AGUE MEDICINE.-T. M. Daniel, Athens, Ga.-This invention relates to a new composition, or rather application, of certain ingredients which when applied in the manner hereinafter specified, form a cure and preventive for ague, fever, etc.

Loom.-Daniel K. Fretz, Buckeye, Iowa.-This invention has for its object to simplify and cheapen, and otherwise improve the ordinary hand power loom, wherein the various parts are put in motion by the vibration of the batten.

HOLD BACK .- James C. Covert, Townsendville, N. Y.-This invention re ates to an iron hold back to be attached to the hames, and to be connected by a ring to the neck yoke, for the purpose of doing away with the breast strap, and to facilitate the easy adjustment of the harness and the manage ment of the vehicle.

LAMP.-Peter Hoffmann, Constableville, N.Y.-This invention relates to a lamp which consists of two oil chambers, the upper chamber, from which the wick draws its supply, being arranged in such a manner above the lower one into which the oil is poured, that whenever it becomes empty it may be pressed down, its lower end having a plunger fitting close in a tube project ing from the lower chamber, whereby the oil is pumped into the upper chamber. The lamp is not liable to explode, and may be filled while burning without danger.

MACHINE FOR MAKING BULLETS OR SHOT .- C. H. Remington, Dubuque Iowa.-This invention relates to a new and useful improvement in machinery for making bullets or shot by compression or swaging.

LEATHER ROLLING MACHINE.-Johnson Lombard, Springfield, Me.-This invention relates to an improved machine for rolling or folding sole leather in bundles and consists in a set of rollers and straps in combination with a table and main rolling shaft by which the leather is rolled tightly for packing and transportation.

KING BOUT.-Enos A. Keasey, Ligonier, Ind.-This invention re-lates to an improved construction of king bolts for carriages and other vehicles. and consists in attaching the bolt with a swivel joint to the axel clip which supports the bolt by a shoulder, so that the cam bolt and head block shall turn together.

GATE.-Hans J. Johnson, St. Peter, Minn.-This invention has for its object to furnish a durable and convenient gate, which may be used as a single or double gate, and which maybe easily adjusted so as to swing over snow or other obstructions.

REIN HOLDER.-Buel D. Pease, Madison, Pa.-This invention has for its ob ject to furnish an improved rein holder for attachment to the dash board of a wagon or carriage, which shall be so constructed as to hold the reins se curcly and at the same time allow them to be instantaneously detached.

SCHOOL DESK AND SEAT.-D. C. Wilson, Beaufort, S.C.-This invention has for its object to furnish a strong, simple and convenient manner of making school desks and seafs, and it consists in the construction of their frames and in the manner in which they are secured to the floor.

CULTIVATOR.-J. Madison Morse, Sandwich, Ill.-This invention has for its object to furnish on improved attachment for corn cultivators, by means of which the driver may be enabled to ride, which at the same time shallhave a tendency to prevent the cultivator from "jumping" or "bounding " ' and which may be easily and quickly attached and detached.

DRIVING PROPELLERS.-Wm. Lawton, Greenpoint, N. Y.-This invention has for its object to furnish an improved device by means of which the screw may be made to revolve more rapidly than the driving shaft operated by the engine, so as to drive the boat at speed by a slow movement of the engine.

SHOE KNIFE.-Henry Sauerbier, Newark, N. J.-7'he inventor has received two patents for a knife for cutting or trimming the edges of the soles of boots and shoes. His invention consists in the application of a sliding guard or gage to the blade of the knife whereby the desired work may be accomplished without the liability of cutting the upper of the boot or shoe

TEST PUMP AND GAGE .- Henry Getty, Brooklyn, N. Y.- This invention re lates to a combined pump and gage, more especially intended for the testing of gas or other piping or tubing.

MACHINE FOR CUTTING MITERS .-- R. F. Tompkins, New York City.--Thie machine consists of two cutter blades, arranged to be moved up and down in a vertical plane, and so as to be adjusted with regard to each other at a greater or lesser angle, in combination with rests or blocks for the material or stuff to be cut, correspondingly susceptible of adjustment, and to be brought into the proper relative positions with regard to the cutter or knife blades.

WATER WHEEL.-Wm. Cooper. Hancock. Md.-This investion relates to an improvement in that class of water wheels which are placed on a vertical shaft and are commonly termed horizontal wheels. It consists, first, in an improved application of gates to the wheel, where by the former may be opened or closed simultaneously with the greatest facility, and retained at any point without interfering in the least with the proper action of the water upon the buckets; second, in a peculiar arrangement of the buckets, the manner of placingthem in the wheel, whereby power is obtained both by the impact and grav ity of the water.

CORN PLANTER-Joseph Krebs and August Johns, Massillon, Ohio. -This invention has for its object to furnish an improved machine by means of which the ground may be furrowed, the corn dropped and covered, and the hillmarked by thesame operation, and which shall at the same time be simple in construction and easily operated.

CHAIR SEAT.-George Heesen. Tecumseh. Mich.-This invention relates to a new and improved seat for chairs, settees, etc., and consists in substituting paper twine for flags hither to used for such purposes. The seat is construct ed in precisely the same way as the flag seat

SAW-SRT.-James C. Woodard, Franklin, Conn.-Inthis saw-set are com bined and obtained many important advantages and features.

COUPLINGS.-E. and H. Butler, Croton Falls, N. Y .-- The object of this is. vention is to prevent the rattling noise and wear of the center bolt or pin by which the shafts or thill are hung or pivoted to the couplings, and for this purpose the invention consists in a novel application to the said center pin or bolt, of an elastic cushion or cushions whereby the desired end is effect ed.

COMBINED ERASER AND LETTER OPENER.-George C. Barney, Philadelphia. Pa.-This invention consists in a blade of steel or other suitable material having two edges made of a curvilinear shape intersecting each other at one end of the blade where the blade is sharp pointed; the outer or convex edge of the blade being made suitable for use as an eraser, with the inner or concave suitably sharpened for cutting paper more particularly.

MOUSTACHE GUARD.-A novel contrivance was patented on the 23d of July last by Chas. E. Mitchell, who is now residing at the Astor House, New York, in the shape of a mustache guard. It is made of thin metal and by means of springs ingeneously placed can be instantaneously attached to of removed from a cup or tumbler and carried in the vest pocket when not in use. By its use coffee or other liquids can be drank without wetting the moustache. Mr. M. will be happy to show his invention to persons taking an interest in novelties of the kind or, to dispose of rights to manufacture.

LOOM PICKER.-Bradford Nichols, Phenix Village, R. I.-This invention reates to a new and useful improvement in the picker of a loom, and consists in making the shell or casing and binder of the picker of rawhide, and securing it to the staff by flanges on each side in such manner that it cannot slip out, nor break, nor allow the filling to come out.

CLOTHESPIN.-R. G. Britton, Springfield, Vt.-This invention relates to an improvement in clothespins, and consists in uniting two wooden pieces by an iron pin or rivet, and inserting a spiral spring between the ends, on one side, to close the other ends upon a clothes line to keep the clothes fast when hung out to dry.

HORSE COLLAR.-James G. Haymaker, Salem Cross Roads, Pa.-This inven tion relates to an improvement in horse collars, and consists in a novel con struction and arrangement of the lock upon the hame plates and pade whereby the collar can be placed on the horse without passing it over hi head.

DRESSER COPPERS AND WARPER PLATES .- Ambrose J. Nichols, North Providence, R. 1.-This invention relates to machinery for the manufacture of textile fabrics, and it consists in an improvement in dresser plates or cop pers, as they are usually called by manufacturers, and which improvement is also applicable to warper plates, as both the dressers and warpers are use forsimilar purposes.

THILL COUPLING.-E. M. Naramore, North Underhill, Vt.-The object of this invention is to provide a wagon thill and pole coupling that may be read ily coupled and uncoupled, and firmly and securely held in place.

TELESCOPE .- W. Kuebler and F. Seelhorst, Philadelphia. Pa.-This inven tion relates to a new-and improved method for adjusting the eye-pieces and object-glasses of telescopes.

SAFETY VALVE.-John N. Wrigley and George Smith, Newark, N. J.-This invention consists in so arranging a valve or a valve seat in the coating or shell that it is nearly balanced by the steam, thereby rendering it much more sensitive than the ordinary safety valve now in use and consequently much more safe.

STEAM VALVE AND VALVE MOVEMENT .- John N. Wrigley and Geo. Smith, Newark, N. J.-This invention relates to a new and improved method of admitting steam to the cylinder of a steam engine.

STOVEPIPE AND SMOKE STACK JOINTS .- Wm. Stine, Elmore, Ohio .- The object of this invention is to improve the manner in which stovepipe, smoke stacks, etc., are usually joined together and to facilitate the operation of putting them up and taking them down,

CARRIAGE WHEELS.-John G. Buzzelle, Lynn, Mass.-This invention has for its object to furnish an improved carriage wheel, light, simple, strong, and elastic, and which can be readily tightened or strained whenever desired.

ATTACHMENT FOR SCHOOL DESK .- D. J. Stagg, New York city .- 'This invention relates to a new and useful attachment for school desks, for the purpose of holding or supporting drawings, maps, or any papers, while being copied. The invention consists in having a frame or a drawing board fitted in a slot or opening in the desk, and arranged in such a manner that the frame or board, when desired for use, may be raised up and adjusted in proper position relatively with the occupant of the desk, to receive the drawing or other article to be copied, and, when not desired for use, capa ble of being lowered or let down within the opening of the desk, so as to be entirely out of theway.

HORSE HAY FORK.-A. J. Purviance, Keosauqua, Iowa.-This invention relates to a new and useful improvement in operating horse hay forks, so that the same may not only be elevated as usual, but also drawn over the spot or stack where the hay is to be dropped or discharged. The object of the invention is to facilitate the stacking and storing away of hay with the horse hay fork.

SEEDING MACHINE.-Edwin Ritson, Maltaville, N. Y.-This invention relates to a new and improved seeding machine, of that class designed for sew ing seed in circles.

PLOW.-Mason Prentiss, Cambridge, N. Y.-This invention relates to a new and improved plow of that class which is provided with a double mold board, and is more especially designed for cultivating crops. The invention consists in the application of an adjustable shoe at the rear of the share of mold board, the share being arranged in such a manner that it may, with the greatest facility, be adjusted higher or lower to graduate the depth of the furrow, as may be required.

MACHINE FOR KNEADING DOUGH .- W. B. Morrison, Muskegon, Mich .-This invention relates to a new and improved machine for kneading dough, and it consists in piercing the bottom of a box or dough receiver, with a concave surface in or over which a series of plungers work.

VENTILATINGATTACHMENT FOR MILL-STONES.-Hezekiah Mc Eldowney, Dixon, Ill.-This invention relates to a new and improved means for causing a circulation of air to pass down between the exterior of the uppermill stone and the curb thereof, whereby the stone is kept in a cool state, and the flour prevented from "sweating," as it is technically termed.

SHIFTING STEP FOR VEHICLES.-Edward Miller, Milwaukee, Wis.-This invention has for its object to furnish an improved shifting or detachable step for attachment to vehicles to enable persons, and especially ladies, to get in and out conveniently.

CHURN.-W. C. Peck, Bridgeport, Ohio.-This invention has for its object to furnish an improved rocking churn, simple in construction, convenient to be used, and which will do its work quickly and thoroughly.

ELLIPTIC SPRINGBRACE .- M. Barker. Great Valley. N. Y.-This invention has for its object to jurnish an improved means by the use of which elliptic springs may be strongly and securely braced, and which at the same time will allow either of said springs to act without a strain upon the other.

deal of liquid matter every day? and the pipe has to be frequently taken down and cleaned of a deposit resembling coal tar. The other, on the contrary, gives no such trouble. He wishes to know "what's the matter?" Wood when subjected to slow combustion is more or less distilled and one of the products of such distillation is pyroligneous acid which when heated still more becomes a dark, glutinous substance, It may be seen exuding from the ends of logs when heating on the andirons of an old-fashioned fireplace. The remedy is to put his stove and funnel in order to produce a draft and insure combustion.

J. T., of N. Y., asks what will remove the stain of claret from a table cloth, salt not always being efficient. Try oxalic acid.

N. D. F., of Conn., asks how ale and cider barrels can be thoroughly cleaned. We think a strong solution of sal. soda followed by hot water will do it.

W. M., of N. Y., wishes to be informed if hydrogen gas can be made available for heating or cooking purposes. It certainly can, but its expense is a serious objection, except where hydrogen can be had for next to nothing.

L. W. S., of Mass. "Can you give me information how to burn up the smoke from a planing mill, the furnace fires of which are from shavings and the waste of the mill?" Refer to the article on "Boiler Setting "first page of No. 9, current volume.

T. H. B., of Texas.—" What is the best way to keep a tubular steamboiler free from mud and scale, the latter of which accumulates rapidly from the use of hard water?" Blow off frequently, which will remove the mudand a part, at least, of the scale. One great fault of those who run boilers of any kind is their disinclination to perform this neces sary work often enough.

R. B., of Pa., says there is in use in Philadelphia a check valve to steam boilers intended to prevent the pump from thumping. It is placed about two feet from the pump on the suction pipe and is supposed to admit about one **1**fth of air at every stroke of the pump, forming a cushion for the plunger and then passing into the boiler. It is used on the Harrison cast-iron boiler advantageously, and the question is whether this air endangers the boiler and whether such a pump could injure a wroughtiron boiler. In reply we would say that the air pumped into the boiler cannot injure it whether of cast or wrought iron; neither can we see how the injection of air with the water could benefit a boiler or assistin generating steam.

J. M. W., of N. Y., says: "Believing myself to have discovered a substance which I call liquid phosphorus or oil of phosphorusthe result of an experiment in match making last spring. Allow me, if you please, to ask information." Certainly; but it would, perhaps, be more satisfactory to you and us it you had describedyour liquid phosphorus and denoted the sort of information required.

F. K., of Mo .- " Could you give a simple and cheap recipe for softening hard water for washing purposes ; the wells are in limestone rock?" We knew of nothing simpler and cheaper than sal. soda or wood ashes.

L. M. T., of Mo., desires to know the process of preparing birds and other specimens of animal life by retaining the bones and flesh. Probably D. Van Nostrand, 192 Broadway, canfurnish a treatise on the art of the taxidermist.

G. McD., of N. Y., cannot succeed in depositing a film of pure silver upon silver. The battery fails him entirely. Certainly the batery may be made to give an even deposit of pure silver. Probably your failure is due to lack of skill or imperfection in the materials employed.

Business and Lersonal.

The charge for insertion under ins head is 50 cents a line.

Parties having a Paper Mill for sale or lease will please address, with particulars, Wm. H. Gandey, Lambertville, N. J.

Tin-Ware Manufacturers and Manufacturing Companies send address to Jno. I. D. Bristol, Detroit, Mich.

Wanted, address of manufacturers of Try-Squares. John Burgum, Concord, N. H.

Wanted, manufacturers for the best double-shovel (iron) plow in the market. Address Ray & Shalters, Alliance, Ohio.

Send prices and descriptions of wood-turning lathes to I. J W. Adams, Salisbury, Md.

Manufacturers of Pumps for raising water from deep wells, please send circulars to D. Arthur Brown & Co., Fisherville, N. H.

Manufacturers of Paper-bag machinery, and paper manufacturers send circular and price list to J. Walter. Baden. Mo.

Capitalists, seeking investments, are invited to investigate the merits of "Cotton Tie," illustrated in present number.

Oak Belting .- Large Lot for sale very cheap, in lots to suit.

Address S. T. Wellman, Nashua, N. H.

EXTENSION NOTICES.

William H. Sweet, administrator of the estate of Henry L. Sweet, deceased. of Foxborough, Mass., having petitioned for the extension of a patent granted to the said Henry L. Sweet, the 20th day of December, 1853, for an improvement inguides for sewing on binding, for seven years from the expiration of said patent, which takes place on the 20th day of December, 1867. it is ordered that the said petition be heard at the Patent Office on Monday, the 2d day of December, 1867.

Joseph Nason, of NewYork city, having petitioned for the extension of a patent granted to him the 2d day of January, 1854, for an improvement in arrangement for cutting screws in lathes, for seven years from the expiration of said patent, which takes place on the 2d day of January, 1868, it is or

WATCHES-J. A. Harmann, New York City.-This invention consists in so constructing the pendant of a watch as to receive and hold the key adapted to such watch whereby the key is always at hand when to be used for winding the watch movement or setting or adjusting its hands, and furthermor the socket of the key, cannot becomed clogged or stopped up with dirt, etc-

HENS NEST .-- C. W. Blackman, Bridgeport, Conn.-This invention relates to a new and improved nest for hens and has for its object the prevention of more than one hen occupying the nest at the same time.

WINDOW SCREENS .- James McFeeley, North Woburn, Mass .- This inver tion consists in so constructing the frame to a window or door screen in such manner that water can be made or allowed to flow over the surface of the screen from top to bottom whereby while the dust etc., is more perfectly excluded, the atmosphere of the room is rendered cooler and more pleasant.

CENTER BOARDS FOR VESSELS .- John G. Saunders, Narragansett, R. I.-This invention relates to a new and improved mode of laving center boards in vessels, whereby the center board may be raised and lowered with its low er edge parallel with the keel of the vessel and center board, in case of meet ing with any obstruction when the vessel is sailing, allowed to rise and pas over the obstruction without sustaining anp injury whatever, and also admit of being readily detached from its trunk at any time when necessary for repairs.

GATE - A. Tandy, Columbia, Mo. - This invention has for its object to furnish an improved gate, simple in construction, and durable, and which can be opened and closed over obstructions, or up or down hill, as may be desired or necessary.

Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek in-formation from us, besides, as sometimes happens, we may prefer to ad-dress the correspondent by mail.

SPECIAL NOTE. - This column is designed for the general interest and in struction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as appentisements at 50 cents a line, under the head of "Busi-ness and Personal."

IF All reference to back numbers should be by volume and page.

W. B., of Ohio, thinks it would be a good thing to silence an enemy's guns by firing, point foremost, into the mouth of the guns a number of square tapered files with the teeth cut the reverse way, which would plug or lodge the enemy's shot and burst their guns when fired. So it would : but will W. B. please inform us about his planf or getting so direct an aim as to shoot into the mouth of those cannon he intends to burst.

J. O. B., of Mass., has two stoves in his shop in which he burns wood, one of which with a funnel of 40 feet in length drips a great Sept. 9, 1867.

dered that the said petition be heard at the Patent Office on Monday, the 16th day of December next.

Hezekiah B. Smith, of Smithville, N. J., having petitioned for the extension of a patent granted to him the 10th day of January, 1854, for an improvement in mortising machines, for seven years from the expiratonof said patent, which takes place on the 10th day of January, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 23d day of December next.



Inventions Patented in England by Americans. [Condensed from the "Journal of the Commissioners on Patents."]

PROVISIONAL PROTECTION FOR SIX MONTHS.

2,262.-MANUFACTURE OF WHEELED VEHICLES, ETC.-John S. Campbell, Newton, N. J. Aug. 5, 1867.

2,408.—APPARATUS FOR RAISING WATER, ETC., BY STEAM POWER.—Wm. L. Horne, Batavia, Ill. Aug. 22, 1867.

2,475.—CARPET STRETCHEE AND TACK DRIVER.—Wm. Brown, New York City, Aug. 31, 1807.

2433 -- MANUFACTURE OF IRON AND STEEL-Alexander L. Holley, New Yo.k City. Aug. 27' 1867.

2,466.—APPARATUS FOR SUBMARINE EXPLORATION.—George Wrightson, New York City. Aug. 29, 1867.

2,506.-PADDLE WHEELS FOR WATER CRAFT.-Wm. R. Manley, New York City. Sept. 4, 1867.

Implement for Repairing Roads.

The machine seen in the engraving is intended primarily for filling in the ruts, leveling the surface, and compacting the material of roads. It is a plow, scraper, and roller combined, and appears to be a very useful implement for agriculturists. A strongly braced rectangular frame, A, of wood, supports all the working parts, which consist of a guiding wheel, B, colter, C, plow share, D, and roller, E, with their

tallic frame by means of arms passing through the frame on each side of the wheel and extending up to a forked lever, F, by which the forward end of the whole machine may be raised. The circular frame on which the wheel is mounted partially rotates in another, denoted by G, and bolted to the frame, A. It will be seen that the driver may guide the machine or regulate the hight of the forward part, and thus the depth of the plowing, by means of the lever, which is easily accessible from his seat.

The machine may be drawn by a yoke of oxen or span of horses. When in use for repair ing reads the guiding wheel runs in the rut to be filled, and the plow shares. D-of which there are two, one on each side, converging at their rear ends

posit it in the depression. The colter, C, which is simply a double plow share, is used only when there are very hard and compacted ridges in the road to be broken up. Whether in filling ruts or leveling ridges the heavy roller, E, over which is the driver's seat, compresses and solidifies the work. The machine works over one half of the road at a time and then returns on the other side. The patentees confidently claim that one man with the team can finish five or six miles per day and do it better than fifty men with picks, shovels, etc.

By the removal of the roller and the substitution of a shaft carrying a rair of wheels, the shares being taken out, the machine is adapted to ridge land in parallel rows with a channel on the top of the ridge for the seed, as for cotton and some other crops. Patented through the Scientific American Patent Agency Sept. 17, 1867, by Minor and Ward, who may be addressed at New Bedford, Mass. Models are now on exhibition at the Fair of the American Institute, New York city.

Improved Double Acting Pump,

many improvements, or attempted improvements, as the pump, whether the ordinary lifting pump or the combined lifting and forcing pump. In those of the last mentioned character the principal difficulty has been that the upward flow of the water has been checked and turned in a new direction before any proper results could be obtained. This entails an immense loss of power which ought to be employed in raising the water. The prevention of this loss of power is the object of the inventor of this pump: he constructs it on the principle of the incompressibility of water, using the water itself as a ram or solid piston at each alternate stroke.

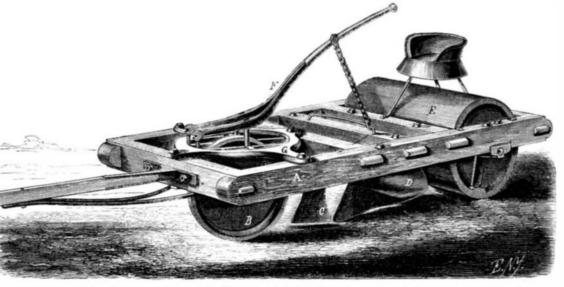
The engraving is a sectional view of the pump when used in a horizontal position. The cylinder of the pump is of unequal diameter, the portion, A, being much less than the chamber, B. Inside the cylinder is the hollow

tical and the hole or holes seen in the side of the chamber. B. are stopped and the down or backward stroke of the plunger creates a vacuum in the annular space between the chamber and the hollow plunger, which, on the forward or upward stroke assists in raising the weight of the connecting rods and the water column. Valves for opening and closing these holes can be readily attached which may be operated automatically. An air chamber may be connected to the appurtenances. The wheel, B, is mounted in a circular me- pump if desired, but it is not necessary. It is understood material.

ARTIFICIAL STONE FOR BUILDING---RANSOME'S PRO-CESS IN AMERICA.

OCTOBER 19, 1867.

We have from time to time called the attention of our readers to Mr. Ransome's process of making artificial stone for building, and especially in our issue of 25th July, we copied an article from Engineering which explained the process of its manufacture, and gave the results of such experiments as had then been tried to test its value as a building



MINOR & WARD'S ROAD REPAIRING MACHINE AND COTTON LAND RIDGER.

or vertically.

It was patented July 23, 1867, by Henry Getty, of Brooklyn, N. Y., who may be addressed for further particulars or the sale of rights, etc., at McNabb and Harlin's, 86 John street, New York city.

CRUSHING COAL FOR BURNING IN BOILER FURNACES.

A few days since we inspected an apparatus erected in the fireroom of the steamer Warrior at the Delamater Iron Works-Mulford & Ripley-for pulverizing the coal and forcing it into the furnaces, over the fire, by means of a blowing apparatus.

Circumstances prevented us from examining the internal structure of the crusher and blower as critically as we should have been pleased to do, but the former was apparently a pair of cast iron rollers, over which was erected a hopper for the these rollers the pulverized fuel is emptied into a blower with tight fitting, revolving pistons, which force it through about five inches diameter pipes and sprinkle it over the fires.

The crushers and blowers, of which there are two each, are ble qualities than the sandstones in use. Few mechanical contrivances have been the subject of so driven by a 15-inch by 15-inch cylinder engine erected on the | It is being made not only in Europe but in several parts of

Recently, through the kindness of Hon. David Naar. President of the "Ransome Patent Stone Co., of New Jersey," we have had an opportunity of witnessing the process ourselves. We confess ourselves to have been unexpectedly pleased not only with the simplicity of the process, but with the facilities which the company have for the manufacture of the stone, and the beautiful results which they accomplish.

The article above referred to went so fully into the modus operandi that we do not deem a long explanation of the chemical process necessary. It is a successful imitation of nature's own methods. Grains of sand are agglutinated by cement. The sand is washed from all impurities, thoroughly dried, and intimately mixed with the silicate of soda of commerce. It is then molded

-lift the earth or gravel from each side of the rut and de- that this pump may be arranged to work either horizontally into the form desired and subjected to a bath of the solu-

tion of chloride of calcium. A double decomposition takes place and induration commences. In a few moments the plastic mass begins to ring under a slight blow of the trowel. The results of the decomposition are the insoluble silicate of lime and chloride of sodium (common salt), which is easily soluble in water. As soon as the mass has hardened throughout, or when the chloride of calcium has been brought in contact with every particle of the sand so mixed with the silicate of soda, it is boiled in a solution of chloride of calcium, which drives the salt to the surface, from which it is washed by a shower bath of water. The stone is then dried and is ready for use.

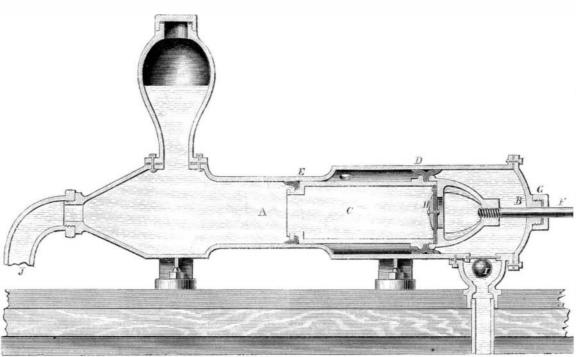
The stone, as compared with the sandstones in use, is considerably cheaper, and when capitals or ornamental moldings are required, the cost is not more than one eighth. Its weight is about 140 pounds to the cubic foot. The color is about the purpose of supplying them with coal; from the under side of same as the Portland stone, depending of course upon the color of the sand used. It is easily colored, however, to any tint required. It has been subjected to the severest tests as to its durability, and so far shows greater resisting and dura-

this country, and is beginning to be used for building purposes, and the true test. that of time and the weather, is being applied to it.

We cannot predict that it will endure as long as the Pyramids, but its composition is such, and it so well stands the tests to which it has been subjected, as to give us good reason to hope and believe that it is equal if not superior in durable qualities to most of the building stone in use.

Those who have been foremost in undertaking the manufacture of the stone in this country deserve success. and we believe the article will fill a want long experienced by builders, and we hope they will not let prejudice deter them from giving it a fair trial.

It is not remarkable that uch a discovery has been



piston, C, packed at the ends. D and E, and worked by the piston

open at the forward end and closed at the rear end by the flap valve, H, of the inlet pipe, and J, is the discharge pipe, which may be carried in any direction. In the engraving the pump plunger is seen as making a forward stroke, the water con tained within it and held by the valve, H, acting as a solid ram to force the water in the cylinder, A, out of the discharge pipe, J. The return stroke opens the valve, H, by the back pressure of the water in B, which rushes through the cylindrical plunger, C, to be in turn discharged. It will be noticed that the chamber, B, is of much greater diameter than the plunger, C, so that they bear the relative proportions of two to one. This insures always a full cylinder and makes a continnous stream, without check or interruption. One of these pumps in the fair of the American Institute delivers a continuous, full, round stream by the working of a vertical lever moved by one hand, requiring no greater expenditure of power than that which could be exerted by a child of eight or form an idea of the complication such an apparatus would

GETTY'S IMPROVED PUMP.

which belts are led to them. Altogether it lookslike a rather complicated fix.

With regard to the efficiency of this contrivance we cannot speak from observation, but we are free to confess that for use on board of steam vessels it impressed us very unfavorably. Indeed we were unable to discover what was the object of the engineer who contrived it, except perhaps to save the trouble of opening the furnace doors to "fire up," but this seeming advantage is attended, it seems to us, with several serious drawbacks, among which is the fact that if the draft is good a considerable portion of the "powdered coal" will be carried into the flues and up the chimney.

There are only four furnaces in the Warrior's fire room, and this fact, taken in connection with the machinery necessary for this small number of furnaces, will enable one to nine years. When used for very deep wells the pump is ver- render necessary in the fire room of a first-class ocean eteamer. to be so like sublight, has a tinge of violet.

made; the wonder is that it has not been made before.

rod, F, through the stuffing box, G. This hollow plunger is | deck. It transmits its motion to the crushers and blowers | Our exchanges from England mention the Ransome process as through an intermediate shaft driven by gearing and from a practical success for nearly every purpose for which stone is used, even to the manufacture of grindstones. What Great Britain can do in this line can be equally well done by us, and we predict for the New Jersey company financial success.

New Use of a Device,

A new use of a thing without being claimed in combination with some other and new element, or as part of a new combination, in the device where such thing is introduced, is not patentable, it being considered simply the application of an old thing to a new use. Toward such a view would appear to be the leaning of the courts. The point was touched upon in the case of West vs. Silver Wire and Skirt Manufacturing Company lately decided in the Southern District of New York.

COLOR OF SUNLIGHT .- M. Brucke has observed that dif. used solar light, instead of being perfectly white, is tinged with red. The light of burning magnesium, which appears