

E. R. McC. asks: Can a patent be attached or a debt of the inventor? A. No. An injunction might be granted in a proper case, preventing its transfer except to a receiver appointed by the court.

C. R. M. says: Kainit, as usually sold, consists of 28 to 30 per cent of sulphate of potassa, 14 to 16 per cent sulphate of magnesia, 4 to 5 per cent chloride of magnesia, 35 to 40 per cent chloride of sodium, and 10 to 12 per cent sulphate of lime. I want to use it as a substitute for ashes (which I cannot get), as a manure for onions. What is its probable efficacy? The potash and salt are good, but is the sulphate of magnesia likely to be injurious? A. The large proportion of potash in kainit should render it superior to ashes as a fertilizing agent, and we do not believe that the other salts will materially affect it in this respect.

H. A. S. says: 1. On page 27, current volume, in your answer to M. W. H., you say that 9,000 feet per minute is recommended as the proper speed for the rims of circular saws of all sizes. I think that, other things being equal, the speed of the rim should be in proportion to the power. I should figure the speed of the little foot power saw by compound proportion, thus: If a saw with teeth one inch apart, running with six horse power, cutting nine inch lumber, requires a speed of 9,000 feet per minute, what should be the speed of a saw with teeth half an inch apart, cutting one inch lumber and running with one eighth horse power?

6: 1/2 :: 9,000: 648- I do not say 648 feet per minute is just the right speed for a foot power saw, but I think it would be correct if 9,000 is just right for the supposed six horse power saw. The smaller saw might, however, be made to saw smoothly by running at a higher speed, but I think only by a loss in the amount of work done. I think the reason that your correspondent's saw did less work at the higher speed was that more power was required to cut the sawdust finer, and more was lost in economizing friction. A. Your theory does not agree with the results obtained by experiment. 2. Not long since I heard a man say that kerosene oil would destroy the temper of steel. Is it true? As the temper depends on the internal structure of the steel, and the oil can reach only the surface, I do not see why the temper should be injured throughout. A. You are right. 3. At what speed should a power drill run? A. In wrought iron, the speed of the drill should be about 12 feet a minute.

R. C. says, in reply to S. G. F., who asked about filtering water: If he can dig a trench, parallel with the stream, arrange a filtering gallery and filter the water through the bottom of his gallery, perhaps it would help him out and give no further trouble.

W. S. D. says, in reply to J. M., who asked if a check wall under the back end of a steam boiler will save fuel: Build a bridge wall just 1 foot forward

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined with the results stated:

G. L. E.—Your specimen consists of dark colored tourmaline in quartz. Tourmaline is a silicate of alumina, containing also oxide of iron and potash.

N. M.—These specimens are iron pyrites, and are of little value at the present time.

A.—The mineral sent is graphite or plumbago: which, you know, is composed of carbon. The specimen shows traces of iron.

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Death Statistics. By S. B.
On Ventilation. By S. W. and by W. S. Jr.
On the Art of Tanning. By D. S.
On the Duration of Brain Impressions and the Memory. By D. S. T.
On the Use of Petroleum in Steam Boilers. By J. B. W.
On Canal Navigation in Winter. By C. P.
On the Cow Milk Tree. By C. L.

Also enquiries from the following:

- H. W.—N. T. W.—C. A. M.—F. L. R.—J. H.
Correspondents in different parts of the country ask: Who makes ditching plows, to be drawn by horse power? Who furnishes small castings of a low grade of steel? Where can infusorial silica be obtained in large quantities? Who makes feed water heaters? Who makes electric gas lighters? Who constructs boilers which will not explode when the water gets low? Where is a boring machine, suitable for hubs for setting boxes, sold? Where can asbestos be obtained? Makers of the above articles will probably promote their interests by advertising, in reply, in the SCIENTIFIC AMERICAN.

Correspondents who write to ask the address of certain manufacturers, or where specified articles are to be had, also those having goods for sale, or who want to find partners, should send with their communications an amount sufficient to cover the cost of publication under the head of "Business and Personal," which is specially devoted to such enquiries.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States WERE GRANTED IN THE WEEK ENDING

February 3, 1874,

AND EACH BEARING THAT DATE.

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APPLICATIONS FOR EXTENSIONS.

Applications have been duly filed, and are now pending for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned:

- 28,108.—LEATHER FINISHING MACHINE.—W. P. Martin, April 15.
28,130.—SEWING MACHINE.—G. B. Arnold, April 22.
28,174.—PICTURE HANGING MOLDING.—H. Hochstrasser, April 22.
28,181.—BURNISHING BOOT SOLES.—E. T. Ingalls, April 22.
28,184.—CEMENT PIPE MOLD.—H. Knight, April 22.
28,189.—SCARF DRYING MACHINE.—A. W. J. Mason, Ap. 22.
28,198.—CULTIVATOR TEETH.—D. B. Rogers, April 22.
28,214.—RUFFLE.—G. B. Arnold, April 22.
28,314.—WATER WHEEL.—A. M. Swain, April 22.
28,470.—SLIVER MACHINE.—F. T. Grant, May 13.

EXTENSIONS GRANTED.

- 27,034.—HARVESTER.—J. Butter.
27,043.—UMBRELLA STAND LOCK.—A. M. Foote.
27,065.—COFFEE MILL.—J. & E. Parker.

DESIGNS PATENTED.

- 7,148.—SHIELD.—G. W. Dauth, Reading, Pa.
7,149.—SIRUP CUP PLATE.—J. J. Jenson, West Meriden, Ct.
7,150.—SLEIGH.—F. D. Kennedy, Albany, N. Y.
7,151.—SLEIGH.—J. Lodewick, Troy, N. Y.
7,152.—COMB.—W. Pauly, College Point, N. Y.
7,153.—BRACKET.—J. B. Sargent, New Haven, Conn.
7,154.—TYPE.—R. Smith, Philadelphia, Pa.
7,155 & 7,156.—CARPETS.—T. J. Stearns, Boston, Mass.
7,157.—LABELS.—S. Ward, Boston, Mass.

TRADE MARKS REGISTERED.

- 1,611.—CIGARS.—J. H. Batts, Salem, Mass.
1,612.—OILS.—J. A. Bostwick & Co., New York city.
1,613.—SMOKED MEATS.—J. Grubb & Co., Cincinnati, O.
1,614.—PRINTED PUBLICATION.—J. Gruber, Hagerstown, Md.
1,615 & 1,616.—IRISH LINENS.—Paton & Co., N. Y. city.
1,617.—PLASTER.—J. McI. Smith, New York city.
1,618.—FLOUR.—J. Stabler, Baltimore, Md.
1,619.—BISCUIT.—Thurston & Co., Cambridgeport, Mass.
1,620.—SAWS.—The Wheeler & Co. Manufacturing Company, Middletown, N. Y.

SCHEDULE OF PATENT FEES.

On each Caveat..... \$10
On each Trade Mark..... \$25
On filing each application for a Patent (17 years)..... \$15
On issuing each original Patent..... \$20
On appeal to Examiners-in-Chief..... \$10
On appeal to Commissioner of Patents..... \$20
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On granting the Extension..... \$50
On filing a Disclaimer..... \$10
On an application for Design (3 1/2 years)..... \$10
On application for Design (7 years)..... \$15
On application for Design (14 years)..... \$30

[Specially reported for the Scientific American.]

CANADIAN PATENTS.

LIST OF PATENTS GRANTED IN CANADA,

FEBRUARY 11, 1874.

- 8,095.—J. P. Manton, G. H. Remington and B. D. Thayer Providence, R. I., U. S. Improvements on ship's windlasses, called "Improved Pump Brake Windlasses for Vessels." Feb. 11, 1874.
8,096.—H. Hills, G. W. Mills and Wm. Mc. Lockwood, Highland, Oakland county, Mich., U. S. Improvements on pruning shears, called "Hill's Pruning Shears." Feb. 11, 1874.
8,097.—F. W. Rhinelander, N. Y., U. S. Improvements on boot and shoe tips, called "Rhinelander's Enamelled Shoe Tip." Feb. 11, 1874.
8,098.—W. H. Lunt, Cambridge, Mass., U. S. Improvement in filters, called "The Lunt Filter." Feb. 11, 1874.