

if properly managed. For wrought iron and steel, use hydrochloric acid and water.

(13) W. F. E. asks: 1. How are bath bricks made? A. Bath bricks are found native as minerals, and are imported from England. 2. How are papier mache ornaments moulded, and where can I procure a work on the subject? A. We can send you Spens' "Workshop Receipts" for \$2.00, first series, which contains full information on papier mache. See also various articles in SCIENTIFIC AMERICAN SUPPLEMENT on the technology of the paper trade.

(14) W. M. S. asks how to make liquid glue. A. Take a wide mouthed bottle, and dissolve in it 8 ounces best glue in 1/2 pint water, by setting it in a vessel of water, and heating until dissolved. Then add slowly 2 1/2 ounces strong nitric acid 36° Baume, stirring all the while. Effervescence takes place, with generation of fumes. When all the acid has been added, the liquid is allowed to cool. Keep it well corked, and it will be ready for use at any time.

(15) E. H. F. asks what preparation steam laundries use to make their goods so stiff and have such a fine gloss, and how is it used, and, if used with starch, is hot or cold starch used? A. Melt 2 1/2 pounds of the very best A 1 paraffine wax over a slow fire. When liquefied, remove from the fire and stir in 100 drops oil of citronella. Have a lot of round new pails, clean and nice; place them on a level table, coat them slightly with sweet oil, and pour about six tablespoonfuls of the enamel into each tin. The pan may be floated in water to cool the contents sufficiently to permit the mixture to be cut or stamped out with a tin cutter into small cakes about the size of a peppermint lozenge. Two of these cakes added to each pint of starch will cause the smoothing iron to impart the finest possible finish to muslin or linen, besides perfuming the clothes.

(16) J. T. M., Jr., asks for a tempering liquid for tempering a flat coiled spring, 1/4 of an inch thick, 1 1/2 inches wide, 20 feet long, without drawing the temper. A. You can get a spring temper in the hardening bath. Harden in water or oil and draw temper in an iron pan of linseed oil at boiling temperature.

(17) C. E. H. writes: I have nearly 1,000 feet of out-door steam pipe carried in elevated wooden boxes. What is a good and cheap pipe covering to prevent loss of heat? A. Pulverized charcoal or sawdust makes a good cheap insulation for steam pipes. The boxes should be large enough to allow 2 inches clearance all around the pipe, the latter to be retained in position by cleats. Boxes should be tight enough to prevent circulation of air. Tar the outside to make weather proof.

(18) B. L. asks: 1. Is there any method for removing rust stains from white cloth or linen? A. See the table in SCIENTIFIC AMERICAN SUPPLEMENT No. 158, for the "Removal of Stains and Grease Spots." 2. Is there any book showing how to work out chemical problems, and giving answer in the back of the book? A. Professor J. P. Cooke's "Chemical Problems and Reactions" can be sent you postpaid for \$1.

(19) D. B. wants a receipt for a dark cherry stain for a white pine floor. A. Use rain water 3 quarts, annatto 4 ounces; boil in a copper kettle till the annatto is dissolved, then put in a piece of potash the size of a walnut; keep it on the fire about half an hour longer, and it is ready to bottle for use.

(20) J. T. S.—Engines with automatic cut-offs will run steady with variable work. If you have a governor that only controls a throttle valve, there will be a small variation of speed with as much variation in the work as you state. Much depends upon the relative amount of work absorbed by the mill and the variable machinery.

TO INVENTORS.

An experience of forty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

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TRADE MARKS

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A Printed copy of the specifications and drawing of any patent in the foregoing list, also of any patent issued since 1835, will be furnished from this office for 25 cents.

Canadian Patents may now be obtained by the inventors for any of the inventions named in the foregoing list, provided they are simple, at a cost of \$40 each.

Scientific American. FORTY-SECOND ANNUAL REPORT OF THE NEW YORK LIFE INSURANCE COMPANY

Office: Nos. 346 & 348 Broadway, New York.

JANUARY 1, 1887.

Amount of Net Cash Assets, January 1, 1886.....\$63,512,618.00

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Table showing assets: Cash in bank, United States Bonds, Real Estate, Bonds and Mortgages, Temporary Loans, etc.

CASH ASSETS, January 1, 1887, - - - \$75,421,453.37

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Table showing Death Claims paid, Income from Interest, Insurance in force, and Cash Assets for the years 1882-1887.

TRUSTEES.

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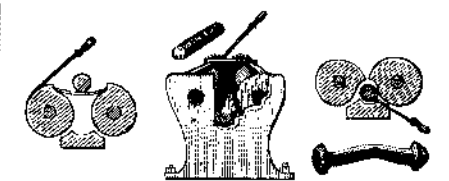
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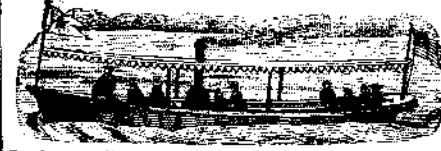
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