

taches to this edition, from the fact of the author's death, in November last, after the completion of its thorough revision...

THE FLOUR MANUFACTURE. By Friedrich Kick. Translated by H. H. P. Powles.

This handsome volume, with 24 sheets of plates and 118 wood cuts, includes also a supplement by the same author, with four plates and 54 wood cuts...

HUDSON'S TABLES. Vol. II. By John R. Hudson, C.E. New York: John Wiley & Sons. Price \$1.

This is an engineer's manual for facilitating the calculation of the cubic contents of excavations and embankments...

The Shoe and Leather Reporter Annual for 1888 is the title of a neat octavo volume of more than 500 pages...

Any of the above books may be purchased through this office. Send for new catalogue just published Address MUNN & Co., 361 Broadway, New York.

Notes & Queries

HINTS TO CORRESPONDENTS.

- Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication.

(1) A. W. K. desires a harmless remedy which will prevent hair from turning prematurely gray. A. Nothing can prevent the hair from turning gray, any more than one can stop growing old.

(2) F. M. D. asks: 1. What is used for putting on the bronzes that come in powder form? A. Copal varnish is good.

(3) J. T. D. asks for a comprehensive work on navigation, comprising both ordinary compass and log navigation, and also by means of sextants, etc.?

(4) S. W. desires a recipe for making a good cement for fixing rubber tires on bicycle wheels. A. Use a mixture of asphalt and gutta percha melted together.

(5) W. W. G. asks the relative cost of fuel for 12 horse boiler, figuring coal \$5.50 per ton, and kerosene oil 120° test at 8 cents per gallon.

(6) W. M. F. asks: 1. Will ordinary pig iron remelt, in ordinary foundry cupolas, stronger than the original pig? If so, why? A. In remelting iron, some of the gases that are combined or mechanically mixed with new iron are given off...

and fall in showers. A. The sparks are minute particles of iron thrown from the surface of the fluid metal by the liberation or bursting of gas bubbles from below the surface.

(7) J. M. S. writes: I have a razor the steel of which is quite soft. It can be quickly honed, but loses its edge with very little use.

(8) W. D. E. asks when the circular saw was first used in America for sawing lumber. A. About 1802 such saws were first made here.

(9) F. P. H. asks: What will prevent iron or steel which is constantly submerged in water from rusting? A. There is nothing lasting but good galvanizing.

(10) H. R. S. asks: About what would be the daily expense of a yacht, say one like Jay Gould's Atlanta? A. About \$110 per day and upward, apart from owner's private expense in entertaining guests and luxuries living.

(11) W. W. P.—Your skate runner cannot be cemented or soldered to be reliable. A skillful workman might braze the parts together with copper or brass, but such joint would be of little value.

(12) H.—There was an error in the diagram of the simple electric motor described in No. 11 of current volume of SCIENTIFIC AMERICAN. The

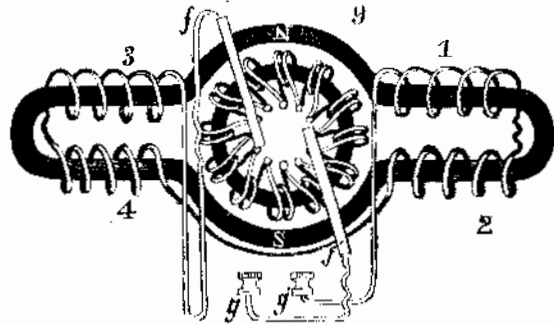


diagram is here reproduced with corrections. Complete working drawings of the motor will be given in SUPPLEMENT, No. 641.

(13) L. W. C. writes: I recently saw a frame maker working upon so-called bronze picture frames, by dipping the finger into a powder and rubbing it into the moulding, and after drying burnishing on certain portions with the common agate.

(14) C. A. E. D. asks: 1. What is the amount of wire in weight of primary and secondary in the induction coil described in No. 160, SCIENTIFIC AMERICAN SUPPLEMENT?

(15) E. F. F. and H. L. W. desire (1) a recipe for type writer, ribbon ink. A. Take vaseline of high boiling point, melt it in a water bath or slow fire, and incorporate by constant stirring as much lamp black as it will take up without becoming granular.

(16) W. B. B. asks (1) a receipt for making a copper dip such as is used in coating electric light carbons. A. They are coated electrically with a thin film of copper.

which we mail for \$3.50. All kinds of batteries are described in SUPPLEMENT, Nos. 157, 158, and 159. 4. The name and address of paper wholly treating on machinery.

(17) C. E. P. asks: 1. Is there any metal easier to work than iron that could be used as parts of electrical apparatus to contain mercury, liable to be heated considerably by strong currents?

(18) M. G. asks: 1. What would be the preservative effect of coal oil applied to wood, as pine posts in the ground dipped or soaked in petroleum?

(19) W. A. asks: What paste is used in mounting a map on canvas? A. Any good flour paste will answer, after which it is generally customary, but not necessary, to varnish the surface of the map.

(20) T. B. asks: 1. What is a gland? How do you pack one, and with what material? A. A gland is a flanged follower inserted in the stuffing box on the heads of engines, pumps, and other machinery that have piston rods or other sliding parts that require to be kept tight.

(21) C. H. B. desires a method of bleaching sponges after being used in surgical operations. A. Soak in diluted hydrochloric acid 10 or 12 hours, then wash with water and immerse in a solution of hypochlorite of soda to which a small quantity of diluted hydrochloric acid has been added.

(22) F. W. desires a recipe for making a paste polish that will clean and polish brass, nickel plate, copper, or any kind of metals. A. Take of oxalic acid 1 part, iron peroxide 15 parts, powdered rotten stone 20 parts, palm oil 60 parts, and vaseline 4 parts.

(23) G.—Engines are rated and sold by their nominal horse power, which does not designate their real or indicated horse power.

(24) W. H. S. writes: You state that carbonate of potash prevents rust on iron or steel. Will it injure the metal or not? I have never found anything that will prevent a gun from rusting in our climate, long at a time.

(25) H. B. asks: When a cannon would shoot a ball 15 miles distance, how high would the ball go if fired up straight in the air, with the same amount of powder?

(26) H. O. D. asks: What flux can I use to obtain a clean, perfect weld in copper, and at what heat must it be worked? A. 3 parts phosphate sodium, 1 part boracic acid; pulverize and mix. Sprinkle on metal at red heat.

(27) W. A. M. asks whether a current water wheel could be successfully used or operated in the Missouri River. A. Current water wheels are only makeshifts, to be used when no other form can be operated.

(28) J. L. C. asks: 1. Does a fatal shock of electricity produce rupture of physical tissue? A. A fatal shock of electricity is generally accompanied by some physical effect upon the animal tissues, yet there seems to be no reason why it should not kill by a purely nervous shock without any physical injury.

(29) S. C.—You cannot braze a lug on the double-barrel gun without injury to the gun. You can solder it with pure tin and make a good job.

(30) D. H. S. asks: If a ball falls from a certain point down on a spring, how far back will it rebound, and what is the best spring to use to throw the ball the highest? A. A rubber spring is probably the cheapest.

(31) F. B. W. asks: 1. What is the most practical compound for safety match? A. Dip the splints in a paste composed of chlorate of potash 6 parts, sulphide of antimony 2 to 3, glue weighed dry 1.

(32) W. P. asks (1) how the cheaper kinds of mucilage are made by compounding starch with sulphuric acid. A. The starch is first converted into dextrine or British gum, which is then soluble in water.

(33) S. M. McK. asks how to make good first class printer's inking rollers. A. Take of Cooper's best glue 8½ pounds, extra sirup or New Orleans molasses 2 gallons, glycerine 1 pint, Venice turpentine 2 ounces.

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.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

March 6, 1888,

AND EACH READING THAT DATE.

[See note at end of list about copies of these patents.]

Table listing various inventions and their patent numbers, including items like Abacus, Advertising apparatus, Alarm, Animal hitching device, etc.