boots and shoes may be blackened and polished far more expediently han it an be done by hand.]
42,708.-Water Wheel.-W. Whitncy, Manchester, N. H. verted conical centre, E, and hoop, $\mathrm{G}_{\mathrm{a}}$ tow ich the floats are fastened In combination with the concare disk or or basin around the wheel, I
claim the stationary guides, $L$ and shutes, $M$, to direct the water on othe wheel, substantially as described.
Fheel, and fitted to traverse circularly around the wheel, and the Wheel, and fitted to traverse, circularly around the wheel, and open 42,709.-Machines for making Horse-shoe Nails.-Jame White, Cle veland, Ohio, and John Malden, Youngstown, Ohio:
lank and shaping the herein-described devices for cutting off the blank and shaping the head at one operation. blank forward into the lip, b, in the manner specifled.
Third, We claim the herein-described devices for holding the nail While it is being drawn into shape, and releasing the same.
Fourth, We claim the vibrating arms, M, N,, ,, , in combina
tion with the wheel, $\mathbf{B}$, operating as and for the purpose specifed. 42,710.-Car Coupling.-Geo. E. Wood, Providence, R. I claim the pivoted pin, C, in combination with the fastening, D, arranged withint the drawhead, A, to operate in connection with
This invention relates to an improved car couphng, of that class which connect or couple thition consists in the employment or us of a piroted pin in connection with a fastening arranged within a draw-head, in such a manner that the link or shackle in entering the draw-head will engage itself with the pin, and the latter adjust itsel
a proper relative positicn, with the fastening so as to be retained $y$ the latter, the pin being very readilyreleased so as to free the link or shackle whenever it is required to disconnect the coupling.l
2,711.-Wagon Brake.-James F. Woods, 2d, Cohocton
I claim the application of the straight lever, $D$, with its right angle arm, d, the same being pivoted to the wagon reach, and operating in
the arc of a circle, in the manner as described, for the purposes

42,712.-Jug-top.-Homer Wright, Pittsburgh, Pa.
I claim formirg the hody section of a tin jug-top, with the margin seam, ais for purpose herin subsanialy setron.
4, 713.-Printing and vinamentinfr Textile Fabrics. Alexandre Adrien Despreaux, Paris, France
Inreadsim, isterwoven thereicle of manufacture, farsice with metallic and

2,714. - Mode of applying Lubricating Substances.-
James Dougall, Stirlingshire, Scotland. Antedated
May 3, 1864
I daim the method herein above-described of applying lubricating
matters, the same consisting in using in axle boxes, for railway car-
riages, \&c., hay or straw, or both combined, substantially as herein
above described.
42,715.-Bread-cutter.-JJames Oxley, Sheffield, England.
I claim, frst, The general constructions, arrangements and com
binations of apparatus for cutting, sicicing, chopping or or mincing
bread and other substances, substantially as herein described and
Bread and other substances, substantially as herein described and
illustrated ,ythe drawings.
Second, 'The combination of a knife-blade with a lever and incline
Second, Che combination of a knife-blade with a lever and inclined
sfotted bracket, so disponed as to give a downward draw-cut for the
purposes herein before desc ibed. . T hird, The combi ation of k kife with two links or levers, so dis-
posed as to give a downward draw-cwut for the purposes herein oefore posecribed. The combination of an adjustable guage with a lever work-
feortil,
ing or cutting blade substantially in the manner and for the purpose Ferein-before described.
Fifh, The application and use of the bar or rib, 0 , or its equivalent,
combined with the knife, C , for separating or clearing the slices when sut, substantially as herein berore descrioed
Sixth, The aplication and use of an apparatus, constructed sub
stantiall as herein be fore described, for hodat the substance to stantiaily as herein be fore described, for hold ing the substance to be
cut trmm
knife. and moving it forward, step by step, at right anglest to the 42,716.-Centrifugal Disks, revolving in Air and Water. England, Nov. 6, 1860 :
I claim, first, The arrangement in centrifugal disks, as above de-
scribed, of the separate radal passages or ducts, $b \mathrm{~b} b$, formed by the
traight ribs, a a a, attached to the central shant, A A', and extending
to the circumference; the said ductsha ving their respective section areas uniform, or nearly uniform, thr ougboat, and equal, or nearly Sequal, to the areas ond, In combin.
Second, In combination with the foregoing, I also claim the arrangement of the secondary ribs, d d d, extenning trom the circum,
ference towardsthe center, and forming the seocondary ducts, ${ }^{\text {b }}$ ' ${ }^{\prime}$ ',
as above doscribed, by means of whtch the centrifugal force of the reas above doscribed, by means of whtch the centrifugal force of the re,
volving disk is greatly increased for the expulsion of the air or other Third. I also claimerence. thimproved disk, as above described, with or
without a pressure chamber, in combination with the air-tight collars, Without, prited around the mouth of the disk, and communicating by
E E E
suitable tubes or pipes with any reservoir of air, water, or other fuid
42,717.-Gas Producer or Furnace.-Chas. W. Siemens, London, England, and Frederick Siemens, Berlin, Prussia. Patented in England, Jan. 22, 1861 :
We claim the gas producer, constructed in manner and so as to perate substantially as described
42,718.-Manufacture of Gun Barrels.-Jas. Thompson, Bilston, England :
I claim the mannimancturf of fire-arms, or ordnance, of iron, steel, or
other desired nueta, without weld or jort of any kind, and hol-
ow, substantially in the manter and by the any ow, substantially in the manner and by the means herein before
ond without weld
described. described.
42,719.-Safety Doors for Churches.-Alex. H. Wagner, Detroit, Mich
I claim the combination of a door, A, opening inward, with a
frame,, hung oin hinges and opening outwara, substantially in the
manner shown and described Also, the application to the frame, B, and door, A, constructed as
described, of a lever, D, rits iquiralent, so that, by a slight touch of
said lever. the frame is liberated and ailowed to swing open. (The object of this invention is to construct the doors of a church, rardls, the same as doos of the usual construction; but in case of a are, or other accident whereby the assembly in the bullding is compelled to break up in great haste, by a slight touch of a lever, or other suitable contrivance, the door is ma $e$ to swing outward whth an in creased area, and the obstruction offered by said door to the egress o the poople from the building is considerably decreased.]
12,720.-Surface Condenser.-J. J. W. Watson, Paris, we claim the use in steam condensers of tu
filled with wire gauze or its equivalent, substantially in tae manner
and for the purpose specified. and for the purpose specified.
42,721.- $\Lambda$ ppa atus for inhaling Gas.-Simeon W. Albee Charlestown, N. H., assignor to himself and Henry Hodson, Charlestown, Mass.
I claim the combination of the elastic, inflatable mouth cushion, $C$, with valves or a valve apparatus as described.
And I allo claim the combination and arrangement of the two
valves, valve-scats, and valve-stem together, and with the valve-case, and a mouth tube, anraved as described

42,722.-Hydrostatic Balance. - Julius O. Baudissin Louis, Mo. himself and $S$. Vang

 Fourth, The gutta-percha bag, $G$, on top of the indicator, as set
corth, all in the manner and for the purpose as specifed above.

4,723.-Washing Machine.-Elliot Dickerman assirnor to Metropolitan Washing Machine Company, Miđ̃dle field, Conn.
I claim, in comb bination with the operative parts of a washing ma
chine, the plunger stant, $A$, top piece, $D$, and adjustable piece, $E$, arranged and applied as to sororten the cord, , Ly the lowering, of the
42,724.-Coal-mining Apparatus.-G. E. Donisthorpe W. Firth and R. Ridley, Leeds, England. Patente in England. Nov. 26, 1861.
xplained with reference to figures 1 and 2, of the drawings icks with lever handles are actuated by compressed air engines And, secondy, We claim the combined arrangement of mechanisn
herein explained, with reference to figures 4 and 5 of the dravin
vhereby whereby cutters, are connereted with and mo med to and fro by the
piston-rods of air engines mounted on carriages as herein described. 42,725.- Wheat-cleaning Machine.-John Gaw (assigno to himself and Henry I claim the combination of the benter cylinder, $J$, constructed
with openings at top and bottom tor the passage of an upward current of air, with the bell-shaped fumel, $K$, Ior concentrating the
draught and directing the air current, as described. 42,726.-Buckle-fastening.-Charles Goodyear, Jr., \&
Leonard A. Spratue (assignors to Charles Good Leonard A. sprague (a
year), New York Cily :
We claim the forming of a lever buckie in such manner that the same may be secured to leather straps or other articles by a direct
ininge joint attechment, i.e., without he intermediary of a connect
ng strap, as set forth We alpo clalm the combination of lever buckles when composed of
two parts, as set forth, with a hinge connectionton the face of the straparap, alied set fort
fexibinity of the strap.
We also claim the method of securing or fastening lever buckles to
straps and other articles by means of staples or their equivalent clamping or clinching devices, when the said staples or their equivaa hinge.
42,727.-Manufacture of surar.....Frederick W. Gossling (assignor to himself, thenry F. Briggs \& Lyman Bradiley), Buffalo, N. Y.:
claim as a new article of ma
corn and beets.
42,728.-Process of treating Indion Corn and Bet o produce Sugar and Sirup.-Frederick W. Goss ling (astignor to himself, H. F. Briggs \& L. Brad I claim first, The process of making sugar from corn and beet substantially as heren described.
Second, The process of making corn sirup from corn in each suc cessive step thereof preparatory to its conversion into sugar, substan
Thard herein described. Third, The process of na king beet sirup trom beets in each suc
cessive step thercof, substantially as hereln described. 42,729.-Tag Hook.-John Hawks (assignor to Henry Hawks), Brooklyn, N. Y.
I claim the metallic hook attachment for tags and labels, consist-
ing of the spiral or screw-formed portion receiving the straight or
nearly straiglit part, as and for the purpose specifed. 42,730.-Combination of Cradle and Chair.-Alonzo Hi zs (assignor to himself and Henry Lewis), Flushing, N. Y.
I claim, frst, A cradle swinging on a frame or standard, in com-
 so that a conn ection can be made between the chair an on
stantiall as apecifled
Second, I claim the combination of the table, $e$, on the Third. I claim the rocking chair on the legs or feet, f, in combina-
tion with the spring, 1 , extending from such legs, $f$, to the staple on 42,731.-Machine for making Bolts and Rivets.-James Howden, Glasgow, Scotland, assignor to Wm. \& ohn Galloway, Manchester, England. Patented in England Feb. 28, 1859 :
I claim, frst, The combination of tw or more revolving die-tables
having a vertical axis with a single lever for actuating the heading
rams, when the parts are constructed and arranged as and for the purposes herein specifeed.
and lever, I claim the ell crank levers, $\mathbf{Y}$, operated in the manner
and for the purposen described and ior the parposes described.
Thid The compination of the osiling cutting levers, $\mathbf{P}$, eccen-
tric, $\mathbf{0}$, and shaft, $K$, when con structed and operated as d escribed. (This in vention cannot be well explained without,llustration, it ap pears to be a very ingenious and effective machine.]
42,732.-Oil Box for Railroad Cars.-Edwin F. Hurlbut N Ransom S. Potter (assignors to
We claim first, Casting or fastening a door or lid into a frame substantialy as shown and for the purposes describee. letter D, with
Second, The combination of the looge lugs or ears
the oil box, substantially as shown and for the purposes described.

42,733.-Portable Wet Grain Elevator.-Daniel W. Kel-
logg \& James W. McKee (assignors to A. B. Nimbs
I claim, first, The oscillating jaws, F, for the purpose of supporting and operating the elevating leg therein, substantially as described.
Second, Extending and operating the elevating buckets below the
foot of the leg so that they nay easily fll with wet grain and pass up
the leg without the leg without clloggrig m when comblne with wet grain and pass in
and supporting tiacke, $H^{\prime}$, and adjusting rod, $I$, substantially as
set forth Third, The combination of the conveyor, T , with a portable eleva-
tor, substantially as described. tor, substantially as described.
Fourth, The combination of the blower, M, and cleaning apparatus,
L, with a portable elevating machine, substantially as set forth. 42,734.-Manufacture of ElevatorBuckets.-A. B. Nimbs N. Y.: f claim an elevator bucket with its strengthening band, constructed
and formed from one sheet or piece of metal, substantially as herein described
42,735. Clamp for stopping Leaks in Hose Pipes.-C. Rubsam (assiguor to himself and Charles P. Hall), I claim as an improvel article of manufacture, a leak-clamp for
hose pipes ho se pipes canngosel of the canvas or fabric, A, with attaz hed metal.
[This invention consists of a clamp consisting of two or more pieces of metal which are fastened to the opposite ends of a prece of canvas or leather, or other, suitable fiexible material, and provided with lugs canvas or other flexible material can be drawn together in ouch canvas or other flexible material can be drawn togeter in such a
manner that in cage of a leak occurring in $k$ ne faucip can be
readily attached and!drawn up tight and the leak can be stopped in few minutes without taking up the hose]
42,736.-Hoop Skirt.-Leopold Sanders, New York City, assignor to Thomas B. De Forest, Birmingham Englant
I claim a hoop skirt in which the orerlapped ends of the hoops are
secured to tapes, A' and A', or their equivalent, which slide freely
around said hoops, substantially in the manner and for the purpose around sai
set forth.
[This invention consistsin attaching the ends of the hoops to two tapes at the front of the skirt, said tapes being placed adjoining each ther, or side by sidc, and each having every alternate hoop perm slide freely througb.]
42,737.-Cultivator.-Samuel A. Tombs (assignor to himself and Samnel N. Purse), Ashley, Mo
I claim a cultivator frame constructed of the curved bar, $A$, united
at its rear by the curved cross-bar, $b$, and provided with the stationary standards and cultivator teeth, a, and pigoted stand stards :or
and
andes, d the whole constructed and arranged substantially handles, $d$, the
herein set forth.

## DESIGNS.

1,939.-Slipper Pattern.-Edward K. Butler, of Boston, Mass.
1,940.-Clock Case.-Elias Ingraham, Bristol, Conn.
1,941 to 1,943.-Carpet Pattern.-Elemir J. Ney, (aswell, Mass. (Three cases.)
1,944.-Trade-mark.-William Robotham (assignor to

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whichare infringements on the patent issued March 222 , 1859, to
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lessee $\begin{aligned} & \text { Philadelphia, April27, } 1864 .\end{aligned}$
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## Improved Harrow and Clodecrusher.

This machine is a combined harrow and clod crusher, and is intended to effect its object in a simple and expeditious manner. The construction of it will be readily understood by referring to the appended description. The clod-crusher, $A$, is a strong frame made either of iron or of wood faced with iron, and is jointed to the harrow, B, behind, so as to move up and down easily. The harrow itself follows the clodcrusher, as may be seen by reference to the engrav-
a screw as a pivot to turn on. The brace does not fit the screw, but has a slot in it so that the strain comes upon the upper end, $B$, and there is also a spring washer under the head of the screw which keeps the brace close up to the handle so that it cannot slip when about to be used. The wrench as thus made is a very convenient one, and was patented on Jan. 5th, 1864, through the Scientific American Patent Agency, by H. Sharp, and assigned to Brown \& Heal, Factoryville, Staten Island. For further in


## DUBUISSEN'S HARROW AND CLOD-CRUSHER.

ing, and is so arranged that when it is desired to use formation address J. M. Brown, 388 Broadway, New
the clod-crusher alone, the harrow can be turned up over the latter, and thus add its weight to the work; this will generally be found sufficient, but if more pressure is required stones can be added as desired. The harrow is furnished with a handle, C , in in the rear, so that as occasion demands it can be raised to clear the teeth from weeds and grass that have clogged them. This machine will be found a very useful one for the purpose, and may be used as shown for either harrowing or clod-crushing, in combination or separately.

The invention was patented through the Scientific American Patent Agency on June 30th, 1863, by Geo. W. Dubuissen, of Jerusalem South, Queens county, N. Y. For further information address the inventor at that place, or R. H. Allen \& Co., 189 Water street, New York.

## Improved Wrench.

The wrench herewith illustrated is one that will the usual dividend of five per cent., which had been
earned previous to Dec. 31st, should be declared. The


## SHARP'S ADJUSTABLE WRENCH.

It can be set most readily to any size, and is very law clerk read a clause from the opinion of counsel strong in the direction of the greatest strain. It is made light and thin so as to go into a narrow opening, and the body is increased in width so as to compensate for the reduction previously mentioned. The one before us is made of malleable iron, but they can be made of wrought-iron as well. The evgraving explains itself so clearly that further comment is almost needless. The reader will see that the brace, A, has a grooved foot that fits into corresponding projections on the handle. The center of the brace is fitted with

## York.

## Damages of the Sheffield Disaster to be Paid.

The Northern and Eastern counties correspondent of the London Engineer, of April 22d, says:-"The Sheffield Waterworks Company held a rather gloomy meeting on Monday. The directors intend to admit the liability of the company, and in order to meet the claims upon them, they propose to ask Parliament for powers to raise $£ 400,000$, and to issue a special commission to assess the compensation due to the sufferers by the flood. The chairman briefly referred to the overwhelming calamity that had come upon the company since their last meeting, and stated, on the part of the directors, that they were desirous of satisfying, to the fullest possible extent, consistent with justice, all the claims that could be brought against them. The report recommended that no dividend should be declared. Mr. M'Turk moved that recommend itself as a very complete and useful tool setting forth that shareholders were liable to the ex tent of their shares, but not further; and as regarded the question of a dividend, the attorney-general, and other eminent barristers, who had given the opinion, added that the company would act very injudiciously if they divided any sum at present. It was urged in the course of conversation, by those favorable to the declaration of a dividend, that many widows and orphans were dependent upon the annual dividends of the company, and that 'no dividend' meant
to them the extreme of distress and privation; but it was felt that under present circumstances, however great the individual hardships might be and would be in many cases, it would not be right to declare a dividend in the face of the application that is to be made to Parliament. The motion was withdrawn by Mr. M'Turk, and the report of the directors was adopted."

## Effect of Vibrations on Iron Girders.

In the London Artizan we find a full report of an elaborate series of experiments undertaken by William Fairbairn, LLD., F.R.S., to ascertain the effect of vibrations on iron girders when subjected to only a portion of the breaking strain. A beam, 16 inches in depth with a clear span of 20 feet, was so arranged that the weight could be let down upon it suddenly, and then caused to vibrate. The experiments commenced March 21, 1860, and continued to Jan. 9, 1862 ; the changes in the load amounting to upwards of $3,000,000$.
Mr. Fairbairn concludes that iron girders in railroad bridges and other places where they are subjected to sudden changes of load and to vibrations, cannot be loaded with safety to one-third of the breaking strain, but that with one-fourth of the breaking strain they will last for hundreds of years.

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