series of leaf-carrying frames mounted to swing from one side to another. Each frame is adapted to hold a leaf of music so that the several frames may be manually thrown to turn the different leaves. The music-leaf turner may be manipulated with great ease, and may be folded very compactly.

SEWING-MACHINE ATTACHMENT. — CARL F. CAIN and HERMANN SANGTINETTE. Brattleboro, Vt. This attachment consists of a gage especially adapted to insure the stitching of a seam of predetermined width, or to locate a line of stitching a predetermined distance from the edge or seam of a garment or from a line of stitching. The gage bears a scale in inches and fractions of an inch, and is so constructed that it may be accurately set before it is applied to the bed-plate of the machine. The attachment may be placed in position on the plate or removed therefrom without dislodging the scale-bar.

PNEUMATIC SHOE-STUFFER.—FRED G. WHITE, Aurora, Mo. The shoe-stuffer provided by the present invention is especially designed to give a shoe the desired shape to display it in a shop-window. The stuffer consists of an inflatable bag in the form of a shoe, which bag is provided at the toe with a hood which receives a rod whereby the toe can be pushed into the shoe.

ROTARY BRUSH. — NEIL CAMPBELL, Jersey City, N. J. In this invention a broom-head for rotary street-sweepers is provided, which comprises peripheral and radial webs having axially-extending and alining perforations receiving connecting ribs. The ribs space the broom-material between them. Backing-boards secured to the radial webs within the ribs support the inner ends of the broom-material and hold it in place. With this construction the broom may be made of sufficient strength to withstand hard usage. The broom-head is easily repaired and thus no inconsiderable expense is saved.

TRAP-NET.—ABNER S. CHASE, Marshalltown, Iowa. The trap-net is composed of two sections, the upper of which has a line connected with its upper portion. This upper section has additional lines connected with its lower portion and reeved through the lower section. By drawing on the first-named line the upper section may be lifted from the lower section, and by drawing on the second-named lines the two sections may be drawn together.

ATTACHMENT FOR SPECTACLE-TEMPLES.—LEO F. C. GIEBERICH, Manhattan, New York city. It sometimes happens that the fine wire forming the hook of the spectacle temple embeds itself in the soft tissues of the skin and thus produces painful irritation. The inventor of this attachment overcomes the difficulty by providing the hook with a protector formed of cork rolled into tubular form with a plurality of layers, the outer one of which is secured to the preceding layer to give the protector a permanent form.

HINGE FOR COUCHES, BEDS, OR ADJUSTABLE CHAIRS. — AMBROSE HUTTINGER, Cleveland, Ohio. The present invention is an improvement upon a similar hinge patented by the same inventor and seeks to simplify the previous construction. The hinge-sections are connected with two frames. One of the sections is toothed. A locking-lever is pivoted to the frame of the other section and is arranged to engage the toothed section. A releasing-lever is pivoted to the locking-lever and is arranged to hold it out of engagement with the toothed, hinged section. The invention dispenses with the necessity of a foot-lever, and enables the head portion of a couch, bed, or chair to be adjusted to any inclination.

LABEL-CABINET.—CLARENCE A. KNAPPENBERGER and HENRY H. BARNES, Jr., La Harpe, Ill. To construct a druggist's label-case for use in finding and applying the right labels to bottles and packages is the purpose of this invention. Druggists usually employ thread-cases or improvised sets of drawers for this purpose, with the result that it is not possible readily to determine which drawer contains the label sought. In this label-cabinet, an outer case, having trunnions on the inside and back of the front edge, and holders consisting of a front part having a glass panel, are provided. Grooves in two end pieces receive the trunnions within the case. Means are provided for separating and retaining the labels. When a label-holder is turned down or opened, the labels are made easily accessible; when the holder is turned up, it acts as a door to close up the opening in the front of the case.

ANIMAL-TRAP. — FRANK J. HEDA, Vesta, Neb. The trap is constructed of a length of wire coiled to form a casing, the wire having its resilient end extending longitudinally along the outer side of the casing. A trigger is attached to the casing and serves to hold the spring end of the wire in proximity to the casing. A loop is carried by the spring end of the wire and projects normally into the casing to impale the animal when the trigger is released.

Designs.

ADVERTISING-TABLE. — ELLA F. DOUGHERTY, Staunton, Va. The table consists of a frame and legs supporting the top. On the top are supported two pockets, between which a hollowed block containing an ink-well is placed. In front of each pocket a smaller pocket is secured.

SPOON.—AUGUST MILLER, Taunton, Mass. The chief feature of this design is to be found in the peculiar ornaments of the spoon, ornaments which consist principally of scrolls and fleurs-de-lis.

HEATER.—JAMES S. MACKENZIE, North Bend, O. The design provides a heater which is adapted to fit between the stove and stove-pipe. Through the heater, pipes run, which conduct air from the atmosphere through the heater and to the room in which the stove is placed. Heated air is thus constantly supplied with no additional expense in fuel.

SAFETY-PIN. — SILAS P. TOMKINS, Tilly Foster, N. Y. The safety-pin is provided with a hook adjacent to a longitudinal member of the pin. The safety-pin is primarily designed for use on horse-blankets, the hook being slipped over a part of the harness to prevent the blanket's blowing about.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for 10 cents each. Please send the name of the patentee, title of the invention, and date of this paper.

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(7598) C. M. D. answers T. E.'s query No. 7551, as to whether a dynamo works well in a low temperature, as follows: A dynamo will work better at a low temperature than at a high one. The lower temperature keeps the iron cores and especially the copper conducting wires cool, securing greater conductivity. The same applies to the outside wiring. A Thomson-Houston arc generator shows the difference very markedly by the position of its regulator armature on hot or cold nights. On warm nights full load would bring armature nearly flat on stop, while at zero the same machine would have a surplus good for one or sometimes two 45 volt lamps—arcs. [The above statement is of course true, though, in answering the original query, it was not necessary to go into this matter at all, since the only point raised was whether cold weather would prevent a dynamo and storage battery from working. The temperature coefficient of copper is about 0·002 per degree Fah., that is, copper improves two-tenths per cent for each degree it is cooled. The night temperature in this city between the hottest and coldest nights is about 90 degrees. For 100 degrees the conductivity of the copper is about twenty per cent higher in the coldest night of winter than in the hottest night of summer. This is the whole difference in capacity of a series wound machine, such as is the Thomson-Houston; but in a shunt wound machine the difference is still greater.]

(7599) H. W. C. asks: 1. What substance, if any, is opaque to the lines of force coming from a permanent magnet? A. An iron screen surrounding a magnet furnishes so easy a path for the lines of force that few or none leave it to pass through the air. 2. How is the compass on a modern steamship protected from the magnetic influence of the steel and the dynamos? A. For the protection of ships' compasses against the iron about them, see SCIENTIFIC AMERICAN SUPPLEMENT, Nos. 527, 534, 709, 760, price 10 cents each. 3. What is the best shaped burner for a Trouve acetylene lamp and where can I get a burner of that kind? A. A two-pronged burner with the jets directed against each other, and the acetylene burning in the air between the jets, is found to work satisfactorily. 4. How can I take off and use the electricity that is found on the belts in a machine shop when the machinery is running? A. A comb such as is used in all static machines will draw the electricity from a belt.

(7600) H. P. G. writes: Please inform me how to make a simple electric friction machine? A. You will find full instructions for making a Holtz machine, which gives the same kind of electricity in far greater power than the friction machine, in SCIENTIFIC AMERICAN SUPPLEMENT, Nos. 278, 279, 282, price 10 cents each, with many experiments which may be performed with it.

(7601) J. S. C. asks: How is it we can speak any word at any rate of vibration in the musical scale? For instance, I can say boy or any other word in *f*, a very slow rate of vibration, or in *e*, a much more rapid rate; in fact, from the very lowest to the highest rate of vibration per second, showing that it is not the number of vibrations per second. A. You do not speak a word at any rate of vibration in the musical scale. The tone is formed by the vocal cords in the larynx at any rate of vibration which their tension allows. This tone is formed into words by the mouth, nose, tongue, teeth, lips, and palate, and in this form it issues from the mouth. If the mouth is held motionless, any tone can be sung, but no words can be formed so long as the vocal organs are not allowed to move.

(7602) R. G. asks: What sizes wire by B. & S. gage correspond to No. 20 and No. 18 American gage? A. No. 20 American wire gage corresponds to No. 21 B. & S. gage. No. 18 A. W. G. corresponds to No. 19 B. & S.

NEW BOOKS, ETC.

We have just received from the United Correspondence Schools of 154-158 Fifth Avenue, New York city, some of their instruction papers. We have examined them carefully and we certainly approve of both systems which are used and the matter which is taught. They are eminently practical, and are particularly valuable to the student from the fact that all the material which is not germane to the subject is entirely eliminated. Of course, a correspondence school can never take the place of a scientific school or university, but at the same time there is a very large class of people who have not the time nor money, nor possibly the inclination, to spend three or four years in a school where they are often obliged to study things which will be of no immediate value to them. This Correspondence School begins in the proper way in making students obtain a practical knowledge of arithmetic, algebra, logarithms, geometry, mensuration, etc., before proceeding to the study of principles and applications of the subject being taught. The Schools give instruction in electrical engineering, mechanical engineering, civil engineering, sanitary engineering, architecture, art, sheet metal working, pattern making, etc. The method of teaching is entirely without text books, all of the instruction papers being furnished by the School, and they are accompanied by the question papers which contain inquiries on the subject contained in the instruction papers. As soon as the answers are received by the School they are examined with the utmost care. All answers are corrected in red ink, and the work is returned to the student with such suggestions and criticisms as will enable him to better understand the subject. In this way mistakes are pointed out and the material furnished is explained to the satisfaction of every individual student. Experience has shown that written comments on a man's work are more valuable and lasting than verbal ones, and the students will have the satisfaction of knowing that the criticisms are made by competent men.

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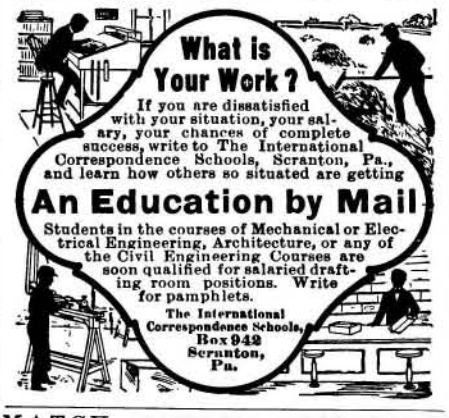

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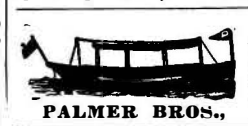

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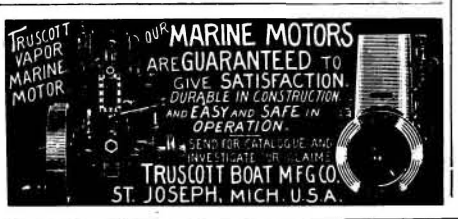

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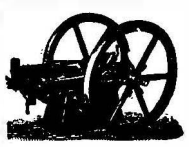

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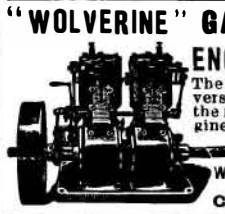

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Valve, Macfarlane & Bryant 619,589
Valve, F. J. Martin 619,594
Valve, air, H. A. Wood 619,526
Valve, dash pot, C. Dorn 619,680
Valve or ball cock, float, J. F. Miller 619,427
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Vehicle, motor, C. E. Woods 619,527
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Vehicle wheel, J. A. Heany 619,408
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Wheel, W. S. Blaisdell 619,660
Whist, apparatus for playing duplicate, H. R. Griffen 619,404
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Refrigerators, Maine Manufacturing Company 32,506
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Whisky, rock and rye, Aspell & Company 32,496
Whisky, Scotch, S. S. Pierce Company 32,497

LABELS.

"Black Eagle," for cheese, F. C. Kuehn 6,816
"Imported Talcum Powder," for talcum powder, H. Weichert 6,815
"Pelka Cures Drunkenness," for a remedy for drunkenness, J. Nihill 6,818
"Sav-Nol," for an ointment, Hasse & Lauth 6,819
"Skee-Nit," for a non-intoxicating drink, H. Hinrichs 6,817
"The Marion Hog and Poultry Cholera Cure and Preventive," for cholera cure for hogs and poultry, Ensminger & Fling 6,814
"Three Republics," for cigars, American Lithographic Company 6,813

PRINTS.

"Department Store Game Card," for a game, McLoughlin Brothers 106
"Palo," for games, Blomberg & Randolph 107

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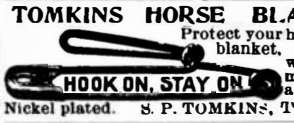

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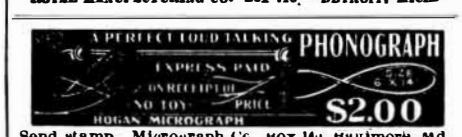

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