would prove a great convenience to the business and scientific public, and equalize the time value of the calendar months and quarters.

A very suitable opportunity to introduce the improved calendar would be on the first recurrence of the leap-year, in 1888. In the mean time the proposed change could be fully discussed and ventilated.

The following table will show the relations of the old and the new calendar to each other:—

Old calendar.		DAY OF YEAR.	New calendar.		
Jan.	31	31	31	Jan.	31
Feb.	28-9	59-60	61	Feb.	30*
March	31	90- 1	92	March	31
	90-1				92
April	30	120- 1	122	April	30
May	31	151- 2	153	May	31
June	30	181- 2	183	June	30
	91				91
July	31	212- 3	213	July	30*
Aug.	31	243- 4	244	Aug.	31
Sept.	30	273- 4	274	Sept.	30
	92				91
Oct.	31	304- 5	305	Oct.	31
Nov.	30	334- 5	335	Nov.	30
Dec.	31	365- 6	365-6	Dec.	30-1
	92				91-2

* In transferring from old calendar to new, from March to July inclusive, deduct *two* days; from August to December, deduct *one* day. Thus March 1 (old calendar) will be Feb. 29 (new calendar); but Aug. 1 (old calendar) will be July 30 (new calendar).

The following adaptation of the old lines may serve to assist the memory:—

30 days, *July*, September,
April, June, and November,
February and *December;*
The last, in leap-year, 31,
And always the remaining five.

Edward P. Gray.

Ingersoll's 'Country cousins.'

Absence from home has delayed until to-day my seeing the extended (and therefore highly complimentary) notice of my "Country cousins: short studies in the natural history of the United States," to which you were good enough to give space in your issue of Feb. 6.

Acknowledging its kindly tone throughout, I wish to retort with equal courtesy (if possible) upon your writer at the point where he seems to find most fault; namely, my assertion that the flukes of the whale and other cetaceans represent the hinder flippers of the seal and the hinder legs of terrestrial quadrupeds. That anybody should deny this, surprised me. The language in which I expressed the statement was less precise than that demanded by a technical treatise, as 'Country cousins' makes no claim to be; but only a captious construction could make out that I meant more by what I said than that in a general way the flukes of the Cetacea were representative (in a greatly altered condition, of course) of the hinder flippers of a seal, and structurally were quite as distinct as they, from the forked tail of a fish.

Leaving my assertion and possible evidence out of the question, I should like to know what the comparative anatomists of the country have to say as to this point between my critic and myself. Do not Dr. Elliott Coues and Dr. Theodore Gill teach that a whale's fluke is directly homologous with the integumentary portion of the hinder limbs of the rest of the Mammalia? Of course, every one knows there are no *bones* there. Has not Professor John Ryder discovered, since my pages were in type, that the nerves which supply the flukes are not those which pass along the spine into the tail (where it exists), but, on the contrary, are homologues of those in the higher mammals, which, branching from the spinal cord in the lumbo-sacral region, supply the hinder limbs? What has embryology to show as to the genesis of the flukes? Do they arise structurally as the forks of a tail, or as limb-appendages? It is just possible that the inaccuracy and carelessness with which I have been rather freely accused have been over-estimated.

Ernest Ingersoll.

New Haven.

[In respect to the criticism of 'Country cousins,' to which the author of the work so warmly but courteously objects, it may be sufficient reply to quote the statement criticised by the reviewer, which is as follows: "If I had the time, I could prove to you that the difference between the fin of a fish and the boneleg of an otter or of a dog, or of our own arm, is not so very great; and it would be easy to show how nearly alike the flipper of the seal and fore-leg of a land mammal really are. . . . The same comparison will hold good for the hind-feet of the otter and the hind-flippers or 'tail' (which is *not* a tail) of the seal; and it is equally true of the walrus, *and of the whale, porpoise, grampus, black-fish, and other cetaceans.*" Not a word is said about the 'flukes' of a whale, nor is any reference made to the 'forked tail of a fish,' in the passage criticised. We again submit that this is 'evidence of either ignorance or carelessness' on the part of the author. It is at least a grossly slipshod use of language. — Reviewer.]

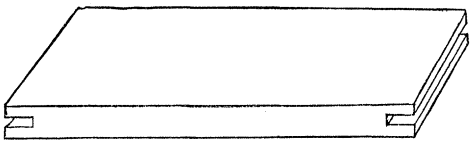
A new method of arranging entomological collections.

A very large proportion of the time of a faithful curator of a growing entomological cabinet is devoted to the re-arrangement of his collections, — to simply pulling pins from one place in a cork-lined box, and putting them into another. In large and well-endowed museums this labor can be lessened somewhat by leaving spaces in the boxes for additions; but in an ordinary entomological cabinet this is obviously impracticable, and, even where this plan is adopted, it affords only partial relief. The advance of knowledge is constantly changing our ideas as to the sequence of species; and from time to time the appearance of a monograph necessitates the re-arrangement of our collections, if we would have them represent the present state of science.

But so great is this labor of re-arrangement, that only few if any of the larger collections are kept in any thing like perfect order. And the faithful curator is forced to give to mere manual labor, time which otherwise would be devoted to original research.

About two years ago I devised and put into use a mode of arranging collections which reduces to a minimum the labor of re-arrangement. This system is an application to entomological cabinets of the principle which underlies the slip system of keeping notes. Its fundamental idea is to fasten in each

case all the specimens illustrating a single species upon a separate block. A standard size of block is adopted for what may be termed the 'unit block.' The size of this block will depend on the size of the drawers in the cabinet. Other blocks which are multiples of this size are also used. The blocks are made of soft non-resinous wood, basswood, or cucumber-tree. They are cut from well-seasoned boards three-eighths of an inch in thickness. I do not find it necessary to fasten the larger blocks in place in any way, beyond keeping the full number of blocks in each box. In each end of each block there is a groove (see figure). Small hard-wood strips are



made to fit into these grooves. In case of the larger blocks, these strips tend to prevent warping. The narrower blocks, such as would be used to mount a single row of small beetles, are fastened together by means of these strips into groups of three or four. Each of these groups are as stable as a single large block. When the blocks are in place in a drawer, the strips are entirely concealed. As the blocks can be cut with a circular saw, and the grooves and strips made in the same way, they are not necessarily expensive.

J. HENRY COMSTOCK.

TOO MANY NAUTICAL ALMANACS.

ABOUT the most distinguishing feature which characterizes the exertions of men at the present time is that of co-operation. Not only do men act in conjunction with others at home in attaining desirable and similar ends, but there is growing to be more and more a union of purpose for the attainment of such ends throughout the entire civilized world; and this has already assumed proportions never before known in human history. It is amply illustrated in the numerous international conventions, associations, and congresses, only a few years ago quite unknown, or in embryonic existence only in a few scientific heads too wise to propound such things before the eligible moment.

Now, all this is the best sort of evidence of the world's general scientific growth; for the principle of conjoined and united endeavor is based on the broadest science. If, then, the work in any science, or of any body of scientific men, should be more entitled than another to receive, and more willing to accept, the advantages accruing from co-ordination of effort, it would seem that the exact sciences should have the preference. The resolutions of the International prime meridian conference, held at Washington last autumn, are now familiar to all. The action of the astronomer royal of England, the first of January, 1885, in regulating the time-keepers of the observatory in accordance with these resolutions, may be expected to necessitate further changes in the details of observatory work, and the publication of observations, as also modifications in the printing of nautical almanacs and astronomical ephemerides, or a different understanding of them as now printed.

All these matters ought to be definitely settled at no late day; and, as a large number of governments are interested therein, their representatives should convene in a congress for mutual agreement on the details of the modifications to be made. Such a congress might also deliberate upon the advisability of adopting certain suggested improvements of the Gregorian calendar at the end of the present century. Such power should be granted, that the deliberations of the congress might determine, as well as recommend.

Whatever may be said of the national observatories, we are not sure that the deliberations of such a congress, if conducted on the broadest ground, would not lead to a resolution recommending the discontinuance of two or three of the nautical almanacs now published. In so far as the uses of the navigator are concerned, all nations will now experience the need of a nautical almanac for their several meridians, much the same as all patent-medicine firms and pill-venders feel the need of an almanac and calendar for the conservation of individual interests: it saves themselves and their patrons the indignity of referring to somebody's else almanac, and advertises the fact that they are enterprising enough to have one.

Howbeit, whether or not heroic measures of this sort are advisable, — resulting in a saving to astronomical science of from seventy-five thousand to a hundred thousand dollars a year,