RECENTLY PATENTED INVENTIONS. Railway-Appliances,

RAILROAD CROSSING .- DANE SCOTT, Delphos, Ohio. The purpose of this invention is to provide a railway crossing in which the pounding of the car and engine wheels at the crossing will be avoided. This is done by providing additional inside rails running parallel with the main rails and forming guideways in which are situated sliding blocks mounted on a suitable mechanism so that, as the train passes the crossing, the blocks may be raised to fill the spaces between the rails and thus provide additional bearing surface over which the treads of the wheels may roll.

RAILWAY SWITCH .- ERNEST P. NEWMAN, Stillwater, Minn. The invention consists of an automatic switch point capable of being shifted in either direction by a detent on a car striking an arm near the switch, The shifting mechanism consists of a grooved cam connected with suitable gearing. The switch point can be moved by a lever if operated manually, or it can be suitably connected and worked from a distance

Agricultural Apparatus.

COLTER. - ARTHUR C. GAYLORD, Sandeval, Ill. The invention consists in the main in providing the colter wheel and colter fork with conical bearings, so that they can be more readily adjusted. An improved clamp for fastening the upright standard to the plow arm is also included in the patent.

COLTER CLAMP.-ARTHUR C. GAYLORD, Sande val, Ill. This clamp consists of a circular plate provided with ears through which pass bolts that fasten it to the plow arm. The plate has a circular hole extending half way through it and having inclined, undercut edges The base part of the clamping jaws, that hold the colter standard, is made to fit in this hole, and when the jaws are tightened around the standard, the base is automatically clamped in place in any desired position.

COTTON-SEED DROPPER.-WARREN SMITH. De Leon Springs, Fla. The dropperconsists of a framework mounted on a sharp wheel for cutting the furrow, and having suitable handles attached to the seed dropping bex on the rear. A small plow or track clearer is mounted in front of the furrowing wheel, and a coverer blade fills in the furrow after the seed has been dropped. The seed box has a concave bottom with a slot in it, and a drum containing pockets, which is revolved under it by means of a chain connection with the furrowing wheel, drops the seed every few feet in the ground. A rotary stirrer in the seed box keeps the seeds from getting lumpy.

MACHINE SICKLE GRINDER, - EDDIE VILAS GREEN, Topeka, Kan. This invention consists of an attachment for mowing machines whereby a sickle may be ground quickly and automatically while the machine is at work in the field. The sickle is placed in a suitable holder which is capable of moving it forward one tooth at a time by operating a lever. The grinder is set in motion by a sprocket and chain connected with a countershaft at right angles to the axle of the machine, the countershaft being turned by a bevel. The grinder wheel is given a reciprocating movement from the point to the upper edge of the teeth by means of a connection of its pivoted supports with a wheel on the countershaft.

MOWING-MACHINE SICKLE GRINDER.-EDDIE VILAS GREEN, Topeka, Kan. This arrangement is an improvement on the foregoing grinder in that, instead of reciprocating movement being given to the grinding wheel, this movement is given to the sickle blade itself. The blade is held in a rocker frame which is connected with a wheel on the conntershaft by which it is given a reciprocating movement.

SPRAYING APPARATUS .- MARION L. JOHNSON Mears, Mich. The sprayer consists of a chamber into which the liquid is drawn by the upstroke of a piston operated by a small windlass. A valve in the bottom of the chamber causes the liquid to be retained, and another valve in the tube leading to the spraying nozzle is kept closed till the apparatus is placed near the tree to be sprayed. When this valve is opened the piston is forced downward by a powerful coiled spring, and the operator has nothing to do but to direct the spray where it is needed.

Electrical Inventions,

TELEPHONE - HENRY F BLACKWELL and MAUDE A. BLACKWELL, 99 East Eighty-first Street, New York, The object of this invention is to provide a small, compact instrument that may be carried in one's pocket and attached to a fire alarm system without impairing the circuit for fire alarm purposes. The telephone is placed in a neat box that may be hung on the open door of a fire alarm box and connected by flexible wires, plugs and sockets with the circuit. The primary is contained altogether in the telephone, except that its two ends run into the receiver, where they are connected at will by a fastening device. push button. One end of the secondary is connected with the line and the other end, after passing through the

downward motion, and when operated by the shear handles rips a seam very rapidly, without in any way injuring the cloth.

TYPE-SETTING MACHINE.-CHARLES J. BOTZ. Sedalia, Mo. The machine comprises the following main parts : A casing containing a series of type channels, a movable type chute or transmitter, a composing slide, and a spacing and column-forming mechanism respectively. The type channels are arranged in a semicircle and in several tiers. They are slightly tilted backward, and the type is pushed forward and into the chute by a ratchet-and-pawl pusher operated from the keyboard. The type chute is pivoted to move horizontally. It swings around the semi-circle and into place before the proper type-channel by pressing the corresponding key. A movable arm on the chute operates the pusher, which pushes forward the line sufficiently for a single type to fall into the chute and be delivered into the composing slide, where the types are formed into lines and spaced. The spacing and column forming. if not done by hand, is accomplished by two special attachments.

SPACING ATTACHMENT FOR TYPE-WRITERS. -ROBERT J. MINER, Greenwich, Conn. The attachment, which makes the proper spaces for tabulating accounts, consists of a series of fulcrumed space controlling blocks operated by special keys. A tappet is fast-ened to the carriage and the latter is stopped in the proper position by the blocks engaging the tappet. The carriage is provided with a swinging rack-bar which is lifted by a lever having its other end extending under the several blocks so that it can be moved by any of them. The raising of the rack by this lever allows the carriage to move onward till stopped by the tappet engaging the proper block.

WASHING MACHINE.-EDGAR LACHANCE, Pittsurg, Kan. The machine is constructed without the employment of rollers or shafts as rubbing surfaces for the clothes. It is horseshoe-shaped in crosssection, having corrugated lid similar to a washboard that closes the top. The machine has a perforated double bottom, so that when the machine is given a rocking motion by hand aided by springs, the heated washing fluid and steam will be forced through the clothes, thoroughly cleansing them without injury to the finest or most delicate fabric.

WEIGHING ATTACHMENT FOR TRUCKS.-GEORGE L. BANKS, Colorado Springs, Col. The attachment consists of a weighing platform mounted on two horizontal cross rods which are suspended on knife edges from the truck frame. The cross-rods are connected through lever arms by a connecting rod and coiled spring, as well as by connecting rods on each side A pointer connected with the spring rod travels over an are scale and registers the weight. When not in use, the weighing platform is kept in normal position by cams on other devices.

VEHICLE BODY. - FREDERICK MENZER. Flint Mich. The object of the invention is to construct a second seat for buggies or sleighs that may be folded up when not in use. The body of the carriage is made long enough to allow of sliding the regular seat backward, after removing a folding box cover which normally closes the rear end. A folding seat and back is then raised and held in place by braces.

KILN OR FURNACE. -JAMES O'CONNEL and BEN-JAMIN F. HILLERY, 640 West 131st Street, New York N. Y. The invention consists of a boiler to be set in the arches of kilus or furnaces, and utilizes the steam generated to increase combustion. The boiler is an annular chamber having a steam dome and containing a circular firebox within it. The firebox is closed at the rear end by a fire wall extending upward about two thirds of the height of the box and by a damper hinger to the back of the wall and closed from the outside by a wheel. When the damper is closed, the products of combustion are entirely shut off from the central or burning chamber of the kiln, thus enabling a person to work in this chamber even when fire is in the furnaces surrounding it. A steam spray pipe is arranged under the grate, and the spray of steam tends materially to increase combustion.

METHOD OF FORMING DIES.-HENRY F. BLACK WELL, Jr., 99 East 81st Street, New York, N.Y. In making the die, an electrotype is first made of the article to be reproduced. The intaglie of the electrotype is then filled with a supporting compound and a composite backing is formed by surrounding the electrotype with an iron cylinder and pouring in molten metal. The electrotype and supporting compound are then removed and the die is finished off in a lathe.

HEEL-RUBBER.-JOHN H. MORROW, Chicage, Ill. This invention consists of a rubber heel casing made to fit over the heel of a shoe or boot to prevent the wearen from slipping when walking on icy sidewalks. The rubber is slit in the back at the top, and the two parts are fastened together by a button and socket or other

| D | es | ig | n | 8, |
|---|----|----|---|----|
| | | | | |

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue

| 5 | ing week's issue. | Bottle, |
|---|--|---|
| 1 | Marine Iron Works. Chicago. Catalogue free. | Bottle, Bottle s Bottle s |
| l | For logging engines. J. S. Mundy, Newark. N. J. | Bewling Box ha |
| | "U. S." Metal Polish. Indianapolis. Samples free. | Box or Boxes, |
| | Gaseline Brazing Forge, Turner Brass Works, Chicage, | fron Bracket Brake. |
| | Yankee Notions. Waterbury Button Co., Waterb'y, Ct. | Bricks, |
| 3 | Handle & Spoke Mchy. Ober Mfg. Co., Chagrin Falls, O. | Bridge, Brush, |
| 7 | Machinery designed and constructed. Gear cutting. | Brush, Buckle, |
| | The Garvin Machine Co., Spring and Varick Sts., N. Y. | Buckle, Buggy Buggy |
| , | Ferracute Machine Co., Bridgeton, N.J., U.S.A. Full line of Presses, Dies, and other Sheet Metal Machinery. | Bulletin |
| - | The celebrated "Hornsby-Akroyd" Patent Safety Oil | Burner burn |
| | Engine is built by the De La Vergne Refrigerating Ma- | Burner Button |
| | chine Company. Foct of East 138th Street, New York. | Button |
| • | The best book for electricians and beginners in elec- tricity is "Experimental Science," by Geo. M. Hopkins. | Cabinet Camera Can, S |
| | By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y. | Car bel |
| | 27 Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway. | Car bra Car, cir Car cor |
| 3 | New York. Free on application. | H. 8 |
| • | | Car cou Car dec Car sea |
| | STADE & AVANCE | Car wh Carbid Carbur |
| | otes de neries | Carding |
| | | Cartrid Cash re Cash re |
| | | Casting |
| | HINTS 'IU CORRESPONDEN'IS. | Chain, |
| 5 | Names and Address must accompany all letters or no attention will be paid therets. This is for our | Chair. Chair, Check |
| | information and not for publication. References to former articles or answers should | Chip se |
| | give date of paper and page or number of question. Inquiries not answered in reasonable time should | Checela Choppi Churn, |
| - | be repeated : correspondents will bear in mind that some answers require not a little research, and. | ciamp. |
| • | though we endeavor to reply to all either by letter or in this department. each must take his turn, | Clampi Classif sey |
| | Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of | Cleaner Cleansi |
| | houses manufacturing or carrying the same. Special Written Information on matters of | Cleset. Cleth i |
| • | personal rather than general interest cannot be expected without remuneration. | cutt Cleth s Ceating |
| | Scientific American Supplements referred to may be had at the office. Price 10 cents each. | ant |
| I | Books referred to promptly supplied on receipt of | Cock a P. I Cock, s |
| | price. ivlinerals sent for examination should be distinctly marked or labeled. | Concen |
| | | Cooler. Copyin Cord ba |
| | (7711) I. H. asks: 1. Can paper be | Corn on M. |
| | treated chemically so that a current of electricity will turn it a different color if sent through it? I am told | Cornsta R. S |
| L | that printing telegraphs employ this method. A. Chemi- | Cerset, Cetten |
| | cally prepared paper for autographic and automatic | Cotton Couch, |
| 5 | telegraphy is prepared by soaking it in either of the fol- lowing solutions : Nitrate of ammonia, 2 pounds ; ferri- | Couplin Couplin Cradie, Crate, |
| • | cyanide of potassium, 1/2 ounce; gum tragacanth. 2 | Crate, a Crating H. |
| L | ounces; glycerine, 2 ounces; water, ½ gallon. Or, iodide of potassium, ¼ pound; bromide of potassium, 1 | Creami |
| • | pound; starch, 1/2 ounce; water, 2 quarts. 2. How is | Cultiva Seb |
| | the paper prepared ? | Curling Cutter. Cutting |
| | A. Iedide petassium | She Cycles |
| | Dextrine or starch, 1 oz. | Deberr Depesi |
| : | Distilled water 1 gal. | Digger Disinfe |
| | (7712) Reader asks what it would cost to purchase if you could furnish same, a complete file of | Disk di Deer cl Deor ti |
| L | the Scientific American, covering the last twenty-five | Dough Draugh |
| | years, either bound or unbound. Also cost of same for | Drier. Drill. |
| | longer period, say thirty, thirty-five, or forty years, and also tell how long the paper has been published. Would | Drying |
| 3 | it be possible to obtain a complete file at any price? | Dye an Dye an Vid |
| r | Would not such file make a very perfect library in itself of scientific invention and facts covering the period of | Electri |
| | its publication ? Please answer in your next issue. A. | Electri Vog |
| - | If "Reader" will give his name and address we shall be | Electri |
| ı | glad to quote price of volumes for last ten years which is all we can supply. Possibly some of our subscribers | Electri |
| - | may have nartial ar complete sets if so we shall be glad | Electri |

is all we can supply. Possibly some of our backet and Ell may have partial or complete sets, if so, we shall be glad Ell End End Ell E "Reader" their price. A set would indeed make a library and would show the progress made in the fifty-three years the SCIENTIFIC AMERICAN has been published.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

AUGUST 15, 1899.

| Boat lowering apparatus, A. Des Fours Boat lowering appliance, F. R. Patey Boiler. See Steam boiler. | 631,066 631,226 |
|--|----------------------------------|
| Boiler. See Steam boiler. Boiler scale remover, steam, E. R. Williams | 631,100 631,246 |
| Boiler scale remover, steam, E. R. Williams Bolster, metal, A. B. Bellows Book leaf, H. G. Razall. | 631,246 631.127 |
| Book, manifolding sales, C. L. Denison | 630,963 |
| Bottle, non-refillable, J. F. Gaylord | 631,252 630,929 |
| Bottle, non-refillable, H. Seelinger | 631,183 631,182 |
| Bottle stopper, J. P. Erie Bowling alley. W. P. Mussey | 631,068 631,090 |
| Box handle, A. S. Held Box or crate, P. C. Leidich | 630.886 630,903 |
| Boiler scale remover, steam, E. R. Williams Boister, metal, A. B. Bellows. Book, manifolding sales, C. L. Denison. 631,107, Soring machine, dowel door. A. E. Woods Bottle, non-refillable, G. McEachron. Bottle, non-refillable, J. F. Gaylord. Bettle, non-refillable, H. Scelinger. Bettle, non-refillable, H. Scelinger. Bettle stopper, J. P. Erne. Bewling alier, W. P. Mussey. Sox hanale, A. S. Held. Bex or crate, P. C. Ledich. Bracket. See Fence post bracket. Braket. See Back pedaling braket. Ruder brake. Braket. See Back pedaling braket. Ruder brake. Braket. See Back pedaling braket. Braket. Stee Back pedaling braket. Burlat casket trimming, H. T. Loomis. Burlater. See Hydrocarbon burnet. Lamp burnet. | 631,078 |
| Brake. See Back pedaling brake. Rudder brake. Track and wheel brake. Vehicle brake. | |
| Bricks, etc., apparatus for drying, O. Howl Bridge, draw, Franson & Wilman | 631,214 630.879 |
| Brush, F. W. Barratt Brush, cellapsible tube, J. A. Symends | 630,844 631,000 |
| Buckle, slide, A. Landau. Buckle, trace, D. Foreman | 631,082 630.878 |
| Buggy top window and curtain, J. Schnoor | 630.878 630.991 |
| Burial casket trimming, H. T. Loomis Burner. See Hydrocarbon burner. Lamp | 631,116 |
| burner. Burners, oil supply system for, S. L. Jones | 631,077 |
| Butten, R. Hermann. Butten, H. Kindmann. | $631,212 \\ 631,216$ |
| Cabinet, blank, G. H. Megquier | 631,215 |
| Burner. Surners, oil supply system for, S. L. Jones Button, R. Hormann. Button, Ink cuff, H. V. Johnson Jabinet, blank, G. H. Megquier Jamera, submarine photographic, D. Mason an, See Creaming can. Jar belster, Kennedy & Scaife | 630.896 |
| ar brake system, street, T. Reilly Car, einder dumping, J. J. Gorman Car, controlling mechanism, electric railway, S. | 631262 631,071 |
| Car controlling mechanism, electric railway. S. H. Short | 630,939 |
| Car coupling, A. I. Ellingson Car door fastener, Phillips & Hogan | 631,067 631,051 |
| Car seat, G. W. Dryer Car wheel, ball bearing, F. Myers | 631,204 630,914 |
| aron Infinace, L. K. Bonm Carbureter, A. I. van Vriesland Sarding Auging (1) P. Marsdon | 631,002 631,002 |
| Cartridge, W. C. Lynham. | 631,085 630,922 |
| Car controlling mechanism, electric railway, S. H. Short. ar door fastener, Philips & Hogan. ar seat, G. W. Dryer. ar wheel, ball bearing, F. Myers. arbid fnrnace, L. K. Bohm. arbid fnrnace, L. K. Bohm. arbing engine, T. R. Marsden. arting engine, T. R. Marsden. ashr register, J. Pallweber. Cash register (J. Pallweber. Schnister. | 631.231 |
| Casting waste traps, mould for. P. D. Hay Center, A. H. Bromley, Jr | 630,884 631,105 |
| Chain, E. D. Fake Chair. See Nursery chair. | 630,978 |
| Chair, A. H. Pinnock. Check perforating apparatus, J. D. Baumann | 631,176 631,266 |
| Chorelate apparatus, J. Werner | 630,957 631,091 |
| Churn, J. W. Maxey. | 631,171 |
| Chain, E. D. Fake. Chair, See Nursery chair. Chair, A. H. Pinnock. Check perforating apparatus, J. D. Baumann Chip separaton, Richards & Drewsen Chocolate apparatus, J. Werner Chocoping or mineing knife, J. W. Lohr. Churn, J. W. Maxey Churn, J. W. Maxey Clamping device, string, H. B. Waterbury Clamping lists of names, means for, T. C. Mas- sey | 631,058 |
| sey. Cleaner. See Cotton cleaner. | 6 30,9,36 |
| sey. Cleaner. See Cotton cleaner. Cleansing apparatus, W. A. Schmidt Clesset. See Water cleset. | 631,180 |
| Cloth into predetermined lengths, machine for cutting, C. H. Crowell Cloth shearing machine cloth rest, A. Brown | 630,863 |
| Continues to structures, apparatus for applying antifauling C D Colornau | 630,969 631.154 |
| Coatings to structures, apparatus for applying antifouling, G. D. Coleman. Cock and igniting device, electrically operated, P. L. Guyenot. | 631,154 631,162 |
| P. L. Guyenot. Ceck, sink and basin, H. Sieben Ceck, siop and waste, H. Sieben Concentrator, Rose & Hyatt. Concentrator, Rose & Hyatt. | 630,940 630,941 630,089 |
| Concentrater, Rese & Hyatt Ceeler. See Milk ceoler. | 630,089 |
| Copying apparatus, H. Krandt Cord ball holder, A. Weinberg Corn on the cob, implement for slitting green, R. | 630.901 631,141 |
| M. Panceast. Cernstalks, machine for remaying with from C. | 631,259 |
| M. Panceast. Cornstalks, machine for removing pith from, G. R. Sherwood. Corset. D. Kous. | 631,186 631,079 |
| Cotton beater safety device, Ward & Curtis Cotton cleaner and feeder. E. L. Smith. | 631,140 631.030 |
| R. Sherweed. Cerset, D. Keps. Cotton beater safety device, Ward & Curtis. Cotton cleaner and feder, E. L. Smith. Couch, E. M. Bonnell. Coupling. See Car coupling. Union coupling. Coupling, E. Haber. Cratle, self-rocking, J. Josefkewicz. Crate, shipping, A. E. Hinman. Cratuger packing can stock, apparatus for, W. | 630,967 |
| Coupling, E. Haber | 630,882 630,894 |
| Crate, shipping, A. E. Hinman Crating or packing can stock, apparatus for, W. | 631,075 |
| Crating or packing can stock, apparatus for, W. H. Sealy. Creaming can, Laube & Kinney. Cultivater shovels, automatic spring trip for, W. Sebev. | 630,936 631,218 |
| Cultivator shovels, automatic spring trip for, W. Sobey. Curling iron heater, J. R. Hoit | 631,232 |
| Cutting folding and pasting machine E D | |
| Sheldon and support, A. J. Morison. Cycle saddle and support, A. J. Morison. Deborner, T. F. Norris. Depositery, mechanical, M. C. Mengis. Dirger, S. Peet hela dirger. | 630,937 630,912 |
| Deborner, T. F. Norris. Depository. mechanical, M. C. Mengis Digger. See Post hole digger. | 631,123 631,024 |
| Digger. See Post hole digger. Disinfecting, R. H. Reeves. | 631,228 |
| Digger. See Fost noie arger. Disinfecting, R. H. Reeves. Disk drill, W. Stephenson. Door check, C. F. Hanington. Dough mixing machine, C. A. Conner. Draught equalizer, M. Gentry. Drier. See Wheat drill. Drier. See Wheat drill. | 631.135 631.074 631.024 |
| Dough mixing machine, C. A. Conner Draught couplizer, M. Gentry. | 630.861 630.880 |
| Drier. See Wheat drier. Drill. See Disk drill. | |
| | |
| C C Barbour. Dye and making same, red. C. O. Muller. Dye and making same, substantive sulfur, H. R. | 631,089 |
| Vidal. Electric alarm and registering or controlling ap- paratus, M. Vester. Electric currents, automatic regulator for, A. | 631,952 |
| Electric currents, automatic regulator for, A. | 630 95.2 |
| Vogt Electric hight controller, O. M. Lacey (reissue) Electric netter, G. F. Packard Electric safety appliance, Badger & Plews. Electric wiring cleat. H. M. Stevens. Electrician's tool, D. S. Geiser. | 11765 631225 |
| Electric safet y appliance, Badger & Plews Electric wiring cleat, H. M. Stevens | $631,145 \\ 631,234$ |
| Electrician's tool, D. S. Geiser Elevator. See Safety elevator. | 631,112 |
| Electrician's tool, D. S. Geiser. Elevater. See Safety elevator. Engine. See Carding engine. Gas engine. Gas or oil engine. Rotary steam engine. Engine, J. R. George. | 630 001 |
| Engines, apparatus for starting internal combus- tion. Edmondsan & Dawsan | 631 944 |
| Exhibiter, silk skein, L. Levinsen. Eye strengther, E. B. Carter. | 631.083 630.859 |
| Eyeglasses, R. C. Hines. Eyeglasses, A. Licht | 630,887 631,170 |
| Fan and churn, combined, J. C. Foreaker Fence machine, N. A. Fielder | 630,877 636,875 |
| Fence post, A. N. Sbarrock. Fence post bracket, H. W. Timmons | 631,131 631,138 |
| Fifth wheel, J. K. Thoma | 631,189 630,988 |
| Filter, gravity water, D. J. Bliss | 630,846 631,128 |
| • roll engine. Kotary steam engine. Engine, J. R. Geerge. tien, Edmendeen & Dawsen. Exhibiter, silk skein, L. Levinsen. Exhibiter, silk skein, L. Levinsen. Exhibiter, silk skein, L. Levinsen. Eyes transpathener, E. B. Carter. Eyeglasses, A. Licht. Fana and churn, combined, J. C. Fereaker. Fence machine, N. A. Fielder. Fence past, A. N. Sharreck. Fence past, A. N. Sharreck. Finter, gravity water, D. J. Bliss. Filter, H. Reisert. Filter, gravity water, D. J. Bliss. Filter, universal, K. Abraham. Filter universal, K. Abraham. Filter universal, K. Abraham. Filter scape, J. Laming. Fire escape, J. Laming. Fire escape, J. Shallenberger. Firescape, J. Shallenberger. Firescape, J. Shallenberger. Fire pumps, apparatus for automatically insur- ing periodic operation of stationary, Clark & Output: | 631,143 630,870 |
| Fire escape, J. Laming. | 630,902 631 174 |
| Fire escape, J. Y. Shallenberger. Fireproof ehimney, F. H. Urban | 630,993 631,139 |
| Fire pumps, apparatus for automatically insur- ing periodic operation of stationary, Clark & | 201,200 |
| Animhy | 630 866 |

receiver, runs through a condenser to the ground. Although the instrument is particularly adapted for the use of the fire department it will also be found an accurate instrument for making capacity determinations, etc., in both underground and overhead lines.

Miscellaneous Inventions,

FIREARM .- WALTER J. TURNBULL, New Orleans, La. The invention consists of a feeding device for a firearm in which a magazine or cartridge belt is em ployed, and the object of the inventor is to make such improvements as to enable the cartridge to be fed by the same device that operates the hammer. This device consists of a wheel with cam teeth which operates the hammer. The inner surfaces of the teeth are grooved so as to form shoulders to engage with wings formed on the cart. idge carrier. The carrier is thus turned sufficiently to bring a fresh cartridge in registry with the barrel and hammer every time the trigger is pulled.

RIPPING TOOL .- WYLY R. APPLEBAY, Lowell, Ohie. The teel consists of two handles, like scissor handles, pivoted together near one end. The handles terminate in a suitable head-piece having a plow-shaped point at the bottom forward end. Just behind this point a cutter is situated in the head. The cutter has a forward of this paper.

CATTLE SHED .- WILLIAM HEATON, "Big Box, Allerton, Ill. The design consists of a simple shed with a long section of sloping roof running from an apex to the back side wall. The framework of the entrance end inclines outward slightly from its base, and its upper end is connected with the main roof by a short slant-roof which makes an apex with the former. Horizontal cross beams connect the back end with the front, thus forming a loft in the upper part of the shed, and the whole framework is strongly braced. A plan view of the shed shows it to be in segmental sections in the shape of a keystone, so that a number of these sections placed together will form a curved or circular shed.

ABDOMINAL BANDAGE.-DANIEL D. MCCLURE. Portland, Oregon. The bandage consists of a Y-shaped front piece fastened upon a main body portion which tapers at each end to narrow bands that pass around the waist and are fastened in front to the end of each branch

of the Y. The main body portion is also tapered down ward into straps that pass around the legs and are fastened to the bottom of the Y side by side.

NOTE.-Copies of any of these patents will be furu ished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date

| | Fire escape, J. Y. Shallenberger, |
|--|---|
| | Fireproof ebimney, F. H. Urban |
| AND EACH BEARING THAT DATE. | Fire pumps, apparatus for automatically insur- |
| | ing periodic operation of stationary, Clark & |
| | Quimby |
| See note at end of list about copies of these patents.] | Flushing apparatus, R. A. Merrill |
| | Frame. See Vehicle frame. |
| Adding machine, J Long | Funnel, automatic, C. W. Wurster |
| Alarm See Electric alarm | Funnel, indicating, Treibel & Nier |
| Alarm, L. Schiff | Furnace. See Carbid furnace. Smoke consum- |
| Alarm device Brunder & Regginger 630 \$57 | ing furnage |
| Alining and leveling device and method, J. V. | Furnace, W. McClave 630.916 |
| Hulse | Furnace, W. McClave |
| Hulse | Gambrel, F. Schnell |
| Animal tail holder, G. W. Noland 630.920 | Game, J. Edwards 631,110 |
| Antitacks, machine for making, M. E. Biersach. 630.845 | Game apparatus, C. G. Burns |
| Apron fastener, H. K. Custer | Game, solitaire, L. Peck |
| Armature, H. G. Reist 630.930 | Garment hanger, Bigsby & Cross 631,109 |
| A wning, J. Delorieux | Gas and vapor burning device, combined, R. |
| Ax bandle. W. S. Marsh | Gas and vaper burning device, combined, R. Thayer. 631,001 Gas burners, igniting device for, C. L. Burger 631,260 |
| Axle attaching device, vehicle, A. Levedahl 631,018 Axle lubricator, car, H. Gallager | Gas ourners, igniting device for, C. L. Burger 631,261 |
| Axle skein, roller bearing, A. H. Wood 630,961 | Gas engine, C. P. Blake |
| Back band hook, S. Ward, Sr | Gas generator, M. L. & W. D. Warner |
| Back pedaling brake, A. C. Hendricks | Gas generator, acetylene, G. Dawson |
| Badge holder, J. F. Schlagle 630,934 | Gas generator, acetylene, Demaria & Ranzini 631,156 |
| Bar. See Sickle bar. | Gas generator, acetylene, W. H. Eldredge 631.207 |
| Bars, machine for lifting and conveying straight- | Gas machine, acetylene, Hosler & Pressler 631.213 |
| Bars, machine for lifting and conveying straight- ened, R. W. Lundy | Gas er eil engine, Andersen & Erickssen 630.838 |
| Battery cell, storage. A. K. Westerdahl | Gas pipe or tubing, canopy for, G. D. Sherwin 631,185 |
| Bearing, axle, A. J. Theiring 630,948 | Gas producer for metallurgical plants, E. C. Heg- |
| Bearing dust cap, A. Sidwell | eler 630,885 |
| Bearing, roller, A. Levedahl | Gas retorts, apparatus for removing graphite |
| Bearings, cone lock for ball, F. Myers630,913, 630,915 | crusts from interiors of, A. Kerris 630,897 |
| Bed bottom, spring, C. D. Brouyette | Gas to burners, etc., electric appliance for con- trolling supply of, C. Franzen |
| Bicycle saddle, J. D. Moore | Gate, C. Steel |
| Blower, steam. C. S. Farrer | Gate, V. Sieci |
| Board. See Wagon grain board. | (Continued on page 143) |
| | |