Third, The apparatus described, consisting of air cylinders or vessels divided into compartments traversed by tubes with stoppers for securing the grappling chains and movable escape pipes or radial tubes for the escape of the water, together with valves capable of being worked by chains or ropes and other appurtenances, as described. Fourth, The combination of air vessels and chains or ropes, with windlasses or other lifting machinery, in manner described, for the purpose of grappling and raising sunken vessels or other submerged bodies, by such combined apparatus as described.

35,173.—C. E. Rankin, of New York City, for Album Case:
I claim, as a new article of manufacture, the described combination of the daguerreotype cases, A. B., with the photographic leaves, D., and book cover, C., as and for the purpose shown and specified.

[This invention is a good improvement on the ordinary photographic

album, and it consists in combining two ordinary daguerreotype cases with a book cover and a series of split leaves made to receive photographic or other portraits, in such a manner that an album case is obtained in which daguerreotypes or ambrotypes, as well as photorapluc pictures, can be preserved.]

graphic pictures, can be preserved.]
35,174.—J. H. Redstone and A. E. Redstone, of Indianapolis, Ind., for Improvement in Valves for Steam En

gines:
We claim, first, The hollow valve, A, when constructed as set forth and operated in connection with the steam passages, H I, and K L Second, The valves, F and G, when constructed and operated as set forth.

-E. B. Requa, of Jersey City, N. J., for Improved 35,175

35,175.—E. B. Requa, of Jersey City, N. J., for Improved Lamp:

Lamp:

I clam, first, The icombination of the two tubes, G. J., one placed within the other, and the inner one inclosing the wick tube, E, when said tubes are provided respectively with cones or deflectors, II I, so constructed as to admit of a space, c, between them, having a narrow passage, e', to increase the rapidity of the draught and cause a quick current of air to impinge against the sides of the flame, j, substantially as and for the purpose set torth.

Second, Providing the lower end of the wick tube, E, with a cap, F, to serve as a top for the fountain, A, when said cap is used in connection with the tube, G, applied to the burner. D, the latter screwed into the jacket or case, B, and all arranged, as shown, to form a simple device to admit of the flame being supplied with a requisite quantity of air at its base, and by a current which passes around the fountain, A, to keep its contents cool, as described.

Third, Insulating the cones, H I, from their respective tubes, G J, by means of paster of Paris, or other good non-conducting cement, for the purpose of preventing the heat being conducted down to the barner and fountain, as set forth.

Fourth, The combination of the two tubes, G J, cones, H I, wick tube, E, cap, F, burner, D, danch, g, jacket or case, B, and fountain, A, allarranged as and for the purpose specified.

A, anarranged as and for the purpose specimen.

[This invention relates to an improved lamp of that class designed for burding coal oils without a chimney, and consists in constructing the burner of the lamp in such a manner that the flame will be supplied with a requisite amount of oxygen to insure perfect combustion and at the same time be capable of being adapted or applied to any of the lamp in general use, without heating and vaporizing the oil in the lamp to cause an explosion thereof, and without obstructing the rays of light or casting a shade around the lamp.]

of light or casting a shade around the lamp.]

35,176.—A. K. Rider, of Hydeville, Vt., for Improved Cut-off Valve:

I claim, first, The cut-off valve, G, having its end or ends oblique to the direction of the movement of the main valve and applied to the latter valve in combination with a stear f, or its equivalent, by which it is moved transversely to the main valve, and operating substantially as described, in combination with an oblique arrangement of the outer orifices of the main valve ports for the purpose set forth.

Second, Combining the stem, f, of the so constructed and applied cut-off valve, with a governor, by means of a handle or hand lever, 1, dog, m, a sector plate, p, and an arm, q, sabstantially as and for the purpose described.

35,177.—E. Y. Robbins, of Cincinnati, Ohio, for Improve-

purpose described.

35,177.—E. Y. Robbins, of Cincinnati, Ohio, for Improvement in Ventilation:

First, I claim the arrangement of the hot-air chamber, or reservoir of hear, for warning the floor and lower port of the rolls, in connection with the arrangement for the introduction at the bottom of the room of moderately-warned fresh air which has not been be connectivith the hot notable surface either of hot water ripes or steam pipes or of a stove or furnace or any other linghly-heated surface, substantially as set torth.

Second, I claim the use of the lower and outer boundary of the hot-air chamber as a large non-metallic warming surface for the purpose of warming, to a moderate degree, the fresh air beforeit enters the room, substantially as set forth.

Third, In case of warming the upper rooms by the waste heat of the fire in the lower sory, I claim the arrangement of an inner smoke fine within the brick flue or chimney, E. Fig. 3, and the dialiner smoke flue of the sides of the claimer, invariant under the floor of the upper room for warning it, or any equivalent device between. Fourth, In using hot-air pipes for warning cars or rooms, I claim the making of said pipes in their different parts of chiency materials and of different shapes, so that their conducting and religible processes, and as the temperature of the air within them decreases; so that they shall distribute the heat as nearly uniformly as possible throughout their entire length, substantially as set forth.

35,178.—H. E. Robbins, of Hartford, Conn., for Improve-

35,178.—H. E. Robbins, of Hartford, Conn., for Improveo ment in Tobacco Cases:
I clam, as a new article of manufacture, a pocket tobacco box, constructed substantially in the manner as and for the purpose as described.

-Watson Sanford, of Brooklyn, N. Y., for Improve-

ment in Dampers:

I claim the valve or register, C, when combined with the pipe or not at flange, and applied to a stove or heater for the purposes obstantially in the manner described.

35,180.—Watson Sanford, of Brooklyn, N.Y., for Improve-

35,180.—Watson Sanford, of Brooklyn, N.Y., for Improvement in Hot-air Furnaces:
I claim, first, casting the fire pot and dome or the section between the red lines, 11 and 22, or any greater section, either above the line, 11, or below the line, 22, together with the first section of smokeflies or pipes all in one piece, substantially as and for the purposes described.
Second, Forming the fire pot as well as the lower section of the dome with corrugations which shall be continuations of each other, the interior concave parts of which form the exits for the smoke or the commencement of the smoke flues, as and for the purposes set forth.
Third Prayidant the formace or beater with

forth. Third, Providing the furnace or heater with an enlarged dome, b, in combination with the extension of the corrugations or smoke flues, b, by means of the corrugations, f, or their equivalents down to or below the surface of the fuel charge, substantially as set forth. Fourth, In combination with the enlarged dome and corrugations or smoke flues so located, that is, extending down to or below the surface of the fuel charge, the distribution of the smoke exits atl around the body of the fire pot and near together so as to make regular corrugations for the purposes and substantially as indicated.

rugations for the purposes and substantially as indicated.

35,181.—Watson Sanford, of Brooklyn, N. Y., for Improvement in Stove Linings:

I claim, first, The pins, b, as and for the purpose specified.
Second, The combination of the pins, b, with the corrugations, a, or cells or panels, c d e, substantially as and for the purpose set forth.
Third, The combination of the pins, b, and corrugations, a, with the ribs, h in the manner and for the purpose indicated.
Fourth, When my invention is used as a guard plate or fining, I elam the exterior concave portions, f, or channels, g, for the purpose of admitting air between the said guard plate or lining and the shell of the scove or furnace, as set forth.

or the score of furnace, as set forth.

35,182.—John Shaefer, of Lancaster, Pa., for Improved Attachment for Bedstead Rails:

I claim the diagonal combination of the bevel-slotted plate, A, with the bevel-hooked plate, B, the whole leing constructed and arranged and attached in the manner and for the purpose specified, substantially as set forth.

.-D. C. Smith and W. P. Walling, of Adrian, Mich., r Improvement in Water Elevators and Conveyers adding the combination with carriage, K, of the plate, M, arrang

ed to work in joint operation with spring, T, pawl, 12, incline planes, X X, clamps, V V, and lug, 18, for the purpose set forth. Second, We also claim, in combination with the foregoingthe ball, 2, rod, 3, and cover, 4, connected together as described and for the pur-

Doe specified.

35,184.—H. J. Smith and Woodruff Jones, of Philadelphia, Pa., for Improvement in Apparatus for Testing Coal Oils and other Mixed Liquids:

We claim determining the amount of volatile inflammable matter in compound liquids by means of a thermometer and a flame, the thermometer being applied to the liquid while the heat is imparted to the latter and the vapor generated by the heat being directed to the flame substantially as set forth.

35,185.—J. P. Smith, of Hummelstown, Pa., for Improvement in Corn Shellers:

I claim the shifting breast beam, n, arranged and operating in combination with the shelling cylinder, d, substantially as and for the purpose specified.

I also claim the combination of the shelling bar, j, with the shelling cylinder, d, and shifting breast beam.

I also claim the combination of the shelling bar, j, with the shelling cylinder, d, and shifting breast beam, n, substantially as set forth. -O. W. Stearns, of Johnson, Vt., for Improvement

in Weeten Tubing:

I claim the tube formed by the combination and arrangement of the arts, A. ferrule, B. strainer, C. matching pieces, D. D. channel, E. nd wire, F. F. orits equivalent, substantially as described.

35,187.—R. Van Ormer and W. J. Bell, of McAllisterville, Pa., for Improvement in Balancing Mill Stones: We claim the combination of the rods, R R', spring, S, and screw, S', in the manner and for the purpose shown and described.

35,188.—W. H. White, of Woodbury. Conn., for Improvement in Sheep Shears: I claim the described article called a sheep shears made substantially in the manner described, and consisting of a steel bow, iron handles and cutting edges, arranged and attached to each other substantially in the manner set forth.

35,189.—J. P. Walter, •f Brooklyn, N. Y., for Improvement in Vacuum Tanks:
I claim, first, The arrangement of one or more air pumps, B, in combination with the wheels, **DD**, eccentrics, i, and working beams, i, or their equivalents, and with the tank, A, constructed and operating substantially in the manner and for the purpose shown and described.

scribed. Second, The arrangement of one or more reservoirs, E, containing suit-ble chemicals in combination with the air pumps, B, and tank, A, substantially as and for the purpose set forth.

35,190.—Chas. Wadsworth, of New York City, for Improvement in Car Ventilators:

I claim the combination of the air filtering screen, I, and air chamber, d, with the air-forcing bellows, substantially as and for the purpose shown and described.

(This invention consists in forcing or injecting into a railroad car pure air through the medium of one or more bellows and suitable

pipes or pipes.]

35,191.—J. B. Winchell, of Chicago, Ill., for Improvement in Sewing Machines:

I claim, first, A sewing machine organization which will interlock two threads and sew configurations in the same direction without thanking the direction of food or the character of sewing, with a single pointed hook or interlocking device, substantially as described, whether the comecting mechanism intermediate between the upper needle and the hook or interlocking device is set in motion by either a back or forward revolution or the main shart, substantially as set forth.

Second, The combination of the specified tower spool case and the specified disks between which it is arranged, and all the remaining specified operative parts of mechanism, substantially as and for the purposes set forth.

Third, The combination of the angular slotted extension of the needle arm, slotted connecting rod 12, mont slaft, Q, rod, T, segment arm, O', and pinion, N, or their equivalents, substantially as and for the purposes set forth.

purposes set forth.

35,192.—G. L. Witsil, of Philadelphia, Pa., for Improved Nutmeg Grater:

I claim a nature grater consisting of the case, A, chamber, A', and cylinder, B, arranged and combined together, substantially in the manner described and set forth.

ner described and set forth.

35,193. – J. P. Woodbury, of West Roxbury, Mass., for Improvement in Arming War Vessels:

I claim, first The employment of a gan or gams constructed and operating substantially as described, in a ship so constructed and defended with armor plates or their equivalent that the ship may approach an enemy with reasonable safety, substantially in the manner and for the purpose described.

Second, Combining a gan, constructed and employed in a vessel as described, with an appropriate gan carriage to support the breech; a sucket and studing box in the side of the hull to support the breech; a sucket and studing box in the side of the hull to support the muzzle, and an external port or shutter, or other devices equivalent thereto, to enable the gan to be worked substantially as described.

Third, Displacing the water from the bree of the gan between the charge and manzele by means of air-tight displacing case, or its equivalent, substantially as described.

35.194.—A. E. Young, of Dorchester, Mass., for Reflecting Lantern: lcaim a glass lantern body as constructed, with a lateral neck and opening or socket, arranged relatively to its top and bottom necks and openings and for

as specimed.

35,195.—Erastus Young, of Penataquit, N. Y., for Improved Washing Machine:

I claim the arrangement of the adjustable fulcrum pin, f, in combination with the hand lever, C, toggie arms, D, pressure board, B, and sids box, A, all constructed and operating as and for the purpose set

adjustable fulcrum in combination with toggle arms and with an oscillating pressure board, in such a manner that by changing the position of the fulcrum of the hand lever the pressure board can be adusted for clothes of different size and of different fabric, and that the plasea to content of uniteriors, and that the detother can then be subjected to any desirable pressure and the washing effected without much exertion of the operator and without the least injury to the fabric.]

25,196.—C. F. Allen (assign or to himself and C. B. Beebe and H. Taylor), of Paw Paw, Mich., for Improvement in Car Bumper and Draw-head Springs: claima car, bunner or draw-head spring, constructed substantial-the manner and for the purpose set forth.

35.197.

97.—Victor Baron, of Tabanco, St. Salvador, assignor to himself and W. W. W. Wood, of Philadelphia, Pa., for Improvement in Concentrating and Cleaning Ores: latin concentrating and cleaning ground or pulverized ore by ing it to pass along an agitated channel submerged in water, subtially as set forth.

stantially as set forth.

35,198.—Hiram Carpenter (assigner to H. V. Gahagan),
of New York City, for Improvement in Construction
of Railways:
1 claim the combination of the pedestals with wrought-fron crossdes and chairs, or heir equivalents, and either with or without the
didition of any elastic material, substantially in the manner described
and for the purpose specified.

35,199.—H. B. Gill (assigner to Erastus Tarbex), of Ogden, N. Y., for Improvement in Machine for Packing

Apples:
laim the combination of the spring hook clamps, BB, with the sheads, A, screw, D, and follower, E, substantially as and for the loses specified.

35,200.—C. D. Ingraham (assigner to himself and C. A. and A. Bardwell). of South Falls, Mass., for Improvement in Straw and Hay Cutters:

I claim a cylinder of knives formed by having the knives arranged in sets or pairs which are shorter than the cylinder, and attached

thereto in such a manner that the knives of one set or pair will be out of line with, or in different planes from those of the other and used in connection with a cylinder, E, er its equivalent, substantially as and for the purpose set forth.

[This invention relates to that class of straw and hay cutters in

which a cylinder of knives is employed in connection with a rotating cylinder to form a bearing for the cutting edges of the knives. The object of the invention is to obtain a machine of this class which will work or operate with the usual rapidity and cut the havor straw much longer than those hitherto constructed, and still be self-feeding. J

35,201. Jesiah Masen, of Birmingham, England, assignor to E. C. and J. H. Pratt, of Philadelphia, Pa., for Improvement in Boxes, Cases and Cards for Pens, &c.: I daim a box, case or card having a recessor recessor 100 d permanent or formed by elastic surfaces, and having suitable forbeat grant for receiving and holding a sample or samples of the articles contained in the box or in the case of a card, for holding the articles themselves, as set forth for the purpose specified.

35,202.— Joseph Moore (assignor to the Vulcan Iron Works Co.), of St. Francisco, Cal., for Improvement in Ore Crushing Mills:

I claim, first, The combination of the stampers, F, grating, H, elevators, V, and screen, Y, arranged for joint operation as and for the purpose set forth.

pose set forth. Second, The construction of the frame of the machine, to with the rods, I, braced by the cross rods, J, the shronding, M, attached to that J, to form the mortar box, and the guides, L L, fitted on said constant as set forth.

as set forth.

35,203.—I. S. Schuyler (assigner te J. J. Eckel), of New Yerk City, fer improvement in Baling Press:

I claim the two rack bars, B'B', attached to the plunger or follower, B, m combination with the gearings, a a E E F F, shaft, C, all arranged and applied to the box, A, to operate as and for the purposeset

forth. I also claim the fast and loose ratchet collars, e.g., praced on the shaft, C, and the collars, g, arranged with springs, t, and levers, G, substantially as shown, when said collars are used in connection with the gearing and rack bars described, as and for the purposes a rether. 35,204.

the gearing and rack bars described, as and for the purposes x retained, 35,204.—E. W. Seymour, of Lisle, N. Y., for Improvement in Method of Constructing Carriages:

I claim the peculiar construction and combination of recommending lengthwise, and attached behind to theavie, when redering with reflexing bars behind, and both a trief at relieving bars in thort and operating in conjunction with cark dolors and from the center card way, forming a reach and saving the spaces from the tension of the draft.

DESIGNS.
1,572.—J. W. Bush, of New York City, for Design for Ank-

let.
3.—G. B. Owen, of New York City, for Design for a Clock Case.
4.—W. G. Phelps, of Newport, Del., for Design for an

1,574.

Arm Chair.

1,575.—Henry Terhune, of New York City, for Design for a Clock Case.

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I. C. of N. Y., and S. J. B., of N. J .- A deed of transfer of a patent should be put on record within three months after its date. The purchasershould pay the recording fee unless there is an

T. T., of N. Y .- We think you are on the right track Submarine vessels must yet occupy an important place in the destruction of many vessels. The subject is worthy of much atten-tion, and other parties are at work trying to devise some effective vessels of this character.

A Miller, of Ohio .-- Your reply to "A"Young Miller, is received, but as the same ground has been taken before you, we do not publish it. We have already published enough on the subject.

C. B., of Conn.-We are impressed favorably with your tile, and should think a patent might be obtained for it

M.F., of Ill.—Your shell filled with chloroform and cayenne

pepper would be a very harmless affair.
W. H. S., of Mass.—There are projectiles in the service formed on your plan of east iron with a steel fac

J. C. A., of Mass .- We have bushels of communications, and when one is examined and passed upon, it goes to the paper makers, and we can see it no more. A patent could probably be

C. E. W. S., of Wis. -It takes one-horse power to raise 33,000 lbs. one foot high per minute. A cubic foot of water weighs 62½ lbs., and the area of the cross section of a pipe 6-inches in diam. eter is 28,274 inches. We should want to know the velocity of your stream in order to answer your question; but from the above data you can make the calculation by the simple rules of arithmetic.

A. J. S., of Pa.—Magnetic electric machines produce a current of electricity which, passing through a helical wire, induces magnetism in a piece of soft iron in the core. No acid or other liquid nagarasam paceus son man and conservation and a son managarasam is assed, but power is required to turn the machine. See illustration of Beautslee's magneto-electric machine on page 353, Vol. V. Scientific American, or address G. W. Schramm, No. 44 Cliff street, this city in relation to it.

C. M. B., of Me .- The substance that you send us is kaolin, and if you have a large bed of it of a quality equal to this sample it is

J. B., of Wis .- The idea of exhausting the air from the a gun is a very old one and not patentable

H. D. B., of N. Y .- The operating of a melocleon bellows by means of a weight instead of by the foot would not be patentiable; neither would the use of a spring, from the fact that both plans are in use in other analogous pieces of mechanism

E. H., of Mass .- Your thermometer appears to be new and useful, and we think a patent can be obtained on it. A model is necessary, and when you send it state as nearly as possible the proportion between the heat of the air in the air chamber and the actual heat of the metal.

L. W., of N. Y.—You will find the Fourneyron and Jonval wheel described on page 212 present Vol. Scientific American.
The Fourneyron wheel, does not discharge on the underside, like

C. S., of N. Y.—It would require a considerable amount of power to wind up a spring to churn a large quantity of milk, but a small churn, we think, may be continually operated by a spring. You can easily make the experiment without incurring

W. F. R., of R. I .- You state that in your opinion plaited wire of "sufficient thickness" would resist shot and shell. We have no doubt of it, but what doyou require as a "sufficient thick ess" for this purpose

J. C. C., of Ill .- A bullet shot vertically will return to the muzzle of the musket with the same force with which it left it minus the loss of force sustained by the resistance of the atmosphere. The spaces passed through by falling bodies are proportional to the squares of the times, 16 feet the first second, 64 feet the second, and so on. A feather and a piece of metal will fall with the same velocity in a vacuum,

T. A. McD., of Mich.-The manufacturers of "oreide." an imitation of gold which does not readily tarnish, are Messrs. Holmes, Booth and Hayden, of Waterbury, Conn. They have a warehouse at No. 81 Chamber street, this city. F. D. P., of Wis .- The largest importer of music boxes known to usis Marius J. Paillard, 21 Maiden Lane, this city. He has instruments which play from two to thirty-six tunes and the prices vary from \$2 to \$1,000 according to the number of times, and

H. M. D., of Ohio .- A series of paddles secured on an endless chain and passing over two groved pulleys on the side of a steamboat, is an old mode of propulsion. You will find this system illustrated on page 152, Vol. V. (old series) Scientific American, You will also find Runisey's mode of propelling, by ejecting a surrent of water from the stern of a boat illustrated on page 112 same

B. & Co., of Mass.-Iron may be coated with copper by first covering it with a skin of tin. After being tinned, the fron diped into a bath of molten copper, the surface of which should be covered with a layer of ground glass or sand,

L. P. B., of Ind .- A very dark blue may be dyed on wool with one ounce of the prussiate of polash, half an onnee of the supphate of iron, one gill of the murate of iro, and the extract of two pounds of chip logwood to 5 lbs. of wool. Boil all together for three-quarters of an hour.

J. P. J., of Wis .- We have given our reasons in former volumes of the SCHENTIFIC AMERICAN, why hotair engines are not adapted for locomotives and large motors. Small air engines are very convenient for some purposes.

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