MILK CAN.-Nelson C. Burnap, Argusville, N. Y .- This invention consists in rounding the bottom of the can for the purpose of avoiding the creases which were formed where a flat bottom is used, and in which dirt could easily accumulate but could not so easy be washed ut again.

SLEIGH BELLS .- Cyrus R. Clark, Cobalt, Conn.-This invention relates to a bell to which a shank is cast in the usual manner. To each side of the shaft are secured by means of rivets or otherwise sheet metal plates, which project beyond the lower end of the shank, forming fianges, when inserted in a leather strap, the flanges project beyond the inside of the same, and are then bent out, so as to firmly lock the bell to the strap.

BED BOTTOM.-Frederick Leadbeater, Detroit, Mich.-This invention relates to a new and improved mode of attaching wooden slats to the end pieces of bedsteads whereby a very durable and elastic bed bottom is obtained, and one which may be constructed at a comparatively moderate cost.

BEVEL.-Leonard D. Howard, St. Johnsberg, Vt.-This invention relates to a new and useful improvement in jointed bevels and it consists in having the screw and thumb nut arranged or applied in such a manner that the head of the screw and the thumb nut will secure the blade to the handle or stock, and will be flush with the rules of the latter.

PARASOL AND UMBRELLA RUNNER.-Henry Kursh, Brooklyn, N. Y.-This invention relates to a new manner of arranging the fastening of the sheet metal runners of umbrella or parasol frames, so that the central stick will not be weakened by slots or recesses cut into it as by the ordinary method.

ANIMAL TRAP.-Jeremiah Schroy, Fort Ville, Ind.-This invention consists in an arrangement whereby the animal is forced with a box by a revolv ing door which is actuated by a spring and which is released by the weight of the animal.

ICE PITCHER.-Nathan Lawrence, Taunion, Mass.-This invention relates to a new and useful improvement in doubled walled or ice pitchers, such as are constructed of white metal and most generally plated. Hitherto these pitchers have had their inner wall or lining constructed with a bottom connected to the body or main portion by means of solder and these bottoms would very frequently become detached or be parted at their joints or seams so as to leak owing to the throwing of large lumps of ice into the pitcher This (invention is designed to obviate this difficulty and to this end I construct the inner wall or lining with a seamless bottom and also strengthen the same by means of ribs or with a "backing "whereby the difficulty above mentioned is avoided.

COMBINED TOOL.-B. W. Collier, Oxford, Miss.-This invention combines in one instrument a pair of pliers, a pair of clippers, a burnisher, a hammer, several punches, three or four wrenches, a saw set, a screw driver, a scraper and a set of holes for straightening wire, nails, etc.

ENGRAVING MACHINE-John C. Guerrant and Benton J. Field, Leaksville N.C.-This is an improvement on the engraving machine patented by the same parties Dec. 12, 1866, and numbered 60,506.

GASOLINE COOK STOVE -- Jacob D. Spang, Dayton, Ohio, -- This invention consists of a simple device for utilizing and diffusing uniformly the heat from gasoline burners, for the purposes of cooking.

FURNACE .- David Hargar, Des Moines, Iowa .- This invention is for the purpose of conducting air from a pan, or from any cold air region, to a furnace or grate, and distributing it properly to the fire.

MACHINE FOR MAKING PAPER BAGS AND ENVELOPES.-E. B. Olmsted. Washington, D. C.-In this invention the machine is fed from a roll of paper, which it cuts into suitable pieces for bags or envelopes of any desired size and shape, gums, folds, prints, or stamps, and having united the edges firmly, de livers in perfect condition for immediate use.

WAGONBRAKE.—Thomas Smith, California, Mo.—This invention has for its object to furnish an improved manner of attaching the brake block to the brake bar, which shall be cheap, simple, durable and effective.

SELF CLEARING ANCHOR .- W.J. Armstrong and Charles Browne, Brooklyn, N.Y.-This invention has for its object to furnish an improved anchor, strong, durable, and simple in construction, and which shall be so constructed as to clear itself should it become touled.

COMPOSITION FOR TEMPERING STEEL.-F, G. Harris, Willsborough, N. Y.-This invention has for its object to furnish an improved composition for tem pering steel, which will give it a better temper, greater, toughness, elasticity, and hardness without brittleness, than any of the compounds now in use for this purpose.

DEVICE FOR STAMPING AND SHAPING LEATHER .- B. B. Harris, Lockport Ill.—This invention relates to an improved device for stamping and shaping leather, and consists in a combination of toggle joints, levers, springs, follower, dies, and knife.

GATE LATCH .- Alfred K. Davis, Carey, Obio .- This invention relates to an improved gate latch, and consists of two bars pivoted on an upright secured to the gate post or upon the gateitself, the bars being attached at one end to another upright or connecting bar, operated by a lever similarly pivoted on attached; or where the latch bars are pivoted to the gate post, then pivoted upon an uprightor ear attached at the top of the gate post. The free ends of the latch bars hold the gate by extending over the front vertical bar thereof

HORSESHOE .- Jacob Wheeler, Huntington. Ind .- This invention relates to an improved form of horseshoe, its object being to expand the hoof when hoof bound or the heel is contracted.

GATE.-S. M. Scothorn, Findley, Ohio.-This invention relates to an improvement in gates, and belongs to that class of double-slide gates in which the extension gate slides in the main gate.

CLEAT CHOOKS.-Amariah Lake, Smith's Landing, N. J.-This invention consists, in an improved chock in which the cleat or cairl is bedded. The chock, which may be made of wood or metal (the latter being preferred), is made in the form of a frame having a beveled or grooved edge the ends of which are turned down to clamp the timber or stanchion.

WASHING MACHINE.-Joseph Bevis, Putnam, Ohio.-This invention has for its object to furnish a convenient and effective washing machine, by means of which the clothes may be washed quickly and thoroughly without friction or wear.

PESSARY.-M. J. Rhees, M.D., Mount Holly N.J.-This pessary is to be used as a support and covering to the mouth of the uterus in cases of female weak-

ness, falling of the womb, etc. COMBINED DOOR FASTENER AND POCKET KNIFE.-Benj. F. Porter, Manchester, N. H.-This invention consists in the combination with an ordinary

SADDLE .-- Godfrey Marshall, Indiana, Pa .-- This invention relates to the saddles of harness more particularly, and consists in making the top or frame to the saddle in one piece, having a raised flange or laps around its sides or edges upon its back or under side, and between such laps placing the cushion or pad made of the proper shape and provided with screw nuts, in proper position for receiving the tenet rings, screw sharps and other screw bolts, by means of which the pad is secured to the frame, at the same time also fasten ing the saddle straps.

HEAD REST,-Robert Hale, Chicago, Ill,--This invention relates to an adjustable head supporter, for use more particularly on railway cars while traveling, the particular object being to provide a supporter of such con struction that rest and sleep can be obtained while traveling, while at the same time the supporter is portable, simple, and cheap in construction.

WAGON REACH .-- Zenas Plumb, De Witt, Iowa.-This invention relates to an improvement in the construction of a wagon reach, either single or double, and consists in applying a swivel to it in such a manner that the fore and hmd axles of a wagon or other vehicle can rock out of the level inde pendently of each other when either wheel falls into a rut or strikes a stone or other obstruction, whereby all twisting or wrenching of the reach is pro vented and injury thereof is avoided.

ADJUSTABLE ROTARY LOOM CAM.-Ransom Sargent, Norwich, Vt.-This nvention relates to a new and useful rotary cam for making the treddles of a loom to spring the web, and consists of a series of disks or circular trucks attached to a series of shafts which have their bearings in plates or heads se cured to a central shaft, the trucks of the sub-shafts set on pins to be mova ble and adjustable on their shafts in such manner that any one or more may be made to engage with cams of corresponding treadles, for working the treadles and springing the web to suit the pattern of the cloth to be woven.

PIVOT GAGE. STAFF AND FRAME FOR MILLSTONES.-Walter Ring, Gosport Ind. Patented Oct. 29, 1867.-This invention relates to a device for gaging and stuffing or leveling millstones accurately and plumbing the spindle truly, by which this important part of a miller's work may be performed readily and perfectly by anyone, even the most unskillful, with absolute certainty.

SHUTTLE.-George S. Crandal, Pitcher, N. Y. Patented Oct. 29, 1867.-Thi invention relates to devices attached to and connected with an ordinary weaving shuttle, for the purpose of regulating the filling during the opera tion of weaving as it runs from the spool to the eye of the shuttle, and also threading the shuttle with greater facility than in the old way.

MODE OF REGULATING A POSITIVE TENSION OF RUBBER THREADS IN ELAS TIC FABRIC LOOMS.-F. Painter, East Hampton, Mass. Patented Oct. 29, 1867 -This invention relates to a new and useful improvement in looms for weaving elastic fabrics of vulcanized rubber threads, and consists in an ar rangement of mechanical devices for stretching the rubber threads and holding them at a certain positive degree of tension while the tabricis woven

FASTENING FOR AX AND OTHER HANDLES.-James Stewart, Money Creek Minn. Patented Oct. 29, 1867.—The object of this invention is to fasten helves or handles in axes, picks, hammers, etc., for the purpose of securing then firmly and permanently in the eye.

FLOUR COOLER AND CONDENSER .- John Grav. Dubuque, Iowa. Patentee Oct. 29, 1867.-This invention relates to a new and useful improvement in ap paratus for cooling flour and the stones of a mill when grinding, and con densing the moist vapors or steam which are generated in the process o grinding grain.

BLIND HINGE AND FASTENER COMBINED .- Nathaniel B. Spooner, Plym outh, Mass. Patented Oct. 29, 1867 .- This invention relates to a new and improved device for hanging window blinds or shutters, by which they are fastened when either opened or closed automatically; it is simple and cheap

CHILD'S CRADLE-D. A. Dunham, Palatka, Fla. Patented Oct. 29, 1867-The design of this invention is to make a cheap and convenient child's cra dle of a fiour or other light and clean staved barrel, by cutting out a portion of the staves and supporting those which are left to form the cradle with the hoops.

UMBRELLA -- Wm. Money, Paterson, N. J. Patented Oct. 29, 1867.- This in vention relates to a new and improved device for holding umbrellas or parasols in place on the handle. whether raised or lowered, and allowing then also to be raised and lowered easily.

Answers to Correspondents.

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

IPECIAL NOTE - This column is designed for the general interest and in struction of our readers, not for gratuitans replies in questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advantaged in the conts a line, under the head of "Business and Personal."

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

L. C., of Mass.—Cast nails of composition (brass) have been extensively used for boat building and ship building purposes. We have seen them from the size of an ordinary shingle nail up to large spikes. Th cast metal is sufficiently tenacious for the purpose.

G. W. F., of Pa.—We know of no better method of razing of trueing a grindstone than cutting circumferential grooves in its face with a file tang and then using a bar of soft iron, as nail rod, to remove the in tervening substance.

P. J., of N. Y.-Pen nibs made from the goose quill to be used in a handle, as steel pens, were manufactured in Taunton, Mass., at least twenty years ago. We have some specimens now on hand. They were never very popular.

S. A. M., of Oregon.-According to Bishop's History of American Manufactures, saw mills were used in Massachusetts before they were employed in England. The first mill was erected in the colony in 1633. In England it met with determined opposition, and as late as 1767 one was de stroved by the populace.

Q. A. C., of Ohio.-" Will not a belt slip on a smooth iron pulley sooner than on a rough one? Please give your opinion." Our opinion has been given on this subject before. The general practice of the larger the surface presented to the belt, of course the greater its ad-We remember when for lathe cones nothing but wood was be hesion. lieved to be sufficient, and the faces of the pulleys must be circumferen tially scored. Now they are made of iron and polished.

H. K., of Wis., describes a "hair snake" which he found, and seems to suppose it to be a veritable horse hair. It gave the same sound, when stretched and vibrated, as a hair would under the same circumstances. If he will refer to page 280, in No. 18, current volume, he will find a sufficient reply.

J. M. T., of Minn., thinks a "direct-acting-overshot or breast-wheel, may give better results than any turbine. His plan is to confine the water in the bucket until the pressure of the column from above is cut off and transferred to the succeeding bucket. There will be no chance for back pressure, and after performing their work the buckets are withdrawn so as to be out of the reach of back water until wanted again. This wheel would discharge water only with the motion of the wheel, while others discharge one-fifth or more faster than the motion of the wheel." This appears to be a modification of the automatic bucket wheel. If properly constructed it may be a success.

J. E. R. of N. Y., inquires how to "cut gutta-percha and india-rubber so that it becomes a liquid." Probably our correspondent means by "cutting "dissolving. The solvent for gutta-percha is coal tar benzole, and for india-rubber benzole of petroleum. India-rubber is " cut " by knives revolving or working in water.

G. H. M., of N. Y., asks "what is the greatest distance to which steam and hand engines have thrown a stream of water." We cannot give a decisive reply, but we have seen a solid stream thrown :20 feet. Makers of fire engines would be better authority.

G. W. M., Ohio.-" Do you know of a cement to stop up stove joints which will harden in time or by heat ?" Pipe clay and clean sand equalparts; wood ashes and salt; or iron tilings and sal-ammoniac. Either mixed with water will make a proper cement.

A. D., of Pa.—" Can black wool be bleached or dyed white ?" No. The only dyeing of white we are aware of is in silk. The pearl white of silk is produced by dyeing; the silk in its natural state being of a pale yellow color and incapable of being bleached.

H. F., of Conn., wishes to convey water from a dam through 400 feet of 20-inch pipe to a flume to supply a turbine, and asks if cement pipe will answer. In reply we would say that we see no reason why the cement pipe will not do, as there is but ten feet of heador fall. It is used for aqueduct purposes with success. A good pipe may be made of pine plank built in the form of a tube and hooped with iron. This is excellent where the diameter exceeds 20 inches. But probably the best form of wooden tube is that patented by J. K. Mayo, composed of spiral veneers. A two-foot tube on this plan % of an inch thick has successfully resisted a hydraulic pressure of 110 pounds to the square inch.

Business and Personal.

The charge for insertion under ints nead is 50 cents a line.

A metal-working shop, with two patents, for sale or exchange for Real Estate incity or country. Townsend & Sears, 218 Fulton st., room 7.

Manufacturers of Portable Saw Mills and Engines please send circulars and cash prices immediately. Address J. J. Hovell, Avon, Ill.

For sale low-the patent right of an improved Tag Holder--best out. Address A. Grushus, St. Paul, Minn.

Wanted—a Horizontal Face Plate Boring and Turning Lathe to swing 8 or 9 feet, new or second-hand. Address, with description and price list, T. H. Risdon, Mt. Holly, N. J.

Smith's Brick Machine.—This invention, which was illustrated on page 280 is further described and advertised in another column. See last page of this paper.

J. A. Althouze, New Harmony, Ind., wishes the address of Scissors Manufacturers

Manufacturers of Loom Shuttles please send their address to Geo. L. Crandal, Pitcher, N. Y.

Wanted-by a thorough practical and licensed Engineer, who is a practical machinist and draftsman, and who uses no intoxicating drinks, a position as chief or assistant, either of a marine or stationary engine. Address Engineer, Adams' Express office, Georgetown, D. C.

A. Leize & Co., Reading, Pa., wish to correspond with Manufacturers of Machines to Saw, Plain, and Joint Barrel Staves

For Sale Cheap-A Knee-Joint Press, of great Power, for Compressing Bale Cotton, etc. It can be worked by horse or other power, or by hand. Can be seen at Riverdale Mills, Mamaroneck, N. Y. John Mc Donald, Box 8%, Mamaroneck, N.Y.

Makers of Machines for Packing Fine-Cut Tobacco in Paper per and Foil. Send address to Baird & Tuley, 64 East st., Louisville, Ky.

Wanted-The address of the "Diamond Annular Drill Company." Lewis B. Tebbetts, Baltimore.

Wanted—A Manufacturer for my non-conducting illuminated base chimney burner, suitable for Benzine, or any light Petroleum oils, or fluid. Penrose Chapman, Box 145, Brun wick, Me.

Rights for Sale, of Browne's Patent Extension Cabinets for Sewing Machines. J. D. Browne, 177 West Second st., Cincinnato, Ohio.

EXTENSION NOTICES.

George E. Burt, of Harvard, Mass., having petitioned for the extension of a patent granted to him the 7th day of February, 1854, for an improvement in Machines for cleaning and assorting bristles, for seven years from the expiration of said patent, which takes place on the 7th day of February, 1868, it is orderedthat the said petition be heard at the PatentOffice on Monday, the oth day of January next.

William Burnett, of San Francisco, Cal., and John Absterdam, of New York City, having petitioned for the extension of a patent granted to them the 28th day of February, 1854, for an improvement in the use of fusible disks builders and operators of machinery should be a sufficient reply. All pul-leys are now made with perfectly smooth faces. The reason is obvious: takes place on the 23th day of February, 1863, it is ordered that the said petition be heard at the Patent Office on Monday, the 10th day of February next. James McCarty, of Reading, Pa., having petitioned for the extension of a patent granted to him the 31st day of January, 1854, for an improvement in collers for scarfing the edges of skelps for lap-welded tubes, for seven years from the expiraton of said patent, which takes place on the 31st day of Janu. ary, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 13th day of January next.

pocket knife, of a device suitable for use as a fastener for doors.

RAIL JOINT CLAMP .- Francis Pidgeon, Saugerties, N.Y .- This invention consists in the use of a dovetail shaped clamp, thereby dispensing with all bolts and allowing the rail to contract or expand by heat or cold; also in bringing the weight of the train when passing over the joint to and upon the flatbottom to the rail, by carrying the clamp upon the outside of the rail up even with the top of the rail.

TABLE CUTLERY.—Matthew Chapman, Greenfield, Mass.—By this invention the blade, bolster, tong, and handle are all made of or forged from one and the same piece of steel, whereby a most durable, serviceable, and desirable piece of table cutlery is produced.

LAST .- Ambrose Taylor, Osawatomie, Kansas .-- The object of the present invention is to provide some simple device as a fastening for the block to the last, whether the last be in use or not and which can be released or unfast ened in the most ready and simple manner.

SUPPORTER .-- J. B. Seeley, Philadelphia, Pa .-- The present invention relates to an abdominal supporter consisting of two front parts, hinged, pivoted, or swiveled to the ends of spring banus, for encircling the hips of the person, the whole supporter being made of hard vulcanized india rubber or gutta

FASTENING FOR THE FLY FRONTS OF PANTALOONS.-ISAac Stratton, Keene, N. H .- This invention consists in a device for fastening the lower part of the fly fronts of men's and boy's pantaloous, instead of employing buttons for the purpose, and is intended especially for the convenience of aged and other infirm persons whose fingers are disabled or crippled, and cannot button and unbutton with facility, and alsofor boys,

C. G. H., of N. Y .- "How can I prevent stovepipe from rusting while not in constant use?" Heat it and coat it inside and out with p araffine, or with asphaltum dissolved in spirits of turpentine ; then keep it in a dry place.

H. V. P., of Ohio, asks how he can mend rubber boots that have cracked. He has tried common rubber, melted, without effect. $There \ is \ a \ rubber \ cement \ sold \ almost \ everywhere \ which \ will \ do \ the \ business$ Directions accompany each box or can. Pure rubber for the purpose may be dissolved in petroleum benzole. The boots should be perfectly dry and warmed.

R. S., of Ohio wants to know how to get the bright blue which is seen on fire-arms, etc. The process is simply heating the piece to be blued in a clear charcoal fire until the requisits color is obtained, and then covering it with dry ashes. The article to be blued should be highly polished and clean.

. H. H., of Conn.-Your request that we should write on the incompetency of so-called engineers as one of the reasons for boiler explosions, has already been complied with in several articles. The remedy is beyond our influence. Legislative interference or boiler insurance com panies can alone alleviate the evil. We do not propose to harp continually a subject which is already trite.



Inventions Patented in England by Americans. [Condensed from the "Journal of the Commissioners of Patents."] PROVISIONAL PROTECTION FOR SIX MONTHS. ANVIL.-James E. Emerson, Trenton, N. J. Sept. 11, 1367. 2,738.-HATBLOCKING MACHINE.-Julius Sheldon, New York City. Sept. 7, 1867. 2,739.-RAILWAY WHEEL.-Cornelius Kingsland, McKees Port, Pa. Sept. 28, 1867. 2,742.-MANUFACTURE OF HATS, AND MACHINES FOR PRODUCING THE SAME-Henry Killogg, New Haven, Conn. Sept, 28, 1867.

2746.-LUBRIGATING PACKING.-Thomas Silver, New York City. Sept. 28, 1867.

2,779.-MACHINERY FOR SEWING BOOTS AND SHOES.-Augustus Destouy and Frederic Renaud, New York City. Oct. 2, 1887.

2,785.—TREATMENT OF COTTON AND OTHER FIBROUS MATERIALS USED IN DENTISTRY.—John A. McClelland, Louisville, Ky. Oct. 3, 1867.

2,799 — MACHINERY FOR THE MANUFACTURE OF BRAID.—George Relifuss Philadelphia, Pa. Oct. 4, 1847.

2879-ELECTRIC TELEGRAPH APPARATUS.-Elisha Gray, Oberlin, Ohio Oct. 12, 1867.

Improved Portable and Folding Bedstead.

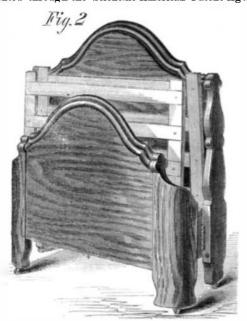
The object of this improvement is to construct a bedstead moval, or stowage, it presents the form seen in Fig. 2.

The side rails are made each in two parts, hinged at one end to the head and foot, and at the other together in the middle of the bedstead. The slat frame is also in two parts, one hinged to the head board and the other to the foot board. When in position for the reception of the bedding these frames rest on snugs, or pins, in the side rails. If the bedstead is to be packed or removed these frames are lifted respectively against the head and foot boards, and the side rails swung in, which brings the two ends of the bedstead together, when the whole is secured, as in Fig. 2, by a convenient hook under the head board that engages with a staple under the foot board.

This operation, or that of expanding the device, is the work of an instant, merely, and in either form the bedstead is convenient and easily handled. It can be easi y packed on any occasion, whether for removing or transportation. It is complete in itself and obviates the annovances so often experienced by honseholders in their frequent removals, the structure being a whole with no loose patch.

One great advantage in a bedstead of this construction is that it has no loose parts liable to be lost or broken, and the whole structure can be removed complete from a burning house in much shorter time than would be required for the ordinary bedstead. Its con-

struction is easily seen by a glance at the engravings Patented through the Scientific American Patent Agency,



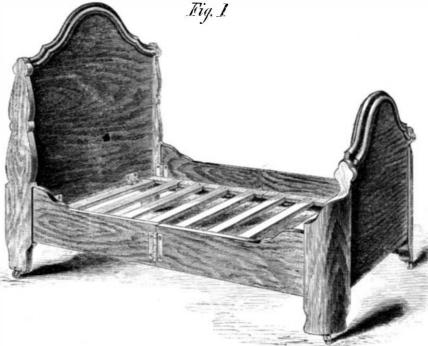
Aug. 20, 1867. All communications should be addressed to the inventor, B. F. Woodside, at Atlanta, Ga. States rights are for sale.

The Russian Telegraph.

The complete success of the Atlantic telgraph cables has been the death blow of this enterprise, which was started immediately after the loss of the cable of 1865. The San Francisco Bulletin of the 8th ult. gives the particulars of the arrival and experiences of the construction party which for two years and four months have been working on the northwestern coast. Their summers have been passed in a country in which for weeks it never grew dark, and in the winter the daylight does not last more than two hours and a half; in which the thermometer in winter goes down to $58^\circ\,\text{below}$ zero, and in some places of Russian America to minus 69° F.

The company has explored the route of Russian America, and has located a practical route from the last station in British Columbia to the point where the line would leave the American continent, by a submarine cable, to reappear on the coast of Eastern Siberia, on the Asiatic continent. Since the company's ships left for San Francisco, in the autumn of 1866. seventy-five miles have been constructed in Russian America. In the northern part of British Columbia the work has also been going on within the past year. It has been demonstrated that the northern climate on this continent is not so inclement but what men can work in the winter, and also that extreme cold does not affect the electrical condition of the wire. As regards the northern portion of the continent, the work is now abandoned, all the valuable material and stores and all the constructors having been brought back, and the partially constructed line is left to the mercy of the elements and the good will of the Indians.

this year; and except where in traveling a party found unex- yet failed to give perfect satisfaction. The cup itself is made pected obstacles, or were delayed, there were no cases of serious of thick, but transparent glass, with a metallic hinged top for which may be capable of being folded together and easily hardship. Those parties who were near the ports of the Rus introducing the oil, and a metallic bottom with threaded transported, stowed away, or removed from the dwelling in sian Fur Company had the advantage of the Telegraph Com-case of fire. When ready for use it has the appearance of an pany's credit. Those who were in the wilder parts of the is screwed into the bottom and reaches to the top. The leadordinary bedstead, as seen in Fig. 1: but when folded for re- country had to depend upon their guns and traps and Indian ers for the oil are syphons of wire, coated like bonnet or hoop



WOODSIDE'S PATENT FOLDING BEDSTEAD.

grouse were frequently obtained, and occasionally a little ing engineering is necessary. To this end the commisbear meat, and the party in the Upper Yonkton shot several moose. The Indians themselves were worse provided than usual, game and fish having comparatively failed the year before. In one or two Indian villages in the extreme north, the Indians were found reduced to that state of hunger which led them to commence eating their boots. It must be remembered, however, that the Indian stomach is able to derive more nutriment from a piece of old skin than the more delicate digestive organs of a white man would.

WICKERSHAM'S AMERICAN OIL FEEDER,

The advantages of automatic oil feeders over the old fashioned wasteful system of pouring the oil directly from the can into the journal box, are so obvious that none will be found now to question them. The ordinary oil cup has a central tube rising nearly to the top of the cup, the other end reaching the shaft, within which is a wick designed to lead the oil



skirt wire, and graduated by size and nature of covering to the amount of oil needed on the journal. The short foot of the siphon reaches into the oil, to the bottom of the interior of the cup if desired, and the longer end reaches the surface of the journal. From this description of its parts its operation, by the aid of the engraving, can be readily understood. It may be noticed that the engraving exhibits several siphons in one cup. This is merely to show their different sizes and qualities.

Being made of glass, the condition of the contents of the cup may at all times be seen. It needs filling or replenishing only occasionally-once in three or four weeks, or once in as many months, according to the service required.

The patent dates Oct. 22d, 1867, and the oilers are manufactured by J. B. Wickersham & Son, 143 South Front street, Philadelphia, Pa., who may be addressed for any further information desired.

Mining Economy,

Commissioner J. Ross Browne, in concluding his last report upon the mineral and metallurgical wealth of the Pacific slope, calls attention to the necessity of a more economical working of mines, more saving processes being the desideratum, and not

supplies for any extra delicacies at their tables. Deer and | new fields. A thorough knowledge of metallurgy and minsioner thinks we should have a national school of mines in the heart of the mining region, conducted on strictly scientific and practical principles, under the control of none but scientific and practical men. The argument he makes on this subject will command attention. He states that the subject of the concentration and parting of ores is now attracting more attention than any thing else in our mineral developments. The immense loss of gold is shown by an estimate based on statistics collected with much care. If we suppose the yield of gold in 1867 to be \$70,000,000, the loss would be rated at least 25 or 30 per cent. Better methods of separation and concentration would have made the yield fully \$100,000,-000. In Montana nearly all the mining is in free gold. Absurd inventions and new-fangled methods, imported from the East, where there is no experience in mining, makes the loss 30 per cent, although it should be much less than in other districts where the gold is more or less associated with other metals. In Idaho, California machinery is generally used, which is the best made. The iddes are worked to better advantage, and the mills do well and keep close to the assays. None of them, however, are yet working sulphurets, except one at Pioneer with results unknown, but probably successful. The loss in that territory is probably 20 to 25 per cent. In Nevada the lodes are mostly silver bearing. At Austin the mills profess to save 80 per cent. In some instances they work up to 90. The loss is probably not more than 15 to 18 per cent. The ores are roasted almost universally. On the Comstock lode the loss is much greater. The Comstock mills do not, probably, save more than 65 to 70 per cent, notwithstanding all the ingenious devices for saving in the tailings. In California there is a large number of excellent mills; and while in many cases the cost of mining and crushing has been reduced to a minimum, the saving is also frequently quite close. Sulphurets are best treated by chlorination, although there are various new processes for which much is claimed. The chlorination process is said to save 90 per cent. It is interesting to notice, in connection with the above, the following statement of the per centage of mining loss in other parts of the world, which is compiled from official documents : St. John del Bey, Brazil, 30; other mines in Brazil, 30 to 35; Piedmont, 35; Hungary and Tyrol, 50; Zell, 35 to 40; Chili, 66: Australia, 40. These figures further illustrate the importance of seeking and adopting the best means to reduce the per centage of loss.

Moisture and Mortality.

a kindly and healthy influence. There is nothing very deadly in it. It may occasion catarrhs and rheumatic complaints, but these are curable with a little management and medicine. And we are apt to put to its credit the washing away of many of the most injurious causes of disease by a good flushing of the sewers. Summer diarrhœa, cholera, and typhoid fever would be likely to be greatly lessened by a copious rain fall. So says the London Lancet, and an examination of a meterological and mortality chart for last year shows that in this city the deaths from all diseases were fewest in numbers during times when the number of inches of rain was the greatest. Dr. Trench, the medical officer of health for Liverpool, has satisfied himself by a series of careful observations, extending over a number of years, that there is an inverse ratio between the amount of rain and the amount of mortality from infantile summer diarrhœa. To the same effect are the tables given by Mr. McPherson, illustrating the relations of moisture to the mortality of cholera in Calcutta. According to these tables, the least mortality from cholera in Calcutta occurs in the months of July, August, and September, which

It is stated that during the three years the Western Union Telegraph Company have been engaged in this northern region, out of an average number of 250 men in summer and 150 in winter, they have not lost one by accident, by exposure, or by any disease incidental to the country or the work in which they were engaged.

The company had, in 1866, provided sufficient provisions with each party to support them until the vessels returned

to the journal by capillary attraction. Much practice is necessary to adjust the size of this wick to the amount of oil it is desired to deliver, which depends on the size and velocity of the shaft journal, weight, etc. If the wick fits too tight or the oil gets too low the supply of the lubricant is diminished, while if the wick is loose or the cup too full the amount delivered is too large. The cups, in fact, act on the principle of gravitation as well as of capillary attraction.

The one shown in the accompanying engraving is intended as an improvement on the ordinary metal cup, and has never are emphatically the wet months.