August, 1852. Many inquiries have been made of us-respecting its nature, merit, and the kind of leather produced by it. We must say, it is "the eating of the pudding

stances, which facilitate the action of the tannin, and, at the same time, prevent the extractive matter of the decoction from injuring the leather. One of the most convenient sources of tannin is the ordinary "Terra Japonica," or catechu of commerce, and it is especially adapted to my process, as the chemical substances which are mixed with it prevent it from having any injurious effect upon the leather, however strong the decoction be made. 'To tan with this substance, prepare a solution of one hundred and seventy pounds of japonica in a sufficient quantity of soft water to receive one hundred calf skins. This solution is best prepared by steeping the japonica in hot water and straining the liquor through a cloth when cold. To this liquor add eleven pounds of sulphate of potash and six pounds of alum (double sulphate of alumina and potash.) The bated skins are immerset in this liquor after the grain has been set by a weak tanning liquor, a greater or less period, according to their thickness and porosity. Sheep skins are thoroughly tanned by an immersion of fr m one to ten hours in the liquor. Calf skins require to be immersed from one to six days, and hides require a proportionably longer period, which varies from six to twenty days .---After the first hundred skins have been tanned, there is still much tannin left in the liquor as well as a part of the alum, and the whole of the sulphate of potash; it is therefore brought up to its original tamin strength by the addition of japonica alone, and is employed to tan a succeeding parcel of skins.

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In the process above described, the sulphate of potash induces so rapid an action of the tannin upon the skin that the extractive matter of the vegetable substance from which the tanning liquor is made, has not time to act; this is peculiarly the case when japonica is the substance employed, as it is well known that if bated skins be submitted to a liquor made from it alone, in the ordinary manner, they are spoiled, for the catechnic acid injures the animal fiber, while, by combining sulphate of potash with the liquor, the injurious influence of this acid is prevented. The alum improves the quality of the leather, as a portion of the alumina of the alum combines with the gelatine of the skin and adds greatly to the impermeability of the leather. Alum is not essential in tanning calf skins.

If japonica cannot readily be obtained, tanning liquor may be prepared from sunac, or the various barks generally employed, by adding to the decoction sulphate of potash alone, or sulphate of potash and alum.

Leather tanned by the process above described is remarkable for its pliability, strength and impermeability. The former of these properties is believed to result from the absence of vegetable extractive matter; the strength results from the fact of the animal fiber being uninjured by the process; and the impermeability is due both to the thorough action of the tannin and to the alumina combined with the leather.

Having thus described my process of tanning leather, what I claim as my invention, and desire to secure by Letters Patent, is the combination of sulphate of potash with the tanning liquor, substantially in the manner and for the purpose herein set forth.

We have tested, for six months, a calf skin tanned by this process, in a pair of boot uppers. It has proved to be excellent wearing leather. It was stated to be tanned by this process in six days; but the skin was no doubt a good one,