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Scientific American.

[For the Scientific American.] Parker's Water Wheel.

As you are frequently asked by many of your correspondents which is the best iron waterwheel, it may be some advantage to your inquiring friends to have a statement of the performance of a set of Parker Turbines (if you choose to call them so), that have been in successful operation for two years in the paper mill of Mr. C. Van Reed, residing in Reading, Berks Co., Pa. There are four of these wheels working on vertical shafts, all geared by bevel cog-wheels to one line shaft, from which the power is taken to three rag-engines by belts. The water-wheels are four feet diameter, each wheel issuing 350 square inches, or the four wheels jointly 1400 square inches of water, and make at work 65 revolutions per minute. The whole head or pressure of water on the wheels when at work is but two feet three inches.

Mr. Van Reed gives as a statement that his mill is regularly started on Monday mornings, at 3 o'clock, and runs steadily till Saturday night at 12 o'clock, making 141 working hours per week, and that their regular week's work is to turn out 4,000pounds of paper, from coarse hard stock, suitable for books or newspaper. Previous to getting the Parker Wheels he used for his motive power an undershot wheel, the gate orifice of which was 2200 square inches the power of the wheel was only sufficient to drive two of the rag-engines at a time; and he had a steam engine to drive the paper machine, and to assist the water wheel when there was back water, or a scarcity, to make up the deficiency of the power required. Since he has adopted the Parker wheels above described. with an addditional one to drive the machine, he has dispensed with the use of the steam engine entirely, finding he has abundant power without it. The amount of water discharged per minute by the four wheels is 5,248 cubic feet; and the estimated power at 70 per cent. of effect is 15.65 horse-power. The amount of work performed is usually estimated to require 20 to 24 horse-power, which would indicate a very high percentage of power for these particular wheels. And we think the world might be safely challenged to produce as high a performance with the same amount of water and under the same head. O. H. P. PARKER.

Philadelphia, Feb. 9, 1854.

Governor's of Engines.

MESSRS. EDITORS .- In vol. 9, No. 18, of your make their arrangements early as possible, adopt the moon, and hence chemical action is produpaper, Mr. Mascher says: -- "All governors their rules, and appoint time and place of first sed more rapidly in it than in sun-light, in which that I ever saw applied to steam engines are not meeting. They might begin South and prothe calorific and colorific rays predominate. governors, properly speaking. I might call them ceeding North continue the trial for weeks if At any rate, be the explanation what it may, ameliorators inasmuch as they govern the vanecessary, leaving out one machine after anothall the old housekeepers say it is a fact, and on riations only partially." This defect I have er as its inferiority became manifest. can take 1200 tons of coal. that account they never hang out their beef in spent a great deal of time and money to reme-The committee should have all their expenmoonlight, when curing it. T. R. J., Jr. dy. In examining the principles of action of The Steamer Wm. Norris. ses paid, and perhaps compensation besides: Accomac, Va., Feb. 9, 1854. the old fly ball governor, I found there was [The last explanation of the phenomena apand the cost of removing reapers from place to much more motion in the balls than in the hub pears to be philosophical; but we are not yet place might also be borne by the committee, in that actuates the valve, in consequence of the order to enable every builder to come into the positive that fish putrifies more rapidly in a balls depending on centrifugal force for their moonlight than any other night: we know it is trial; and for this reason I would not require action, and the more speed, the less power is any entrance fee, though some of the larger not so during frosty weather. The question of there to act on the throttle valve. To remedy builders would doubtless be willing to contribute frozen fish coming alive again, was settled for this I found that the weights or balls should run to the general fund. If five or more societies ever, last year, through the columns of the parallel with the spindle, and move the valve can be got to unite in such a trial, I will contri-Scientific American." Who will settle the an equal distance with the weights so as not to bute \$200 to \$500, or as much as any other question of the effect of moonlight upon meats have any lost motion. I have attached four builder. and fish.-ED. disks, (two will do) with flat surfaces to four The surplus funds should be divided to the crossing the ocean in six days. arms cast solid in the hub. To the hub is To Detect Cotton in Woolen or Silken best machines, say half to the first, one-third attached a spiral, so that a spindle passes Fabrics. to the second, and one-sixth to the third, to be Half Bricks. through both freely. The spindle has a pin MESSRS. EDITORS-I have just read an article paid in plate or money as might be desired by We believe that a benefit would be conferand roller for the spiral to rest upon. When the in your excellent paper of this week, headed the winner. spindle is put in motion, the weights or disks will with the above title, in which Dr. Pohl is shown To save time and expedite arrangements, I not immediately partake of the same motion as to employ a certain chemical preparation for would suggest to parties interested to corresthe spindle, consequently the roller will be the detection of "cotton in woolen or silk fabpond with Col. B. P. Johnson, Secretary N. Y. driven under the spiral and raise the disks, rics," to which you add your more simple yet . State Agricultural Society, Albany, N. Y. I To obtain these, the mas equally effective test, for this detection, and arms, and hub, together with the valve attachhave not communicated with him, but am quite ment equal hights-the atmosphere assisting more readily practiced by every one. sure his interest in agricultural matters will to keep it up by retarding the weights or fans, It appears evident that your aim and object cause him to bear the labors with cheerful--and will hold them there. But if the spindle is to benefit the whole human family, "both J. S. WRIGHT. ness great and small." ThereforeI conclude to give Chicago Ill. Feb. 7th, 1854. slacks its motion in the least, the weights by their bricks of the common kind. momentum will continue to move on aud drive another means to test the above, still more sim-Another American Yacht Victory. Electricity as a Motor. them down in proportion as the spindle is changple than yours, or at least more readily attained, and so on alternately, acting on the principle ed, inasmuch as the majority of purchasers in Prof. Lovering, in his eighth lecture on Elecof a fiy wheel loose on the crank shaft. Mr. retail stores would not feel free to apply a lighttricity, before the Boston "Lowell Institute," ed match to ascertain the material of which the said: -- " Electricity would never be used gene-M. says, "the action of the governor depends cloth is composed, however important it might on two forces, centrifugal and gravity," and rally for the purposes of mechanics or locomo be to know the fact. My plan, long since adoption because of its expensive character, twenty-"the balls should move in a certain curve."-You will see that this spiral governor has no ted, is to draw out a thread and put it befive cents expended in steam being as produc-" centrifugal" force to actuate it, neither do tween the teeth, by which the material is easi- tive of power as two dollars expended in electhe balls "move in a curve," the curve being ly detected; silk, wool, and cotton, each has tricity. It is true that it is used in producing beaten in a race of about 30 miles. 30

curve to suit the work, and the goveror may be driven at any speed and can be varied to suit any requirement. Mr. M. hopes these glaring defects will be obviated before the next World's Fair. The defects were removed before there was a Worlds Fair-in this country at least. I had it on exhibition at the Crystal Palace but found it difficult to attract the attention of the knowing ones. Not an editor to my knowledge noticed it as any thing novel or useful, neither did the jury apparantly see in it anything worthy of more than honorable mention, an article that I have plenty of, from those that have them in use, notwithstanding it has all the qualities you or any other person desire, being unlimited in its mode of construction and ac-

JOHN TREMPER. tion [This governor was illustrated on page 244, vol. 8. Scientific American. Mr. T. must excuse the editors and reporters of our daily papers for their oversight: they cannot be expected to possess an accurate knowledge of what is new, good or bad in engineering apparatus. The same apology may be made for the awarding Juries at the Crystal Palace, if we may be permitted to take their decisions for a criterion to judge from.

Putrifaction of Fish by Moonlight.

MESSRS. EDITORS :- It is a very general tradition that fish and meat decompose most rapidly during moonlight nights. I have recently had my attention directed to an explanation of it, which I copy verbatim from page 143 of "Familiar Science," by R. E. Peterson, of Philadelphia. He says :- Ques. "Why is meat very subject to taint on a moonlight night?-Ans. :- Because it radiates heat very freely on a bright moonlight night; in consequence of which it is soon covered with dew, which produces rapid decomposition."

Now, dew may produce decomposition, but is moonlight essential to the deposition of dew? Will not a deposite take place on a moonless night, when the other conditions of clearness, calmness, &c., are present, as effectually as on a moonlight night? I was not aware that radiation was more rapid on a moonlight night than any other, if the latter were equally clear and still.

Another explanation I have heard, viz., that the chemical ray predominates in the light of

in the spiral near the centre of action, this its own peculiar feeling to the teeth, which, curve usually being semicycloid or any other with very little practice, can readily be detected by any one, not only without expense but without attracting particular attention.

> L. A. S. Oakendale Farm, Feb. 10, 1854.

Trial of Reapers.

MESSRS. EDITORS :- As a manufacturer, I desire to enter my protest against any more petty trials of reapers. They cost a great deal and amount to nothing. The decision at one trial is reversed the next week at another, perhaps with the same machines, and often the competitors can show their defeat was owing to some extraneous circumstance, as not having a suitable team, bad driving, or unfortunate management in some way.

A reaper trial is not like a horse-race, where the sole object is to beat, regardless or everything except the coming out ahead; it is, or ought to be, to ascertain surely which is the best machine, and not so much to benefit the owner, as the farmers, who wish to know what kind to buy.

How absurd is it for any set of men-I care not how great their experience and judgement-to take from three to a dozen reapers, perhaps all of acknowledged merit, and by the cutting of two acres each, as was done at the Wooster, Ohio trial where mine was defeated; or even by cutting five or six acres as at the Richmond, Ind. trial where mine was victor, deside positively and absolutely that one reaper is better than all others.

Such a trial might show whether a reaper would work or not, but to judge between rival reapers, of which there are over twenty of established reputation, each having its points of excellence; a long and therough trial must be requisite, to see how they work in different kinds of grain, and under varied circumstances, and how they wear. A trial to be decisive should go through an entire harvest. One, too, that was thorough and reliable, would be equally available in one State as another. They are also expensive to all concerned. I would therefore propose a general trial on something like the following plan:

Let several State Agricultural Societies unite. each appropriating \$200 to \$500, and appointing one or two committee-men, in whose experience, judgement and fairness, entire confidence could be placed. Let the committee

some of the very finest portions of astronomical instruments, in operations where extreme delicacy of motion is requisite, yet electro-magnetism can no more supercede steam than steam can supercede gunpourder. Each has its peculiar sphere."

[This is also our view of the subject as it relates to expense, but there is a more fatal objection still to the use of galvanism as a motive power,-we allude to the delicate nature of electro-magnetic conductors in machines, and the sensitiveness of the current to atmospheric influences. Steam is perfectly under the control of machinery, but the electric current is not, at least by any known appliances. An electro-magnetic engine of 10 horse power, by the simple disarrangement of one wire (not easily discovered) will not give out over 1 horse-power. The management of the batteries, also, is difficult and troublesome, and not to be compared in simplicity to the furnaces and boile rs of a steam engine.

Spinning Zinc.

John Newell, of New York City, has invented an improved mode of spinning zinc. Owing to the brittleness of this metal, the production of forms having deep depressions or high projections, by the process termed spinning, has been very difficult, and this improved mode is intended to overcome this difficulty and render the metal ductile. This is accomplished by the application of coup oil to the zinc before and during the process of spinning, the action of which, upon the metal, tends to increase its tenacity. By this process, lamps and all articles now made of Britannia metal can be produced cheaper than by its use. The inventor has applied for a patent.

Immense Steamshlp.

A new and powerful steamship called the Himalaya has been built in England for the Peninsular and Oriental Steam Navigation Company. From the Thames to Southampton, her average progress during thirteeen hours that she, was under way, notwithstanding unfavorable weather during part of the time, was $13\frac{1}{2}$ knots per hour.

The Himalaya is said to be the largest steamship in the world. She is 3,550 tons register, and equal to over 4,000 tons burden. She is 372 feet 9 inches in length, exceeding the length of the Boston clipper, Great Republic, lately burned at New York, by 47 feet, but not of equal tonnage. The Himalaya is a screw steamer built of iron, and has engines of 700 horse power. She has accommodation for 200 first and second class passengers-stowage for 1000 tons of measurement goods on freight, and

We have seen it stated in one paper that this teamer which is now building, and which Mr. Norris declared would cross the ocean in six days, has been sold to the Czar of Russia, and by another paper to the Sultan of all the Turks-Both of these reports are no doubt untrue.-These Royal persons-Bear and Turkey, what do they know about the Wm. Norris. Neither the builder nor the engineer can for a moment be accused, of being afraid to stand before the world in endeavoring to fulfil their promise of

red upon masons, if brickmakers would mould half-sized as well as whole bricks. Half bricks are often wanted for beginning and finishing rows, so as to have every alternate row break break whole or trim broken bricks. This occupies considerable time which would all be saved by half mould bricks, of which a certain number might be made for every thousand of whole A very exciting and agreeable aquatic race lately took place at Melbourne, between the "Pride of the Seas," an American schooner of 240 tuns burthen, by G.W. Steers, of this city, the designer of the "America," and a yacht named the "Lelia," recently built in England, and of a beautiful model. The latter was fairly



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office FOR THE WEEK ENDING FEBRUARY 14, 1854.

FOR THE WERK ENDING FERGURAT 14, 1634. FIGKING AND CLEANING FLAX.-A. H. CARYL, of San-dusky City. Ohio.: I claims the employment of a picker having teeth hooked in the direction of the rotation and arranged on separate bars so connected with the shaft as to leave open spaces for the free passage of foreign substance as specified, when this is combined with hook-ed teeth in a series of bars above with open spaces be-tween them subskancially as specified, with a current or currents of air to act on the pickers during the operation of combing, and with the rotating brush acting on the picker teeth as specified.

VERTICAL TUBE FEED WATER HEATERS IN LOCOMOTIVE SMOKE STACKS-M.W. Baldwin, and David Clark of Phila-delphia, Pa.: We claim the arrangement of the exhaust pipes with a vertical central passage of large section and surrounding passages of similar section, said cen-tral pipe and similar passages being open above and be-low as described.

iow as described. MACHINE KOR, CLEANING WOOL-L.S. Chichester, of Brook-lyn, N. Y.: although I have described and represented the form of the ribs, barbs and picker teeth I do not wish to be understood as limiting myself thereth I do not wish to be understood as limiting myself thereth I do not wish to be understood as limiting myself thereth I do not wish to be understood as limiting myself thereth I do not wish to be understood as limiting myself thereth I do brushforpresenting or feeding the fibers to the ribs and picker teeth, as this makes no part of my invention. Nor do I wish to limit myself to the Born number or manner of making or operating the teeth. I claim making the edges of the ribs when combined with picker teeth for catching and drawing the fibers through as specified with lateral inclined or curved lats terminating in an enlargement or hole to receive the fibers and guide them away laterally from the pick-er teeth to prevent them from being chalted or cut be-tween the teeth and ribs as specified. I also claim making the alteral slots in the edges of the ribe, as specified, and in combination with the picker it eeth at or near the portion of that length of the ribs, where the floers begin to be drawn through, as speci-fied, where the floers begin to be drawn through, as speci-led, where the floers begin to be drawn through of the ribs, where the floers begin to be drawn through of the fibers. I also claim uniting the contiguous barbs of any two

bers. I also claim uniting the contiguous barbs of any two ribs, and extending them down below the points of the picker teeth, as specified, to prevent here from passing without being picked or drawn through. Finally, I claim in combination with the ribs having lateral slots, as specified, the employment of card teeth interposed between the picker teeth, as stated.

VALVE COCKS-John Griffiths, of Philadelphia, Pa.: 1 clam the combination of the hollow fixed stem, the solid stem, and the yoked nut, as described.

FIRE AND BURGLAR-PROOF SAFES-F. C. Goffin, of New Ork City: I do not claim forming safe or door with dou-le casing, for fire-proof safes are at present construct-d in that manner

ble casing, for infe-proof safes are at present construct-ed in that manner. I claim the use of glass or slag in a vitrified state, for filling the space between the two casings of a safe or vault door, the glass or vitrified slag being poured mol-ten into the space, or inserted in plates which may be secured to the outer casing in any proper manner, and an air space left around the inner casing, as set forth.

secured to the outer casing in any proper manner, and an air space left around the inner casing, as set forth. PROCESSES FOR TREATING VECETAELE FIBER-Jonathan Knowles, of Trenton, N. J. Patented in France, April 4, 1853: I am aware that Claussen has proposed to use in his process several of the salts I have mentioned, but in a different field, but in any other in which the bleaching and splitting of the fiber are effected separately. I claim the method described of preparing vegetable fiber for picking, carding, spinning, and manufacturing into fabries by such machinery as is usually employed for performing the corresponding operations on ordina-solution of alkali ; second, washing it with water; third, steeping it in a solution of splitting solis, to bleach and split is simultaneously; and lastly, washing it with water, and then drying it, as set forth, whereby the re-duction of the fiber to its elementary filaments is expe-dited, and the expense thereof lessend, by dispensing with much of the tedious manejuplation and treatment heretofore practiced, while at the same time the quality of the product is impleations. G. Levis, of Delaware Co., MARING THEOR PAPER-S. G. Levis, of Delaware Co.

MAKING THICK PAPER-S. G. Levis, of Delaware Co., Pa.: I do not claim the employment of two forming cy-linders for the purpose of making paper of increased thickness, as cylinders have been thus used before. I claim the combination of the two formingcylinders, the two endless felts, and the two squeeze rollers, ar-ranged and operating as described.

Fanged and operating as described. FIRE-ARMS-Thomas Gook (assignor to Starkie' Live-sey), of New York City: I claim, first, cutting slots in the tubes of the magazine, and with each tube a spring connected with a ring moving on the outside for feeding up the spring and maintaining the compressed position given at the time of charging the tubes with ammuni-tion, as described, whereby I am enabled to force such charge into the conveyor by power independent of gra-vity, and to force the hole communicating with the pow-der, as described and this I claim, whether the I ceed ring be combined with a sorew exteriorly placed or with-in the interior of the cluster of tubes, or whether the same effect be produced by or in any manner analo-gous.

same effect be produced by or in any manner analy-gous. Becond, I claim combining theitube magazine with the conveyor, in such a manner that it will be revolved so as to bring each tube of the series successively opposite to the hole through which the charge is fed to the con-veyor, whenever and as often as a charge has been transferred to the barrel, as described. Third, I claim the follower in combination with the charge into the barrel, as described. Fourth, I claim the can groove, in combination with the finger levers, and the cap case to regulate the feed, as described.

MACHINES FOR PEGGING BOOTS AND SHOES—John Stan-dish (agsignorto John Standish & H. A. Miller), of Cuy-ahoga Falis, Ohio: I claim, first, the vibrating guides, in combination with the peg-feeding rack and driver, as described.

purpose of removing the fore plate out of the way when the rolls are to be scoured without detaching it from the frame of the mill, as described.

PLANTING HOES-W. G. Sterling, of Bridgeport, Conn.: I do not claim the blade with a tubularhandle attached, nor the opening and closing orifice for the discharge of the grain. I claim the cylinder in connection with the tubular handle and the lever, with the sliding plate attached, as described.

APPARATUS FOR CONTROLLING THE PRESSURE OF STEAM —By H. S. Williams, of Malta, Ohio: I do not claim ad-mitting water from a steam pump or "doctor," for con-trolling the pressure of steam in boilers, when said wa-ter is let on and shut off, by the agency of a float. Nei-ther do I claim causing an alarm to be sounded when the supply ceases or when the pump is not running, through the agency of a float and steam cylinders com-bined.

through the agency of a float and steam cylinders com-bined. Iclaim opening the water cock of the steam boiler for the purpose of letting on water for reducing the temper-ature and pressure of the steam, and thereby prevent-ing explosions by means of a punker c and slotted arm, as described, when the supply should be let on by the pressure of the steam of the safety valve, and by means of a spring attached to the boiler and slotted arm, when the supply is being shut off, as specified. I also claim startling the steam pump or doctor run-ning, in case it should not be in operation when the pressure of the steam in the boiler rises above the giv-en point, by means of the escape steam from the salety valve, when admitted to the steam chest of the pump through a branch pipe of that carrying the plunger, said branch pipe being provided with a valve, which pre-vents the steam from the "doctor" passing into the boiler, when the pump is running, but allows of the steam being admitted to the steam chest when the pump is not running, as set forth. Daor BRIDGES-J. D. Woodruff, of Newark, N. J., and

DROP BRIDGES-J. D. Woodruff, of Newark, N. J., and Joshua H. Butterworth of Dover, N. J.: We claim the construction of a bridge or draw, which may bedropped below the surface of the water so as to a duit the pas-sage of vessels over the same, as described.

MAKING LINKS OF JACK CHAINS—Arcalous Wyckoff, of Wellsburgh, N. Y.: I claim the two fixed stnd pins pla-ced at right angles to each other, in combination with the wiper and cutter, operated as set forth, for the pur-pose of bending the two eyes of the link of the jack chains simultaneously.

GAS DURNERS-John Webster & OrsenSpencer (assign-or to John Webster), of Cleveland, Ohio: We claim af-fixing or applying to a gas burner an oblong or ellipti-cal shaped tube, so constructed and arranged as to de flect a portion of the gas escaping from the burner into the draught of air which passes up between the barner and the tube, so as to produce a more brilliant flame and more light from a given quantity of gas, as described.

SADDLE-TREES-G. B. Ambler, of Trumbull, Conn.: I claim the combination of the crouper loop in one piece with the water hook, for the purpose of securing either in their respective positions without the aid of screws or other appendages than those herein set forth, and to be used as described.

WATER CLOSETS—F. H. Bartholomew, of New York Ci-ty: I do not claim the use of the chamber when com-bined with the supply pipe or hydraulic main, and the basin, by means of the common three-way plug turning cock, operated by the seat, as such combination has been before used in the water closet of Jordan; nor do L cleic by the purper value acode with two malwas and

beam of the sear as such combination has been before used in the water closet of Jordan; nor do the claim the pupper valve cock, with two valves, and three ways as new in itself.
I claim first, a three way cock, with parts constructed and combined in the following manner, viz., Having one principal chamber through which the water always passes, whether being received or discharged, two openings into which chamber being governed by two valves operated by one stem, so that when one one is opened the other is closed by the same action of the stem, the third way being without a valve, when these are combined with a second chamber for the accommodation of a short continuation of the valve stem, through which the oack is operated by a suber of the way is placed between the principal chamber and the stem chamber. as described, alove, under the sear, or where it may be out of the way and may be operated by a singlerod, when said cock is connected by a tube with a chamber, for the reception and discharge of water under pressure.
Third, Iclaim in combination with a double valve an eduction way, employable for the double purpose of water from the chamber of keeping it charged with at chamber for the purpose of value or otherwise, at the same time that the said way is closed by a valve against the escape.

water from the chamber, while the seat is depressed. Horse Bells—Jason Barton, of Middle Haddam, Ct. : I do not claim the employment or use of two clappers or balls in each bell, forthey have been previously used. I claim hanging or suspend ing the tongues within the bells, as described, viz..having the tongues within the bells, as described, viz..having the tongues and, saidhold ers being within the bells, and so arranged that the tongues may be placed over them at different points and thereby be suspended in the centers of the bells. irrespective of the positions which the pad and bellimay have when attached to the body of the animal.

Intespective of the points which is bad with being may have when attached to the bod y of the animal.
MACHINERY FOR PACING BLANK BOOKS-J. L. BURCICK, of New York City: I claim, first, the type holders, as set forth, in combination with the vertical type cylinder, for the purpose specified.
Becond, I claim the use of the vertical sliding rod or frame, having a rack attacked thereto, in combination with the double acting crank shaft, and levers for operating the printing hammers, or substantially the same device, for the purposes setforth, and also the combination with the lever, and rod fordrawing out the type holders, or their equivalent devices, substantially as to forth.
Third, I claim the use of the vertical sliding rod or frame, having a rack attached thereto, for working the distributing inking rollers, in combination with the tayer of the requivalent devices, as set forth.
Fourth, I claim the use of the vertical sliding rod or frame, having a rod thereto thereto, in combination with the lever or negating the tay of the set of the vertical sliding rod or frame, having a rod attached thereto for working the distributing inking rollers, in combination with the lever or negating the type inking rollers or frame, having a rod attached thereto, in combination with the lever or negative.
Fifth, I claim the use of the vertical sliding rod or frame, having an arm attached to the cap piece of the frame, in combination with the sliding plate and lever and pawi, or their equivalent devices, for the purposes set forth.

set forth. Sixth, I also claim the use of the adjustable table and clamps for holding the book while paging, in combina-tion with the paging apparatus.

MACHINES FOR STUFFING HORSE COLLARS—J. W. How-ell of New Paris, Ohio i I claim the construction of the hopper with an adjustable grate or crib bottom, in com-bination with the piston, funnel, clamps, and lever, act-ing thereon, as set forth.

FIRE-ARMS-Horace Smith & D. B. Wesson, of Norwich

a machine for scraping and toothing veneer, which has a large feeding hed roll around a portion of which the veneer is bent and held, and a revolving cylinder with scraping or toothing tools or knives inclined back from the axis of the said cylinder, so as to have a scraping instead of a cutting position, as described.

BALL VALVES FOR PUMPS-J. R. Bassett, (assignor to C. H. Williams), of Gincinnati, Ohio: I claim the method of aiding and ensuring the operation of the ball valve by means of an intervening or dividing ridder placed be-tween the openings, and forming part of the semi-an-nular chamber, as described, by which the valve is made to seek apd occupy its appropriate seat when acted on by the discharge water in one or the other direction.

SMUT MACHINES-Jacob Benner, of Liberty, Pa. Additional tooriginal Letters Patent dated Sept. 11, 1847 : tional tooriginal Letters Patent (ated Sept. 11, 1647; 1 claim making the slotted openings in the concave hor-zontal instead of vertical, as they were in the original patent, as described. Second, the arrangement and combination of myma-chine in a close cover, together with the spouts in the manner, as set forth,

MANNER, AS SETIOICH. PIGURE AND FANCY POWER LOOKS-Your petitioners hereby enter their disclaimer to that part of the afore-mentioned specification. which commences' The modes of elevating and depressing the lifter," and ends "true and essential principle of my invention is preserved,"--being the forth paragraph from the end of the specifi-cation: and also enter their disclaimer to the first, se-cond, and fourth claims of said patent, which disclaim-ter is to operate to the extent of the interest in said Let-ters Fatent vested in your petitioners, who have paid \$the requirements of the Act of Congress, in that case made and provided. M LA Prantum, GEO, OROMPTON.

DESIGNS.

COOKING STOVES-(Three patents)-Samuel D. Vose, of Albany, N. Y. Ante-dated Dec. 30, 1853. PARLOR STOVE-Saml. D. Vose, of Albany, N. Y. Ante dated Dec. 30, 1853.

PARLOR STOVE-N.S. Vedder (assignor to A.T. Dun ham & Co.), of Troy, N.Y.

Crystal Palace-Report of the Directors.

The Directors of the Crystal Palace have just published a Report, containing a statement of their affairs. This document is not calculated to raise the stock greatly above par. The Company comes out minus \$125,000; that is, instead of having made any profits, they have run in debt to that amount-for a part of which they have mortgaged the building. The capital stock is \$500,000, and the total receipts were \$891,070 72. The amount received for tickets was \$330,702 90. The Report states :---" It is apparent, from the foregoing statement, that the disappointment in regard to the financial result of the enterprise is due mainly to the fact of the building not being completed at the time which it was intended, viz. : the first of May, 1853." This was owing to causes over which the Directors had no control. The Exhibition was, with great effort and difficulty, got ready for opening on the 14th of July, and then in a very incomplete state.

"Instead of a period of exhibition of seven months, the Association had in fact but about three; during that three months the sum received, from the sale of daily tickets, was \$245-399 90." This is not a satisfactory apology. The largest amount of receipts was taken in the month of October, viz., \$108,139 01; since then they have gradually fallen off.

The expenditures have been excessive. The persons who have come off best in the affair are the conspicuous, enterprising, know-how-tomake-money Edward Riddle, the American Commissioner to the London Exhibition. Mr. Riddle and the officers of the Association obtained a lease from our City Fathers of Reservoir Square, for five years, at the nominal rent of \$1 per annum, and with their flush way of paying out the stockholder's money, the Directors paid him \$10,000 for this lease. This was cool and bright, was it not? No less than \$15,412 97 were paid to Chas. Buschek, Gen. Agent, and Col. Hughes, Special European Agents. The Company purchased the bronze statue of Kiss's Amazon, from the former gentleman, for \$10,000. The cost of erecting the building, independent of decorations was over \$500,000, an enormous sum. It is a beautiful building, but it would have been well if the Association had taken our advice, and adopted the afterwards, and erected into a number of beautiful iron houses, in any part of the world. The adopted building cannot be used for any other purpose than the one for which it was erected. i. e., it cannot be taken apart and re-erected. An election of managers, is to take place next month. We hope that good ones will be choaffairs of the Association for the benefit of exhibitors and stockholders. It is intended to make the Exhibition permanent; this we think is not an unwise conclusion,-perhaps the only really wise one the present Directors ever made. Such an Exhibition, in New York City, under proper management, we MACHINE FOR SCRAPING AND TOOTHING VENNER-Allen YORK City, under proper management, we Goodman & Lyman Wheeler, of Dana. Mass. : We claim believe, can be made to pay good dividends,

and render a great benefit to the public at large. The present Directors have mismanaged all but their own affairs, badly; this is very evident. How much stock they now own we cannot tell-probably they sold out when the shares were 100 per cent., higher than they are at present, and they no doubt had much to do with their temporary inflation. We are quite positive that the Exhibition would have paid well this year, had it been properly managed; let able Directors now be chosen, and it will rise, Phœnix-like, into prosperity.

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Steamships Beaten by Clippers.

The clipper ship Red Jacket made a recent voyage from this city to Liverpool in 13 days, 1 hour, and 25 minutes, which is something remarkable considering the extremely boisterous weather she encountered throughout the passage. On one day she ran 413 miles.

She had the wind from the S. E. to W. S. W., the whole passage with very stormy weather, either snow, rain or hail the entire voyage, bnt she received no damage, and arrived in port without the loss of a single rope yarn .----She run 15 knots on the wind, and 18 with the wind abeam.

The Red Jacket is a beautiful clipper ship of 2400 tons burden, and was built in Rockland. Me., by George Thomas.

Not one of the Collins or Cunard steamers have ever run 413 miles in one day, so that we may safely conclude, that our marine Steamships, have not yet attained to their maximum speed.



On the 16th inst. by Judge Betts, U. S. Circuit Court, this city, an injunction was granted against the New England Car Spring Co., on the petition of Horace H. Day, for infringement of the Chaffee patent. The injunction was ordered to issue unless security to abide the decrees of the Court is put in by the defendants in the sum of \$25,000. Horace is now turning the table on his former pursuers ; such is the mutability of human affairs; india rubber is a tough subject.

Zinc Applied to Ship-Building.

A sloop built of zinc, with iron framing and wooden decks, called the "Comte Ldhon," has been constructed at Nantes, France, by Mr. Gulbert, and named after one of the directors of the Vieille Montagne Company. She is elegant in form, draws but little water, and is considered in every respect a first-rate vessel. The command was given to Capt. Jouanno, of Lorient, and her firstvoyage was to Rio Janeiro, from which place she has just returned. The captain reports that the experiment has been highly satisfactory; she has proved an excellent sea-boat in repeated gales, which she had to encounter; and one fact is stated of much importance-that her compasses had never been in the slightest degree affected, a circumstance which often happens on iron ships, by which serious casualties have occurred.

Guano from Sea Weed.

A new patent substitute for guano, consisting of decomposed and concentrated sea weed, is about to be introduced in England, by a Mr. Longmaid, with the purpose of claiming the prize of \$5000 offered by the Royal Agricultural Society. The material is reduced to powder so as to be applicable by the drill. A large number of experiments to test its fertilizing plan of Mr. Bogardus, as it would have been quite properties have been made dmring the past as imposing, and could have been taken apart year. An analysis has been published by Professor Way. The process is stated to be very simple, and the price estimated at \$25 per ton or under, and it is proposed starting manufactories at various points on the coast.

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described. Second, the arrangement for feeding up the boot or shoe tobe pegged ; that is to say, the combination of the boot or shoe, held in a proper clamp, with the traversing frames, and with the irregularly curved rails or guides, as described. Third, the method of regulating the feed by the rack, pawls, and weight or spring, as described.

DRVING CLOTH-Robert Preston, of North Pownal, Vt.: I claim the arrangement for bringing the bottom layer of the cloth within the drying; chamber, to a suitable distance from the bottom of the chamber, so that it may be exposed to a proper and not too intense heat, consist-ing of the rollers, which are adjustable by racks and pinions or their mechanical equivalents, substantially as described.

SHIFS' VENTLATORS-Warren Rohinson, of New Haven, Conn.; I do not claim any part claimed by Enoch Hid-den, of New York' in his patent. I claim the combination of the movable part, with the two inclined planes, when the whole is arranged and combined as described.

HANGING THE FORE PLATE TO IRON ROLLING MACHINE-RY-Jacob Reese, of Sharon, Pa.: I claim hanging the fore plate of a rolling mill on centers, placed either above or below the level of the rolls, by adding arms to the fore plate, working on a bar or on pivots, for the

FIRE-ARMS—Horace Smith & D. B. Wesson, of Norwich, Conn.: We do not claim the employment of a carrier or solide for transferring the carrier or the magazine to the barrel, nor the employment in combination theres, with of a piston or side to force the carridge out of the carrier and into the barrel. Nor do we claim the em-ployment of a piston side as a breech to the barrel, nor thefiring by "concussion "instead of "percussion." Nor do we claim the employment of making or apply-ing the percussion hammer so as to atrike toon the rear end of such piston side, instead of directly against the fornt end of the slide shall be exploded by concussion produced by the percussion or blow of the hammer on the other end of it. as specified.
But we claim the arrangement and application of the percussion hammer with respect to the breech slide and the trigger guard lever, so that the primer may be mo-ved and set to full cock by the pressure or back action of the slide induced by the action of the trigger guard lever, as specified.
We also claim the improvement of making the front equivalent, for the purpose of enabling the slide to size the metal of the cartridge, as explained, and so that the profile of the cartridge, as explained, and so that the profile of the piston slide when next retracted and discharged by the upward movement of the carrier, as specified.

Another & Gas | Explosion. !

An explosion of gas took place at Nashua, sen,-men who will infuse a new spirit into the N. H., one evening last week by which a num ber of persons were injured and a house shattered to pieces. It was caused by introducing a light into a cellar, where there was a strong odor of gas, caused by its escape from a leaky pipe .--The person who introduced the light was not a reader of the Scientific American, or he would not have acted so unwisely, after what we have said in reference to such cases.