Scientific American.

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NEW YORK, FRBRUARY 17, 1855.

Proposed Alterations in the Patent Laws. Strenuous efforts are now being made at Washington to procure the immediate passage of a bill providing for an extensive alteration of the present Patent Laws. We trust that our Senators and Representatives will be careful how they vote on this subject; especially do we hope that they will not allow themselves to be forced into any hurried legislation respecting the same. The matter is one of vital importance, not only to inventors individually, but to the whole country at large, and it should, therefore, receive the most deliberate and studious examination, as well as the most thorough and

extended legislative discussion. We are aware that less general knowledge prevails among our legislators respecting the wants of the people upon this matter than upon almost any other which comes before Congress. But it seems to us that from this very reason they should delay action in the premises until they have had time to inform themselves properly respecting the whole subject. Some amendment of the present laws no doubt are demanded in order to increase the revenues of the Patent Office, which, at present are not sufficient to meet its expenses. But the best plan to increase those revenues is a nice question. Better put up with present inconveniences rather than make matters worse by useless complication.

At the time the proposed amendments were first drafted, the Patent Office, for the want of a proper examining corps, was in a disgraceful condition respecting the examination of applications; many of them were allowed to accumulate under the dust of a dozen months before they were opened .-It seemed as if a radical change in the laws was most imperatively demanded. Indeed, for a period of some years previous we had ourselves been continually directing the attention of Congress and the authorities connected with the Patent Office, to the evils inflicted upon inventors by the great length of time they had to wait before decisions were made on their cases. All this is now changed; the pile of accumulated business has been exterminated; examinations are now made within a very short period after the date of application, and it has become evident that in the hands of a vigorous executive officer the present Patent Laws are about as effective and satisfactory as any that could be devised. The happy change which has been effected since Judge Mason became Commissioner, affords us sincere gratification, and has encouraged and gladdened the hearts of our inventors. The great increase in the number of applications for patents, during the past year, is partly owing to this, for inventors, before that period, were deterred from applying for patents by the delays and troubles they suffered from this Department. We hope the present facilities for doing the business of the Office promptly and well, will not be lessened, but increased, and to do this it is necessary that the revenues should be increased. On Jan. 20th, last year, a Bill was reported by the Committee on Patents of the Senate, for this purpose, at the same time making very great alterations in the whole patent code. ome portions of that Bill we considered were very wrong, and would be the means of doing a great deal of evil if they became a statute. We pointed out the defects of the Bill on page 341, Vol. 9, SCIENTIFIC AMERI-CAN (July 8th.) and on the 19th following, it was recommitted to the Committee on Patents-Senator James, Chairman-who reported it back on the 24th of the succeeding month, amended in a number of the important features that we had pointed out. We have been informed privately, that the unamended Bill, as it originally read, is intended to be called up by Senator James for action. but we think this cannot be correct, he having reported the amended Bill. From our long acquaintance with the inventors of

patent system, we ought at least to be able to form some correct opinions respecting what reforms are required, and what changes might be expected to work well or ill. We believe that a simple increase of the patent fee, from \$30 to \$40, would be the safest and best way to increase the revenues of the Office, and at present no further alteration of the laws is very pressingly demanded.

But there need be no increase of fees at all if our law-makers would insert a brief amendment, requiring that inventions, in order to be patentable, shall only be new in this country. This would greatly reduce the expense of examination-cut off the necessity of a foreign library, augment the number of patents granted, and bring about a corresponding increase of revenue.

The more simple our laws are, so much the better for all, excepting the lawyers.

American Library in Paris.

We have received a circular from Mr. James Swain, of Philidelphia-now in Paris as one of the Commissioners to the coming Exhibition in that city-appealing to American booksellers and any public-spirited individuals in our country, to make donations of American books for the "American Library and Museum" in the Hotel de Ville. The circular says:

"We hope to make a creditable appearance in the Industrial Palace, but we fear that we shall not be represented there as extensively as we were at London. It has occurred to us, under the circumstances, that we might compensate for any other deficiency by an intellectual exhibition which will give some idea of our real civilization. The magnificent collection of American books, engravings, coins, &c., made by M. Vattemare, will be inaugurated at the Hotel de Ville (City Hall) about the same time with the opening of the Palace of Industry. With this nucleus of ten thousand volumes, contributed by American generosity to the city of Paris, we hope to found a library and museum which will be to all time a epeaking monument of national greatness-an ever-increasing proof of what we have done and what we shall do in the intellectual provinces. The chief magistrate and municipal council of Paris are disposed to co-operate with us with the most flattering cordiality. Funds have been devoted for the necessary expenses of arrangement. An apartment has been expressly appropriated for the purpose in view. The American Library and Museum will be the only exhibition open to the public in the Hotel de Ville, so that there will be nothing else there to distract the attention of visitors. It is proposed to have an alcove for every State in the Union, surmounted with its arms, the date of its settlement, the principal dates of its colonial history, the date of its incorporation in to the Union, &c. At the entrance will be the arms of the United States and France. In appropriate places will be inscribed the great discoveries and inventions made by Americans, with the names of the discoverers or inventors. The land-marks of our history will thus be permanently before the eyes of Europe. A library composed exclusively of the productions of a single people is a novelty. The world contains none such, as yet."

Busts and medals of prominent Americans will be acceptable. We hope this appeal will not be in vain: the idea is an excellent one. As the exhibition opens on the 1st of Maynext, there is no time to lose. Upon every book will be inscribed the name of the donor. Those of our countrymen who are willing and able to contribute to this enterprise. should address their contributions as follows : "International Exchanges; A. Vattemare, Central Agency, Paris."

our country, and the working of our whole | pass ; but members, on this occasion, showed themselves determined to remove such an impression. They expelled a reporter who was said to have an interest in the extension of the patent, this being against the rules of the house, and he had refused to stand an examination by the Committee on Patents. Some rather strange remarks were made about Col. Colt's examination by the Committee. It appears to us that the Bill will be rejected by an almost unanimous vote; we thus judge from what we have heard and what we have read on the subject, although many have asserted that any bill can be weathered through Congress by good management, and plenty of means to lobby.

The foregoing was penned on the 7th; two days afterwards-the 9th-the bill came up again, and, as we had supposed, the enacting clause was struck out by a vote of 99 to 23, and may be considered killed.





This figure, which is a perspective elevation, represents a machine for papering the walls of rooms for which a patent was granted to Henry F. Baker, of Centerville, Wayne, Co,, Indiana, on the first of last November. A A are two side bars, and B B are two cross pieces framed in the said bars, and C D E, and F are four rollers, G, and H are two tin cylinders. Cylinder G, for holding the paper, and cylinder H for holding the paste or sizing. Roller D being covered with sponge or sheepskin, or its equivalent, and roller F being covered with gum elastic cloth or its equivalent, for the purpose of pressing the paper to the uneven surfaces of the wall, and by that means press all the air from between the paper and the wall, and cause the paper to be laid on smoothly, nice-

ly. and evenly, without the trouble of hand

labor. Cylinder G has a lid to it for the

purpose of putting in the paper, and hasal-

The patentee informs us that, by this machine, as much wall papering can be done by one hand in a given time as four or five hands without it-sizing the paper at the same time.

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More information may be obtained by letter addressed to Mr. Baker.

Condensation of Steam.

Contradictory opinions have been expressed by writers on the steam engine, respecting the value of the condenser in engines; Scott Russell contends that a vacuum may be too good, and a decided loss of power; and Bourne asserts that in a locomotive working at a pressure of from 120 to 105 lbs. on the square inch, the efficiency of a given quantity of water, raised into steam, may be considered about the same as in the condensing engine, because the resistance of the atmosphere (15 lbs. on the square inch) is about one-eighth of the whole pressure in the former engine; and the rare vapor in the condenser (2 lbs. on the square inch) of a low pressure engine, amounts to the same resistance in proportion to its pressure. This is asserted on page 35 of his catechism, while on page 32 he says, "In a high pressure, as contrasted with condensing engines, there is always the loss of the vacuum, which will generally amount to 12 or 13 lbs. on the square inch." This would seem to be a contradiction, and yet it is not, when the effect of steam, in moving the piston, is taken into account in high pressure engines, and the saving of fuel is taken into account in the condensing engine. There is, however, another deduction to be made, from the useful saving of condensing the steam, beside 2 lbs. generally allowed for the elastic air in it, viz., the power consumed in working the air pump. The practice of Watt was to allow 28.9 cubic inches of water, at 50°, for condensing one cubic inch of water raised into steam. The cold water pump of a land condensing engine is 1-48th the capacity of the steam cylinder and the air pump is 1-6th the capacity. If it did not require these two pumps to supply and free the condenser, the whole power of the vacuum gained might be added to that of the steam, when comparing a condensing with a non-condensing engine. In marine engines no cold water pump is required, only the air pump. The estimated value of the vacuum, in a condensing engine, after deducting the power required to work the air pump, is about ten pounds on the square inch. The small amount of 51 cubic inches of water at 32°, will convert a cubic foot of steam into water, and the whole will then be af a temperature of 212°--the boiling point-at which no vacuum could be maintained, the temperature of the condenser therefore has to be kept at about 100°. and this is the reason why so much water is required for condensing the steam rapidly.

Commisioners to the World's Fair in France.

The people in Paris-those who knowwe have been informed, are somewhat puzzled how to act in reference to the great number of Commissioners appointed to represent different American States at the Great Paris Exhibition of Industry which opens in May next. It seems that there are far more American Commissioners than articles. A number of gentlemen have got themselves appointed who have not made a single effort to send an article to the Exhibition, the preponderating majority of articles having been sent by the Commissioner from this city. Those Commissioners who have no articles

Colt's Patent in Congress. On the 6th inst. there was quite an exciting time of it in the House of Representatives, when discussing the merits of the bill before it for the extension of Col. Colt's patcould be bought, and that this Bill would spread upon the paper.

a small orifice in front to let the name pass through. Cylinder H has a hole, I, in to represent, expect to represent themselves, the top to put in the paste and also an orino doubt. This, we consider, will not look fice in the bottom, next to roller, H, with a very flattering for our country on their part. slide. K. to let on and off the paste on to Cold on the Prairies. roller H. M M are two keys in the end of The cold has been so severe, and the snow the cross pieces framed into the bars for the so deep on the western prairies, that some purpose of taking the machine apart, when of the railroads were completely stopped for necessary to clean. It is readily perceived a number of days. On the Illinois Central that the paper, N, placed in cylinder, G, Railroad a train with its passengers was passes out of it over roller, C, under, D, and caught in a snow storm and frozen up, and over roller E and F, against the wall to be the wretched passengers suffered from the papered; and that when the paper is pressed lack of both food and fuel. A number of and rolled on the wall, it will cause all four them were severely frost bitten, and came ent. It seems that implications or hints had of the rollers to revolve and draw out the been thrown out that members of Congress | paste from cylinder H, and cause it to be near being frozen to death before they were relieved.

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[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS Issued from he United States Patent Office.

FOR THE WEEK ENDING FEBRUARY 6, 1855.

SAUT MACHINE-John Bean and Benjamin Wright, of Hudson, Mich: We do not claim the leading of a draught through the smut scourers and revolving screen irrespect-ive of the manner of effecting the same. But we claim supplying air to the fan of a separator, the shoe of which is arranged inconnection and at right angles with a smut machine, by causing said air to pass through the smut scourers and revolving screens of said smut ma-chine on its way to the fan, as described, and for the pur-pose set forth.

[A brief notice of this invention may be found on anothe

DOBLE-ACTING FORCE PUMP.-W. C. & J. S. Burnham of New York City: We claim the general construction of the pump as herein shown and described, viz.: having the casing, D. cylinder, E. and passage, F. arranged as shown, and cast in one piece, and secured upon the upper part of a base or circular chamber, A. having compartiments, a, b, c, d, within it, and valves, e, f, g, h, upon its top plate, ar ranged and communicating with the several passages, as shown and described and for the purpose as setforth.

[See No. 16 present volume Sci. AM. for a description of this invention.]

MANUFACTURING SEAMLESS FELT GOODS.-John H. Bloodgood, of New York City: I claim the method of form-ing the various parts necessary to the production of seam-less articles of felt, by the use of a movable or stationary pattern, in the manner and for the purposes described. But I do not claim the manner of forming the bat or of uniting the several parts, as both are old and well-known processes. processes.

DAGUERREOTYPE PLATE HOLDER.-D. N. B. Coffin, Jr., of Lynn, Mass: I claim the peculiar combination and ar-rangement, substantially as described, of the block frame and bed piece, for the purposes specified, the same being constructed and operated substantially as set forth.

LIFTING-JACK FOR MOVING RAIL CARS.—Nelson B. Car-penter and John Powers, of New York City: We do not claim the jacks, AA, separately for they are well known and in common use; neither do we claim the combining in the same machine of any mechanical powers for giving a vertical and lateral motion to the object or article to be ad-justed, nor do we claim the slide, E, separately or in itself censidered.

Considered. But we claim the improved jack, constructed substantial-ly as shown and described, viz: connecting two ordinary screw jacks, A.A. by a frame, C. provided with an arch, D, aud having a slide, E, fitted on the upper part of the frame, C, the slide being connected to the frame, as herein shown, and operated by a horizontal screw, G. for raising and ad-justing railroad cars upon the track, and other analogous purposes.

[For a description of this excellent improvement in lifting Jacks, see No. 12, present vol. Sci. AM.]

CURRENT WATER WHEELS.—Richard Deering, Sr., of Jouisville, Ify: I claim the concave flanged screw, in ombination with the conical body or center, as and for the

combination with the conical body or center, as and for the purposes set forth. Also, the arrangement herein described of hanging the water wheels and other machinery in framing, adjustably connected with the vessel or scow, whereby they may be raised or lowered, for the purposes specified.

AXLE BOX ROLLERS.—George W. Geisendorff, of Indian polis, Ind. and Jacob C. Geisendorff, of Cincinnati, Ohio wpoins, ind, and Jacob C. Geisend, of the control of the data We claim the giving a positive motion or rotation to the lu-bricating roller, by the axle of the car wheel, in the manner set forth.

CORN AND COS CRUSHER. — John S. Griffith, of Hunting-ton, Pa.: I claim the combination of platform, p, holders, q, and knives, l, arranged with the crushing frustums and concaves, as constructed and operating, for the purposes set forth.

WIRE CLOTH FLOUR BOLT.-F. B. Hunt and Elias Nor-dyke, of Richmond, Ind.: We do not claim a wire cloth bolt with revolving brushes working within it, for they have

bolt with revolving brushes working winners, to the been previously used. But we claim the peculiar means shown for graduating the pressure of the brushes, F, against the wire cloth of the bolt, viz. the loose hubs, I i. on the shaft, C, being attached by arms, H, to slides, G, which work on the outer sides of the stationary arms, c, the outer end of the slides, G, being attached to the brush bars, F, which fit in the forked ends of said arms, c, the hubs, I i, by being moved on the shaft, c, expanding or contracting the brush bars, as desired, the hubs being secured in the proper position by the rols, g, J.

[For a notice of this invention see another page of the Sci AMERICAN.]

ELLIPTICAL ROTARY PUMPS.—Birdsill Holly, of Senect Falls, N. Y.: I claim the corrugated or grooved pistons of cogs, in the manner and for the purposes specified.

BURGLARS' ALARA. - Daniel Haldeman, Morgantown, Va.: I do not claim the letting off an alarm in the act of opening a door, nor do I claim an alarm which requires fast-ening of any kind, either to the door or floor, to ensure its going off, as several of these are already known. But I claim combining with the trigger, lever or dog, which holds the hammer at a cock, a hinged inclined lever, G, the end of which simply passes underneath the door, and requires no fastening other than it receives by being held by the door itself as it is pushed open, as described.

REFARING ROADS - Alpheus Kimball, of Fitchburg, Mass. I claim the described machine for making road, consisting essentially of the combination of the plow and scraper, constructed in the manner set forth, and suspend-ed from the lever, H. Second, I claim pivoting the rear axle and securing it to

the frame work in a position oblique to the directiou of mo tion, for the purpose described.

tion, for the purpose described. PRESSING HATS AND BONNETS.—S. E. Pettee, of Foxbor-ough, Mass.: I do not claim the pressing of hats by machine-ry, nor the use of heated materials or damp cloths, as such. But I claim the combination of the curred heated bed-plate, A, with the rolifer, H, for the purpose of pressing hats and bounds, whereby I am enabled to use a rolling pressure, a converdistinction form asliding pressure given by mooth-

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STEAM GENERATORS.-William Montgomery Storms, of New York City: I claim, first, enclosing a thermostat in a steam-tight space, forming a part of the steam-con-ducting passage to the engine, and from such thermostat forming an exterior and adjustable connection to a cock or valve, as C?, located in the exit pipe of the boiler in such manner that being moved by the thermostat it shall direct more or less of the steam through the super-heater; the whole device, by acting in conjunction, thus controling while being actuated by the temperature of the steam geing to the anzine.

while being actuated by the temperature of the period. Second, I claim regulating and tempering the heat in the desiccator by the admission to it, as may be necessary, of waterfrom the boiler, by means of an especial communica-tion, as pipe O', the quantity admitted being governable by the adjustment of a cock, as P', all substantially as ex-

plained. COMENED CHAIR AND CRIB FOR CHILDREN.—William B Carpenter, of New York City: I claim the chair, B, in combit ation with the standards, e. e. and hinged thereto at A, when constructed and arranged so that by the reversal of the chair, as described, the whole forms a high and low chair and crib for children, substantially in the manner set forth. forth.

LOCOMOTIVE TRUCKS-John Cochrane, of Baltimore, Md. I claim as the method of neutralizing or preventing the vi bratory tendency of the trucks of locomotive engines, caused by the direct action of the forces which operate the truck driving wheels, by means of the steam or hydraulic brace, substantially as described.

CONSTRUCTING SHIPS AND OTHER VESSELS.--V. P. Cor-bett, of Corbettaville N. Y.: I claim the arrangement shown and described of the india rubber or elastic and water proof pad, covering or lining on the back of the inside lining and the stiffer or more solid outer timbers or frame work of the hull of the vessel, the same serving to form a stout elastic cushion or pad bearing for the inside planks to rest upon in their union to the outer frame work of the ship, and constituting a planked elastic pad inside casing to the vessel, fer operation in the manner for the better accomp-lahment of the several purposes of protection, freedom from injury and facility of repair, essentially as specified. I Thisis a most useful invention, which wa shall describe [Thisis a most useful invention, which we shall describe in the SCIENTIFIC AMERICAN as soon as several applications

for foreign patents are issued.]

STEAM BOILERS.-Thomas Champion, of Washington, D. STEAM BOILERS.—Inourse Champion, or washington, b. C.: I claim, first, arranging an annular flue, Q, at the bot-tom of an upright boiler for receiving the air at its mouth, and conducting it at R 2, beneath the grate, as illustrated in figure 5 of the drawings. Second, Making the vertical tube in the form of a double cone, the upper cone being inverted and the two united to-gether at their apices, the same being for the object and pos-

essing the advantages stated.

MANUFACTURE OF PAPER PULP.—Henry Glynn, of Balti-more, Md.: I claim introducing into the pulpy mass soluble soaps of wax or fats, made as set forth, converting the same into insoluble soaps within the pulp by means of soluble salts, substantially as described, for the purpose of prevent-ing forgery, mildew, and the action of insects, rats and vermin.

SOUNDING BOARD FOR PIANOFORTES.-James A. Gray, of Albany, N. Y.: Of course I do not confine myself to any particular form or number of corrugations, but any number

Thatmay be necessary. Fut what I claim is the improvement of the sounding board of the planoforte by corrugating its surface, thereby increasing its sounding surface and giving its ufficient stiff-mess or strength without gluing cross bars on either side.

GRASS HARVESTERS.—Jas. H. Maydole and A. W. Morse, of Eaton, N. Y.: We claim the combination of the adjusta-ble and controlable roller, a, with a grass harvester, sub-stantially and for the purpose set forth.

SEWING MACHINES.--I. M. Singer, of New York City: I claim imparting the feed motion to the needle to move the cloth or other substance, to determine the space of the stitch-es to be made therein, by a feed hand or its equivalent, re-ceiving the required motion from the mechanism and acting arainst the needle, in close proximity to or in contact with the cloth, substantially as and for the purpose specified.

Mor HEADS.—James A. Taylor, Alden, N. Y.: I claim to be the original and first inventor of the combination of th handle, A, and the bars, B. D, with the cord, C. or its equiv alent, the whole being constructed and combined and opera-ing substantially as set forth, or in any other manner sub stantially the same.

BUTTER WORKERS.—J. M. Williams, of Blanchester, Ohio; I claim a hollow cone in combination with a conical roller working on its apex, constructed in the manner and for the purpose substantially as described.

GRAIN AND GRASS HARVESTERS.—Cyronus Wheeler, of Venice. N. Y.: I claim the combination of the double-edged vence, N. 1.: I chaim the combination of the double-aged cutters, r. with the outler bar, x. r. the braces, z. the vi-brating cutters, l, their shanks, m m, projections, u. n, the circular ribs, t, thebolks, p. the springs, a, the holes, q. the ribs, d, the cavities, y, or their equivalents, as substan-tially self orth, the whole forming the cutting apparatus of

the machine. Second, I claim the revolving or track rake, consisting of its frame, 1, its wheel, 3, shaft, 4, pinions, 7, 10, shaft, 6, or that or that or the second seco wheel, 5, teeth, 8, apron. 2, joint. 9, and cap, 11. or t equivalents, arranged and combined substantially as forth.

COMPOSITIONS FOR BLEACHING AND STUFFING LEATHER.— L. W. Fisks, of Louisville. Ky.: I do not intend to claim the use of the ingredients therein named separately, or in other combinations employed for the same or analogous pur-

But I claim the improved mode of bleaching and stuffing But I claim the improved mode of bleaching and stuffi-leather, before described, by using the bleaching and stuff-ing compounds, made of the ingredients or their equiva-lents in the proportions and in the mode specified, substan-tially in the manner and for the purposes set forth.

WORKING LIMING VATS IN TANNERIES.—L. W. Fiske, of Louisville, Ky.: I claim using a close covering for liming and unhairing-vats, in the manner and for the purposes set forth

DOTI. CHURNS.—Hazen Webste, of Ogdensburg, N. Y.: I do notclaim the device of a disk rotating at the bottom of the churn tub upon a vertical axis, nor do I claim the use of a tubular stem upon such a diskjor admitting air beneath it, as these have been used before with the churn of S. P. Fran-cisco, patented, June 19th, 1849; nor do I claim mounting an agitator upon such disk, as the same was proposed by said Francisco. But I claim in combination with such rotating disk, that form of the agitator which occupies the central portions of the disk, and sweeps toward the circumference in a spiral shape with rounded angles, and is surmounted towards the circumference with one or more vertical breakers, and this

recumference with one or more vertical breakers, and this claim, whether used with or without the air passages here a described.

RETAINING CARS UPON THE TRACK.-Geo. P. Ketcham, of Bedford, Ind.: I claim the employment or was a factor of Bedford, Ind.: I claim the employment or use of arms, C, applied to the axles, cd, of the trucks, A A', the arms of each truck being supported by the rod, d, the above parts being constructed and arranged in the manner and for the purpose as herein shown and described,

[See notice of this invention on another page.]

Clearing Land.

MESSRS. EDITORS :-- In this inventive age, cannot some cheap means be devised for felling timber? The slow process of hand-chopping seems to be unworthy of the spirit of minds are set upon it? the times. Inventive genius has turned its mind to discovering means for making, but here in this wooded county, our greatest primary want is a machine for destroying .lands that is not dearly paid for in the terrible labor of getting rid of the timber.

us that a circular saw could be so connected single cut to the center of the tree, on one side, were all that could be relied upon, it would be a great saving of time and money.

Where the timber 1s not heavy, the ordinary stump extractor might perhaps be applicable, with some modification. The top seems as if it would help the fall of the tree, when the root is loosened.

Again, when we see vast blocks of iron cut in twain, as thread is severed by the scisstruction, ventures to make this appeal to its kindness, trusting it will see in the suggesa probable field of profit to inventors.

ANTHRAX.

Philadelphia.

ITwo patents have been taken out for circular saws to fell standing timber-one by Jas. Hamilton, of this city, June 26, 1835, and the other by Walter Hunt, also of this city, on the 6th of Januaryfollowing. These are the only inventions of which we have any knowledge, that have been proposed for felling timber by machinery. They no doubt were defective in principle and action, or we would have heard more about them. A common circular saw could not fell standing timber, be the power applied to it, as great as that for driving the largest locomotive. Machinery for cutting down standing timber, must embrace very peculiar features, as every person knows, who is acquainted with chopping. Most trees can be cut so as to fall in three directions; while a perfectly straight tree can be made to fall in any di- its flight." rection. In felling a tree, it is necessary to make the first cut of such a form as will incline it (the tree) in a given direction; this binding an axe in the cleft, by hand chopinches deep. It would be necessary therecut its way in, by sawing a wedge-shaped

trates to the depth of six inches." He was progressive motion."

timber economically, will, we think, make a fortune, but he has no easy task before him; yet what is it that our countrymen cannot do in the invention of machinery, when their

÷.

The Lancaster Gun.

MESSRS. EDITORS :-- In the casting of cannon balls, it has been found impossible to There is not an acre of our Western forest have every part of the ball of equal density; therefore its center of gravity cannot be made to coincide with its center of mag-We have seen a lifting locomotive hoisting | nitude. In consequence of this it will not machine in our cities, and it has occurred to leave the mouth of the cannon in a line mathematically true, unless the line joining as to answer for cutting trees. If even a | its center of gravity and its center of magnitude coincide with the axis of the bore of the gun.

The oval grooved gun is designed to correct this error, by giving a circular motion to the ball, similar to that which a rifle gives to a bullet; let us see whether it will answer the required purpose. Every point of the ball, center of gravity included, will rotate round the axis of the gun, while the ball is moving out of the barrel, and this rosors, it inspires hope that something may tary motion, combined with the forward mobe contrived, a little in that order of me- tion of the ball, will cause each individual chanical power, to achieve so valuable an point to describe a screw. But all the enobject as the cheap and speedy clearing of gineers in the universe cannot make the cenforest lands. If there be hope, the SCIEN- ter of gravity continue this screw motion TIFIC AMERICAN can inspire it; and one who after the ball leaves the muzzle. In whathas derived priceless benefits from its in- ever direction the center of gravity is moving, in that direction the ball will go. The error would be small, yet I should suppose tions offered, both interest to its readers and | it would be nearly as great as in the common gun.

> Now, if the learned graduates of Woolwich will listen to so humble a person as myself, I think I can tell them how to shoot at the Russians without any error from unequaldensity of the different parts of the ball. Let every ball be floated in mercury, and that point which rests uppermost marked; then, when the cannon is to be loaded, let the marked part be nearest the muzzle. J. NEWCOMB.

Sudlersville, Md., Feb. 2, 1855.

[The principle of theri fle consists in "giving the bullet a rotary or spinning motion round its axis, and keeping that axis asnear as can be coincident with its line of flight or progressive motion; thus enabling the bullet to overcome any undue deflection, by presenting its irregularities of weight and form in circular succession to the friction of the atmosphere, during the whole course of

Robins, in speaking of the deflection of a bullet from a smooth bore, says: "If it be asked what can be the cause of a motion so is done by the wide cut made by the axe, different from what has been hitherto supwhich causes the greatest weight of the tree posed, it may be answered, that the deflecto settle to the one side. There is no fear of tion in question must be owing to some power acting obliquely to the progressive moping, but a circular saw would bind, if it tion of the body, which power can be no cut horizontally before it penetrated six other than the resistance of the air. And this resistance may, perhaps, act obliquely fore, in employing a circular saw for cutting to the progressive motion of the body, from standing timber, to make it so operate, as to inequalities in the resisted surface; but its general cause is doubtless a whirling motion block out. Six years ago, a very ingenious acquired by the bullet about its axis; for by mechanic of this city consulted us respecting this motion of rotation, combined with the an invention of his for cutting down stand- progressive motion, each part of the bullet's ing timber by the use of a circular saw. surface will strike the air in a direction very When we had examined his model, we imme- different from what it would do if there was diately answered : "you were not brought no such whirling : and the obliquity of the up in the backwoods." "How do you action of the air arising from this cause will know that ?" he replied. "By your model; be greater, according as the rotary motion your saw will bind in its cut before it pene- of the bullet is greater in proportion to its

irons, or any other, substantially the same.

STREET-SWEEPING MACHINE.-R. A. Smith and John Hariman, Jr, of Philadelphia, Pa.: We make no claim to the employment of the endless chain of brushes, or the mov-able inclined plane, includer we claim of itself the detach-able dirir receiver, or the receiver when arranged and ope-rated as in the natented machines I Whitmart

able dirt receiver, or the receiver when arranged and ope-rated as in the patented machine of J. Whitworth, But we claim the described arrangement of detachable re-ceiver, R, beneath the forward portion of the frame, sus-pended by chains, m and n, attached to hooks, q, on the re-ceiver from the pulleys, f', and windlasses, p p', so that an emply receiver may be substituted for a tilled one with great facility, and the filled receiver removed by a tender, as set forth.

We also claim constructing the rear portion of the in-elinedplanewith wheels or rollers, h, and tail piece of loose sections, i, as set forth, so that the rear of the machine may rest on the ground and conform to the inequalities of its

The mainterman and conform to the inequalities of its surface. Weiurther claim the employment of the hinged stud, u, in connection with the driving wheel, W, and loose wheel, D, for operating the endlesschain of brushes, as set forth. CRUSHING AND GRINDING MILL-Joel Weigle, of Swan Staton, Pa.: I claim combining with the crusher, b, and the grinder, c, the casings, d, e, in such a manner that the aid crusher and grinder can be adjusted in a longitudinal direction, and the casing, d, of the crusher be adjusted in a lateral direction, substantially in the manner and for the parpuse set forth.

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RE-ISSUE.

CONSTRUCTING & COMBINED CALDRON AND FURNACE FOR CONSTRUCTING A CONSINED CALDRON AND FURNAGE FOR THE USE OF AGRICULTURISTS AND OTHERS. J. L. Mott, of Matt Haven, N. Y. Patented Dec. 1st, 1840; extended, Dec. 1st, 1854; I claim, first, combining a caldron with a portable furnace thaying a fire chamber of smaller size than the area of the caldron, by spreading out and extending the sides of the furnace to form an outer casing partly or wholly surrounding the caldron, and forming a flue space between the two, leading to the exit pipe, substantially as and for the purpose specified. I also claim making the casing to orm the flue space around the caldron by elevating and spreading out the plates of the furnace and fitting to and combining therewith sec-tionalside pieces, substantially in the manner described and for the purpose specified. ADDITIONAL IMPROVEMENT.

ADDITIONAL IMPROVEMENT.

ADDITIONAL INFROVEMENT. SEED PLANTERS. -J. Graham MacGarlane, of Perry county, Pa. Additional to Letters Patent, dated March 14, 1554: I claim the attaching the box or hopper to the beam and han-dles by means of holes lett in casting the box, or any equiv-alent device, also in placing the botiom of the lime box be-low the slide for the purpose of preventing the lime choking the machine and impeding its action substantially as de-scribed.

Simpson in 62° N.

convinced of this by a very few words of explanation. A smart chopper will cut down trees of from one to two feet in diameter. of clean light timber, as fast as a portable

engine and saw could be moved about in the woods and placed in position to operate. We would not wish to be underbe invented to cut down trees for the clearing up of land, but this can only be attempted with any hopes of success, by persons acquainted with the difficulties to be surmount-

It appears to us that conical bullets can be cast of a uniform density, but these, in a smooth bore, will not do so well as in a rifle.



Papier Mache Manufactory.

The progress in the manufacture of papier mache, since its introduction into this counstood as asserting that machinery could not | try, has been most remarkable. A company was started in this line in Boston two years ago, when the art was in its infancy, and now they are doing an immense business and sending articles from their extensive esed, and who can form a sound opinion of the tablishment all over the Union. There are economy of the two methods-machine and now two large factories in Roxbury, Mass., in Potatoes have been cultivated at Fort hand labor. The man who invents the first constant operation, and another factory of successful machine for cutting down standing great size is soon to be erected.