AN INGENIOUS ATTEMPT TO REDUCE DAMAGES.

SHERWOOD'S DOOR LOCKS—THE UNITY OF AN INVENTION —LAW AND EQUITY AS TO DAMAGES.

Most of the door locks used in this country, till within a few years past, were imported from England. But the mechanical genius of our countrymen soon placed us beyond the necessity of depending upon foreign countries for an article so universally useful and important. Previous to Sherwood's invention it was an important object to discover some lock cheaper and better than the imported article. This object was in part effected by making the locks of cast iron ; but a difficulty was found to exist in the fact that door locks had to be made right and left, and a lock made for a right-hand door would have to be turned upside down in order to be used on a left-hand door, and *vice versa.* An American named Sherwood, under whom the complainants, Livingston & Co., claimed, was the first inventor to effect this object, and soon succeeded in establishing a manufacture at once cheaper and better than the imported. His patent was for "a new and useful improvement in door locks." There was necessarily in Sherwood's improved locks a vast deal, much the greater part of which had been in previous locks, and he claimed of course no merit for inventing door locks generally. "What I claim as my invention," is the language of his application for Letters Patent, "is making the case of door locks and latches double faced, or so finished that either side may be used for the outside in order that the same lock may answer for a right or left-hand door."

After Sherwood obtained his patent and sold it to the plaintiffs for about $600, the respondents, Jones & Co., conceiving that the invention was without originality, undertook to disregard the patent, and during a term of two years and six days did disregard it. And being able to sell for $31 per dozen locks, which cost but $10.64 to make, their profits were large. The plaintiffs having filed a bill sometime since in the U. S. Court obtained a perpetual injunction, and a decree and reference for account. The account being taken it appeared that, making a deduction for the interest of money invested in the manufacture, the cost of machinery, wear and tear, expenses of sales, insurance agencies, transportation, bad debts, &c., the net profits upon all the locks (including every part of the lock) which the defendant made or sold were $13,282 93. But the defendants denied that they were liable to profits on the whole lock, or for any profits except those properly springing from the case of the lock ; that part of it alone of which Sherwood claimed to be the inventor. Their idea was that they could apportion this sum of $13,282 93, reported as their profits to the different parts of the lock ; the profits on each part being fixed on an arithmetical proportion to the cost of each. The account then would stand thus :—

Profits on the case (the improvement for which Sherwood got his patent,)	$3,123 48
Profits on latch and keeper	1,221 53
Profits on other parts of the lock	4,577 01
Profits on trimmings	4,360 91
Total	$13,282 93

The questions then before the court were :—

First, whether the respondents were to be charged with $3,123 48, profits on the case alone on the basis of computation just stated, or with $13,282 93 profits on the whole lock.

Second, whether assuming, as proved, that the violation had been willful and gross, the court, in a form of proceeding coming from a bill in equity, could treble the damages.

The following is a portion of the opinion of the court, given by Judge Grier, bearing upon the questions considered :—

The great question of the case now recurs : Is this Janus-faced lock a peculiar and distinct machine introduced into market as a cheaper and better article than other machines without the peculiar characteristics of the patented one? Does the value of the patent to its owners consist in the close monopoly of the right to make and sell this species of lock as one individual machine ? Has it peculiar characteristics which distinguish it from other machines of the same genus, and which give it a peculiar value in the market? If so, the complainants have a right to demand that the defendants, having infringed their exclusive right to make and sell this peculiar machine or manufacture, are justly liable to refund all the net profits made by such infringement. If, on the contrary, the patent is for some addition or improvement on an old and well-known implement, or some separate part or device thereof of small importance compared with the whole, if the license to use the improvement or addition was sold, as separate and distinct from the whole machine, the measure of damage would be the price of a license, and not the profit made by the exclusive right to make and sell the whole machine. The history of this invention, its objects and results, are fully stated in the case of Livingston & Co. *v.* Jones & Co., between these same parties when the originality of Sherwood's invention was assailed. The claim of the Sherwood patent was for "making the case of door locks and latches double faced, or so finished that either side may be used for the outside." The arrangements of the internal parts of the lock and devices necessary to such a lock, are set forth in the specification. They were rather complex, and required that, in order to change the lock from a right-hand to a left-hand lock, it should be opened, and some change made in the position and arrangement of the internal parts. For the purpose of the present discussion it is unnecessary to describe these devices. The name "Janus-faced" locks was given to this machine to distinguish it from others which had its peculiar qualities.

Now it is evident that, although the patent of Sherwood may be said to be for an improvement in the manufacture of locks, a well-known implement or machine ; nevertheless the lock contrived by him was a new and distinct species, having certain qualities differing from all other locks ; that the Janus-faced lock is a specific article (although of the genus lock) known in the market, having peculiar value, and that the value of the monopoly granted by the patent consisted in the exclusive right to manufacture this peculiar machine without any competition, and have all the profits of such a monopoly. The respondents have made large gains by trespassing on the rights of the complainants. The profits they made by this trespass justly belong to the true owner. They have partaken equally with the complainants in the profits of the monopoly granted to them alone without license, and in defiance of their rights. The only measure of redress to which the complainants are entitled is an account of the actual profits made by the respondents. It has been argued that it is not full measure of compensation for the injury done to complainants, but it is all that can be made matter of account in equity ; all that is specifically claimed in the bill, and all that comes properly within the sphere of the remedies administered by a chancellor.

The machine being a unit, a specific article well known in the market, having a peculiar value because of the patentee's discovery or invention, the attempt to arbitrarily divide the profits of the monopoly of the whole machine among its parts is without precedent, and receives no countenance from the case of Seymour *v.* McCormick.

Although the statute gives original cognizance of patent controversies equally to courts of equity as to courts of law, and consequently the chancellor may decide a controversy as to infringment without requiring a previous verdict in a court of law, yet it does not follow that all distinction as to remedies granted by each tribunal is to be abolished ; a court of law cannot issue an injunction, nor a court of equity take jurisdiction to enforce a penalty or merely punitive damages. Each court will give the remedy peculiar to its own functions. The remedies of a court of chancery are by injunction and account ; penalties and vindictive damages can be recovered only in courts of law.

Shoe-Sewing Machine.

In our last week's paper, we gave some account of a shoe-sewing machine exhibited in Coventry, England. We are informed that the machine spoken of was made by Mr. R. W. Drew, a young man in Boston, and that the patent for this country is held by A. B. Ely, Esq., of that city, where there are some of the machines in use. The work done by them is more durable and substantial than hand sewing, consequently better adapted for army work. Two minutes is all the time required to sew a pair of the heaviest kind of shoes. They work equally well, for sewing the lightest kind of boots or shoes.

RECENT AMERICAN INVENTIONS.

Firearms.—This invention is more especially applicable to revolvers, but is also, to some extent, applicable to single shot breech-loading firearms. Its principal feature consists in a peculiar construction and mode of applying a movable breech pin, and another feature consists in the peculiar construction of the chamber for the reception of the breech pin. Invented by C. H. Alsop, of Middletown, Conn.

Mode of Attaching Engraved Blocks to Belts.—This invention, which is due to Alexander S. Davis, of Boston, Mass., relates to an improved mode of attaching engraved or indented blocks to an endless belt which is used in a machine for printing addresses on newspapers, and for which Letters Patent were granted to C. W. and Daniel Davis. In this patented machine a series of wooden blocks with the subscribers names engraved or stamped thereon are attached by tacks to an endless belt, which passes over a pulley at the upper part of the machine, and underneath a bed which serves as a bearing for the blocks as the papers are pressed against them in the act of printing. The difficulty attending the operation of this machine is the trouble and embarrassment of changing the blocks or altering them to suit the constantly varying subscription list. It will be understood that all papers which are sent to one post office have their addresses placed side by side so as to facilitate the mailing operations, and all the blocks on the belt must be placed in contact, side by side, for convenience of inking ; hence by the old mode of attaching the blocks to the belt in many cases a large number must be detached in case a block requires to be added to or taken from the belt, and much time is, therefore, consumed in keeping the endless belt of blocks correct with the mail book. The object of this invention is to obviate this difficulty, and to this end the blocks are attached to the endless belt by means of straps or loops in such a manner that the blocks may be shoved along on their belt, and any one of them readily detached therefrom, or a new one added, as may be required.

Cartridge.—This device, patented by the inventor, Rollin White, of Bridgeport, Conn., is applicable to revolvers and other firearms in which a joint is formed between the chamber and the barrel in front of the chamber, for the introduction of cartridges at the breech. It consists in the construction of the case of two or more pieces of metal, movable longitudinally in relation to each other, so that when the charge is fitted one portion may be driven, by the force of the explosion, forward against the barrel or fixed portion thereof, and the other portion backward against the breech, to prevent the escape of the gas ; and it further consists in a certain construction of the cap or pellet containing the percussion priming, and fitting the same to a metallic cartridge case, whereby it is made to close the vent of the said case by the force of the explosion of the charge, and whereby it is supported in such a manner against the blow of the hammer as to insure its explosion.

Cut-Off.—This invention, patented by John Broughton, consists principally in the operation of the cut-off valve or valves of a steam engine with a positive movement, which is so controlable by a governor, or other means independent of the eccentric or its equivalent, from which such movement is derived as to be capable of producing a variable lead of the valve, and as to make the amount of lead determine the point in the stroke of the piston at which the steam is cut-off.

Stock Pump.—The object of this invention is to obtain a simple and efficient pump, or water elevator, by which stock may draw their own water for drinking purposes. The invention consists in the employment or use of a force pump, in connection with a loaded or counterpoised tilting platform, so constructed and arranged that the desired result is attained. Pumps or water elevators of this class, commonly termed "stock pump," should be so arranged as to preclude the possibility of freezing up in winter, and at the same time admit of the water being elevated at a considerable hight. They should be simple in construction, not liable to get out of repair, and the pump cylinder should always be filled with water beneath the piston when the latter is elevated. These ends, it is believed, are fully attained by the invention. Invented by E. A. and S. Moore and D. Mooney, of Findley, Ohio.

PATENTS FOR SEVENTEEN YEARS.

The new Patent Laws enacted by Congress on the 2d of March, 1861, are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the government fee required on filing an application for a patent is reduced from **$30** down to **$15**. Other changes in the fees are also made as follows :—

On filing each Caveat	$10
On filing each application for a Patent, except for a design	$15
On issuing each original Patent	$20
On appeal to Commissioner of Patents	$20
On application for Re-issue	$30
On application for Extension of Patent	$50
On granting the Extension	$50
On filing Disclaimer	$10
On filing application for Design, three and a half years	$10
On filing application for Design, seven years	$15
On filing application for Design, fourteen years	$30

The law abolishes discrimination in fees required of foreigners, except in reference to such countries as discriminate against citizens of the United States—thus allowing English, French, Belgian, Austrian, Russian, Spanish, and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms.

During the last sixteen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the Inventors throughout the country, we would state that we have acted as agents for more than FIFTEEN THOUSAND Inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of Inventors and Patentees at home and abroad. Thousands of Inventors for whom we have taken out Patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the Inventors whose Patents were secured through this Office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive Offices, and we are prepared to attend to Patent business of all kinds in the quickest time and on the most liberal terms.

The Examination of Inventions.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

Preliminary Examinations at the Patent Office.

The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of $5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a Patent &c., made up and mailed to the Inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh-streets, Washington, by experienced and competent persons. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

How to Make an Application for a Patent.

Every applicant for a Patent must furnish a model of his invention. If susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fees by express. The express charge should be prepaid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & Co., No. 37 Park-row, New York.

Caveats.

Persons desiring to file a Caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The government fee for a Caveat, under the new law, is $10. A pamphlet of advice regarding applications for Patents and Caveats, in English and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

Rejected Applications.

We are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief history of the case, inclosing the official letters, &c.

Foreign Patents.

We are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business, we have offices at Nos. 66 Chancery-lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through our Agency.

Inventors will do well to bear in mind that the English law does no limit the issue of Patents to Inventors. Anyone can take out a Patent there.

Circulars of information concerning the proper course to be pursued in obtaining Patents in foreign countries through our Agency, the requirements of different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either of our Branch Offices.

Assignments of Patents.

The assignment of Patents, and agreements between Patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park-row, New York.

It would require many columns to detail all the ways in which the Inventor or Patentee may be served at our offices. We cordially invite all who have anything to do with Patent property or inventions to call at our extensive offices, No. 37 Park-row, New York, where any questions regarding the rights of Patentees, will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New York.

ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING DECEMBER 3, 1861.

Reported Officially for the Scientific American.

THE PRINTING OF PATENTS ABANDONED.

The plan adopted by Commissioner Holloway of printing the specification which forms part of the Letters Patent, he has been obliged to abandon owing to the reduced receipts of the Patent Office. Hereafter, for a time, the specifications will be engrossed on parchment as formerly. This change will obviate the great delay which has attended the issuing of patents after sealing, but the papers do not go out looking so neatly. We hope the receipts of the Office will soon justify the extra expense which attended the printing.

*** Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

2,814.—David Bissell, of Detroit, Mich., for Improvement in Machines for Turning Boot Legs :

I claim the racks, B and C, cylinder, H G G, ring, J, and catcher, F, when arranged and combined with the frame, A, and pinion, D, and constructed to operate as described and for the purposes set forth.

2,815.—John A. Bolton, of Leicester, England, for Improvement in Hot-Air Furnaces. Patented in England March 19, 1861 :

I claim, first, The arrangement of the flue conveying the outer air to the heating chamber, by bifurcating it at or about the said fire chamber, and by so continuing each branch flue as to follow up both sides of the fire hole and ash pit, and then re-unite in the heating chamber whence the heated air is delivered to a hot-air chamber, and from there delivered to the apartments, as shown and described.

Second, Forming the heating chamber and hot-air chamber in one compartment by the use of a divisional plate provided with a bottom plate, so that the air shall be gradually heated in the former and caused to come in contact with the fire plate previous to its entering the hot-air chamber, as described and shown.

2,816.—C. C. Bradley, of Brodhead, Wis., for Improvement in Doubletrees :

I claim the construction of a doubletree which dispenses entirely with singletrees, and the application of the central pulley as a substitute therefor. Also the method described of attaching the trace hooks to a movable slide with the slot therein, or substantially the same.

2,817.—John Broughton, of New York City, for Improved Cut-off Valve for Steam Engines :

I claim, first, regulating the velocity of a steam engine by combining the regulator with a positively operating valve gear when such regulator determines the lead of the valve, and the lead of the valve is made to determine the point in the stroke of the piston at which the steam is cut off.

Second, In combination with a lifter, K, having a certain movement in relation to the main valves, I claim the sliding bevel-faced toes, Q Q', inclined tappets, a a', and rods, I I', or their equivalents, operating substantially in the manner explained to impart a positive movement to the cut-off valves, G G'.

2,818.—J. C. Brown, of Fond du Lac, Wis., for Improvement in Machines for Sawing Shingle Bolts :

I claim the use of the adjustable revolving table, or its equivalent, substantially as described, for sawing the blocks on end, whereby they may be divided into suitable bolts for shingles, as specified.

2,819.—W. D. Bush, of Fall River, Mass., for Improved Row Lock :

I claim recess, F3, and pin, a3, the spirally rifled socket, G4, constructed and operating as and for the purpose set forth.

2,820.—C. W. Cahoon, of Portland, Me., for Improvement in Lamps :

I claim, in combination with a lever and chimney fastenings, an adjustable fulcrum, substantially as described.

I also claim, in combination with a lever and chimney fastenings, the indentations, F F, for the purpose of preventing the chimney from going too far back, substantially as described.

2,821.—C. W. Cahoon, of Portland, Me., for Improvement in Lamps :

I claim, first, a lever with chimney fastenings having that part of it on which the chimney rests extended so as to form a deflector, substantially as described.

Second, I claim the combination of the lever, A, with the air chamber, D, when the air chamber is attached to the lever and is movable with it, substantially as described.

Third, I claim in combination with a lever for raising the chimney, the air-chamber, D, and screen, E, arranged substantially as described.

Fourth, I claim the ring, G, in combination with the lever, A, substantially as described.

Fifth, I claim the bar, H, having a stop, I, in combination with the cap, J, and lever, A, substantially as described.

Sixth, I claim the handle, L, in combination with the adjustable fulcrum, K, and the lever, A, substantially as described.

2,822.—Richard Colvin, of Baltimore, Md., for Improvement in Beehives :

I claim the divisions or partitions placed between the spaces designed to be occupied by combs in beehives, for the purpose of insuring straight and uniform combs, substantially as described, when either the partitions or comb frames, or both, are made capable of independent lateral movement.

2,823.—T. D. Davis, of Syracuse, N. Y., for Improvement in Mode of Attaching Carriage Shafts :

I claim a wrought or malleable shaft heel and arm constructed so as to secure and tighten the shafts and cross bar, substantially as shown and described.

2,824.—G. C. L. Degenhardt, of Tresckow, Pa., for Improved Apparatus for Purifying Acid Water for Steam Boilers :

I claim the combination of apparatus, substantially as described, to operate in the manner and for the purposes set forth.

2,825.—J. C. Dickey, of Saratoga Springs, N. Y., for Improvement in Machinery for Crushing or Pulverizing Quartz :

I claim, first, The employment of one or more of the hammers, I, in the wheel, B, for the purpose specified.

Second, I claim the employment of the sieve, D, in the hollow shaft of section, l, of wheel, B, for the purpose specified.

Third, I claim the arrangement and employment of the hopper, E for the purpose specified.

2,826.—G. H. Dodge, of Camden, N. J., for Improvement in Hinges :

I claim, first, The link, E, with its pins, e and e', in combination with the boxes, C and D, or their equivalents and their elongated slots for the reception of the said pins, the whole being constructed and applied to the lids or door of pianos, cabinets, &c., substantially as and for the purpose set forth.

Second, I claim the projections, i and i', of the link, E, when arranged in respect to the concave interior of the boxes, C and D, and to the recesses, j j, of the said boxes, substantially as set forth.

2,827.—H. C. Felthousen, of Buffalo, N. Y., for Improvement in Signal Lanterns :

I claim the arrangement of the movable and stationary vertical rods, D and E, and the movable and stationary tubes, G and H, and connecting piece, F, with the colored glass and frame, C, as a means of raising, lowering, and supporting the colored glass for change of signals, substantially as described.

I also claim the funnel, J, made air-tight at its apex and sides inverted and suspended over the top of the lamp chimney, in its arrangement with the cap, L, and outside guard, K, for the purposes and substantially as described.

2,828.—J. H. Foster, of Detroit, Mich., for Improved Apparatus for Steering Vessels by Water :

I claim the combination of the stationary transverse tubes, B B', and rotary cylinder, C, with a shattless screw, F, fixed therein and cogs, G, upon its periphery employed in the manner explained for working and steering vessels.

2,829.—Henry Frankfurth, of Utica, N. Y., for Improved Baby Jumper and Supporter :

I claim, first, The making of the baby walker and supporter adjustable as to its height in order to suit the length of the child, or more or less to relieve its feet and limbs, as described.

Second, The gate and gateway, as described, by means of which the child may be introduced or removed horizontally, as described.

2,830.—Wilkenson Furnas, of Ononwa, Iowa, for Improvement in Plows :

I claim the arrangement of the pulley bars, N N, pulleys, M o, treadles, P, levers, J J, cords, c c, bars, F F, and racks, K K, with the swinging and rising plow, standards, G G, and the driver's seat, Q, all as shown and described.

[This invention relates to an improved plow of that class which are designed for cultivating growing plants in hills or drills, such as corn potatoes, &c. The object of the invention is to so arrange the plows that may be adjusted both laterally and vertically, as to regulate the depth of the fallow, as may be desired, and also the position or course of the furrows relatively with the plants as occasion may require.]

2,831.—G. W. Gardner, of Troy, N. Y., for Improvemen in Percussion Shells :

I claim so constructing percussion shells that the hammer or its equivalent may be held by the side of the cap, or inoperative until discharged from the gun, and then be placed upon the cap by the use of the fuse-plug, or its equivalent, and the combination of the cylinders and springs, substantially as set forth.

2,832.—Henry Gross, of Tiffin, Ohio, for Improvement in Revolving Firearms :

I claim the hammer, E, when constructed as described, which, on being raised or cocked, through the mechanism described, withdraws the cylinder from the breech of the barrel, intermittently revolves and releases it, and by means of its projecting part or cam, F, firmly locks the cylinder to the barrel at the moment of firing, as set forth.

2,833.—T. C. Hargraves, of Schenectady, N. Y., for Improvement in Broom Vise :

I claim the arrangement described of the bed plate, 1, with its side ribs, 3 3, cross plate, 5, jaw, 6, fingers, 21 23, folding jaw, 25, and lugs, 9, the sliding plate, 4, with its side ribs, 7, cross plate, 8, rack gear, 11, ratchet rack, 15, jaw, 18, fingers, 22 24, folding jaw, 26, the pinion lever, 13, and the pawl, 16, in combination with each other, substantially as set forth.

2,834.—Aaron Higley, of Sand Creek, Minn., for Improvement in Grain Separators :

I claim, first, The arrangement of the hopper, A, sieves, e f g h i j, imperforate plates, o v, and troughs, A' B' W X, with shoe, B, the whole combined and operating in the manner and for the purpose described.

Second, I claim the arrangement of the sieves in the shoe, B, with the endless apron, F, trunk, G, fan, I, sieves, K L M, in the shoe, J, and drawers, E O R, the whole combined and operating in the manner and for the purpose described.

Third, I claim the combination of the sliding gate or valve, a, screw bolt, b, and nut, c, for regulating the size of the seed aperture in the hopper, H, substantially as described.

[This invention consists in the peculiar construction and arrangement of sieves with an endless conveyer pan and seed drawers, whereby provision is made for separating the different kinds of grain in the most effective and thorough manner, and depositing the same in separate receptacles, free from all impurities, such as chess, cockle and tailings.]

2,835.—B. B. Hill, of Chicopee, Mass., for Improvement in Shaft Coupling :

I claim the employment of a tapering or conical bearing pin or bolt B, for the socket of the shaft iron, having an adjustable set screw, A