Accident to an English Express Train.

The Scotch express left Edinburgh as usual, and consisted of ten ordinary carriages, a Pullman car and riages with their comparatively weak sills and end EDS.] two heavy engines. Running at the normal speed, construction serve quite well enough for regular sernearly sixty miles per hour, the train approached vice, but in case of collision they can offer slight re-Northallerton, in Yorkshire, on the Northeastern sistance. With cars of longer and heavier build, the Railway, about 3 o'clock P. M., in the midst of a thick alignment of the train may be broken, and the cars that the total water power of Niagara Falls is 7,000,000 fog which covered the land, but left the atmosphere may be thrown violently from the line and overturned, horse power. This estimate, to be sure, is in the main above clear. This probably prevented the drivers but the bodies are much more likely to remain intact only a guess, but when the area drained into the lakes seeing the signals which were set against them, and and to offer the occupants an opportunity of escape above Lake Ontario, and passing through the Niagara the whistling of the goods engine gave the first inti- than the match box structures which compose many River, be considered, the guess or estimate does not mation of danger. Almost immediately after the ex- of our express trains. The accident at Thirsk also seem to be too large. The water surface of the great press plunged into the goods train. The impact was demonstrated the advantages of the Pullman car in lakes above Ontario is 84,000 square miles, and the terrific. The front engine was turned over and thrown case of collision : and while accidents are happily of watershed of these lakes is 240,000 square miles-more down the side of the slight embankment, which exists rare occurrence on English railways, it is a question, than twice the area of Great Britain and Ireland. The here, into a field adjoining, and the tender was swung that managers and superintendents of car depart- total length of shore line is 5,000 miles, while the volcompletely around and rested end upward on the top, ments might well consider, whether some changes can- ume of water is 6,000 cubic miles, of which Lake Supeof the engine. The second engine and tender fellover on its right side in the middle of the line, the tender being crushed into the footplate. The front portions of both engines were battered in, and one of them had riage is much stronger than the corresponding carriage of water in the lakes is such that it has been estimated its chimney and cupola knocked off. The guard's van was smashed almost to atoms, the woodwork being splintered, the axles snapped and various portions of amples which we have now had of the way in which is, if the lakes could be gradually drained. These are the van and the luggage scattered about in all directions over the permanent way. The third-class carriage should serve as an incentive to devise means by which of exact measurements. that followed shared a similar fate, the wheels being | the effects of accidents may be minimized." forced underneath the Pullman car, which was partly raised up by the force of the collision. The guard's van at the rear of the goods train was also smashed up. The Pullman car was damaged, but the main body of a positive form under a patent, and the applicant est winter ever known appreciably changing it. The it was preserved intact. Six passengers were seriously injured, while the majority of the passengers received a severe shock. The driver of the first engine, Thomas Adamson, received fatal injuries, and the driver of the second engine was also seriously injured. Help was quickly at hand, and the injured received every attention, while work was at once begun to clear away the wreck.

The most noticeable feature of the wreck is the comparatively uninjured condition of the Pullman car. Although shifted from its normal position on the trucks, with the exception of the smashing in of the platforms, the car body suffered little and resisted the shock to a remarkable degree. "It is doubtless true," says the London Railway World, "that the weaker carriages before and behind the Pullman cor acted in some measure, at least, as buffers; but it is evident that if the other cars had been built with something of the longitudinal stiffness of the Pullman, while the train might have been thrown off the track, there

----Patent Decision.

thing to adapt and render the invention practi- horse power, and the turbines now in place are only priority must be awarded to the patentee.

ent with a view of proving priority, thus derive the seems to be little difficulty in the way of hauling these benefit of the first patentee's efforts in getting the boats by electrical power.

would have been no such complete smashing up of invention introduced. This thing has been frequently carriages as the photographs show. Our ordinary car- done, but this decision should prove a deterrent.-

..... The Water Power of Niagara.

Engineers have estimated, says Harper's Weekly, not be made which will approximate in some degree rior contains almost one-half. The rate of outflow at the strength and stability of the Pullman car. In Buffalo is from 217,000 to 275,000 cubic feet per second, America, where, as a general rule, the ordinary car- while the fall of the cataract is 165 feet. The volume on an English railway, the companies feel the need of that even if no rain fell, the flow of the river would be securing even stronger construction. The two ex- continued at its present rate for one hundred years-that the Pullman and the ordinary cars act in collision very large figures, but in the main they are the results

The small water powers in the world are uneven, and are afflicted by floods and droughts, but this great power at Niagara is as constant as anything in this Where an invention had been reduced to practice in world can be, not even the ice in the severest and longhas simply filed his application, without doing any present plant is intended only to utilize 125,000 cal, and where he knew of the issue of the patent for a small part of this. Other turbine wheels will be within a few days after its issue, and made no sug- put in place as the demand for power grows. The gestion that the invention was his, but recommended general plan of the company contemplates the ultimate it to purchasers, both orally and in writing, as the use of 450,000 horse power on the American side and a invention of the patentee, and where he did not like amount in Canada. Such a power would turn all assert any title to it until six months after the issue of | the wheels within a radius of 500 miles of the falls. At the patent, and after he had left the employ of the the present time a considerable part of the power decompany who owned the patent to do service for a veloped is to be taken to Buffalo by electric transmisrival company, the Court of Appeals of the District of sion, and it is the confident expectation of the electri-Columbia held (Wells et al. vs. Reynolds et al.) that cians now at work on the problem that the power can be taken as far east as Albany, 300 miles away, and [The above decision is not only good law, but is delivered there cheaper than power can be generated sound common sense. From this decision inventors by burning coal. If this be so, then all the country will see the danger of delay in the making of their ap- between Albany and the falls will be admirably adaptplications, for the purpose of allowing another to get a ed for manufacturing, while the Erie Canal will afford patent, and after it is well introduced apply for a pat- cheap and tolerably quick transportation, for there

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

SWITCH MECHANISM.—Sumter B. Battey, New York City. A transversely sliding switch bar is connected with the switch rail, according to this invention, there being blocks held on the bar, and springsupported rods fitted to slide on the car platform are adapted to engage the blocks to shift the bar laterally. The improvement is designed to afford a simple and durable mechanism, more especially fitted for use on street railroads, to enable the driver or motorman to set the switch at will, while the car is in motion, to change the direction of the car to a side track, or to set the switch rail back to the main track, if it had been previously left turned for the side track.

DUMPING CAR AND ATTACHMENTS.-Samuel W. Beatty, Bayou Goula, La. This inventor has devised a simple, strong and durable car peculiarly adapted for carrying and dumping sugar cane, but also applicable for other purposes, and in connection with the car is an easily controlled mechanism to effect the dumping. The bottom and sides of the car form a slatter flexible body, held together by links, and the body is adapted to be raised at one edge and swung upward and outward in dumping, the loaded car having been previously brought beneath hoisting and dumping apparatus

Mining, Etc.

GRADING ORES OR SIMILAR MATE-RIALS.-Daniel Brennan, Jr., Bayonne, N. J. This inventor has devised a method of classifying ores comminuted so finely as to be difficult and expensive to classify by screens. The material is fed in a close fall ing stream into a chamber containing water or other fluid, and the force of gravity is utilized to separate the finer and lighter particles from the coarser and heavier ones. Near the bottom of the apparatus are vertical partitions forming a central and two side pockets, each with an outlet, and on top of each partition 18 a movable adjusted toward and from each other, such adjustment guide holes for the passage of the pieces of cloth, and of the partitions regulating the fineness of the material falling in the outer pockets. MIXING DEVICE IN ALLOYING.-William H. Howard, Pueblo, Col. The process of alloying the silver in molten argentiferous lead, with zinc, is facilitated, according to this invention. by a device for conveniently and thoroughly mixing the zinc with the molten lead, without danger of oxidizing and rendering the zinc inert. A cover having on its under side an annular flange is passed into the molten lead in the pot, and a stirring device on the under side of the cover passes into the lead. This device consists of a cylinder supported by brackets from the cover, and a propeller wheel in the cylinder is adapted to be rotated by a shaft, the stirring being thus performed mechanically in a confined chamber, instead of by hand, with ladles.

SECTION INSULATOR.-Albert Hennefeld, Christ. Dehner and Charles H, Van Ness, Colorado Springs, Col. This is a simple and effective trolley wire break, which may be inserted in the line at any time without interfering with traffic, and without the necessity of slackening the line. It consists of a curved bar of wood or other insulating material with metallic tips at its ends, and means for mechanically connecting the ends of the trolley wire and engaging the span wire, the insertion in the line being made without the use of solder, and without the necessity of slackening the line.

Electrical.

TELEPHONE MOUTHPIECE. - Rial N. Denison and Frank M. Geary, Brooklyn, N. Y. This mouthpiece is suitable for attachment to speaking tubes as well as telephones, and does not differ in appearance from the ordinary mouthpiece, but it is made with an the inner shell being perforated and an antiseptic mate rial located within the chamber, whereby the mouthpiece will be cleanly and in no manner a conductor of

Mechanical,

POWER HAMMER.-James B. Sweeney and Robert W. Laird, St. Johnsbury, Vt. This hammer hand hammer, and has a vertically reciprocating hammer head actuated by a tilting helve, the hammer head and helve being connected by a built-up spring formed of contiguous parallel plates, so that by using more or afford access to the straw. less plates the spring may be more or less resilient. The invention provides a simple and easily operated means of driving and adjusting the helve to give a powerful blow and just the requisite stroke.

MACHINE AND METHOD OF FULLING CLOTH.-Henry Balbian, North Vassalborough, Me. This invention provides for uniformly fulling a number of separate pieces of cloth simultaneously by twisting them together and then fulling them in their twisted condition. In the fulling machine, in combination with a guide rod located intermediate the fulling rollers and

engine upon the thrasher, and a mechanism driven from and inexpensive, and affords means for securely filing the engine whereby driving power may be applied for papers that are to be detachably bound in a volume thrashing or to propel the machine, the shifting being

effected in a quick and simple manner. The machine also has a hoisting drum adapted for use in connection with the feeder of a derrick table which may be coupled and connected driving gear. The engine may be removed when the thrasher is not needed, and used for other purposes

LAND MARKER.-Henry Bowers, Milton, Wis. This device comprises a marker arm adapted hanger may be cut out of sheet metal without waste. for pivotal attachment to a planter, and with a regulating block at its pivoted end, and other novel features, where by the driver, without stopping the team or leaving the seat, may elevate the marker as desired above the ground, or throw it from one side of the machine to the other. outer and inner shell to form an intervening chamber, | The device is especially adapted for use with corn planters, and is simple and easily operated.

FRAME FOR HAYSTACKS. - John P. Brown, Walcott, Ind. This frame comprises upper arched sections adapted to cover the top of the stack, typewriters, having a knee-lever attachment, whereby the square sections to cover its sides and ends, and quadrant carriage may be chifted from left to right without manual sections to assist in closing the ends, each of the sections comprising an open frame provided with a netting, and means for detachably connecting the several secis adapted to deliver an elastic blow similar to that of a tions with each other. The frame is inexpensive, durable, and readily applied to a stack or rick, preventing the stack from falling or being blown over by heavy winds, while any part of the frame may be readily removed to

Miscellaneous.

THAWING ICE FROM PIPES.—Isaiah on a formerly patented invention of the same inventor

HANGER FOR USE IN BUILDINGS.-Louis Lane, Newark, O. This hanger is for securely supporting the ends of joists in buildings, and is adapted to the thrasher, and both of them moved by the engine to be readily secured to the header or supporting beam or wall. It is formed of sheet metal, and has a horizontal seat, from which extend vertical triangular wings, triangular flanges extending sidewise therefrom at right angles, and there being a bearing iron on which the triangular flanges are fastened. The blanks for the

> PAPER BOX.-Edward E. Pinkerton, Sioux City, Ia. This is a folding or knock-down box, formed of a single blank of pasteboard or similar material, being quickly cut or stamped therefrom and readily creased and folded, and the individual parts securely locked in place.

> TYPEWRITING MACHINE.-Walter F. Kasson, Boise City, Idaho. This is an improvement in assistance. The platen is automatically turned at the end of each line to make the line space, or it may be turned by striking a finger piece of the platen key. The improved attachments are applicable to Remington machines, and, with slight modifications, to other machines.

> ALARM CLOCK.-Theodore Biedinger and Thomas J. Kane, New YorkCity. This is an improvement in clocks, having a setting spindle to spring out and stop the alarm, and which, when pushed in, permits the alarm to ringuntil the clock is run down. The attachment is very simple, costing comparatively nothing, and may be arranged so that one cannot stop the continued sounding of the alarm until the attach-

the carrier. Each piece is, by means of this improvement, designed to receive the same fulling as would be the case with the ordinary machine treating one piece. WRENCH.-William N. Smith, Santa Cruz, Cal. This is a monkey or pipe wrench of very simple and durable construction, in which the lower jaw may be quickly and accurately adjusted to a pipe or nut, this being effected with one hand. The jaws are capable of very fine adjustment, and the tool is composed of but 'few parts, any portion being capable of ready replace-ment, should it become damaged or otherwise unfit for use.

Agricultural,

THRASHING MACHINE. -Riley Knight,

for an improved portable device, of very compact construction, for rapidly thawing ice formed in pipes. The invention consists princigally of a revoluble boiler, through which circulates the water to be heated and forced into the thawing pipe.

SWING.-Samuel I. Alston, Galveston, Tex. This is an improvement in swings whose seats or seat supports are suspended from a pivoted rocker. The frame forming the support of the swing can be easily knocked down and packed in small space, or moved to where it is to be erected, indoors or in the open air, the ing and the cistern. It is so constructed that the first swing being a neat, convenient, and perfectly safe one for the use of either children or adults.

PAPER FILE.-Joseph B. McEnally, Clearfield, Pa. This device comprises two clamping strips, one with two transverse slots and a laterally opening longitudinal slot, while the other strip has spaced holes conforming with the transverse slots. A binding wire is bent to produce two limbs that engage the spaced holes, pass through the transverse slot, and when folded

d by hand for such pur

GARMENT SECURING DEVICE. - Ofte Van Oostrum, Portland, Oregon. This is a device, convenient to adjust, for reliably retaining trousers, gloves, or shoes, in closed adjustment, but so that the fastening may be released by draft strain on a cord or other flexi ble connection attached to a series of similar fastening devices.

RAIN WATER CUT-OFF.-Jean M. Castaing and Jean B. Dohin, New Orleans, La. This is a device to be arranged between the conductor on a buildwater running from the roof, carrying off the accumulations of dust, etc., will be discharged without running into the cistern, but after a certain amount of water has been thus allowed to flow away a valve will be automatically shifted so that the clean water will run to the cistern. The apparatus is very simple and may be applied to any ordinary conductor and cistern.

WELL PIPE PULLER. - Jerome S. Cousins, Williamsville, Mich. A base, which may be of Moscow, Idaho. This invention provides for locating an enter the longitudinal slot. The device is most simple heavy plank, is slipped over the pipe, to rest upon the

LOCK.-William W. Davis, East Orange, N.J. This inventor has devised an improvement in that class of locks in which the mechanism is so arranged that when the door is open no parts of the lock will project in such a manner as to catch the person or clothing of those passing near. This lock has no protruding parts, is positive in operation, and little likely to get out of order, and has novel features of internal mechanism.

STERILIZATION.—Albert Hussener, Gelsenkirchen, Germany. For the sterilization of materials in bottles, jars, etc., this inventor has devised an apparatus by which to mechanically close and make perfectly tight against the outer air, by means of a plain lat cover, vessels of any shape intended for preserving articles of food, the vessels and their contents having been previously sterilized by heating in a hot water bath. The apparatus not only effects the closure, but during and Photographic Times Almanac for 1895, of the So the process of sterilization exhausts the air from the interior of the vessels, the outside air not being able to penetrate to the interior of the vessels during or subsequent to the process of sterilization.

SIPHON VALVE. - Frederick Booth, Concord, N. H. A valve body is, according to this invention, fitted to slide on the fixed outlet pipe, and is formed at its lower end with inlet openings for'the water, and at its upper end with a vent extending downward outside of the valve body to within a short distance of the bottom of the tank. The invention relates to devices for finshing water closets, urinals, etc., and the valve is very effective and noiseless, and arranged to automatically drain the tank whenever the valve is pulled, at the same time using the discharge pipe for an overflow pipe.

KEY RING AND CIGAR CUTTER.-Edward B. Aiguier, Newark, N. J. This combination device is strong and simple, very ornamental, and is arranged to prevent accidental disengagement of a key when the cutter is being used. The ring has its ends spaced apart and is formed of two hinged sections, a cutter formed of a fixed and a movable section being secured to one of the ring sections, its movable section engaging the other ring section.

SCREEN.-George W. Cross, Pittston, Pa. In making screen segments, this invention provides a means whereby the screening surface may be formed integrally with ribs, by upsetting or otherwise treating one of the faces, the ribs being so produced that the screen surface may be smoothly and evenly laid on the spiders or framing, the ribs abutting against the spiders. The ribs and screen segments are also so formed that the ribs may be given more or less pitch, as desired, without interfering with the perfect laying of the ends of the segments upon the spiders.

– Jeseph W. SEUTTER FASTENER. -Johnson, Point Pleasant, N.J. This improvement comprises two curved bars, each with a pivot hole and an end extension to serve as a handle, and on the convex side two notches or grooves, with a locking device having at one end a transverse perforation to receive a fastening screw, the other end being adapted to engage any of the grooves. The fastening is also a bower, and may be applied to any ordinary blind or shutter, holding it open in such a way that it cannot become loosened by the action of the wind. It is also adapted to hold the blinds at an angle to the window to enable them to act as an awning.

IRONING BOARD ATTACHMENT.-RObert N. Boston, Chestertown, Md. This is a device for firmly holding the neck band and bosom of a shirt while being ironed, and is adjustable to neck bands of different sizes. In using this improvement the neck band is held distended and all wrinkles removed, the adjacent portions of the bosom being also held smooth.

STOVE PIPE JOINT.-Josiah E. Smiley. Smiley, Ohio. This is an improvement designed to facilitate the detachment of sections of pipe when desired. One of the pipe sections has notches in one end and intervening elastic portions provided with spiral ribs, the other section having corresponding spiral grooves arranged oppositely, the grooves and ribs corre sponding in arrangement and pitch.

FISH TRAP.—Bernice Wood, Benson, N.C. This invention provides a trap designed to catch a large or small quantity of fish at each operation, and arranged as to collect the large fish and allow the small ones to pass through. The invention is also de: 13. Miscellaneous contents.—Wood pavement in London. quantity raised will vary as the ratio of the areas and insigned to furnish a method of utilizing swamp or waste lands for fish culture, especially land in which small run-

NEW BOOKS AND PUBLICATIONS.

PRAY'S STEAM TABLES AND ENGINE CONSTANTS. By Thomas Pray, Jr., C.C. and M.E. New York: D. Van Nostrand Co. London: E. & F. N. Spon. 1894. Pp. 85. 8vo, cloth. Drigo 20 Price \$2.

The present work is uniform with "Twenty Years with the Indicator." The author is the well known consulting engineer and electrician of Boston. The value of a table, especially in those relating to steam, is in its accuracy, and the amount of labor necessary to prepare the present work must have been very great. The result is a collection of tables in which nothing is offered which has not been proved. In this book we have in a compact form the most useful data for computations for boiler testing, duty performance of pumping engines, and answers to the many inquiries which spring from the use of the indicator. No theories of any kind are considered or expressed intentionally. Each table is ac- $\operatorname{companied}$ with explanatory notes showing how problems are worked out in connection with the tables. The work includes steam tables, Regnault's tables, heat of steam, pressure temperature, volume and density of steam, factors of evaporation, hyperbolic logarithms, engine

constants, etc. The American Annual of Photography vill & Adams Company (New York), has attained the dignity inherent to a volume of over 500 pages. It has a great variety of information useful to the photographer, either amateur or professional, who wishes to keep pace with the times, including also a carefully compiled selection of standard formulas and useful recipes. The two hundred or more illustrations which embellish its pages likewise present some fine examples of photo-engraving and photo-mechanical printing.

SCIENTIFIC AMERICAN BUILDING EDITION. NOVEMBER, 1894.-(No. 109.)

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- 1. Elegant plate in colors showing a cottage at Bronxville, N. Y., recently erected for B. L. Clark, Esq. Two perspective elevations and floor plans. Estimated cost \$5,000. Mr. William A. Lambert, architect. New York City. A modern and pleasing design.
- 2. Plate in colors showing the residence of John Cottier, Esq., at Bensonhurst, L. I. Three perspective elevations and floor plans. Cost \$6,750 complete. A good example of Colonial architecture. Messrs. Parfitt Bros., architects, Brooklyn, N. Y.
- A dwelling at Edison Park, Ill. Cost \$1,700. Architect, Mr. F. W. Langworthy, Chicago, Ill. A model design for its class and cost. Two perspective elevations and floor plans.
- A very attractive residence recently erected for A. C. 4 Garsia, Esq., at Flatbush, L. I. Two perspective elevations and floor plans. Mr. John E. Baker, architect, Newark, N. J. A modern design.
- An \$800 summer cottage built for A. R. Doten, Esq., 5. at Casco Bay, near Portland, Me. Perspective elevation and floor plans. Mr. Antoine Dorticos, architect. Portland. Me.
- 6. Perspective elevations and floor plans of a handsome residence recently completed for George W. Catt, Esq., at Bensonhurst, L. I. A very picturesque design. Cost \$8,100 complete. Mr. S. S. Covert, architect. New York.
- A church at Short Hills, N. J., built entirely of rubble stone. Estimated cost \$6,000. Perspective elevation and floor plan. Messrs. Lamb & Rich, architects, New York City.
- 8. The house of Francis I. at Abbeville, France,
- A stable and conservatory attached to the residence 9. of John Cottier, Esq., at Bensonhurst, L. I. Per-spective elevation and ground plan. Messrs. Parfitt Bros., architects, Brooklyn, N. Y.
- 10. A residence at Ardmore, Pa., in the Queen Anne style. Perspective elevation and floor plans. Cost com-plete \$6,750. Architects and builders, Messrs. J. B. Cornell & Sons, Philadelphia, Pa.
 - A cottage at Edgewater, Ill., erected for Edgar Smith, Esq. A unique design in the Colonial style. Cost \$7,800 complete. Two perspective elevations and floor plans. Mr. G. W. Maher, architect, Chicago, 111.
- An attractive cottage at Bath Beach, Long Island, 12. N. Y., recently erected for G. W. Snook, Esq. Two Emmett, architect, Bath Beach, Long Island.
 - -Preservation of wood.-Methods of constructing

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HINTS TO CORRESPONDENTS.
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6313) G. M., Los Angeles, asks: What proportional size shall I make the pressure jet and throat of a water jet pump to raise water 12 feet, with a fall of 60 feet? To what fractional height of pressure jet can water be forced by a jet pump, and about what is the percentage of efficiency? Where can I find directions for designing jet pumps ? A. The relative areas in a water jet for the conditions as stated should be as 1 to 1.75 with the nozzle drawn to a thin edge and the neck piece with curved or bell-shaped internal surface. The nozzle should be placed just within the commencement of the curve of the neck piece. If well made with smooth frictional surfaces, water can be raised to from one-sixth to perspective elevations and floor plans. Mr. Percey one-half the height of the supply head, by varying the proportions of the areas of the nozzle and neck. The versely as the height. The efficiency depends upon the chimney flues and pipes at Paris, illustrated.-The provision for eliminating the friction of the water in the ecting th n ing

leaves its summer breeding places and seeks hibernating quarters for the winter, crawling into crevices in walls and outbuildings or wherever it may receive protection from the cold and storms. Wherever they are collected in masses as described they may easily be destroyed by crushing with a stiff brush or by dousing with scalding water or by the use of any of the oily insecticides in very strong dilution.

(6315) B. A. J. says: Will you kindly For coal hoisting engines. J.S. Mundy, Newark, N.J. inform me how halation may be prevented? A. Hala-Engine castings and parts. E.P.Ryder, Brooklyn, N. Y. tion is the term given to the halo which often surrounds windows in photographs of interiors, and blocks up the details. It is, too, often found to occur in landscapes taken in a strong light, the tops of trees and other objects which are surrounded by strong light being lost in a mist, or entirely obliterated. It is caused by reflection from the back of the plate, and occurs most strikingly in plates of the cheap class, which are thinly coated. very thickly coated plates it rarely occurs, except when taking brightly lighted interiors. To prevent it the back of the plate may be coated with a mixture of powdered burnt sienna, 1/2 oz.; gum arabic, 1/2 oz.; glycerine, 1 oz.; water, 5 oz. This is readily washed off before de velopment. A special ready-made preparation is sold for this purpose by Tylar, if preferred. Another way is cut dead black needle paper, or black American cloth, to the size of the plate, coat it with glycerine, and squeegee it on to the back of the plate when placing it in the slide.

(6316) W. C. P. asks how gelatine sheets are made. A. Dissolve fine glue or isinglass in water so that the solution when cold may be consistent. Pour it hot on a plate of glass (previously warmed with steam and slightly greased) fitted in a metallic frame whose edges are just as high as the wafer should be thick. Lay on the surface a second glass plate, also hot and greased. so as to touch every point of the gelatine while resting on the edges of the frame. By its pressure the thin cak is rendered uniform. When the glass plates have cooled, popular book, of ready sale, with handsome profit, may the gelatine will be solid and may be removed. It can then be cut into disks by punches, etc. It can, of course, be colored by adding suitable coloring material, aniline colors, for instance.

TO INVENTORS,

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INDEX OF INVENTIONS

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Armor Auger Awnin	plate. P. R bit, E. C. P g and fire a	billips	my	shutter, c	530,024 529,832		
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Axle w	aster veh	icle. Peck)	19.m & S	wan	529.831		
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Baling Ballot	press, H. I box. regist	E. Smith ering. L. N	I. Foste	г	529,969 530,034 529,890		
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Gor	don		·····	·····	D. P. 529,725 530,048		
Rearing	or roller th	rnst I R	BUTCHE	2	529853		
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Billiar	d cue tip, (). N. Brigg	s	· · · · · · · · · · · · · · · · · · ·	529,775		
Blind,	Venetian, See Pavi	J. G. Wilso	on	· · · · · · • • • • • • •	529,770		
Blotten	r, self-bind	ing, R. L.	Boyd .		529,892		
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