

THE MOST COMMON FAULT IN SCHOOL BOOKS.

We very frequently receive new school books for examination, and take them up with a disposition to give them a friendly notice, but in nine cases out of ten meet with something on the first page that determines our decision against them. The feature that is so common, and that we regard as so objectionable, is a series of unintelligible definitions, definitions that are unintelligible, at least, to minds that are not familiar with the subject which the book is designed to teach. For instance, we have now on our table a pile of school books by Horatio N. Robinson LL. D., and we take up one entitled "The Rudiments of Written Arithmetic," when we find the first chapter headed Definitions, and commencing thus,

1. "Quantity is anything that can be increased, diminished, or measured; as distance, space, weight, motion, time.

2. A Unit is one, a single thing, or a definite quantity.

3. A Number is a unit, or a collection of units.

4. An Abstract Number is a number used without reference to any particular thing or quantity; as 3, 24, 756."

We have no fault to find with these definitions whenever they are in a proper place. The objection that we make is to their position on the first page of a work designed to teach the rudiments of arithmetic. To a child, having no knowledge of arithmetic, these words convey no meaning whatever. To lead his mind to a knowledge of the study, it would be just as profitable to teach him to repeat *abracadabra*, or any other unmeaning sound. We remember perfectly well the time when we could recite "Murray's Grammar" verbatim from beginning to end, and not a sentence in it conveyed any clear idea to our mind. When we repeated the definition of a verb, "A verb is a word which signifies to be, to do, or to suffer," a confused notion was excited that we were talking in a vague way about physical pain; and we believe this is a fair sample of the effect produced by those learned and abstruse definitions with which it is so fashionable to commence school books.

A few men have undertaken that most delicate and difficult task, the writing of school books, who had that instinctive perception of the powers and requirements of a child's mind which is the most essential requisite for the undertaking. The most illustrious of these is Warren Colburn, whose mode of commencing his arithmetic forms, in our judgment, a model for all school books:—

"How many thumbs have you on your right hand?

"How many on your left?

"How many on both?

"One and one are how many?"

Proceeding from the concrete to the abstract; letting the particular come before the general; and reserving the definitions to the close of the study, when only can they be made intelligible. "Smith's Grammar" displays in its author the same instinctive faculty for teaching, and we presume that there are many other school books free from the objection that we have been considering. We regard this objection as one of considerable importance. It is natural for the human mind to desire knowledge, and if studies are presented at the right age and in the right way, children are always pleased with them. But when a child is set to study an abstruse definition which he cannot understand, the task is exceedingly irksome, and he is disgusted with the study at its very commencement. It is by tasks of this sort that children are turned from the pleasures of learning, and are led to neglect their studies, to play truant, and to create all of the disorders that prevail in schools.

Canadian Patent Office.

N. F. Belleau, the Minister of Agriculture in Canada, in his report on agriculture and statistics, gives the following respecting the business of the Canadian Patent Office:—

The business of the Patent Office is steadily increasing. During the past year, the fees received for Patents of Invention amounted to \$3,020, those for assignments, copies of specifications and registration of Trade Marks to \$194 30, amounting together to the sum of \$3,214, which has been paid to the credit of

the Honorable the Receiver General. This department of the Bureau has now become self-supporting.

The Royal Patent Commissioners in London, continue to present to the Bureau the specifications and engravings of patents issued in the United Kingdom. They now amount to 500 volumes.

Since the removal of the Government to Quebec, 443 models have been received by the Patent Office.

It is much to be regretted that want of accommodation has hitherto deprived the public in a great measure of the advantages which they would otherwise derive from the museum of models and valuable library of books. The models should be classified, numbered, arranged, and a descriptive catalogue should be prepared. The room might then be open to the public, say daily during the session of Parliament, and perhaps twice or thrice a week during the remainder of the year.

[The advantages to the people of Canada, and the income and efficiency of their Patent Office would be greatly increased if the right of obtaining patents were opened to the citizens of all nations.—Eds.]

RECENT AMERICAN INVENTIONS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week. The claims may be found in the official list on another page:—

Cane Stripper.—This invention consists in the employment of a series of cutters or strippers constructed and arranged in a frame in such a manner that they will be capable of adjusting themselves to suit cane of different thickness, and also to suit the varying thickness or taper of each individual stick or cane, as the latter is drawn through or between them and the leaves stripped therefrom. The inventors are Messrs. B. Haworth and E. Haworth, of Ridge Farm, Ill.

Iron-Built and Iron-Clad Vessels.—This invention consists in constructing a vessel of frames of iron and interposed frames of wood, and in covering the said frame with two or more series of flat diagonal bars crossing each other in opposite directions, and an outer series of longitudinal plates, the whole being bolted together and combining to make a very strong vessel, capable, in a very high degree, of resisting the impact of heavy projectiles. Its ports are made with angular or V-shaped faces, that the projectiles may glance off in striking. Between the portholes there are constructed heavy wooden buttresses, which make the ports like the embrasures of forts. W. Ballard, of New York city, is the inventor.

Grain and Grass Harvesters.—This invention relates, first, to a novel and improved means employed for operating the sickle, whereby the desired end is attained with but few parts and in a very direct manner, and the device admitting of being readily thrown in and out of gear so as to render the sickle operative or inoperative whenever desired. Second, in a novel arrangement of the main frame of the machine with the sickle, having mechanism whereby the main frame and sickle are allowed to move or work independently of each other on the same axle, and the sickle allowed to conform perfectly to the inequalities of the ground over which it passes without being in the least affected by any swinging movement of the main frame. B. H. Smith and G. W. Archer, of Ipswich, Conn., are the inventors.

Cartridge.—The object of this invention is to obviate the necessity of biting or tearing the cartridge before its insertion into the gun and prevent the waste of powder which is almost unavoidable in opening the cartridge before loading; to this end the invention consists in fitting the cartridge with a loose bottom which is driven into the body by the act of ramming the cartridge down upon or against the breech of the gun, and so caused to contract circumferentially and allow loose powder to escape and come in contact with the breech and insure its ignition. J. C. Mayberry, of White Rock, Ill., is the inventor.

Shrinking Tires.—The object of this invention is to obtain an implement by which the tires of wheels may be shrunk or contracted so as to fit the wheels to which they are to be applied without being cut and rewelded, one which will admit of the tires being readily applied to and removed from it, and at the same time hold the ties firmly in position so that they cannot casually move nor sag down while being operated upon. George McKown, of Altona, Ill., is the inventor.



ISSUED FROM THE UNITED STATES PATENT OFFICE.

FOR THE WEEK ENDING JUNE 24, 1862.

Reported Officially for the Scientific American.

. Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

35,660.—H. F. Adams and William Berry, of Syracuse, N. Y., for Improvement in Kerosene Lamp Burners:

We claim the combination of the large concave flange, F, and conical air chamber, A, having bottom openings as described, with the small concave flange, R, inclosed within the cap, C, and said flange, R, being constructed with peculiarly-formed center and outside openings as specified, and the whole being combined and arranged, specifically as described, and for the purposes set forth.

35,661.—John Allen and Edward Pick, of Brooklyn, N. Y., for Improvement in Ovens:

We claim, first, The draught and steam flue opening from the mouth of the oven, when combined with a baking chamber suitable for, and containing the reel apparatus and bake-pans, substantially as described.

Second, The side draught flues, in combination with the baking chamber of a reel oven, when opening below the mouth of the oven and above the floor, substantially as described.

Third, The double series of horizontal heating flues, in combination with the furnace and floor of a reel oven, constructed and arranged substantially as described.

35,662.—George Archer, of Massillon, Ohio, for Improvement in Combined Hounds and Fifth Wheel:

I claim the described special construction and arrangement of the hounds and fifth wheel, when combined and operating conjointly, as specified.

35,663.—S. A. Bailey, of New London, Conn., for Improved Rollers for Wringing Machines:

I claim, first, The employment of the wooden or metal cylinder, B, constructed in the manner and used for the purpose specified.

Second, The use of the rubber packing between the slats of the cylinder and the shaft, A, for the purpose of supporting said slats, as is fully set forth.

Third, Connecting the external rubber with the rubber between the slats and the shaft, through the interstices or openings in the cylinder, substantially as and for the purpose specified.

35,664.—James R. Baker, of Kendallville, Ind., for Improved Mode of Removing Chimneys and Filling Lamps:

I claim the attaching of the annular plate, D, which has the cone or deflector, E, and draught chimney secured to it, to a sliding tube, C, fitted in the burner, A, and provided with a hole or opening, b, substantially as shown, to serve the double purpose of a guide and filling tube, and admit, by the raising of the tube, the wick being tightened and the lamp filled, without detaching the chimney from the burner, or the burner from the lamp, as set forth.

35,665.—William Ballard, of New York City, for Improved Metallic Defensive Armor for Ships:

I claim the combination of iron frames, A, A, interposed wooden frames, B, B, longitudinal covering bars or plates, C, C, reversed diagonal bars or plates, D, D, and E, E, and covering plates, F, F, substantially as and for the purpose specified.

35,666.—James Beck, of New York City, for Improvement in Pliers for Closing Skirt Clasp:

I claim the combination in the pliers of the flat male die, a, and the concave rounded female die, b, substantially as specified.

Second, The arrangement of the dies obliquely to the length of the pliers, substantially as and for the purpose set forth.

[This invention consists in fitting the jaws of a pair of pliers with a flat male die and a concave rounded female die, by which means, in closing a metallic skirt clasp upon the hoop, the lips of the clasp are brought tighter upon the hoop than by pliers having dies or faces of other form. It also consists in the arrangement of the dies in an oblique position relatively to the length of the pliers, for the purpose of enabling both the hoops and tapes to pass the jaws in the operation of closing the clasps.]

35,667.—Solomon E. Blake, of Worcester, Mass., for Improvement in Folding and Tucking Gages for Sewing Machines:

I claim the apparatus described as an attachment to a sewing machine, for automatically folding or plating the material to be sewed, the same consisting of the following elements combined:

First, An adjustable gage for the determination of the distances from fold to fold, and by which the material to be folded and sewed, is guided to the sewing mechanism as described.

Second, Two folding blades, either or both of which are movable with in planes parallel, so as to allow of their adjustment in relation to each other, and in relation to the gage, as described.

Third, Rollers so hung on spindles fixed to or in folding blades as that the edge of said folding blades shall impinge upon the said rollers, substantially as described.

35,668.—A. B. Cass, of Muscatine, Iowa, for Improvement in Cultivators:

I claim the pivoted share standards, a, a, and sliding share standards, g, g, connected to the jointed adjustable lever, E, in combination with the seat, H, and lever, F, connected to a lever, E', and the seat support, I, all arranged as and for the purpose specified.

[The object of this invention is to obtain a corn plow or cultivator, which will admit of having its plows shifted or moved by the driver on his seat, so that the plows may be adjusted with the greatest facility to conform to the sinuosity of the rows, and, at the same time, admit of being readily raised above the surface of the ground when it is desired to have the implement inoperative.]

35,669.—N. B. Clabaugh, of Frederick City, Md., for Improved Washing Machine:

First, I claim a rubbing cylinder, B, armed with eccentric rubbers, C, in the manner and for the purpose set forth.

Second, I claim a rubbing board, H, having its rubbing plates, H', formed with a series of ribs, h1 h2 h3 and h4, of increasing height, in the manner and for the purpose specified.

Third, I claim a rubbing cylinder, B, in combination with a rubbing board, H, substantially in the manner and for the purpose set forth.

35,670.—J. D. Cochrane, of Milford, N. H., for Improved Clothes Wringer:

I claim an improved clothes wringer, the various parts of which are constructed, combined and arranged to operate in relation to each other, substantially as shown and described.

35,671.—E. M. Corbett, of New York City, for Camera Stand:

I claim, first, The arrangement of the diagonal frames, E, E', connected together by pivots, a, on the principle of lazy tongs, in combination with slides, f, g, and with the movable platform, B, and stationary top, C, the latter being supported by three legs, D, substantially in the manner and for the purpose shown and described.