should even have been carried by ond the first rejection by the primary ex-ambre. As to the first claim, it is to be considered that commodes were not new at the time when the invention of the present parties was made, as is to be seen by reference to the Legras patent; that it was a part of the plan of prior inventors to employ in their commodes any disinfectants which might be suited to the piriose, as is also to be seen by reference to the same pat-ent; and that the disinfectant properties of earth were previously well known, as is abundantiyshown in "tree' Dictionary" vol. 2, D. 23, clied by the examiner, as also in the twenty-third chapter of betteronomy, to which reference is made by the examiners in-chied. Under such circumstances there certainly can be no foundation for the claim which applicates now as-sect. To apply this well known disinfectant to an old purpose, and in se doing to employ an old apparatus specially designed for cffecting the ap-plication of any disinfectant to the same purpose, contains no element of invention. Applicants lay great stress upon the fact that they bring the carth into a dry and genetared condition prior to its use, of the advantage of which they claim that they were the first discoverers. In this, too, they mistake, The whole inference from the passage referred to in "Ure's Dic-tionary" is, that the decodorizing properties of earth depend upon its dryness and its perosity, or, which is the same thing, its fineness. From the note upon page 154 of the "Bulletin de la Société d'Encouragement pour l'Industrie Nationale. 138," it appears also that earth has been artificially the disting the claim must be rejected. The third claim relates to a stirrer or mixer, placed in the receiving cham-

dice in furnaces in order to perfect its action as a disinfectant. The claim must be rejected. The third claim relates to a stirrer or mixer, placed in the receiving cham-ber of the commode, and moved by any appropriate means, for the purpose of thoroughly mixing the earth with the other contracts of the chamber. There is no evidence to show that the applicants were not the first to con-ceive of the advantage of thus mixing the contents of the general recepts-cle, and the first to invent a mechanism therefore. The idea once reduced to practice, it is plain that various forms of mechanism mixing the sponta fill for this purpose. It would seem discrete, that the protections strided to the invention consists, not so much in this particular device, as in the dis-covery that any device mechanically capable of performing the work can be advantageously applied in the direction indicated. With proper amend-ment at the boy for the specific device shown, since their real invention of the specific device show ork can be advantageously applied to the device that the advantageously applied to ment at the boy of the specific devices the order of the first and second claims, no good reason appears why the last claim should not be allowed. As the ease now stands, however, the decision of the examiners in-chief is continued, and the ambined and the abantomers in-chief

As the ease now stands, however, the decision of the examiners in-chief is confirmed, and the application refused. DUNCAN, Acting Commissioner.

The Largest Newspaper Mail

Which goes to any firm in this country, is received by Geo. P. Rowell & Co. the New York Advertising Agents. Their place of business is at No.40 Park Row, New York.

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We will pay more money for Brass Turnings, old Brass, Copper, Lead, and Zinc than any other establishment. Consignments, large or small, solicited from all parts of the United States. Du Plaine & Reeves 760 S.Broad st., Philadelphia, Pa.

The best Anti-Friction Metal is made by the Tubal Smelting Works, Philadelphia, Pa. Bny it and prove it.

The undersigned, patentee of a valuable improvement in Window Sash Attachments, is desirous of making arrangements for the manufacture thereof, by parties who have good facilities. Freeman Brady, Jr., Washington, Pa.

John A. Sears, Rockford, Corsa County, Ala., has for sale 80 Beaver Hides. He wishes a receipt for baiting Beavers.

Railroad Companies reach all trustworthy contractors by advertising in the RAILROAD GAZETTE.

Machinists' Grindstones. J. E. Mitchell, Philadelphia.

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Soap Stone Packing, in large or small quantities. Grenee, Tweed & Co., 18 Park Place.

Walrus Leather, for polishing silver or plated ware. Greene, Tweed & Co., 18 Park Place.

Wanted.-Iron Planer, new or secondhand; bed short, and over 30 in. wide. Send prices and cuts to Trevor & Co., Lockport, N.Y.

Wanted.-New or secondhand Carwheel Borer. Axle Lathe. double head preferred: Wheel Press and Centering Lathe. Address, with description, maker's name, and price, Michigan Car Co., Detroit.

Best Cement Water and Drain Pipe Machinery. Works by hand, horse, water, or steam power! State and Connty Rights for sale J. W. Stockwell & Co., Nos. 28 and 163 Danforth st., Portland, Me.

Railroad Bonds .- Whether you wish to buy or sell, write to Charles W. Hassler, 7 Wall street. New York.

Cotton Machinery for sale. See advertisement. Also, a three story Brick Mill. R. H. Norris, Paterson. N.J.

Manufacturers of Fire Engines (hand or steam) and Hose, please send circulars, with prices, etc., to J. P. Hale, Mayor, Charleston, KanawhaC. H., West Va.

Engine Lathe wanted, about 30 inch swing, 12 feet bed, in good order. Pratt & Co., 87 Chambers st., and Buffalo, N.Y.

The Philadelphia Scientific Mechanics' Circle will answer any mechanical question for 25 cts. Address as above, 125 N. 7th st., Philadelphia. Electrical Instruments, Models, etc., made to order, and Gear

Wheels and Pinions cut, by W.Hockhausen, 113 Naesau st., Room 10, N.Y. Peck's Patent Drop Press. Milo Peck & Co., New Haven, Ct

Wanted.—A responsible dealer in every town in the United States, to sell "The Tanlte Co.'s" Emery Wheels and Emery Grinders. Extra inducements from May 1st. Send for terms to "The Tanlte Co.," Stroudsburg, Pa.

The new Stem Winding (and Stem Setting) Movements of E. Howard & Co., Boston, are acknowledged to be, in all respects, the most desirable Stem Winding Watch yet offered, either of European or American manufacture. Office, 15 Maiden Lane, New York.

Belting that is Belting -Always send for the Best PhiladelphiaOak-Tauned, to C. W. Arny. Manufacturer, 301 Cherry st., Phil'a.

Send your address to Howard & Co., No. 865 Broadway, New York, and by retarn mail you will receive their Descriptive Price List of Waltham Watches. All prices reduced since February 1st.

Ashcroft's Low Water Detector, \$15; thousands in use; can be applied for less than \$1. Names of corporations having thirty in use can be given. Send or circular. E. H. Ashcroft, Boston, Mass

To Cotton Pressers, Storage Men, and Freighters .--- 35-horse Engine and Boller, with two Hydraulic Cotton Presses, capable of pressing 15 bales anhour. Machinery first class, Price extremely low. Wm. D. Andrews & Bro. , 414 Waterst. New York.

Tin Presses & Hardware Drills. Ferracute Works, Bridgton, N.J.

and conveying material by iron cable. W.D. Andrews & Bro,414 Water st., N.Y

American Boiler Powder Co., P. O. Box 315, Pittsburgh, Pa.

Carpenters wanted-\$10 per day-to sell the Burglar Proof Sash Lock. Address G. S. Lacey, 27 Park Row, New York.

Improved Foot Lathes, Hand Planers, etc. Many a reader of this paper has one of them. Selliog iu all parts of the country, Canada, Europe, etc. Catalogue free. N. H. Baldwin, Laconia, N. H.

Twelve-horse Engine and Boiler, Paint Grinding Machinery FeedPumps, two Martin Boilers, suitable for Fish Factory. Wm. D. Andrews & Bro., 414 Water st., New York.

Cold Rolled-Shafting, piston rods, pump rods, Collins pat.double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa For Solid Wrought-iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

The Merriman Bolt Cutter-the best made. Send for circu lars. H. B. Brown & Co., 25 Whitney ave., New Haven, Conn.

Glynn's Anti-Incrustator for Steam Boilers-The only reliable preventlyc. No foaming, and does not attack metals of bollers. Price 2 cents per lb. C. D. Fredricks, 587 Broadway, New York.

For Fruit-Can Tools, Presses, Dies for all Metals, apply to Bliss & Williams, successor to May & Bliss, 118, 120, and 122 Plymouth st., Brook iyn, N.Y. Send for catalogue

Presses, Dies, and Tinners' Tools. Conor & Mays, late Mays & Bliss,4 to 8 Water st., opposite Fulton Ferry, Brooklyn, N.Y.

Taft's Portable Hot Air, Vapor and Shower Bathing Apparatus, Address Portable Bath Co., Sag Harbor, N.Y. (Send for Circular.)

Winans' Boiler Powder.—15 years' practical use proves this a cheap, efficient, safe prevention of Incrustations. 11 Wall st., New York.

To Ascertain where there will be a demand for new machinery or manufacturers' supplies read Boston Commercial Bulletin's Manufactur ing News of the United States. Terms \$1.00 ayear.

Queries.

[We present herewith a series of inquiries embracing a variety of topics of greater or less general interest. The questions are simple, it is true, but we prefer to elicit practical answers from our readers.

-EXPLANATION WANTED.-I am running an engine lathe, twenty-four inch swing; and a short timeago, I tried to hore a pair of sixteen inch cylinders, and could not do it, as the gearing gave way at every trial. I first used wood (as "steadies" in my boring head, nsing a 4% boring bar of wrought iron); and thinking the wood created too much friction, I took them out and took a single cut (not over one sixteenth cut), and still the lathe would not drive it, and I finally had to give it up. I substituted a brass pinion for one gear, and lost a tooth out of it. The lathe is all right again, and today I am turning off a twenty four inch pulley (using the same gears on the lathe). Now, it seems to me that the lathe should have more to do (the cuts being equal) in turning off a twenty-four inch pulley than in boring a sixteen inch hole. Will some one explain why it requires more power for the bore than the pulley ?-K.

2. — ELECTROPLATING. — How can I prepare Britannia metal, tin, and ordinary soft solder, so that they can be electroplated or gilt in a cyanide solution ? I cannot get the information from Smee or Naplet, but have no doubt that some of your readers can readly describe the desired process.-J. F.

3.-ICE BOAT.-Will some one tell me the dimensions of an ice boat which would carry two medium sized persons?—C. S. M. K.

4.—FIXING LEAD PENCIL MARKS.—I would like a ready way offixing leadpenell marks to paper ... J. H. R.

5.-JAPANNING.-I wish a recipe for making and using the quickest baking and best Japan .- B. B. C.

6.---MALLEABLE IRON.---Will some one give me practical information how to make malleable cast iron? Or, are there any works ex plaining the theory?-E. D. P.

7.-SPECTROSCOPE.-I have a hollow glass prism, filled with bisulphide of carbon, two inches on each face. I would like to know what the width and depth of the silt should be, through which the light first passes, what should be the diameter and focal length of the lens in the first tnbe, and what distance should it be placed from the prism? Also, what power should the telescope be for viewing the spectrum formed, and of what lenses should it be made?-M. T.

13.-TELESCOPE AND HOROSCOPE.-I wish to know, if. with the addition of one more convex lens of one inch diameter 1 cannot make a terrestrial telescope irom the directions given in No. 18. by A. W. G., of Mich.; and will it change the power? I also wish to know the meaning of tracing the horoscope, and how it is done.-E. T.

14.—EMERY WHEEL.—Can any reader of the SCIENTIFIC AMERICAN tell me how tomake solid emery wheels that will not gum nor ehln?_T.W.B.

15.—OVERSHOT WHEEL.—I wish a rule, simple and practical, for calculating the power of overshot water wheels, and the means of determining with accuracy the power of water in a flowing stream .--- T. W. B.

16.—SPEED OF CIRCULAR SAW.—I want a rule for determining the number of revolutions a circular slitting saw of any given size should make per minute.-T. W. B.

17.-REFINING GOLD.-Can some one give me any information on refining gold? I melted over some scrap gold leaf, which appeared to be very free from dirt, but after melting, it looked like a lump of tin instead of gold. When we sell it to the gold beater, he melts it over into fine gold .- F. E. H.

18.—BELT.—Can you tell me why a belt runs to the larg-Brown's Coalyard Quarry & Contractors' Apparatus for hoisting but they cannot tell why.-F. E. H.

Answers to Correspondents.

SPECIAL NOTE.—This column is designed for the general interest and in-struction of ourreaders, not for graduidous replies to guestions of a purely business or personal nature. We will publish such invusives, however, when paid for as advertisements at 1:00 a line, under the head 0." "Business and Personal."

ALL reference to back numbers must be by volume and page

TURNBULL'S BLUE.-With much deference to the undoubted erudition of your correspondent, E. C., of N. J., I must noint him to an errorinto which he has certainly fallen, and into which he islikely to lead B., who wants to know how to make "Turnbull's blue." C. has given a good formula for the preparation of ordinary Prussian blue (Fe₇ Cy₁₂). But to make Turnbull's blue, (Fe₅ Cy₁₂), the ferricy and ice (red pressiate), and not the ferrocyanide (yellow pressiate) must be used. Also, insteadof using the tersulphate ofiron, which is a sesqui-salt, the proto-snlphate, or some other proto-salt of iron is absolutely necessary to the production of Turnbull's blue, which differs from common Prns. sian only by being of a brighter tint. Fownes, or any other chemical authority will furnish further information ... C. L. R. S., of D. C.

POUNDING OF PISTON .- Let E. S. take out the trap and put in a half inch globe valve at each end of the cylinder, and keep them open while the engine is in motion. The trap, while good in theory, is Hable to fallia exhausting the water whenever the spring, which lifts the valve, loses its strength or is held down by weight of water. The advan tage of the globe valve is, that while but a little steam will escape, it effectually exhausts the water. - H. A. G.

TO KILL BEDBUGS.—Any woman ought to be ashamed to ask for an article to kill bedbugs. No one will be troubled with these pests if they will take the trouble to thoroughly cleanse the bed and room once a month. Bedbags can stand anything better than cleanliness. The March cleansing is the most fatal to them; it destroys them root and branch. Any one troubled with this "peculiar heathen" who will take the trouble to observe the foregoing method for three or six months, will be entirely relieved of them without fall. If the cleaning be continued at intervals of three months, bedbugs will never appear.-C.A.H., of Mass

TO KILL BEDBUGS .- If "Housekeeper," No. 11, page 346 Vol. XXII., will use benzine or gasoline, she can kill bedbugs as fast as she can find them; and by using a spring bottom oller, the finld can be forced into cracks and crevices which can he reached only by this or similarmeans. I cleaned them ont of a room lined and colled with matched boards, by it. Housekeeper will have to be careful about fire, and the room should be well ventilated till the gas passes away .- J. M. A.

HONING RAZOR .- P. R. says that in honing his razor, he always gets a rough wire edge. So he ought to bave. Always hone until you turn the edge, or you might as well not hone at all. Now to get a smooth cutting edge is what you want. Moisten your thnmb natland draw the edge of the razor back and forth a time or two across the nail. Put it on the coarse side of your strap first. Keep trying it across the nail until you get a smooth edge. You can tell this by its feel; for when smooth, it will seem to cutright in the nail, and no roughness will be felt. Then bring up the edge on the fine side of the strap, with a few strokes on the palm of the hand to finish it. If you once get a smooth edge, and it shaves well, never use any strap but the palm of your hand; and I will guarantee it to keep its edge for months. It is very easy to strap the edge off of a razor by strapping too much. Never wipe your razor on dry paper, or cloth of any kind; it will take the edge off. -H. D. W., of D. C.

MAGIC LANTERN.-Your querist, No. 11, page 282, can construct a magic lastern to meet his requirements, as follows: Use a plain convex lens, 4 Inches in diameter, and 8 inches focus; put one double convex lens, 2 inches in diameter, in the focus of the first. The light should be placed three inches from the large lens.-H. W. G., of Mich,

OILING FURNITURE.—In answer to query No. 1, in your issue of May 20, I would state for the information of A. H. that pure linsced oil (raw oil) is used for walnut furniture, applied with a brush. Some prefer, however, the red furniture oil, as it gives the wood a darker appearance. If it is to be finlshed with copal varnish, the oil should be allowed to dry perfectly; then two or three coats of varnish should be applied for the purpose of filling the pores or grain of the wood. After which the article must be rubbed with fine or worn out sand paper to get a smooth surface. Then apply two or three coats of varnish, and rub down and polish or flow as necessary. Care should be taken to let each coatot varnish Ket perfectly dry and hard before putting on another.-H. L., of N. Y.

POUNDING OF PISTON,-Your correspondent "S. E." in issue of May2 that was troubled with the same difficulty, and alterwards spent a large amount of time and some money in trying to remedy the trouble. The company that made the engine, made the cylinders a little longer, giving more clearance, and consequently more steam room at each end, and we never had any more trouble from that source. Our company was striving to be too economical in cast iron, and also trying to waste as little steam aspossiblein "cushioning," as it is called, but always afterward gave plenty of clearance to the pistons .-- C. H.C. POUNDING IN STEAM CYLINDER.-S. E. asks "what is the cause of the knocking in the cylinder?" I have known valves in steam closets to knock, and sound as though the trouble were in the cylinder. I suspect, however, that the trouble of which S. E. complains, is that the crank is ahead of the steam pressure at the beginning of the stroke, when the governor valve is hard down, so as not to admit sufficient steam to start the piston in time for the crank. This can be obviated by setting the cahead. If his engine be of short stroke and large cylinder, and sethigh from the bed plate, and pounds when the governor valve is np. giving fuli steam, S. E. may depend ou it that the bed plate is too weak .---S.G. D., of Pa.

Millstone Dressing Diamond Machine-Simple, effective, durable. For description of the above see Scientific American, Nov. 27tb, 1869. Also, Glazier's Diamonds. John Dickinson. 64 Nassau st., N. Y.

Experimental Machinery and Models, all sizes of Turned Shafting, Paper Box, Paper Collar, and Bosom Plaiting Machines, Self-operating Spinning Jack Attachments. W.H. Tolhurst, Mackine Shop, Troy, N.Y.

Best Scales .- Fair Prices. Jones, Binghamton, N.Y.

Steam Watch Case Manufactory, J. C. Dueber, Cincinnati, Ohio. Every style of case on hand, and made to special order.

Agents Wanted-on a new plan-to sell a patent Collar Stud. Send for Chrcular. S. E. Williams, Hartford, Conn.

L. & J. W. Feuchtwanger, Chemists, 55 Cedar st., New York. manufactneers of Silicates of Soda and Potash, and Soloble Glass.

For Hydraulic Jacks, Punches, or Presses, write for circular to E. Lyon, 470 Grand st., New York.

A. G. Bissell & Co. manufacture packing boxes in shooks at East Saginaw, Mich.

For mining, wrecking, pumping, drainage, and irrigating ma chinery, see advertisement of Andrews' Patents in another column,

8.-MUCILAGE AND INK .- Will some of your readers give me a formula or makingmucliage, such as sold by stationers, and also a for mula for a good, cheap, black copying ink?-A. S.

9.-CHEAP LATHE.-I would like practical directions for constructing, at the least possible expense, alight latheof about eight inches swing; as great accuracy is not essential, metal need be employed only where absolutely necessary, as for spindles, bearings, centers, etc. Precise directions, giving dimensions and all other details, would no doubt be wel come to many an amateur mechanic who cannot afford to buy even a cheap lathe, but would at once go in for one if he could only make it himself. С. М

10.-NICKEL PLATING.-I wish plain practical directions and formula for nickel plating?-T. D. T.

11.-DYEING COTTON BLACK .- I want to dye soft cotton black, and have no steam. Can I do it and get a good color without steam, and would it be better to use aniline black, or the usual dye staffs ?-H. W.

12.—GILDING ON GLASS.—What is the size used for gild ing on glass?-M.

M. E. Y .- Some medicines appear to operate in a peculiar way noon the retina of the eve. For example: Dr. Rose, of Berlin, has described a sort of color blindness, in respect to blue colors only, produced by taking a dose of santonine. After the effect of the medicine has subsided, the natural power of the eye to distinguish blue returns.