



### Defects of American Flax.

MESSRS. EDITORS:—On page 249, current volume of the SCIENTIFIC AMERICAN, in an article upon the "Defects of American Flax," you may have done unintentional injustice to Western flax-growers, by copying from the transactions of the "Rhode Island Society for the Encouragement of Domestic Industry," the following constructive imputation:—"A noticeable fact relative to all samples of Western flax exhibited to the committee is the weakness of the staple; that it wastes largely by manipulation, and, when prepared, appears only suited for coarse fabrics. On the contrary, Canada flax is very strong, wastes much less in handling, and when properly prepared seems fitted for the finest purposes. The inferiority in Western flax appears to arise from the different modes of cultivation and after-care. They believe that any failure to work Western flax will be traceable to a want of knowledge on the part of the producer of the best modes of sowing, reaping and curing it, rather than to any other cause; and that experiments to ascertain the best modes for the cultivation and care of it, with a view to its textile use, to be thorough, should begin with the planting of the seed."

You comment, very justly, upon the weakness, coarseness, and liability to waste, of American flax, but reiterate, not so justly, that these effects "are not due to climate or soil, but to a want of knowledge or carelessness in its modes of cultivation and after-care." It is true that our flax is inferior; it is a fact that farmers are not generally well posted in flax culture, because very few of them give any attention to it; it is also very true that many American farmers who grow very coarse flax are perfectly competent to grow a finer and better article. The Western flax is particularly coarse, but not from the ignorance or carelessness of Western flax-growers. Then where is the difficulty? Not with the farmers, who stand ready to produce as fine a specimen of flax as can be grown in this soil and climate, and possibly equal to that of the Dutch and the Russians. The fault, if fault it is, lies at the door of the manufacturers. They have been slow to perfect processes and machinery for the manufacture of the fiber, for which there has been little or no demand, except for the coarsest uses, and for such purposes only to the most limited extent. For proof, note the fact that only 7,709,676 lbs. of fiber were produced in 1849, and that in 1859 that quantity was reduced to 3,783,079, or little more than one per cent. of the amount of cotton consumed by American manufacturers—a quantity not quite sufficient, were it cotton instead of flax, to run the Amoskeag (N. H.) Company's mills for six months.

A word as to Western flax in particular. Ohio, according to the last census, produced 250,768 bushels of flax seed in 1859, nearly half of the entire crop, but not a pound of fiber. Flax is grown for seed alone. Oil-mill manufacturers contract for the crop, furnishing seed for sowing, and stipulating usually that the maximum sown per acre shall not exceed two or three pecks. They thus obtain the largest quantity of seed for a given quantity distributed. The result is a coarse, stocky, branching growth, rendering the fiber nearly useless, which the farmer either burns or tries to reduce to manure. If near a paper-mill, he disposes of some of it for coarse paper. The grower may be an expert in flax-growing, and in the preparation of the lint, but he has no inducement to use his knowledge. This seed, planted year after year, perpetuates and increases the coarseness of fiber. You have hinted the cause of this deterioration, in saying that flax had hitherto been cultivated mainly for its seed; and your suggestions that the best foreign seed should be sought, as an auxiliary to improved culture, are very proper and quite timely. It was only the imputation of ignorance of cultivation and care, as a cause for inferior quality—manifestly due to manufacturing rather than agricultural considerations—to which objection is taken, which none would be more ready to remove than yourselves, or

less inclined to cast upon the profession of agriculture.

J. R. DODGE.

Washington, D. C., June 11, 1863.

[It is quite true as stated by our correspondent that our farmers have never had much encouragement to cultivate fine flax. At present most of our cotton factories, in which the finer qualities of cloth have been made, are standing idle on account of the high price of cotton. We could wish they were all engaged in the manufacture of fine linen, which is a far more beautiful fabric than cotton cloth. Efforts should not be relaxed to introduce the linen manufacture extensively. We are positive that this business would be profitable if conducted with the skill and ability shown by the linen manufacturers of Ulster, in Ireland.—Eds.]

### Homan's "Excelsior" Horse Hay Rake.

MESSRS. EDITORS:—No. 22 of the current volume of the SCIENTIFIC AMERICAN came duly to hand, containing (on page 344) a spirited and finely-executed illustration of "Homan's Patent Horse Hay Rake," which confirmed the belief I had entertained that you get up the best and most life-like engravings of machinery to be had in this country. The description, however, was defective, and contained some errors. The rake-head also serves as the axle of the machine, passing through the wheels, but being loose in the hubs and free to revolve in them independently of their motion, by the lever, D. The weight of the driver comes on the cylindrical portions of the hubs, and leaves the axle or rake-head free from any weight or pressure. The teeth are fastened to the axle, but are longer and have a larger curve than in the "cut," so that they will rake as large a windrow as desired. The use of the pins on the side of the seat is to regulate the position of the teeth, whether they shall press down hard or lightly, or skim the surface of the ground, as for a gleaner. This is done by resting the lever against the proper pin, thus reducing the labor of the driver to merely connecting or disconnecting the lever from the pins, with a very slight forward push at windrows. It is thus the easiest rake to operate yet invented, and adapted to the greatest variety of work and circumstances.

Now, I must also good naturedly claim to say a few words in favor of Mr. Homan's machine, lest some person may think, from a glance at the engraving, &c., that the rake is of the "dashing" order of things, and not a right-down practical working affair, as it really is. It is the result of a perfect knowledge of what was wanted, and suggestions by practical farmers; and, having been thoroughly tried in every way for three seasons, I believe it meets all the requirements of a reliable practical hay rake, as well as it can be done. It has taken the highest premiums at State and county fairs in the New England States, in nearly every instance where it has been entered for competition; it has received numerous commendations of the press and testimonials from well-known farmers, manufacturers and dealers in agricultural implements, and it soon becomes the standard rake wherever it is known. Several thousands are now in use, and I would refer to any disinterested person who has ever used one of them as to its value. It was patented on Oct. 2, 1860, by S. J. Homan, of Orange county, N. Y.

For the benefit of patentees and others who have inventions, I would bear witness to the inestimable value of an engraving in the columns of the SCIENTIFIC AMERICAN. In the few days which have elapsed since Mr. Homan's rake was published, he and I have received nearly thirty letters of inquiry, besides personal calls, and the cry is "still they come." One engraving is worth many times the amount spent in ordinary advertising. I speak from experience, and consider that it is the very best investment that an inventor can make. All of the New England States and part of New York are disposed of, and an offer for the remaining territory has been made; but, it will continue to be "retailed" for a while, at least. If this is not satisfactory evidence of its popularity, I should like to know what can be.

C. B. HOLMES.

Dowagiac, Mich., June 2, 1863.

[We have afforded space for the insertion of the above communication from Mr. Holmes, out of courtesy to him, but he will see that our description was

correct and embodied his own ideas in a much clearer manner.—Eds.]

### A Churn-power wanted.

MESSRS. EDITORS:—On page 342, current volume of the SCIENTIFIC AMERICAN, you published a letter received from one "John Smith," setting forth the wonderful efficacy of "Drake's Patent Churn power," but the substance of that communication is so inconsistent that I take occasion to expose it.

"John Smith" says that "the machine can be wound up in two or three minutes by a child, and will give from fifteen hundred to two thousand strokes" (meaning revolutions), &c. I have done a good deal of churning in my life-time, and I know that the labor is often very severe, requiring the full strength of a man; and, just before the completion of the process, a man is only able to work from one to two minutes at a time, and can only make about one hundred revolutions at the crank, per minute, at that. Now, when "John Smith" asserts that a machine, which can be wound up by a child, will give out any such "power" as that above stated, it shows that "John Smith" is either peculiarly interested in said "power," or is a "perpetual-motionist," or has been sublimely humbugged by the vender of that "power," and now stands in—to say the least—a very ridiculous position.

A machine designed for the purpose of churning must be able to generate its own "power," or at least must not have the "power" put in to it by the human muscles, for, if so, there will be a loss instead of gain. No machine can give out the same "power" to its movements as would be required to wind it up. A small, cheap steam engine (perhaps a rotary one), just the "essence of simplicity," is probably about as near the thing desired as the present state of the arts will allow any inventor to produce.

F. N. BLACKMAN.

Tomah, Wis., June 11, 1863.

### A Carnivorous Bull-frog.

MESSRS. EDITORS:—As your paper is devoted to the cause of science, or in other words, the development of truth by experiment and fact, I will send you an account of the result of an investigation of the contents of a bull-frog's stomach, hoping that some of your readers will account for the apparent phenomenon. Man is not the only animal that seems to be omnivorous. If he can equal he cannot certainly exceed the bull-frog in this respect. This reptile derives his title of "bull" from the resemblance of his deep guttural tones to those of the bovine animal of that name. I suppose when the frog has achieved all the necessary duties of contributing to the wants of his "inner man," or when he feels in good humor, or when he invites his "lady love," of the creek or the pond, to pay attention to his sonorous ditties, he emits his bull-like sounds of music. But to the point. Recently I accompanied a fishing party to Dardan Creek, some five or six miles from St. Charles, in St. Charles county, Mo., an excellent place for the skill of the fisherman. I caught some bull-frogs, and being of an inquiring turn of mind, I dissected one "quadruped." I found in his bull-ship's capacious stomach, two young water-snakes, one full grown bird, feathers and all, yet undecomposed, a cray-fish, with sundry other articles too numerous to be mentioned. The frog was fat; frog's hind quarters are generally considered a very delicate and nice piece of flesh, equal, if not superior to that of a chicken. Can you furnish any parallel to this case?

M. CONEANNON.

St. Charles, Mo., May 29, 1863.

[We cannot see the exact analogy between the "cause of science" and a bull-frog's partiality for animal food; might it not have been a depraved instinct of the reptile? Is our correspondent certain that the bull-frogs of Missouri (*Rana ocellata*) are generally carnivorous?—Eds.]

### To all whom it may concern.

MESSRS. MUNN & Co.:—I regret to inform you that in accordance with the provisions of an Act of Assembly of Nova Scotia, passed April 12, 1862, the right to take out Letters Patent in that province is confined to persons who shall have resided therein for one year previous to the date of their applications for such patents.

PETER STUBS.

St. John's, N. B., May 29, 1863.