## RECENT AMERICAN INVENTIONS.

The following are some of the most important improvements for which Letters Patentwere issued from the United States Patent Office last week. Theclaims may be found in the official list :-
School Globes.-Thisinvention consists in mounting two hemispheres in armed standards, which slide in parallel places toward or from each other in such a manner that on separating them the several parts or lines marked on their inner and outer surfaces retain their relative position opposite to each other. It consists further in the arrangement of a primary pedestal provided with a series of screw sockets in combination with a screw shank projecting from the lower end of the head, in which the armed standards of the hemispheres slide, in such a manner that one or more globes can be placed on the primary pedestal or taken from the same and returned to their original pedestals at pleasure. It consists also in combining with the sliding armed standards, slotted swivel socket in such a manner that the globe can be turned freely in either direction. John R. Agnew, of Mercersburg, Pa., is the patentee of this invention.
Lamp Burners.-This invention consists, first, in a novel and improved means for securing the draught chimney to the burner, whereby the chimney may be attached to the burner and detached therefrom with the greatest facility and the chimney allowed to expand freely as it becomes heated by the flame of the lamp so as to prevent breakage from that cause ; second, in an improved filling attachment, arranged in such a manner that the fountain of the lamp may, when necessary, be supplied with oil without detaching the burner from the lamp; third, in an improved means employed for raising and lowering the wick, whereby the latter is not subjected to any undue pressure which would tend to check the ascent of the oil and the wick tube not rendered liable to be forced apart, contingencies which frequently occur in using the ordinary burners; fourth, in the employment of an indicator arranged in such a manner as to show the amount of oil in the lamp, so that it may be supplied or replenished when necessary-a desideratum in the use of metal lamps. C. B. Matthews, of Oquawka, Ill., is the inventor of this improvement.
Zinc-White Paint.-Zinc-white paint has been ordinarily manufactured by grinding the white oxide of zinc in oil without any previous preparation beyond levigation, and its want of what is termed by painters " body" has been much complained of. The object of this invention is to enable the white oxide of zinc to be manufactured into paint having a desirable degree of body, and to this end it consists in subjocting the said substance in its dry state to the combined actions of friction and pressure, by which means its bulk is greatly reduced and it is enabled to be ground with a much smaller quantity of oil. This improvement is the invention of George T. Lewis, of Philadelphia, Pa.

Folding and Statching Paper.-This invention consists in the arrangement of a stitching device and pressing or smoothing rollers and of a series of folding blades in such a manner that a piece of thread is drawn through each sheet of paper before the last fold is completed, and that when completely folded each sheet is passed by the action of a pair of take-off rollers through the smoothing or pressing rollers, from which it is discharged ready for the binder. S. H. Tanner, of Frauenfeld, Switzerland, is the inventor of this device.

Thrra are 2,800 streets in London, which, if they were placed in a straight line would extend 3,000 miles, or twice the distance from Calais to Constantinople. If a person should undertake to walk through all these streets, and should go ten miles a day, each working day, it would require a whole year, and meanwhile a new city, with from 60,000 to 70,000 inhabitants, would be built.

As anvil block for a steam hammer lately cast at the Port Richmond Iron Works, near Philadelphia, weighs 31 tons. The quantity of air used in the blast to smelt it was 4.000 cubic feet per minute, and one pound of coal was used for every pound of iron melted. About 37 It tuns of pig metal, for the casting, were melted in four hours in one cupola, and the mold was filled in $4 \frac{1}{2}$ minutes.


IESUED FROM THE UNITED STATES PATENT OFFICE for the weri midna septeyber 9, 1862. Reporeat officilly for the Sotentific 1 merican.
-a Pamplete giving ful particulare of the mode of apply ng for
 nentors, maybe had gratis by addreaing
of the SoiskTIIT A MERICAT. New York.
36,387.-J. R. Agnew, of Mercersburg, Pa., for Improvement in School Globes:
I claim, frat, The arrangement of the armed sllding standards or ndoperaing substantally as and tor the purpose Abown and de
seribed Becoud, The arrangement of the primary pedestal, F, provided with
nerles of screw sockes, in combtination with the screw shank of the
 constructed and operating substantially as and for the purpose set Third, The slotted swivel sockets, d", in combination with the head, purpose specined
36,388.-Sarah A. Baldwin, of Waterbury, Conn., for Im provement in Door Plates and Card Receivers:
I claim the comblnation of the door plate, A, reversible silde, I claim the combination of the door plate, $A$, reversible sillde, $B$, herein set forth, also
The celamp, D,
when applied to the door plate, $A$, and used in
con The clamp, D , when applied to the dor plate, $A$, and use
nection with the card receiver, C , for the purpose specilied.
[This invention consists in combining a door plate and sildes with a card recelver and a clamp, arranged in such a manner that a visitor may be informed whether the occupant of the house is at home or not, and in case of not belug at home, admit of the card of the visito being deposited within the receiver, so that the occupant may obtain knowledge of the call when arriving at home; the invention also dmilting of the application of the card or address of any individua nember of the house to indicate his or her absence.
36,389.-Cortland Ball, of Augusta, Mich., for Improve ment in Hammers :
I claim the within described tool as an article of manufacture, con
tructed and useal as and for the pur ose herein specifed.
36,390.-Uriah Billings, of New Bedford, Mass., for Im
provemont in Machines for Making Horseshoes:
 butre ss, $N$, con structed and applied and arranged ogether, and nith
mechan 1 ism for operating them, substantially as berein before do. mechani
seribed.
36,391.- J. P B Blake, of Waterbury, Conn., for Improve-
ment in Making Sewing-Machine Needles: ment in Making Sewing-Machine Needles :
I claim the method of making sewing machlne needles by ma-
chinery, which elongates the portion of the wire which 18 to form the chinery, which elongates the portlon of the wire which is to form the
body of the neede, than reducing it in diameter and extending it in
length, substantiall as described 36,392.-J. P. Blake, of Waterbury, Conn., for Improve ment in Machinery for Making Sewing-Machine I clatm the combination of rolls fitted with grooves alternately fat
octaganal, tor the purpose of reducing the transverse dimension
and clatm the combination of rons the the purpose of reducing the thranserverse dimensions
of metal rods and elongating them in length, substan Hally as de-
scribed. roalm the comblnation of rolls, having a groove with an enlarged space or sumcent size to permil the butt or the plece or metal,
whoos dimensions are thbe reduce, to be introduced between the
rollh a gage which determines the longltudinal position of the upon it, sub
 scribed, with gages to determine the positions of the rods of metal
and with fuldes which hold the rods edgewlse when the rolls begin to
act uponthem. ct uponthem.
36,393. $-\mathcal{S}$. S. Brown, of Washington, D. C., for Improve ment in Addressing Letters:
I claim the envelopes made transparent or equivalent, prepared so
as to recelve and properly exhibit the cards of address, sutatantially as and for the purpose herein spectided.
I also clalm the combinatlon of ithecards of address and the trans. parent cor equilvalent envelopentes, substantlally in the manner and for
he purpose herein specifed.
36,394.-E. A. Cone, of Milford, Mich., for Improved Clothes Pin
I claim making clothes pins of two pleces of wood of the form herein
spectied and two pleces of wire which serve the double purpose of holding the pleces, A A, together at a proper distance, and as springs
to allow the two end o open and cloge as deecribed, the pin when
finlshed having both ends fited for the line in the manner spect. ned.
36,395.-Frederick Dayton, of Watertown, and W. S.
Kelly, of Waterbary, Conn., for Improvement in Stereoscopes:
I claim, frat, A stereoscope case, A, provided with a clock move ment, H and a continuous sheet, B, of stereoseo hic pictures, so ar-
ranged that he sheet will be actuated or moved by the clock move ment, and the pletures, made to pasa before the lenses of the case
subetantally agset forth.
Second, The sllding bar, $E$, arranged in the relation as shown with
 Whereby the pinion, J, on the shaft or roller, D, may be detached
from the clock movement of that he Bhet, B. may be wound on the
lower roller, C, by almply placing the key on the journal, e, of roller,

36,396.-Henry Dunham, Jr., of Abington, Mass., for Improvement in Maçhines for Sewing Soles to Boots and
Shoes: Shoes:
I cialm the combinatlon of ghe covered and hooked needie with the
 late, in such a manner as to enable the former to be inclined wit I elleo claim the sbove deacribed arrangement of the feedin
mechanism with respeot to the last-carrying plate supporter, M, an
 combined with a gulde wheel, a, and a last haring a
the whole belng in manner substantially as specified.
36,397.-LovettEames, of Kalamazoo, Mich., for Improved Hydraulic Apparatus :

 36,398.-Lovett Eames, of Kalamazoo, Mich., forImproved Water Engines :
I claim, Grst, so constructing and applying valves to a water engine
that they will contro both ports, and keen a space equal to the whiole
of one port open at all

 36,399.-R. B. Fitts, of Philadelphia, Pa., for Improvement in Treating Night Soil :
I claim the method or process of treating and putting up night soll,
for transportation and agricultural purposes, substantialy as de-
scribed. scribed.
36,400 .
36,400.-Louis Friese, of Stuttgart, Germany, for Im-
provement in Riding Saddles : provement in Riding Saddles :
Ind caim the combination of the binged it
I cainn the combination of the hinged links, $C$, plates, $B$, $D, b o w, E, ~$
and cantel, F, in the manner herein shown and described. [This invention consists in the peculiar construction of the frame of the saddle, each side of which consists of three distinct parts, to wit, the front plate, the backplate and the central connecting link, that are untted to each other by hinges in such a manner, that the same are permilted to accommodate themselves freely to the motions of the Ider and of the horse, and that a galling of the horse is avoided.] 36,401.-G. P. Ganster, of New York City, for Improvement in Breech-Loading Ordnance:
I claim the eccentric breech pin, B, constructed and operating sub.
36,402.-R. J. Gatling, of Indianapolis, Ind., for Improved Steam Marine Ram, \&c.:
First, I clalm arranging and combining the ribs, b b, and trans.
erse frame timbers, $\mathbf{c}$ and , and vertical frame timbers, 1 , slde by slde Verse frame timbers, candd, and vertical frame timbers, 1, , slde by side
so as to form continuous bearings againat each other, anteriorly and osteriorly, the same belng balvedor doretailed together at their cross-
ng , which, arrangement anows the lower parts of the rib timbers to
 ff , constructed, arranged and co
the uses and purposes set forth.
36,403.-C. W. Grannis, of Gowanda, N. Y., for Improved Condenser for Coal-Oil Stills :
I claim a condenser which comblnes,
Flraim a condenser
Second, An sing interna.
Second, An nernal trough to catch and conduct the condensed
vapors to an external conductor. Third, An external spout or conductor passing through or in a trough
of cold water, to condict the condensed vapors to the worm or cooler of cold water, to conduct the condensed vapors to the worm or cooler.
Fourth, Jeis of water ar abdy of cold water upo tis outside, in
combination with a caldron or stiln having a broad open top, upon
 $\mathbf{3 6}, 404$. J the condenser, substantially as described. 36,404.--J. S. Gray, of New York City,
in Self-Generating Vapor Burners:
In Self-Generating Vapor Burners: I claim the combination of a wick tube, a heater cap, a conductor,
a jei and a mixing tube, Fhen arranged and operating substantially in
the manner herein deecribed. he manner bereln deecribed.
I also claim the combination
Ing also clailm the combination of a jet, a mixing tube and an adjust.
ing crew wher arranged and operailing as described, for the purpose
of regulating the relative proportlons of air and vapor and of regulating the relative proportlons of air and vapor admitted to the
ourner tip, as
36,405.-W. O. Grover, of West Roxbury, Mass., for Improvement in Sewing Machines :
I cialm, frst, Giving a vibrating motion to a thread carrier, in direc.
Hons perpendicular to its advanclng and retreating motions, or nearls
 Bo, by means of a revolving surface, inclined to a revolving shaft, the
thread carrier stock be ing fored agalinst that surface, and the con.
trivance acting substantiany as specified. trivance acting substantially as specified.
Second, I claim giving four motions to
Second 1 cialim giving four motions to a thread carrier, by means
of an inclined revo vingsurface, apin or sleeve, and a pivot, the whole
ither acting on the stook or controlling its motlona elther acting on the stook or controlling its motions, substantially as
specifed.
Third. I claim, in combination with a thread carrier having four
motions, a satitionary assistant lioper, substantlally such as deacribed, he two acting in combination substantialty in the manner set forth.
And, lastly, 1 claimin comblnation a vibrating thread tinsion, a Bta
 36,406.-Robert Haering, of New York City, for Improved Composition Substitute for Horn, Hard Rubber, \&c.: I claim the composition made by miring the changed lingeed oll
with aspati, guphur and gutta percha, in the manner and in about he proportions herein specibed.
[By treating linseed oll with protochloride of sulphur, a peoulia elasile gummy substance is obtained. This invention consists in com pounding and masticating this substance with asphalt, and with smal quantities of guttaperchasnd sulphur, and rolling, molding or other-
wise forming the compound into sultable forma and subjecting it to quantlul
wise for
heat.]
34,407
34,407.-John Hardick and C. B. Hardick, of Brooklyn,
N. Y., for Improvement in Valves for Steam Engines We claim the stationary piston, $g$, in combina tion with the cylinder,
 36,408.-Samuel Horsley and E. H. Jones, of Liverpool

England, for Improved Apparatus for Cleaning and Polishing Boots and Shoes:
, of the disks or rollers, $n$, and fulcrum and crant-
 36,409.-Albert Johnson, of Putnam, Conn., for Improve I claim the crank box. E, placed loosely on the shan, $C$ and pro-


 when used in combination with the crank box,
contained within it, for the purpose specifed.
[The object of this invention]is to obtain a well windlass of simpla and economical construction, by which the bucket may be ralsed with
facillty, and allowed to fall at any time or from any polnt, at the will fthe operator, and with a reverse movement of the crank.] 36,410.-E. B. Jucket, of New Haven, Conn., for Improve ment in Hose Couplings
I claim the conical screw ring, D, and nut, E, constructed substan-
tlally as described, in conibination with hoeceouphings, in the manner
and for the purpose substantially as heren as bereln set forth.
36,411.-C. W. T. Krausch, of Chicago, Ill., for Improvement in Engine Indicators :
I claim the indicator and recorder, constructed and operated sub-
stantially as described for the purpose of making a comblned record
of the performances of an engine 36,412.-Jacob Kritsch, of Binghamton, N. Y., for Improvement in Securing Boxes to Wheel Hubs, \&c.:
 screw bolte as hereln shown and described, for the purpose set forth. 36,413.-William Kuebler and Henry Beierlein, of Philadelphia, Pa., for Improvement in Lamps
We claim the described burner for cool oll lamps without a chim
ney in which the gescondensing chamber, disprovided with an in.
termal bottom flange, the the position of g and its proportlonate size of

 shaped and situated ling herein set forth.
36,414.-G. T. Lewis, of Philadelphia, Pa., for Improve-
ment in the Preparation of White Oxide of Zinc for ment in the Pr
I claim the preparation of white oxlde of zinc for the manufacture of
paint, by subjecting it to the combi ned actionsof friction and pressure paint, by bubjecting it to the combined actions of friction and pressure
Buastantially as hereln deecribed, whereby its density is nereased
and the paint caused to have greater "tody
36,415.-Adolphus Lind, of San Francisco, Cal., for Im-
provement in Water Wheels: provement in Water Wheels
 raung iange,
recesed to reeelve somb buckets ; the aid parts being arranged and
operating together in the manner hereln shown and described.
[This invention consists in having brackets placed on the periphery of a drum, which is fitted within a cylindrical case, and used in connection with a cylindrical abutment, which is placed in contact with wheel ; and provided with recesses to recelve the buckets of tie with a vlew to admit of the ready discharge of the water after acting upon the wheel, so that the latter will not be retarded in ita move the velocity of the latterdiminishes.]
36,416.-R. J. Marcher, of New York City, for Improved for Picture and Mirror Frames, Architectural Pur poses, \&c.:


36,417.-C. B. Matthews, of Oquawka, Ill., for Improve ment in Lamp Burners:
I clalm the arrangement of the apring, $D$ with the lamp top, A
cone, $\mathbf{C}$, and chimney E in the maner heretn shown and described,
so that the sald spring wil adjus

both directiong, all as set forth.
I also claim havlig the wick fork or spur wheel shaft mounted upon
a spring, in the manner and for the purpose hereln shown and de a epring,
Beribed.
36,418.-I. F. Maynard, of Nashua, N. H., for Improvemen in Spinning Fliers:


36,419
36,419.-Antonio Meucci, of Clifton, N. Y., for Improve-
mentin T eating Petroleum and Other Oils to Produce a Vehicle forPgints and Varnishes: I claim, first, The employment or use of hyponitric acid, in treating
pectroleum, Eerosene or other olls, substantially in the manner and for the purpose described.
Second, MMrng pertoleum or other olls, after they have been ex
posed to a curr ent of hyponitric acid as described, with linseed or wit

[The invention consists in rendering petroleum and kerosene, o otherifquids, fit to be used in paints, by the introduction of a current of oxygen gas or of any other gas or liquid containing oxygen and capable of parting with the same, and it consists also in mixing with petroleum and kerosene or alled liquids, an extract of the cakes ob-
tained in the manufacture of linseed oll or of farina of linseed for the purpose of giving to said liquids the required consistency to render them fit to be used in paints.]
36,420.-T. V. Nichols, of Olena, Ill., for Improved Hedge Trimming Device
ming the top horfacental on the hese, $c$, of cyllinder, $K$, for cuting or trim atached to the ends or disks, b, of the cylinder, for trimming the
sides of the hedge, sald clinder belng connected to a shaft, 1 , paced
on a mounted frame A, and driven from the wheel, B, thereof, sub-
[The object of thls inventlon is to obtaln a machine by which hedges may be trimmed at the top horizontally, and at each side perpendicn-36,421.-M. T. Ridout, of Milwaukie, Wis., for Improve ment in Pad Locks
I claim the combination of the bolt, $D$, with the spring, s, the angu-
 cover, a, the cam, , the spring catch, , the stop, $k$, and the bolt, $D$,
or tits equivalents, od sald parts, substantially in the manner and for
the purpose herein set forth. Talso clasm the arrangement of the curved guard plate, h, with the
tumbler, fhe spring catch, 1 , and sey plvot, $q$, substantially in the
manner herein set forth. 36,422.-E. S. Ritchie, of Brookline, Mass., for. Improve ment in Mariners Compasses :
I claim the arrangement and comblnation of the air vessel, $E$, with
the magnet or magnets,
I also clatim the comblnation of the said air vessel and magnet or
magnets, with the cards, $D$, the same being for the purposes as spect-
fied. 36,423.-John Robinson, of New Wilmington, Pa., for Im
provement in Machine for Holding Open Bags an Sacks:
ala her the bag bolder, constructed substantially as descifbed, of the
 36,424.-S. J. Seely, of Brooklyn, N. Y., for Improvement in the Manufacture of Cor ugated Plates:
I claim making corrugated iron plates for ships' air mor, or other
purpose, when, by reason of the rrregularity of ormor the thickness
onetan
cess required to change them to the condilion known and distinguished
as malleable iron. 36,425.-J. S. Swan, of Monganp Valley, N. Y., for Improvement in Holdbacks for wheeled Vehicles
 and operating in the manner shown and described
[This invention consists in the arrangement of the binged lever veblele to the trame or perch of a carrlage or other wheeled vehicle, by means of pivots or in any other desirable manner, in com-
bination with two lines or chaing, one connecting to a hinged sea ment, for the purpose of raising the levers from the ground, and on connecting with the straps of the horses or draught animals, in such a manner that in going upibili, if the vehicle begins a retrograde mo then, and the hinged levers are lowered, the stralin of the horses torce hem of bear bard onor petrale can be to 14 is

36,426.-J. H. Shireman, of East Berlin, Pa., for Improve Firt ment in Horse Rakes : First. I cladm suspending the hand lever, $N$, upon the axie, $B$, so
that thie former may articulate upon the latter, in the manner and for the purpose described. incilined "Way," $k$, In combinetion with the
Second, $I$ claim the
hand lever, $N$, arranged and operating substantially in the manner and for the purpoes et forth. lever, N, and Inclined
the purpose set forth.
36,427.-John Shaefer, of Lancaster, Pa., for Improve
ment in Constructing and Attaching Iron Panels to
Wooden Frames :
I claim the manner of making metallic panels with rods or lugs, and held in place by meann of burs or screws, b, substantially as set
and
forth forthe purpose spectifed.

36,428.-J. H. Tanner, of Frauenfeld, Switzerland, for I claim, frrst. The arrangement of the of Patlic bands, a2 es, an aspse eb, or ther equivaleeris, Thtd The arrangement of the shears, $k$, and nippers, 1 , in combl
ation with the stltching and folding mechanism, eabatandially as and nation with the sitching and folding mechanism, evaisidally as and
Foue purpose emecified.
Fouth of the oibrating notched lever, $k^{\prime}$, and Bhears. The arrangement of the sliding clasp, 12 , in combination with the spring jaws of the nippers, 1 , bracket, 1 , and cross bar, (i, sub
stantlally as geecifed for the purpose of opening and closing the
nippersat the desired' intervals.

Bed Bottom
I claim the undulating bed bottom 36,430.-William Van Anden, of Poughkeepsie, N. Y., for Improyement in Harvesters:
Frrst, claim making a section of the side rall of the frame next to
the cutter and in front of the axie adjustable by connecting the same
to the end of the stationary part of the rail by enenter the the end of the stationary part of the rail by a center pin, 80 tha
when its lower end is disengaged from the end of the front rill of frame, it may rotate on the center pin, hubstantially as here infore de-
scribed and for the purposes set forth. Second, I also claim the combination of the cutter bed (with the
cutter bar working thereon), iwith the adiustable section of the shde forth
Third, $I$ also claim the comblnation of the propeller wheel on the side next to the cutter, of a two. Wheel mowing machine, with a frame
bavigan obcillating motion transernely of phe pathor the machine
when the sald whee isarranged on the outside of the side rail of the scillaing rame, substantlially as hereinbef ore describe Fourd,
or shoulder formation on the propelling wheel axie, as a bearing on
 Fith, I also claim the combination of the cutter bar elevator lever
With the back end of the fooring or table and frame of the machne
ehind the axie of the propelling whets, subst anclally as herelnbe behind the axle of the propelling wheels, gubstanclally as herelnbe Slxth, I also claim the meithot of making an adjustable-spring drl.
ver's seat, In combination with the fixed or solld standard or spring tifiener projecting upward from the back edge of the table or flooring
ubstantlally an herelnbefore described, and for the purposes se Corth.
Seventh, I also claim the combination of the self-adjustable com-
pensating pole with a frame having an oscillating motlon transversel pensating pole with a frame having an osciliating motion transversely
of the path of the maccine and drug chain arranged and operatiog as
hereinbefore described and for the purposes set torth.
 dragchain in combination with a self.adjustable compen sating pole,
and drag chain attached to an oscillating mower frame, substantlally as hereinbefore described and for the purposes set forth.
Ninth, I also claim the arrangement of the cu ter bar rame having an oscillating motion transversely of the path of the ma
chine and two propelling wheela, oo to porate forward of the axle

36,431.-John Vial, of Cleveland, Ohio, for ${ }^{-}$Improved
 nation with the
L , hese geveral a
purpose specifed.
36,432.-L. F. Whitney, of Charlestown, Mass., for Improvement in Rails for Street Railroads
I claim the tread rib, f , in combination with the shoulder, b , and
equalistant laterally-protruding knobs, substantially as shown and de-36,433.-M. A. Winham, of NorthSan JJuan, Cal., for Improvement in Hose Couplings :

36,434.-J. W. Woolsey, of Niles, Mich., for Improvement in Potato Diggers
I olaim the sla ndard, C, shanks or wings, E E, and bar, $F$, in conached edgewise to the etandard, $\mathbf{C}$, and bar, $F$, to operate as and for the purpose heretn set forth.
I further claim separately the oval, oval-shaped slats, $G_{\text {a }}$ When at.
tached edgewise to the parts which support them, to operate as and tached edgewise to the pa
for the purpose specifed.
[This invention consists in the employment of ia double mold boar orming a sttached, the slats being constructed and arranged in such manner as to greatly facilitate the passage of the earth between them and at the same time throw the potatoes out of the hills and to elthe side of them, as the implement is drawn along.]
36,435.-Benjamin Zurn, of New York City, for Improved and Chisel: I claim the adjustabla or sliding head, $C$, in combination with the
bar. , and the spring,, connected to the saw sildes, $P$, the saw being driven from the shaft, T, substantially as do
ranged to operate as and for the purpose set forth.
will be capable ot siliting work or resawing, and sawing scroll work,
with a mortising machine and a boring device; the invention ies o ar ranged that it may be used in any of the capacitles above staled with very silght adjustment of parts and perform its work in a perfect and
6,436.-Elijah Barton (assignor to A. B. White and J. W.
Barton), of East Hampton, Conn., for Improved Alarm Bell for'Doors
 [This invention relates to a new and useful improvement in alarm bells for doors; it consists in a novel way of arranging the hammer and applying the same to the bell whereby the cost in the manufactur of this class of bells is materially reduced and a mucirsimpler devic btained than that previously constructed, one less liable to get ou repair and easly pul in 6,437.-Bethuel Keith, Adolph Behr and N. S. Keith, of New York City, for Improved Process of Calcining Ores and Minerals :
I claim a mode or process of ox ydzing (or roasting or ral cind ing), al
xydizable substances, such es metals, minerals, sulphur
 metallic state such anoxyizable metalis si may be preaent thereln by
the use of the apparatus and in the nanner hereln described, or any
other apparatus or manner substantially the same, and which will 36,438.-B. F. Lee, of New York City, and H. A. Alden
of Fishkill, N. Y., assignors, to the New York Rubbe Company, for Improvemen in Hose Reels

36,439.-G. M. Mowbray, of Titusville, Pa ., assignor to himself and Bradhurst Schieffelin, of New York City Iclaim, ${ }^{\text {Grst, }}$ So constructingthe framing of the vessel with timbers, and so applying the armor plates in co mbination with such timbers or
equivalents thal the weip: of the armor is supported to such exten
 Second, The combination of the plates, D D and a a, the blocks, co
and d, the angle ppeces, $e$, or or thel $\mathbf{r}$ equvalents and the lining, $f$ the whole constructed and eppelifictin combination with the ribs, $A \mathrm{~A}$,
substantially as hereln spectbed. 36,440.-H. M. Paine, of Worcester, Mass., assignor to E.
M. Archibald, of New York City, for Improvement in

Steam Generators :
claim the process of generating and superbeating steam by inject npwater in a comminuted state Soto superbeated steam, by contac wio which tit particles are con verted into steam, and afterwards per.
mitting the clrculation of the steam so obtaned thrugh a heated
chamber to be superheated, substantlally as hereln specified. 6,441.-S. A. Skinner, M. D., of Bristol, Vt., assignor to
himself and Silas Ruggles, of Fitchbu $\mathrm{g}, \mathrm{Mass.}$, for himself and Silas Ruggles, of Fitchbu g, Mass., for
I ciaim the frame, A, provlded with the folding legs, B, in comblna-
 uter sides of the side pleces, a a of the frame, A and the pivoted
rack ${ }^{\text {, }, \text {, all arranged as and for the purpose hereln set forth. }}$, [Thls invention relates to a new and improved toldiug bedstead, lounge and chain, constructed in such a manner that it may, by a very simple manipulation, be conveniently converted into any one of the devices above specifed, and when not required to be used in any way be capable of being folded compachy, so that may be stowed away a a small space, and also very readily ipacted in quantitles for trans portation.
3,442.-John Sutton (assignor to himselt and James Gregory), of New York City, for Improved Combination
of Sofu and Vessel Berth : I claim, first, The comblontlon with the fixed frame, A, of the seat
and berth. frame, E , and seat, substantlally as and for ihe purpose set forth.
Second, The combination witt the sofa box, $\mathbf{C}$, constructed as de-
scribed of the seat-eleavating doors or stops, $\mathrm{d}^{\prime} \mathrm{d}^{\prime}$, substantlally as and
for the purpose set torth. for the purpose set torth.
Third, The arrangement at the back of the seat and in the manner
described, of the bolsting gear, for the purpose set forth. 36,443. -Isaac Cummings (assignor to himself and Eugene J. Post), of Vienna, N. J., for Improved Method of Operating Shakers of Thrashing Machines: I clalm operating the shaker by a direct connection with the main
shaft of the motve power independent of the threshing cylinder belt.
and detaching the shaker from all working connection with the thrahiing cylinder irame
1,340.-S. R. Andres, of $\stackrel{\text { RE-ISSUES. }}{\text { Troy, }} \mathbf{N}$. Y., for Improvement in Articles of Food made from Beans, Peas, \&c. PatI claim the manufacture offlour, meal, grits, or grains, from beans,
peas or corn, substantially as and for the purposes described. 1,341.-F. F. Fowler, of Crane Township, Ohio, for Iuprovement in Hay Elevators. Patented April 17,
1860:
I claim, Grst, In the construction of elevatora for hay, the comblnaing crossbar and its braces, with a central supporting piece, for al
iowing the crossor and ita braces io tur upon the supporting frame,
substantlally in the manner and for the purpose described. I aliso clailm in the constructlon of eleavators for hay, in combination
With the crossbar, revolving upon an under supporing fame, the вo arranging ot the sheaves and holsting tactle, asp hat the welght to be
raised shall be upon one end of the crossbar, whilist the power to
raise

 cienth risase ring, as hereind described aud represented.
or other tas, braces
I also claim in the construction of elevators for hay two pyramidal Trames one placed upontrene other, the tuatder for hame betwo pyramidal upright and
the upper one inverted, and the head blocks or apeces of both so un!ted as that the upper fra ma may freely turn:upon, whilgt itis support-
ed by, the lo wer frame, substantally $n$ the manner described.
1,342.-Wm. H. Horstmann, of Brooklyn, N. Y., for Improvement in Submarine Cables for Telegraphs. Pat I claim, frst, Tha combination of a conductor insulated and then
coverrd witha fibroug coating material to form an elastic bed for the outer wires, substand ally as he rein described, combined with ext erior
wire or wires laid parallel with the conductor as and for the purposes set forth.
also
ala
cial specifed. $\mathbf{1 , 3 4 3 .}$. H. Ho stmann, of Brooklyn, N. Y., for Improvement in Submarine Cables for Telegraphs. Pat claim forming
I calm forming the cable hereln described, by the apparatus sub-
stantlally as herein set forth, consisting of coathg reser voirs and
wrapping apparatus, de. or their equivaleuts. wrapping apparatus, dc., or their equivaleuts.
I also claim the final reservoir, m, for coatling a telegraph cable just
before it enters the water or ground, substantially as and forthe pur. I also claim manufacturing the cable at the time it is laid, when
found advantagaous so to do, as above specified. 655.-S. H. Ransom, DESIGN. Cook Stove.

PATENTS FOR SEVENTEEN YEARS.


The new Patent Laws enacted by Congress on the 2d of March, 1861, are now in full furee, and proveto be of great benefil of March, 1861 , are now in full foree, and prove to b
so all paries who are concerned in new inventions.
The duration of patents granted under the newact is prolonged to sursmiskg years, and the government fee required on filing an appllcstion for a patent is reduced from $\mathbf{\$ 3 0}$ down to $\mathbf{\$ 1 5}$. Other change the fees are also made as follows :-

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The law abolishes discrimination in fees required of forelgners, ez cepting reference to such countries as discriminate against oitizens o the United States-thusallowing Austrian French, Belgian. English, Ruasian, Spanish, and all other foreigners except the Canadians, t
eajoy all the privlleges of our patentsystem (exceptin cases of designs) eajoy all the privile
on the above terms.
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 shortest time by sending a aketoh and description of the invention The government fee fors Caveat, under the new law, is \$10. A pamphlet ofadviceregarding applications for Patenta and Caveats, in En-glishand German, furnished gratis on application by mail. Address MONN \& CO., No. 37 Park-row, N aw York.

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 of our Branch Offees.

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## fix

R. W., of N. Y.-Percussion in mechanics means the striking of one body against another, or the shock arising from the colHision of two bodies. The theory of percusstion with respect to the comparison of pressure and percussion has engaged mucl discus. sion among philosophers.
J. T., of Mass.-Water is very slightly compressible, but for all common purposes it is considered incompressible. It is this quality which renders it so useful for being employed in Bramah pressers and hydraulic jacks, by which thousands of pounds pressure to the square inch may be transmitted in a rising column for
elevating great weights. The tubes of the Victoria tubular bridge, each weighing 1,200 ) tuns, were raised 100 feet by water pressur through hydraulic presses.
. T., of Conn.-Gas made from resin has about double the illuminating power per cubic foot of gas made from coal. The gas which is made from cannel coal is also much richer in ollfient gas (which is the principal agent of illumination) than the gas obtained from ordinary bituminous coal, like that at Pittsburgh, Pa. Itis not the quantity of gas
but its illuminating power.
J. S. H., of Pa .-It is true, as you state, that the elementary gases of steam are hydrugen aud oxygen, which produce an estary gases of steum are hydrugen nud oxygen, which produce an es-
plosion when ignited; bnt stepm is never decomposed in a boiter by plosion when ignited; bnt stepm is never decomposed in a boiler by
red hot iron plates except by absorbing the oxygen and setting the red hot iron plates except by absorbing the oxygen and setting the
hydrogen only (which is not explosive), free. An explosion in a hydrogen only (which is not explosive), free. An explosion in a
steam boiler, therefure, cannot be accounted for by the chemical steam boiler, therefore, cannot be accounted for by the chemical
theory but by overpressure of the steam, as a low pressure easily theory but by overpressure of the steam, as
C. C., of Mass.-The manufacture of paper was introduce into England in 1588. We do not know precisely when its manufacture began in this country, but it is said that the first mill was erected in Delaware in 1714. The term Fourdrinier, as applied to paper making machine, originated from a wealth firm of stationers in London who made raluable improvements in paper machinery. Like many other inventors they falledto realize that reward for the
P. G. E., of Pa.-Martin's boiler differs from the common tubularmarine boller in having water in the tubes instead of using the tubes for Gues. It is described in "Engineering Precedents" by Mr. Isherwood, Engineer-In-Chief, U. B. N
D. \& H., of Ohio.-The invention which you describe for making steel is the same as that patented by Josiah M. Heath, of Engiand in 1839. You have evidently not made the history of this subject a study or you would not have wasted your time in reinvent ung a process so well known to the trade.
J. S., of N. J.-Before the introduction of machinery for the purpose, lint was made on a large scale by hand. In this process the linen rag or cloth was stretched on a small table and a sharp knife suspended abore it, with the edge parallel arth one series of the threads, the filling, for instance, was brought down upon the cloth with a force so exactly adjusted that it cut part aray throughthose threads which were at right angles with the edge of the blade. The knife then received a singht motionlengthwise, turn ing up the severed abers in a very light, loose, soft, feathery nap and the sheet of lint was still left with considerable strength in the direction of the threads which lay parallel with the knife, and which were consequently not cut.
A. C. I., of $0 .-A$ is right. After the pressure in the generator has risen above 10 pounds and thus become suflicient to open the check valve the pressure in the receiver will always be 10 pounds less than that in the generator, for the effect operating to close the valve is equal to the pressure in the receiver plus the
weight on the valve, while the effect operating to open the valve is weight on the valve, while the effect op
equal to the pressure in the generator.
C. G. C., of Mich.-Machines have been invented for load inga wagon with hay as the wagon ils drawn along ; but it is quite possible that youmay have a novel and patentable arrangement of parts to effect the desired object. You had better send ut a sketch or model of the derice, as we could then give you an opinion respect ing its patenta blility.
L. E., of Conn.-The fact that the heads as well as the tails of comets are a vapory mass is proved by stars being visible through them. There is generally a small nucleus which may be A. T., of New York, will make a reliable analysia of your ore
M. B. G., of N. Y.-The army with which Xerxes invaded Greece was measured by building a square inclosure and alling it with soldiers standing as close as they could to each other, counting them, and then ling the inclosure in succession with all the troops. After making allowances for probable exaggeration, the most intelIlgent historians estimate the numbers of this army at $1,700,000$ fighting men. The largest number ever killed on one side in any
battle was probably 80,000 , the number of Romans who fell at the battle was probably 80,000 , the number of Romans who fell at the battle of Cannae.
M. S. T., of Ill.-Polishing wheels made of gum shell-lao and emery are in constant use, and have been for several years. They gire good satisfaction.
S. M. C., of N. Y.-In spite of the authority of any number of the dally papers you may be sure the phrase "The ship was laying at the wharf," is not grammatical. To lay is a transitive rerb, and unlessa ship has the power of laying eggs or laying something else, this verb cannot be used in connection with her. It should certainly be "The ship was lying at the wharf."
N. R. G., of Ohio.-The usual charge of powder for breaching masonry is $\frac{2}{2}$ the weight of the solid shot. Benton sans that his is the greatest that can be fired without overstraining the gun and its carriage ; and, besides, as the resistance of the air increases nearly with the square of the velocity, verylittle additional useful efiect would be produced by a greater charge. The mean weight of siege guns is about 260 times the weight of the shot
C. S. D., of N. Y. - It has been stated in the papers that the French Government has paid Prof. Doremns over 850,000 for the right to use his cartridge.
A. B. W., of Mich.-Any importer of books will get you Lt. Harris's rules for rifle shooting. Murgan James, of Utica, will make you a good telescopic rifle. Maynard's breceh-loading rifle is weld tobe good for huntinn p
E. F. J., of R. I.-You have judged correctly of our si lence respecting the "great motor'" in which you refer. The utility only be determined by a practic
A. M. A., of Mo.-The propulsion of steamers by a column of water ejected through a bent tube at each side of the ressel was nndoubteily theinvention of your father-Alex. Anderson of lhila-delpbia-in 1812, and it has been revived several times since. About six years ago a steamer so propelled was built at Leith in Scot. land, and was used for fishing, but we nerer heard whether it was successful or not. In all likelihood, the one lately tried on the river Scheldt in Belgium, to w
J. H., of N. J.-Under the circumstances you speak of the the first experimenter has no claim whaterer to the invention be. the first experimenter has no claim whater'er to the invention be-
cause he abandoned his experiments. The patent of the second excause he abandoned his experiments. The patent of the second es-
perimenter is valid, whether he knew of the abandoned experiperimenter is valid, whetler he knew of the abandoned experi-
ments or not, and he has all the rights of any patentee, as well ments or not, and he has all the rights of any patentee, as well
against the irstexporimenter as others. "Legal priority" attaches against the tirst exporimenter as others. "Legal priority" attaches
to him who is both the first and origial insentor - rho only is en. titled $t$, a patent in any case. An experimenter would not be re. garded as an inventer if he failed to complete the invention.
R. S. M., of Mass.-Electro-plating without a battery is conducted as a regular business at reast at one place in the country. L. L. Smith, at College Puint, Long Island, uses fur all his extensive operatton
steam engine.

## Money Received

At the Scientific American Office on account of Patent Omce business. from Wednesday, Sept. 10, to Wednesday, Sept. 17 Persous having remitted money to this ollce will please to examine this list to see that their initials appear in it, and if they have no be found in this list, they rill please notify us immediately, and in form us the amount, and how it was sent, whether by mail or ex form ue
press.
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press.
C. I. Van O., of N. Y., 815; O. S. G., of N. Y., 815; H. M., of Mass., 815; S. N. L., of Mass., 843; J. C. B., of Wis., \$25; L. K, of Mass., \$25; C. A. R., of N. Y., \$30; J. K., of N. J., \$22; E. D., of Mass., \$15; H. G., of Pa., \$15; J. W. F., of Pa., \$15; H. C. A., of III., 840; F. \& K., of Cal., \$25; J. J., of Mass., \$15; E. T. S., of N. Y., 8250 ; J. J. E., of of Y., $\$ 250$; W. \& F., of N. Y., $\$ 200$; F. N., of Conn., $\$ 10$; J. McN., of $1 .$, \$25; H. H. S., of N. Y., 825; L. F. H., of N. Y., 825; P. McG.,
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Wis., 820 C. C. of Nis., 820 ; C. C., of Mass., \$15; J. M. M., of N. Y., \$10; R. F. C., of
N. Y., \$15; A. Y. McD., of Iowa, 825 ; G. M.C., of Me., \$25; T. \& P.,
of Conn., \$15. J. B. of N. Y., \$12; J. K., of N. J., \$37; E. F. \& J. H. of Conn., \$15; J. B., of N. Y., \$12; J. K., of N. J., 837 ; E. F. \& J. H., of N. Y., $\$ 10$; C. \& M., of N. Y., 825 ; R. P. G., of Wis., $820 ;$.. B.,
of N. J., $\$ 20 ;$ C. H. \& G. W. D., of I2., 820 ; W. D. A., of N. Y., $\$ 80$; of N. J., \$20; C. H. \& G. W. D., of Pis., 820
P. \&.G., ofN. Y., 820 ; I. H. of Wis., 820.
Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Oflce from September 10 to Wednesday, September 17, 1862 :-
J. K., of N. J. (2 cases) ; G. C., of Mich. ; J. C. B., of Wis. ; L. K., of Mass. ; A. J. B., of Iowa; J. Kc N., of Pa. ; L. F. H., of N. Y.; C. A. R., of N. Y.; J. B., ofN. Y.; E.F. \&I. H., of N. Y.; W. H. F., of Mass.;
G. M. C., of Me.; A. Y. McD., of Iowa; T. S., ot Ky.; T. W. W. G. M. C., of Me.; A. Y. McD., of Iowa; T. S., ot Ky.; T. W. W.
of Mich. ; J. L. B., ofR. ; ; S. N. L., of Mass. ; H. H. S., of N. Y.; H. U., of N.Y.; A.T.F., ofN. Y.; H. \& K., of N. Y.; W.L.L., of Mass. A. MeG., of Iowa; W.D. A, of N. Y. (2 cases).

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