

WASHING MACHINE.—G. R. Hughes, Centralia, Miss.—This invention consists in constructing a washing machine somewhat upon the plan of the common pounding barrel, but still very unlike it and partly more efficient in its operation and appointment.

ADJUSTABLE ECCENTRIC.—J. B. Strickland, Scranton, Pa.—This improvement relates to the manner in which an eccentric is secured to the shaft or axle of the locomotive or other engine, and to the manner in which it may be changed to suit the lead of the engine valve.

BEDSTEAD.—Isaac Pedrick, Bridgeton, N. J.—This invention has for its object to furnish an improved bedstead so constructed and arranged that the weight upon the bed bottom may press against the shoulders or ends of the side end rails; so that the posts may be detached without taking the bed bottom apart; and that the slats may be easily turned over for dusting.

CATCH FOR DOOR LOCKS.—G. W. DaCunha, New York City.—This invention consists in an improved catch or nosing for door locks formed with a flange to project along the jamb, and with a flange to project along the casing, the whole being cast solid in one piece.

ANIMAL TRAP.—J. W. Hollingsworth, Salem, Ind.—This invention has for its object to improve the construction of the animal trap patented by the same inventor and numbered 58,836, Oct. 16, 1866.

CAR COUPLING.—W. A. Stowell, Moretown, Vt.—This invention has for its object to furnish an improved car coupling, simple in construction and effective in operation, which shall be self coupling and which may be uncoupled without passing between the cars.

GATE.—Jacob Vail, Beloit, Wis.—This invention has for its object to furnish an improved gate strong, simple and durable, and which may be opened and closed by the driver without getting out of the vehicle.

DISINFECTING SEAT FOR PRIVIES, ETC.—Neil Clifford, A. N. Bell, Brooklyn, N. Y.—This invention consists in so combining with the seat of a privy, or other similar place, a receptacle for deodorizing or disinfecting, and in so connecting it with the said seat, that when such seat is used said deodorizing or disinfecting material will be thereby discharged into the vault below the seat.

STOVES.—A. Lee, St. Paul, Min.—This invention consists in an arrangement whereby the radiating surface of the stove is greatly increased, and fuel is economized.

CULLENDER BOILER.—B. F. Porter, Manchester, N. H.—My invention consists in combining with the common culinary boiler, the essential feature of the cullender or strainer, and also in dividing the space in the boiler by partitions which are removable at pleasure and also in providing means by which the cullender boiler may be used as a steamer.

RAKES.—J. M. Long, Hamilton, Ohio.—This invention has for its object to furnish an improved rake so constructed and arranged that the weight of the driver may cause the rake to act promptly when unloading, and so that when the rake teeth revolve up to unload, the shafts and the fingers may go down disengaging the rake teeth from the collected hay in much less time than can be done with other rakes.

SAFETY LAMP.—H. Weston, Towanda, Pa.—This invention has for its object the obviating of accidents which now occur in using lamps provided with kerosene, or other similar volatile hydro-carbons as a burning material. As the burning material is consumed the gradually enlarging space above it in the lamp becomes occupied by vapor or gas which is highly explosive, and which, if a loose wick be used in the burner, is very liable to be ignited by the flame, especially in blowing out the flame, which is frequently done after using the lamp, the wind driving the flame down around the loose wick into the body of the lamp. My invention has further for its object the prevention of the leakage of the burning material from the burner, which now occurs in a greater or less degree in using the ordinary lamps, and which runs down the sides of the same, soiling the hands when the lamps are grasped.

STRIPPING THE LEAVES FROM SORGHUM OR SUGAR CANE.—James A. Campbell, Kent, Ohio.—This invention relates to a new and improved machine for stripping leaves from sorghum and other sugar cane and also for depriving the stalks of their tops so that the cane will be fully prepared for the rolling or crushing mill.

MACHINE FOR RAKING, AND PITCHING OR LOADING HAY AND GRAIN.—Leopold De Lacey, Springfield, Ill.—This invention relates to a new and improved machine for raking and pitching hay and grain from the field as left by the mowing or reaping machine, and depositing the hay or grain upon wagons or carts, thereby enabling the farmer, with the aid of one or two men, to safely harvest and put under cover in a given time as much hay or grain as can be cut by two machines.

METHOD OF PREPARING AND PACKING OIL.—P. G. Finn, Erie, Pa.—This invention relates to a new and improved method of preparing and packing coal oil for transportation and storage.

BEHIVE.—B. S. Haviland and E. H. Haviland, Fort Dodge, Iowa.—This invention relates to a new and improved beehive of that class in which a plurality of colonies are kept within a single box or house. The object of the invention is to afford a circulation of air through the several hives in the box or houses so that the animal heat from all the bees will circulate freely through it, and in case of a weak colony being in the box or house it will receive a requisite amount of warmth from the others. The invention has also for its object the isolating of a hive from the others when necessary, in order that an empty hive may be cut off, so that those containing colonies may receive all the benefit of the animal heat, the circulation of the latter being confined to the inhabited hives.

DEVICE FOR ELEVATING ICE.—Henry Little, Middletown, N. Y.—This invention relates to a new and improved contrivance for elevating ice from the river, pond or lake where it is cut, into the ice house contiguous thereto.

BOX FOR HOLDING POWDER OR PULVERULENT SUBSTANCES.—George A. Moss, New York City.—This invention relates to a new and improved box for holding powder or pulverulent substances and is designed for putting up for sale those powders which are used, or applied for use, by sprinkling them from a perforated cover, such, for instance, as blue or indigo powder used in the laundry for clothes, the box in which the powder is put up and sold answering, by simply perforating the cover, to sprinkle or shower the powder from.

PORTABLE SEAT.—James F. Campbell and Cornelius Tinney, Williamsburgh, N. Y.—This portable seat is intended more particularly for use by drivers on street cars, and it is of such a construction that it can be readily applied and detached, and when applied adjusted to any position desired.

HOG HOLDER.—W. and C. Leffingwell, Clarksville, Ohio.—This invention relates to an improved hog holder for ringing, wiring or snouting, or for slaughtering hogs, and consists of an adjustable box capable of admitting one hog at a time, and of being adjusted to the size of the hog so that he cannot turn, and of holding his head fast in the position required, whereby the dangers and difficulties attendant on the present mode of handling hogs for the above purposes as well as the injurious effects thereof upon the hogs, are entirely obviated.

CAR COUPLING.—W. H. Mays, Hillsburgh, Nova Scotia.—This invention relates to a new and improved car coupling of that class which are commonly termed self-acting or self-coupling, and it consists of a draw hook attached to one draw head and a projection or ledge attached to the other draw head for the hook to catch over; the above parts being used in connection with a releasing or disengaging mechanism, whereby the coupling of two cars, when they come in contact, is rendered certain, and the ready disconnecting of the same, when necessary, effected.

LIME KILN.—George Atkins, Sharon, Pa.—This invention relates to an improved mode of constructing kilns for burning lime and consists in forming the bosh of the kiln in the shape of a truncated cone, based on an inverted cone, similar in its general conformation to that of a blast furnace, and provided with two tiers of furnaces which extend into the body of the kiln and open directly into the chamber, to throw the heat uniformly throughout the mass of limestone combined therein, and thus burn the lime better.

EQUATING SOLAR CHRONOMETER.—L. Mifflin, Germantown, Pa.—The object of the equating solar chronometer embraced in this invention is to exhibit the mean or clock time of day in lieu of the solar time.

PRUNING SHEARS.—Peter Keck, Zanesville, Ohio.—The nature of this invention consists of a combination of three levers to form a pruning shears whereof the cutting blade has a convex edge, the levers, being so attached as to produce a drawing cut, and has for its objects increased facility in the use of the pruning shears, and the production of a clean cut.

COMPRESSION COCK.—Charles M. Alburger, Philadelphia, Pa.—This invention relates to an improvement in compression cocks or faucets and consists in raising the valve seat by forming it with a flange or bead around the edge to receive upon it a washer made of block tin or other suitable substance placed on the lower end of the spigot, in order to make them perfectly water and steam tight.

GAS APPARATUS.—B. L. Fetherolf, Tamaqua, Pa.—This apparatus is designed for generating illuminating gas from petroleum for family use, by applying a gas generator to an ordinary cook or heating stove, like a water back or fire brick lining, and thus by means of the fuel used for domestic purposes supplying the house with light as well as heat, and making a saving.

GANG PLOW.—James W. Sursa, San Leandro, Cal.—This invention relates to an improvement in gang plows, and consists in the arrangement of a device for raising and lowering the plows whereby they may be set at any required depth for working, or elevated above the ground to clear it entirely when the plow is moved from place to place.

ENVELOPE.—Ralph S. Jennings, New York City.—This invention relates to improvements in the construction of flat envelopes which are more particularly designed to be used for transmitting money and valuable documents safely by express and the mails.

CARRIAGE.—Francis Baker, New York City.—This invention relates to that class of carriages having low or half doors, and the invention consists in a novel arrangement of parts for supporting the glass or window frames therein.

HAY AND COTTON PRESS.—J. G. Roux, Raymond, Miss.—The novelty of this invention consists in two horizontal screws, located in a frame and connected to yielding levers, which are attached to the follower of the press in such a manner as to act powerfully on the said follower. These levers are acted upon by the screws in such a manner that when the greatest pressure is required, the levers are at a point where the screws have the greatest advantage and exert the most power.

TEASLING ATTACHMENT TO GIG MILLS.—Ernst Gessner, Aue, Saxony.—This invention relates to an attachment to gig mills, which is composed of a series of revolving disks covered with cards or other suitable material, which act in conjunction with adjustable guide rollers in such a manner that by the revolving motion of the disks and their position in relation to each other, the fiber of the cloth is acted on throughout the whole width of said cloth and under variable angles, and furthermore, the cards act uniformly and continuously on the surface of the cloth, thus raising the nap perfectly in a comparatively short time.

BOTTLE STOPPER.—Horace S. Carley, Cambridgeport, Mass.—This invention consists in the neck of the stopper to the bottle, in such a manner that it can, when drawn out of the neck, be swung out offline with the same without detaching it.

GRINDSTONE.—Warren P. Miller, New York City.—This invention relates to a grind stone which is composed of a number of blocks of grinding material, which are placed and held upon a cast-iron or other metal disk, in such a manner that they form a ring of grinding material, the face and not the periphery of which is to be used for grinding saws and other metal articles.

HORSE SHOE MACHINE.—John W. Kingsbury, New Bedford, Mass.—This invention relates to a machine for forming horse shoes from cold bar iron, the machine being so arranged as to be adjustable for all sizes of horse shoes, and so that one shoe is formed during each revolution of the horizontal and driving shaft of the machine.

DEVICE FOR HOLDING CIGARS.—Charles Appel, Hoboken, N. J.—The object of this invention is to construct an apparatus into which a burning cigar can be laid when the same is not to be smoked, and which can then be placed into the pocket without injury to the cigar and without burning the pocket. The device will be of great value to smokers when entering cars or ladies' rooms, or other places where smoking is prohibited; they can then put the burning cigar into my improved holder where it will be extinguished, and can be used again whenever desired.

TEMPORARY RUDDER.—H. L. Stibbs, Savannah, Ga.—This invention has for its object to furnish an improved temporary rudder, so constructed and arranged that should the vessel's rudder become lost or broken, it may be readily and quickly adjusted in place.

CAR COUPLING.—J. Smith and J. F. Irvin, La Porte, Ind.—This invention consists in providing for drawing the pin from the coupling link, when the cars are to be uncoupled, by a slide which has a cogged rack attached to it, and in a pinion on a horizontal shaft which works in the rack.

SEED SOWER.—Elijah U. Scoville, Manlius, N. Y.—This invention relates to seed sower, by which all sorts of seeds from the coarsest to the finest can be sown, and which can be adjusted for sowing any desired quantity at once, so that the seed can be sown thicker or thinner as may be desired. The invention consists chiefly in the use of a revolving roller, which is arranged longitudinally below the seed box. For the circumference of this roller are arranged longitudinal grooves, which receive the seed from the hoppers in the seed box, and distribute it upon or against a revolving, zig-zag, wire sieve spreader, by which the seed is struck and spread evenly over the surface of the soil.

ADJUSTABLE SELF-SHARPENING PLOW POINTS.—Mr. H. G. Hall, of Putnam, Ohio, has just patented a new and valuable point for plowshares, which can be removed and replaced at pleasure. The point is of chilled iron, cast on a shank of wrought iron, which fits into a dove-tailed recess cored in the share. It can be reversed, so that when worn on one side the other side may be presented for service. His invention comprehends also adjustable edges, to be changed at will. The device seems to add greatly to the durability of a plow, while it does not materially increase its cost.

CARD HOLDER.—H. H. Pember, New York City.—This card-holder is intended more especially for travelling trunks.

SEWING MACHINES.—Robert Barclay, Buffalo, N. Y.—This invention relates to a sewing-machine, the presser foot of which receives an oscillating motion simultaneously with the feed wheel in such a manner that a rectilinear even and sure feed is obtained. The oscillating motion of the presser foot is effected by a cam which acts on a spring dog which connects with the presser foot, and which is adjustable by a set screw in such a manner that the feed motion of the presser foot can be regulated to correspond to the motion of the feed wheel. Said cam is mounted on the end of the shaft which serves to produce the motion of the needle slide, and it acts in conjunction with an additional cam, which serves to impart a rising and falling motion to the take up mechanism, the object of which is to take up the slack of the needle thread as the needle descends, so as to prevent the formation of a loop on the top of the material to be sewed.

HORSE HAY FORK.—H. H. Hatheway, Clockville, N. Y.—The object of this invention is to so construct and arrange a hay fork that it will operate easily, and that the times will be prevented from coming into contact with beams or other obstructions.

SEED PLANTER.—D. H. Hull, Plantsville, Conn.—This invention relates to a seed planter which can be used for planting corn, cotton and other kinds of seeds, and which is so arranged that the plows and scrapers can be raised out of the ground with ease and facility, and that the same can be let into the ground to any desired depth.

SUGAR CANE STRIPPER.—S. Terry Hudson, Success, N. Y.—This invention relates to a device for stripping off the leaves of sugar cane, and consists in an arrangement of springs in pairs fixed upon a moveable stand support, which may be stuck upright in the ground in the field anywhere convenient to the cane, and shifted about as the leaves accumulate in stripping, so as to save handling them.

MANUFACTURE OF IRON AND STEEL.—Lorenzo Sibert, Mount Solon, Va.—The nature of this invention consists in a new method of treating cast iron produced in an ordinary blast furnace for the manufacture of iron and steel of superior quality.

Answers to Correspondents.

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

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

P. T. L., says if you rub your finger on the outside of a glass lamp from the surface of the oil upward, a thin film of oil will appear to rise on the inside.

W. N. B., of Iowa.—The barrels of double barreled guns are so set that the shot from both barrels may strike the same spot. They are slightly inclined to each other toward the muzzle, and the lines of direction are intended to meet at the ordinary distance of firing. Shot gun barrels should be more inclined than rifle barrels.

G. W. M., of Pa.—Concrete is a mixture of mortar with coarse materials like gravel and fragments of brick and stone. When the concrete is to be exposed to water, hydraulic cement should be used instead of lime. Lime mortar may be mixed with cement in any proportion, but the hydraulic property of the concrete is lessened by the increased proportion of lime. Whether a concrete or stone wall should be used for a cellar and foundation would depend mainly upon the cost of material when the work is to be done. A concrete wall is not so durable as a wall of hewn stone.

R. F. W., of N. Y.—The spectacle lens you send is a genuine pebble i. e., it was cut from a crystal of quartz. Such lenses are often designated by the locality from which the quartz was obtained as Brazilian, Scotch, Madagascar, etc. A genuine pebble lens will readily scratch window glass.

J. H. W., of Mass.—The water and steam in a boiler when the firespace does not reach above the surface of the water are at the same temperature.

P. D., of C. W.—The publication of your article on the Harrison boiler would provoke a discussion which would be neither interesting nor important to a majority of our readers.

L. T. R., of Conn., suggests that some ingenious inventor "fix up" a whistle to be operated by the wheels of the vehicle used by milk men, meat and other peddlers to announce their approach.

A. J. W., of N. Y., wonders that some genius does not invent a small hand blower to supersede the common bellows for family use. One operated by clock work, cheap and efficient, he thinks would sell like hot cakes.

N. D. H., of Pa.—The ordinary method of getting rubber into the form of sheets is to grind it up in a machine called a masticator. In this process the rubber is softened and made more plastic. In this condition it is passed between powerful rollers or callenders, from which it comes in a continuous sheet. Another plan is to spread a thick solution of rubber on a level surface, and allow the solvent to evaporate. Coal tar naphtha and light petroleum oil are suitable solvents. The rubber used in these processes must be raw or unvulcanized.

D. W. P., of Pa.—A good way to purify the mercury of your steam gages, which you say has become foul, is to wash it in a strong solution of sal soda, and then filter it through a corner of paper, that is paper rolled up so as to make a narrow conical cup which shall have a very small opening at the bottom for the mercury to pass out. The mercury should be filtered several times until it is completely dry.

R. L., of Pa.—The specimen you send is specular iron ore. When pure it contains 60% per cent of metal. Your sample is slightly magnetic.

J. K., of Pa.—Fermentation of beer, and consequently the generation of carbonic acid, may be checked by cooling to near the freezing point. But the cooling will not destroy or decompose the carbonic acid already formed, as you appear to suppose.

G. A. H., of Pa.—The Ruhmkorff apparatus is simply the ordinary induction coil which is used for medical purposes, on a large scale. In a large apparatus the electricity has great tension and great care is required to secure insulation. The primary wire is only a few yards in length and is wound on a pasteboard tube. The primary helix is inclosed in a glass tube and upon the glass tube the secondary wire is wound. The secondary wire should be one or more miles in length; fifty miles of wire have been used in a single machine. The secondary wire is covered with silk, and each layer is further protected by a coating of melted shellac. For experimental purposes the secondary wire is sometimes divided and wound in separate helices, so that a part or the whole may be used.

P. J. R., of Ohio, is not satisfied with what has been said on the question "why ice is slippery," and propounds the theory that ice is composed of smooth globular particles which are easily detached, and that a body sliding on ice rolls on these particles.

G. W. B., of N. Y., believes that the influence of the moon on the growth of plants is generally recognized, and has been informed that a man has retored his hair, which had become quite thin, by having it cut immediately after each new moon!

A. M. D., of Mass., has a machine which has become so thoroughly charged with electricity that its operator is affected badly by it. Near the driving pulley is a 10 inch belt which travels 1200 feet per minute and from which the electricity comes. The electricity may be taken off from the belt before it reaches the machine by arranging near it a series of metallic points which unite on a wire conductor leading to the ground.

E. S. G., of N. J.—A gas meter measures the gas by bulk only, and therefore when the pressure is much varied it does not register correctly. At high pressures the meter underestimates. . . . We have not heard of any water wheel which establishes a new principle in pneumatics.

B. F. W., of Ala., says he can get a hundred wagon loads of mica from the mountains at little expense, but it is not able to say that it is of commercial good quality. He should send a fair sample of it to some reliable chemist or mineralogist and ask his advice.

E. W., of Pa., is a miller and desires to learn how to rid himself of the first known as the pest known as the bolt eater. It is a black bug about half an inch long and destroys the silk bolting cloths, each of which is worth fifty dollars.

E. G. G., of N. Y.—There are many patents concerning mixtures of tar with gravel, sand, fragments of stone, etc., to be used for garden and other walks. It is not proper for us in this place to give a catalogue of the patents or to discriminate between their respective merits.

N. P., of Phila.—One of the best articles for destroying cockroaches are red wafers—scatter a few about the places where they most appear and they will eat them with a relish and soon die. The Persian insect powder is also a good article for the purpose but phosphorus paste is better than the latter.

Business and Personal.

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

Parties having a deposit of "mica" can sell by addressing W. W. B., 26 Holliday street, Baltimore, Md.

Flax Mill Wanted at Coloma, Ill. See advertisement and address A. F. Smith, Sterling, Ill.

Molders' Tools, Surface Gages, etc. (Manufacturers of), send price list to "Traveler," Box 143, Grand Rapids, Mich.

The Great Mormon Tabernacle at Salt Lake.

Our engraving presents the commencement of the structure, which has since progressed so far towards completion as to have the bents upon both sides added, and to be largely covered in. By it a correct idea may be had of the enormous size of the building, and the mechanical difficulties attending the construction of so ponderous a roof. The credit of carrying on such a vast work can best be appreciated when it is borne in mind that the timber is brought from a considerable distance, and other materials imported from the States.

This building was not constructed with any view to display architecture, but merely as a temporary meeting place

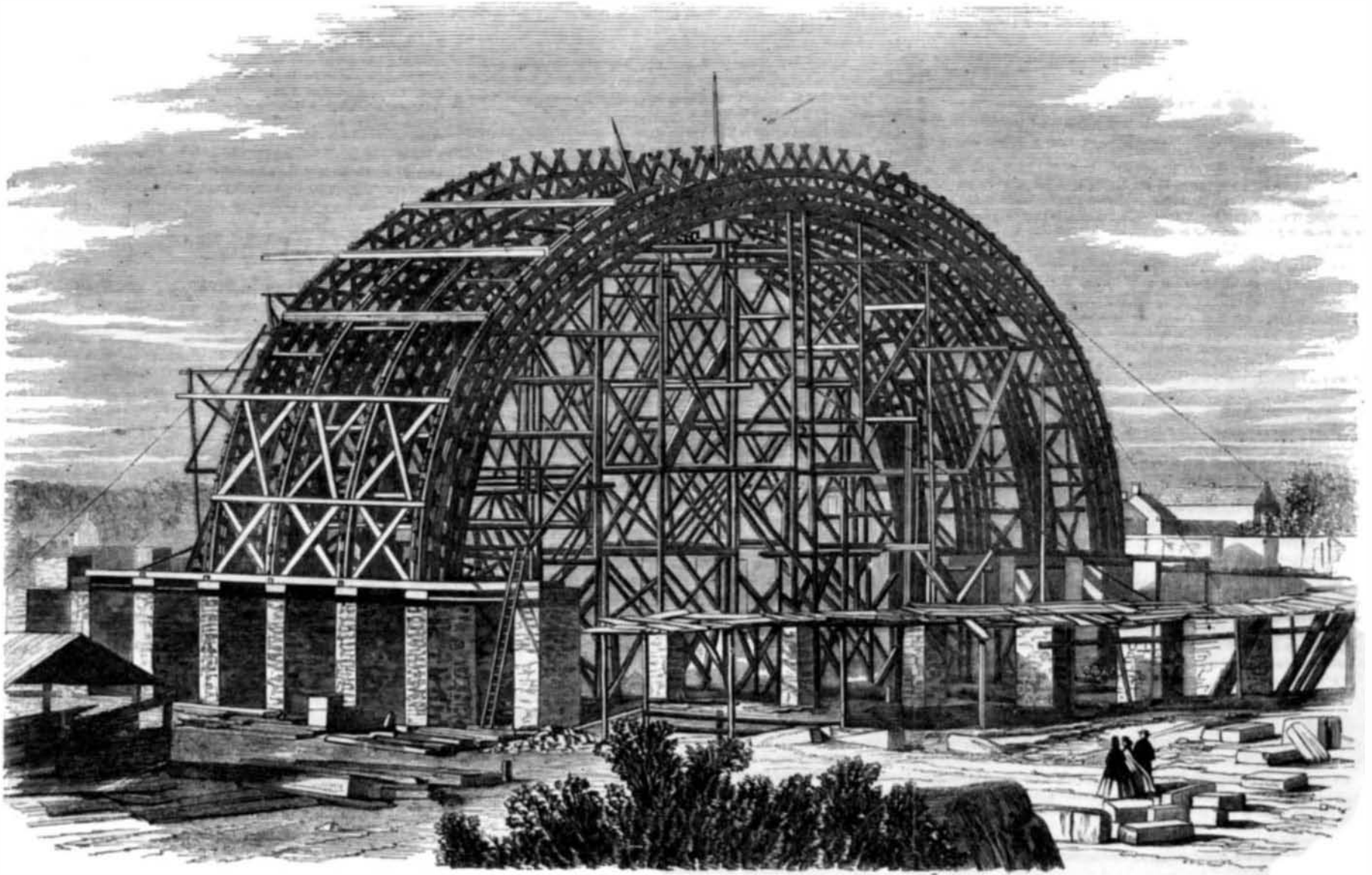
plain rather than a grotesque style of architecture, it will from its vast proportions and striking originality of design, make a marked impression upon every beholder, and will stand a monument of magnificent zeal and unparalleled unity of purpose and labor on the part of the Mormon people.

Sweet's Matrix-Printing Machine.

The principle of this ingenious American invention, which excites so much interest at the Paris Exposition—having even been elaborately described and illustrated in the *Engineer*—is the arrangement of a complete alphabet of steel types radially upon a vertical wheel, with apparatus for

reference to the engraving it will be readily understood. The engraving shows only the lower part of a stand box, as the cover does not materially differ from those in ordinary use, except in a particular hereafter to be mentioned. Hanger boxes can be made with the peculiar devices shown in the engraving as well as stand boxes.

A is a reservoir for the oil, cast in the box, having an incline toward one side on which rests a flat slotted spring, B, which supports the pivots of the disk wheel, C, the body of which projects through the slot so that its surface turns in the oil. As the shaft revolves the wheel turns by its slight pressure upon the shaft, shown by the dotted lines, and brings



THE GREAT MORMON TABERNACLE AT SALT LAKE.

for the people to assemble, and to take the place of the old Tabernacle and Bowery, the former of which was a large building, and the latter simply a huge shed covered with green boughs. Inside of the Tabernacle an organ is now constructing, second in size to none in the United States except the celebrated one in Boston.

Our readers must not confound this edifice with the great Mormon Temple, which is a far more elaborate structure, of cut granite, erecting not far from the Tabernacle, and more slowly progressing. The granite is brought from a distance of about ten miles, and the blocks are so large in size, and the quantity so great, that a canal is being built to the neighborhood of the quarry for transportation of the material.

The Tabernacle is in the form of an ellipse, with an extreme length of 250 feet, and width of 150; extreme height of roof 78 feet; height of ceiling 68 feet. The immense roof frame rests upon 44 cut stone piers, about 12 feet apart and 20 feet in height, which gives 48 feet of spring to the arch. The 44 bents, or principal rafters forming the arch are composed of 6 thicknesses of 2½ inch plank, framed like lattice work, strongly pinned and belted, and tied together by 15 horizontal cross timbers on the outside, upon which the smaller rafters for the sheeting will be laid, and 15 similar cross timbers inside, to which the ceiling joists will be stayed. The 13 half bents, resting upon the 13 piers, in curve, at each end, join diagonally upon the apex of the arch of the two outside parallel bents.

The stand will be in the west end; the floor to be laid level for a distance of 60 or 70 feet in front of the stand, thence gradually raising to the east end, where the seats will be level. It is estimated that the house will seat about 10,000 persons.

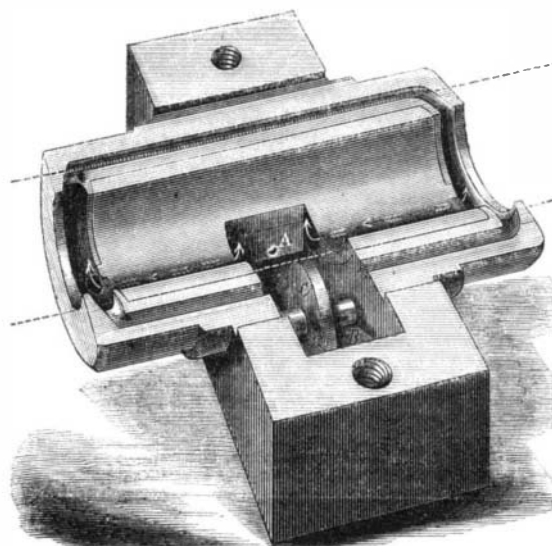
But, large as is the extent provided for the accommodation of the people in the above building, it is now feared that it will be too small and that further accommodations will be necessary. For freedom of egress, a very material consideration where large audiences are concerned, ample provision has been made in the folding door appointments of the entire space between the 9 piers in line on either side.

A cornice, 8 feet deep, will ornament the stone work. In the majestic, towering, self-supporting roof of this building, there will be consumed nearly 1,000,000 feet of lumber. When finished it will present the appearance of a ponderous half globe, with sides slightly compressed, and although of a

bringing any type at pleasure, by the revolution of the wheel, into vertical position under the center, and there pressing it downward to the precise and uniform depth chosen for the matrix. The impression is made upon soft thick paper prepared for casting upon, which is fed forward by mechanism, the precise breadth of each letter brought into play. The transition from the end of one line to the beginning of the next is provided for in a similar way. The process is subject to the inconvenience of a calculation to be made beforehand upon every letter and word of the copy, to see just what spaces must be introduced between the words in order to fill each line with precision, since the line cannot be "justified" if unequal, after being imprinted.

MORRIS' SELF-OILING BOX.

The box seen in the engraving was patented through the Scientific American Patent Agency, Jan. 1, 1867. It is a de-



vice for lubricating the journals of shafting, by means of a reservoir in the body of a box and an arrangement of parts for distributing the oil to the shaft. It is not expensive in construction and appears to be very effective in operation. By

the oil to the surface of the shaft. Any superabundance of the oil is deposited in the longitudinal channels in the face of the box, which communicate with end channels conforming to the contour of the box. From these end receptacles passages lead under the lining to the central reservoir. The direction they take is shown by the arrows, and their apertures are seen at one end and in the center. The cover has end passages or channels corresponding with those in the box and an oil hole over the outer portion of the rim of the roller, C.

It will be seen that a continual circulation of the oil is kept up and that no oil can escape from the box to be wasted. With this device drippers to hangers are unnecessary, and the journals will run for months without being oiled.

Further information relative to this box can be obtained of the patentee, Geo. M. Morris, Cohoes, N. Y.

Ericsson and the British Navy.

An English journal which champions the cherished broadside system of the British navy, having attempted to weaken the influence of Bourne in favor of the monitor system by insinuating that he was an agent for Capt. Ericsson, Mr. Bourne has published certain correspondence showing that Ericsson at his solicitation had consented a year or two ago, to give the Admiralty any advice that might be desired in the construction of turret ships. Having failed however, to induce the Admiralty to act in this direction, the matter dropped. The following is the concluding portion of Mr. Bourne's last letter to the Secretary on the subject:—

"In now notifying to you Captain Ericsson's acquiescence in this decision, I may be permitted to express my regret that their lordships have not been able to render available for the public interests the talents and experience of one of the most remarkable men of the present age, and his assent to my proposal that he should give the Admiralty the benefit of his information, I thought it a matter of some importance to have obtained, especially as he was willing to act without emolument or conditions, both his reputation and his wealth rendering him independent of such considerations.
"I have the honour to be, etc.,
J. BOURNE."

"London, May 30, 1866.

THE HAMMOND RIFLE—A new American breech-loader—receives very high encomiums in England. The British Government, which has adopted the Snider conversion for the Enfield, pending a mature and final selection, have ordered a competitive trial of all patterns, and the *Mechanics' Magazine* predicts that the Hammond rifle and the Daw cartridge will be formidable competitors among the 98 which the Commission already have before them.