all the butter that may bein the milk, and separating the butter as fast as it is formed from themilk.

DENTAL INSTRUMENTS .- H. T. Fogg, San Paulo, Brazil .- Thepresent invention relates to a new and useful improvement in dental and surgical instruents, which are so constructed with adjustable handles that the dentist or urgeon may carry a number of instruments with him with one set of handles which shall be common to all thus greatly reducing the weight of metal he would otherwise be obliged to carry.

BALING PRESS.-Dangerfield Dunn, Lewisport, Ky.-This invention relates to a new and improved baling press, of that class in which toggle levers are employed for operating the platen. The invention consists in a peculiar manner of applying the rope to the toggles by which the latter are operated. and in a novel manner of arranging the platen with the toggles, whereby a compact and powerful baling press is obtained, and one which will admit of being used as a beater press when required.

STEAM PRESSURE AND FIRE REGULATOR .- Abraham Kipp, Jr., Sing Sing. N. Y.-This invention relates to a new and improved apparatus or device for regulating the pressure of steam in boilers by automatically controling the fires thereof; and it consists in a means connected with a damper, and communicating with the steam boiler, whereby an excess of steam pressure in the boiler is reduced by the action of the steam from the boiler upon the mechanism employed in such a manner as to partially close the damper and check the draft of the fire, and when the pressure is below the standard required, the mechanism made to open the damper and thereby increase the draft of the fire.

HANGING OR SECURING CIRCULAR SAWS TO THIER SHAFTS .- William McDonald, Calais, Me.-This invention relates to a new and improved mode of hanging or securing circular saws to their shafts, whereby several advantages are obtained over the present or old mode.

SOFA BEDSTEAD .- M. K. Maximilian, New York city.- This invention re lates to a new and improved sofa bedstead, and has for its object simplicity of construction, economy in the manufacture, and a general neat appear ance of the article.

CHURN.—John Faussauer, Wheeling, lowa.—This invention relates to a new and improved churn of that class which are provided with vertical rotating dashers and it consists in a novel construction of the dash and means for operating the same.

BROADCAST SEEDING MACHINE.-Joseph Haas, El Paso Ill.-This invention relates to a new and improved machine for sewing seed broadcast, and it consists in a peculiar construction and arrangement of parts, whereby seed may be sown broadcast in a perfect manner.

REAPING AND MOWING MACHINE.-K. H C. Preston, Maulius, N. Y .- This invention relates to certain new and useful improvements in reaping and moving machines, and consists, 1st. in a novel and improved arrangement of driving mechanisms, whereby spur gearing of moderate dimensions may be used and arranged in a very compact way. The invention consists, 2d, in a wooden strip or connection interposed between the sickle and the crank, and which drives the same lor the purpose of ensuring ease of motion, pre venting wear and tear and derangement of the working parts connected therewith. The invention consi ts, 3d, in a novel and improved means for throwing the sickle driving mechanism in and out of gear. The invention consists, 4th, in an improved pivotfor the connecting rod, whereby strength and durability are obtained with ease of motion and diminution of friction. The invention consists, finally, in a novel and improved manner of attaching and adjusting the drattfall for the purpose of raising and lowering the points of the fingers or guards, as circumstances may require

ANIMAL TRAP .- Alexander Campbell, Oxford, Ind .- This invention consists in a platform suspended centrally in respect of its length, or on a pit, but above the center vertically, so that it will return to its normal position by the action of gravitation, and provided with a latch projecting downward from the center of the platform to hold it in position until the animal, ap proaching the bait near the center of the platform, steps on a binged plate connected with the latch, disengaging it, when the weight of the animal causes the end of the platform he is on to swing downward, delivering him into the pit.

TOOL FOR CUTTING OR SLITTING THIN BOARDS, -John Langham, Jr. Philadel phia, Pa.-This invention consists of a cutter or knife secured vertically to a hinged holder which is suspended on a sliding stock arranged in ways restling at each end upon suitable supports, which may be secured to a bench so as to maintain the said ways sufficiently above the bench to admit the board to be cut to be passed under the same in front of the cutter, which, being pushed forward by the operator will sever the board. A spring isconnected to the stock of the cutier to retract it.

ASBERTOS FELT.- H. W. Johns. New York city.-This invention consists of sneering composed of ashestos and various kinds of felted and pulped mat ter. It is designed for roofing and sheathing purposes and provides a cnear and indestructible article tot the purpose.

DRAFT EQUALIZING DOUBLE TREE -George A. Mosher, Champlain, N. Y. -The object of this invention is to enable two borses of unequal strength of energy to be worked together with the best results.

ADVERTISING BULLETIN FRAME.-Wm. P. Brown, Watertown, N. Y .- The object of this invention is to provide a convenient and inexpensive means of publishing a number of business advertisements in the same frame. It consists of a frame constructed with several devices for the convenient insertion or removal of a number of advertisements as the firm styles, nature of business and addresses, and the like, whereby the same can be inserted and displayed permanently in some public place, and so arranged that any one of the said advertisements can be readily removed or substituted by other of different ad fertisements.

Door Look.-S. A. Green, Lexington, ind.-This invention consists in the mechanism of a lock for doors. The key hole in the lock case is dispensed with and the lock rendered difficult to open without the key.

SPOKE TENONING MACHINE. - Calhoun & Collins, West Lebanon, Pa. - This invention is for the purpose of cutting the tenons of wagon-wheel spokes and consists of a simple and effective combination of mechanism for the purpose.

LAMP CHIMNEY CLEANER.-N. A. Vurgason, Brooklyn, N. Y.-The object of this invention is to provide a simple and efficient implement for cleaning the chimneys of kerosene lamps.

VANTILATED HAT .- M. S. Watkins, Mansfield, Texas .- This invention relates to a new and improved method of forming thats whereby the same are better ventilated, and conform more perfectly to, and fitmore comfortably on the head of the wearer.

AxE .- J. W. Hillonand R. W. Green, Bradford, Pa .- The object of this vention is to provide an axe with a separate and removable cutting eoge whereby the latter may be readily removed when rendered unfit for further use from wear or other cause and a new cutting edge substituted therefor, thus saying the pole or mainbody of the axe.

BELTING. ETC .- Thomas Standring, Fort Richmond, N. Y .- This invention relates to a new and improved method of constructing belting, or traces, or other straps now made of leather only, or of any one material, whereby the strength of the same is greatly increased.

CONSTURCTION OF SHEET-METAL CANS .- Conrad Seimel, Greenpoint, N.Y .-This invention relates to a new and useful improvement in the construction of sheet-metal cans, designed more especially for nolling coal oil or petroleum for export or domestic use. The invention consists in a novel and improved way of constructing the seams of the can whereby great strength is obtained with economy of manufacture.

RAKING DEVICE FOR HARVESTERS .- K. H. C. Preston, Manling, N. Y.-This invention relates to a new and improved raking device for harvesters, and it on the form of the section of a platform constructed in the form of the section of a hollow cone, of the Vine-Dresser's Manual. Cincinnati: Robert and using in connection therewith a revolving rake and beavers, constructed, arranged, and operating in such relation with the platform, whereby the cut grain may be automatically raked from the platform by very simple

DEVICE FOR DESULPHURIZING ORES.-R. Plummer, Brooklyn, N.Y.-This invention relates to a new and improved device for desulphurizing ores, and it consists in the employment or use of a revolving retort placed in a furnace

and communicating with a flue, all being so arranged that the baser metals contained in gold ores may be oxidized and the gold set free so that the latter may be amalgamated and separated from the foreign substances of the

CAST IRON PIERS.-William B. Porter, Plattsmouth, Nebraska.-This invention relates to a new and useful improvement in cast iron piers for bridges, etc. etc., and it consists in casting the same in tubular sections conjected together by vertical screw rods strengthened by tubes, the piers being filled with concrete.

CLOTHES WASHING MACHINE.-Joseph Osterhout, Rock Island, Ill.-This invention relates to a new and improved clothes-washing machine of that class in which corrugated rollers are employed in connection with an end lessband or apron. The object of this invention is to obtain a washing ma chine of the kind specified which will not injure or tear the clothes and which will at the same time operate in the most efficient manner.

SULKY PLow .- A. R. Stanley and Henry W. Ensign, Shullsburgh Wis .-This invention relates to a new and improved plow of that class which are commonly termed "sulky plows." The invention consists in a new and improved means for regulating the depth of the penetration of the plow into tbe earth so that furrows of greateror less depth may be made if desired, and alsoin a novel manner of attaching the plow to the carriage and the ar rangement of the same, whereby said plow may be liberated or thrown out of the ground, whenever necessary, by a very simple manipulation.

TOOL REVERSING CUTTING MACHINE.-S. D. Tripp, Lynn, Mass.-This invention relates to a new and improved machine for cutting out pure fabrics or stock, various articles which have curved sides, such, for instance, as the so es of boots and shoes, and it consists in having the stock to which the cut ters are attached arranged in such a manner that in the operation of the ma chine, the cutters may be reversed so that reversed curves may be cut consecutively, and also the position of a cutter changed or reversed at each cut so asto admit of economy in stock, the heelof one sole being at sidethe or the front portion of the adjoining one.

WASHING MACHINE.—Ross and Adamson, Dav's Store, Pa.—This invention relates to a new and improved method of constructing washing machines, whereby the clothing to be washed is more conveniently held upon the rub ber and is more thoroughly and easily washed. It consists in a jointed clamp or holder attached to the end of an arm by staples so as to form an universal joint, said arm being so connected with a treadle as that the necessary pressure of the clothing upon the rubber in the tub is produced by the foot of the operator pressing upon the same, whereby the washing of clothes is effected without the necessity of the operator putting the hands in o the hot water or suds.

HAME FASTENER.-John Koch and Daniel Seachrist, Columbiaana.().-This invention is for the purpose of connecting the lower enus of hames and for tightening the same, thus dispensing with the usual buckle and strap, or sim ple string or thong and supplying instead, a simple, effective, and easily operated device, by means of which harness hames may be drawn upon the collar with the requisite degree of tightness, and fastened securely thereon.

BORING TOOL -James C. Millerd, River Point, R. I .- The object of this invention is to provide a simple and effective tool for boring out holes in castings and other iron work. It consists in general terms of a pair of steel cutters or boring plates held in a mortise or rectangular eye in the end of a metal shank and arranged at right angles to the axis of the shank, so that the said boring plates will pass in contact with each other when being se out or in by an adjusting screw.

GUNPOWDER-G. A. Numeyer, Altenburg, Germany.-This invention re lates to the improvement in the manufacture of powder for tire-arms and blasting purposes, producing an explosive powder more powerful than the ordinary powder now in use.

WAGON AXLE .- G. S. Garth, Mill Hall, Clinton, Pa .- This invention consists of two frictional bands one of which is formed wite a dove-tailed an nular slot. fitting upon a dove-tailed collar formed on the axle arm at the shoulder of the same. Thebands are cast on the axle arm and a reof any suitable antifriction metal as brass composition or babbit metal.

ROTARY PUMPS .- Join Poppe, Greenpoint, N. Y .- This invention has for its object to simplify the construction and improve the operation of the improved rotary pump, patented by the same inventor, December 5, 1867 and

HAND MILL.-Edwin Alsop, New York city.-This invention has for its object to furnish a simple, convenient and effective hand mill which aball be so constructed and arranged that it may be used for grinding coffee, spices, graie, seeds, dye stuffs, oil and water colors, etc., and Which shall not be liable to break or get out of order.

HAND SPRING FRAMES .- J. W. Burkhart, Cameron, Mo.-This invention consists in an arrangement of the spindle upon a vibrating arm pivoted to the frame of the machine at one end, and borne upon the upper end of a vibra ing lever whose lower end is also pivoted to the frame, and is arranged to be adjusted with reference to the spindle arm, so as to elevate or depress the spindle, and for the purpose of tightening the belt; and it also consists in providing a double grooved pulley on an adjustable support, over which the belt from the main driving wheel passes to the multiplying wheelin such a manner that the belt in crossing itself will not wear, and so that it may be adjusted toward or from the driving wheel, also for tightening the first belt.

## NEW PUBLICATIONS.

ELEMENTS OF NATURAL PHILOSOPHY. A Book for Beginners, by W. J. Rolfe and J. A. Gillet. Boston: Woodworth, Ainsworth & Co.

The above is the title of a work which, so far as general style of publication and beautiful illustration are concerned, is adapted to the purpose for which it was written. It has, however, important defects. The subject of electric ity is not touched upon, notwithstanding its great importance, while the subject of sound, of less practical utility, is extended to considerable length. We notice some errors in definition also : for instance, the common barance is described on page 5as a bar turning upon a pivot in its center, etc. The accompanying engraving represents it in the same faulty manner. In the appendix the subjects of the origin, transmutation, and conservation of force are discussed, which if not intended for the same class of pupils as the rest of the work, would have been better omitted, or the space it occupies used to supply the dediciences of other parts of the work. If intended for beginners we submit that it is not a subject fitted for them, even after they have ac quired the limited knowledge of physical forces they are likely to obtain from a study of the former portions of the work. Other features of the book, especially its use of the Fr-nch system of weights and measures, we can com mend, and not with standing the criticisms we have felt it our duty to make. we think it is perhaps as nearly perfect as most books of a similar character

AMERICAN WATCHMAKER AND JEWELER. By J. Parish Steele. New York: Jesse Haney & Co., 119 Nassau st. Price 25 cents.

This is a convenient pocket manual, one of a series which Mr. Haney is publishing under the title of "Trade Manuals, It contains many receipts, and directions for doing work, the value of which will be better estimated and appreciated by practical watch and clock makers than by us. We commend this little manual to our readers who are interested in the subject on

Clarke & Co., No. 65 West Fourth street.

A small but complete and thoroughly practical work, containing full instructions for the manufacture of all domestic wines, whether from grapes or other fruits; also directions for the manufacture of cider, with full directions how to bottle and keep both wines and cider, how to manufacture imitation champagne, etc. Price \$1.25. Some remarks on the manufacture of cider extracted from this work will be found in a future number.

## 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 address the correspondent by mail.

SPECIAL NOTE.—This column is designed for the general interest and in-struction of our readers, not for gratuitous replies to questions of a purely bustiess or personal nature. We will publish such inquiries, however, when point for as advertisemets at \$100 a line, under the head of "Busi-ness and Personal."

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

W. L.—All persons who travel about to sell patent rights must obtain a Revenue License.

E. H. L., of N. Y.—When a telegraphic cable is broken earth currents are formed each way from the break. The resistance of the entire cable being known, the resistance of the two portions gives the data for calculating the position of the break. A more minute description than this, or an explanation of the methods for telegraphing in opposite directions over the same wire would necessitate the use of diagrams, and occupy much space.

T. V. J., of Mass.—The diamond cuts the glass. No electricalagency is concerned in it sofar as has ever yet been shown. Many, bave believed bowever that there is a molecular change produced in the glass under the action of the diamond which makes a fissure deeper than the cutting edge of the crystal penetrates. This bowever has never been

S. M., of N. J.-According to Bourne, the superheating surface usually given in marine engines is too large. This accords with our own experience and observation.

A. J., of Del.—We believe the first iron vessel ever constructed was a boat of 32 tuns burthen, built by John Wilkinson of Brosely in Shropshire, England, to be used on the Severn River in 1787.

R. T., of Vt.—The so-called mosaic mixture is made or equal parts of tin, bismuth, and mercury. It is used for various ornament al purposes.

R. S., of Ill.—The hemp, (cannabis Indica) from which has beesh is obtained, is supposed by many to be a variety of the common hemp, the properties of the plant being modified by growth in tropical

A. R. B., of Mo.—The rails in steam railways have a convex upper surface to adapt them to the shape of the car wheels. The shape of the carwheels is such that in running around curves, the outer wheel runs on a larger circumference, and the inner one on a smaller circumference, thus preventing the wheels which are fixed to the axle from scraping. The wheels are fixed to the axle for convenience in oiling, and also that the oil may be retained over the bearing and thus prevent heating between stations. The latter could not well be done did the wheel turn on the axle. Thus you see your friend is at least partially right, in his statement that the shape of the rait is to be referred primarily to the necessity of keeping oil over the bearings

## Business and Lersonal.

I he charge for insertion under this head is one dollar a line.

Asahel Wheeler's siccohast has peculiar merits not possessed by any other dryer for paints. Its powers are at least three-fold greater. It is perfectly neutral, causes raw linseed oil to dry quicker, harder, and with more glossthan boiled oil, and yet retains its natural elasticity, and resists the forces of the elements much longer.

Wanted-a party to furnish checkers from a hard, smooth composition. Address "Checker," care E. H. Bennet, 57 Cedar st.

Wanted-address of all parties who furnish patented household small wares to the trade. Box 1901, Boston, Mass.

For sale—a new engine, 16x24, just finished. For full description address Albertson & Douglass, New London, Conn.

Wanted-a machine for making chalk or fishing lines. Ad-

Cal.—Broughton's graduating lubricators, oil cups, and gage cocks are to be bad of O'Connor Bros., San Francisco, and Gillig, Mott & Co., Sacramento.

The Ready Roofing Co., by mistake, was advertised as being at No. 1, Maiden Lane. The correct address is No. 81 Maiden Lane

Horse hay torks, etc. Send circular to Wm. Louden, Fair-

S. C. Sumner's pat. stencil frame, with movable letters, 7 Water st.,Boston. A grand thing for marking any name needed on boxes, bbls.etc. Peck's patent drop press. For circulars, address the sole manufacturers, Milo Peck & Co., New Haven, Conn.

To inventors.—I will furnish means to patent some useful invention, or will take an interest in a patent, it sufficient inducements are offered. Address, with stamp, J. K. Ross, Noblesville, Ind.

The toy Boomerang.—See Advertisement.

foreman for a machine shop wanted,—one who has some experience in the business and can bring good recommendations. Address D. A. Brown & Co., Fisherville, N. H.

Wanted—a master mechanic capable of superintending a locomotive and machine shop. One thoroughly accustomed to managing men required. Address box 116 New York postoffice.

For State and County rights to the best and cheapest sorghum stripper now in use, address C. P. Hale, Calhoun, Kv., A.

For descriptive circular of the best grate bar in use, address Hutchinson & Laurence, No. 8 Devst., New York.

Spring-bed bottom—unequalled for simplicity, cheapness, and durability. Manufacturers wanted as agents. Address S. C. Jennings, Wautoma, Wis.

N. C. Stiles' pat, punching and drop presses, Middletown, Ct.

For sale—the whole or a part of a paper mill, all new machinery. For particulars address L. A. Beardsley, Fredericksburg, Va.

For sale—the patent right, in Great Britain, for perforated saws. The manufacture of these saws is now firmly established in the United States, and they are rapidly taking the place of allother solid saws Apply to J. E. Emerson, Trenton, N. J.

Prang's American chromos for sale at all respectable art stores. Catalogues mailed free by L. Prang & Co., Boston.

For breech-loading shot guns, address C. Parker, Meriden, Ct.

Wanted—a second-hand steam hammer. Norway Manufacturing Company, Wheeling, W. Va.

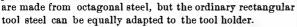
Winans' anti-incrustation powder, 11 Wall st., N. Y. 20,000 references. No foaming. No injury. 12 years in use. Imitations plenty.

#### Improvement in Method of Holding Lathe Tools.

The springing of turning and planing tools, when turning out a hole or cutting a deep nut, or on the planer when reaching down to plane a surface much below the face of the work, is a great annoyance to machinists. Sometimes, however slight the chip removed—even in finishing or smoothing-no amount of skill or delicate feeding can prevent the tool from leaving "chatter" marks.

The engravings represent a contrivance designed to remove this difficulty by providing a stay, or, rather, two a method which, by its evident success in this case, would

stays or holders, embracing front and rear, or top and bottom of the tool shank. The holders, A, pass through the slot in the tool post, the lower one being fast to the jaws, B, and the upper one moving freely, held only by a pivot pin moving in slots in the jaw to accommodate itself to the size of the tool shank, and secured on the shank of the tool by the thumb or set screw, C. The tool shown in the holder is an ordinary squaring-up or side tool, and the one shown at D is a common diamond point. In this case the tools.

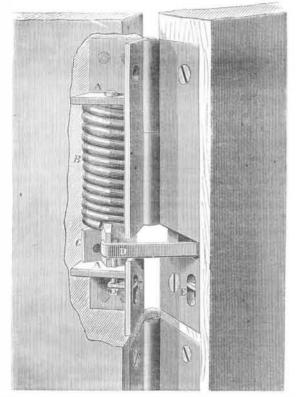


Patented Feb. 25, 1868, by John Baillie, Salem, Ohio. The patentee wishes to dispose of the whole right.

### STIMSON'S PATENT BUTT HINGE DUOR SPRING.

The closing of doors is one of the neglected duties of care less humanity, causing annoyance and provoking profanity, Some door springs, intended to prevent this annoyance, are neither reliable, permanent, nor certain in their operation. That represented in the engraving appears to be free from these defects.

The spring butt, or the hinge that contains the spring, is cast with two leaves instead of one, as is the ordinary butt hinge, one mortised into the edge and the other into the back of the door. Between these two leaves are two transverse connections. A. which serve as supports to a spiral spring. B. and as bearings for the axles of a corrugated plug passing through its center. This plug has at its bottom several ver-

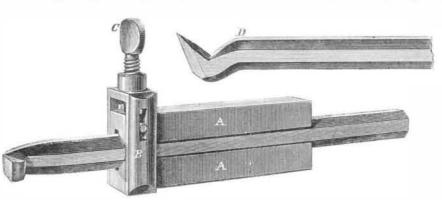


tical flanges, C, upon which the spiral spring rests and against one of which the bottom end of its wire bears. Holes in these flanges by a suitable wrench permit the winding up or turning of the spring to increase its tension. A hooked the city by means of a canal, is one of the greatest natural custrap, D, engages with one of the flanges on each spring and riosities of that country. In the center is a barren island, connects the two. The operation is to employ the torsion or twisting of the spring rather than its longitudinal elasticity. The effect is to allow the greatest force to its action when the door is nearly closed, just where most door springs fail; they usually exerting their greatest power when the door is wide open, and their least when it is closed. In swinging a door wide open, with this spring the tension on the spring amounts only to one-fourth a revolution, so there is slight danger of its breaking by being overstrained.

If at any time the use of the spring is undesirable and the door is to be free, the slipping up of catches, E, will engage them with the flanges, C, and prevent the rotation of the spring. The strap or connection, D, can then be removed, or one end unhooked and placed in one of the interspaces between the flanges when, while the door may be opened wide, it cannot be closed, being held either at right angles with the wall or half way between, as may be desired. This is a great convenience in hot weather. Patented by Enos Stimson, of Montpelier, Vt., November 19, 1867. The New England Butt Co., Providence, R. I., are manufacturing the improved butts and are prepared to fill orders.

#### A BLIND INVENTOR

An interesting biography of James Gale has just appeared in England. Mr. Gale "was blind from his youth up." Yet, notwithstanding this apparently insurmountable obstacle tomechanical success, he has achieved even fame by his inven tions. Mr. Gale was not educated in a school for the blind nor by the methods usually adopted with this unfortunate class of youth. Instruction was imparted to him by dictation,



### BAILLIE'S PATENT TOOL HOLDER.

are made from octagonal steel, but the ordinary rectangular | seem to be worthy the attention of instructors. He was thus taught reading, arithmetic (of course substituting the sense of touch for that of sight), and even what would seem more difficult, writing. Few blind people, who have arrived at any distinction, have been educated in any other schools except those specially instituted for the blind; and it is stated that very few indeed of those so educated are able to support themselves by their own labor.

Mr. Gale early showed that the loss of sight would not render him a useless member of society. His senses of hearing and of touch were so remarkably acute as to almost enable him to conceal the fact that he was blind. Indeed, it is related of him, that once, while riding in a carrier's van from Plymouth to Tavistock, the driver lost his way, and was guided by him into the right road by the sense of hearing alone. He has several times acted as a guide to strangers, effectually concealing his blindness until he had reached the end of his journey. More astonishing feats are related of this remarkable man. He has ridden a horserace and won it. He has ridden a blind horse for miles in safety, and has shot pigeons at a match, his aim being guided by his delicate hear ing.

In 1864 he singularly enough commenced experiments with gunpowder. In one year he had made the discovery that this substance could be handled and transported in safety when mixed with fine glass, which may or may not have been the hint which led to the subsequent discovery of dynamite. He has since invented an ammunition slide, and a rudder ball cartridge, by which, it is stated, great rapidity in firing can be obtained. Another invention of his is the "fog shell," designed to be projected upon the decks of vessels, and to generate a dense, blinding vapor, which would seriously embarrass them in an engagement. Another invention is what he calls a balloon shell, which is said to clear a space having a diameter of a hundred feet; from all but the most ponderous objects, at a single explosion.

The lesson taught by the life of such a man ought to put to the blush those who so easily succumb to obstacles far less formidable than he has had to encounter. The very nature of his experiments upon a material seemingly so dangerous to one deprived of sight, shows his courage and the strength of his character.

He is a good business man, and a lover of his race. Sympathizing with those who are, like him, destitute of sight, he founded the South Devon and Cornwall Institute, for the blind, which will stand as a monument of a mind that soared above obstacles, and a heart unembittered by the cruelest of all deprivations

# The Soda Lakes of Mexico.

The soda lakes of Mexico, from the waters of which crude soda is largely manufactured, are among the natural sources of wealth to that country. The lake of Tescoco, a short distance from the capital of Mexico, and communicating with with a hill composed of volcanic rock, and known as El Penon de los Bancos, or rock of the baths, rising from the surface This desolate spot is famous for the manufacture of crude soda, or tequesquite, a manufacture not more remarkable for lamp proper, A, Fig. 2, is contained within a case, B, and af its primitive method than its vast resources. The earth of fixed to a rod, C, which forms a portion of the handle, that the valley adjoining the lake is impregnated with a species of may be of any length desired. The case is sustained on a soda, and Lake Tescoco itself is a concentrated solution of metal tube, D, in which the handle, C, slides, the distance of soda. It contains an immense amount of the salts of sodium, its movement being governed by a slot in the tube and a pin chiefly the chloride of sodium and the carbonate of soda. The lake has great surface and small depth, and with a rainy season of four months and a dry season of eight, its range of expansion and contraction is 220 square miles at its maximum to 80 square miles at its minimum. A calculation of the contents of the lake was made in 1851, when the lake was considerably contracted, and the proportion of solid matter was ascertained to be not less than 18 per cent. The Penon soda stills are not numerous, but illustrate the rude principle at work all around the lake. They are simply mounds of accumulated dark, bluish mold, on which large round holes are made here and there. In these holes bags are placed, and in the bag the impregnated, frosty-looking | pose of the whole or partial rights.

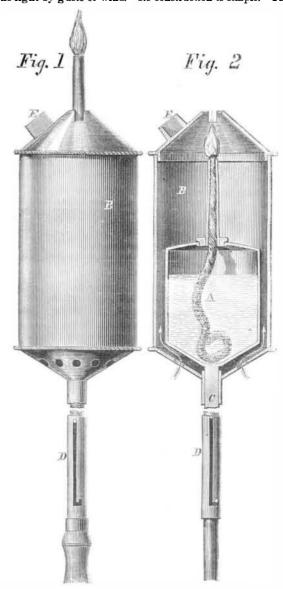
earth found every morning along the lake. Over this earth water is poured, and the liquor which sinks through the dirt, and is drained from the bag, passes into a vessel below. The solution thus caught is evaporated over a fire, and tequesquite is the result. This is the whole process, which is the same that was used in the days of Montezuma. With this primitive system of manufacture, the lake, according to the estimates of the School of Mining in the city of Mexico, produces annually 1,680,000 pounds of crystallized or pure soda, and 3,696,000 pounds of tequesquite or impure soda.

## Styptic Paper.

The styptic properties of perchloride of iron are well known, but in many cases it is inconvenient to carry about and to applyin case of need. A method of preparing paper with this substance, so that it can be carried safely in the pocket, at the same time preserving the styptic quality has been invented in Paris. The paper is first dipped in a solution made of one pound of gum benzoin of the first quality, one pound of rock alum and four and one-third gallons of water. This mixture is heated in a vessel, carefully tinned inside, up to the boiling point; and the solution is to be kept boiling for four hours, and skimmed from time to time. The water evaporated is to be replaced by the same quantity of fresh water, and, as soon as the solution is cooled, it is to be filtered off. The paper or tissue is then dipped into it, and to be kept there until sufficiently saturated; it is then to be carefully dried. When dry, a solution of the perchloride, in a more or less concentrated state, is applied by a brush or roller. The paper or tissue thus prepared is folded up and preserved from the action of the air by wrapping it in a piece of waterproof taffeta, prepared with the addition of resinous substances, and in this manner it can be preserved any length of time always ready for use. Its application to small wounds will stop the bleeding almost instantly.

# PATENT TORCH FOR LAMF-LIGHTING.

The object of the device herewith illustrated is to diminish the labor and time of lighting street, hall, or depot lamps, when beyond the reach of the hand, obviating the necessity for the use of a ladder and preventing the extinguishment of the light by gusts of wind. Its construction is simple. The



on the handle. The object is to withdraw the flame of the lamp within the case as the operator passes from one lamp to another, to prevent the flame from being blown out. To insure continued combustion the lower part of the case is pierced with holes to admit air, as seen in Fig. 2, which also shows the lamp drawn into the case. The snug, E, is a wrench for opening the gas cocks and a slot across the top of the case is for a similar purpose. From the foregoing description a sufficiently clear idea of the device and its use may be obtained.

Patented through the Scientific American Patent Agency Feb. 4, 1868, by Albert Assman, Rahway, N. J., who will dis-