SATURDAY, AUGUST 7, 1880.

BIRD FURNITURE.

BY DR. J. B. HOLDER, ASST. SUPT. AM. MUSEUM.

It is fair to say that, hitherto, no serious effort has been directed toward the proper furnishing of museum cabinets. This is especially the case with reference to Ornithology. Excellent specimens, often rare, all most valuable, and many special pets, highly prized, are placed with such surroundings and accessories as to very much detract from the pleasing effect they are capable of producing. This is so patent that any intelligent observer must have noticed the incongruity, though the cause may not be clear to him.

This subject will bear a very much fuller consideration than we can now give it. We will, however, present the results of a deliberate and careful study of certain *desiderata* in this connection. The trustees of the American Museum of Natural History in Central Park, New York, in view of the great value and scientific importance of the Prince Maximillian collection of birds, owned by the museum, determined to have them mounted in a manner commensurate with their worth.

A large collection of skins of North American birds presented by Mr. Elliott, was also placed in the hands of the taxidermist. To be in keeping with the excellent work sure to come from Mr. Bell, the matter of

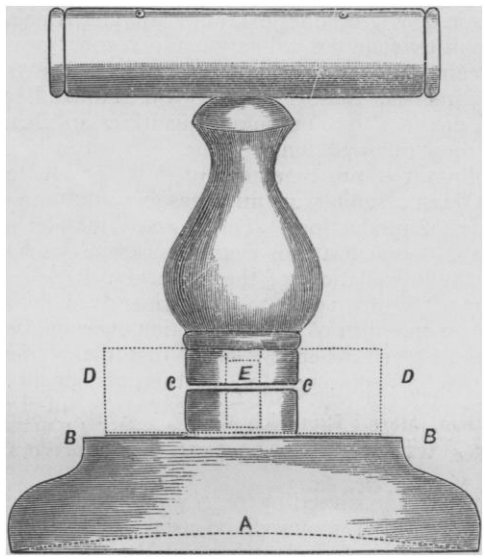

Fig. 1.

perches and stands became of the first importance. In large museums specimens are frequently moved to allow of more varied views, or to give place to others near them: it is desirable to exhibit one bird facing, another sidewise, the next with its back in front; this involves a change or removal of label.

To simplify this, as the result of our experiments, we refer to the figure of the bird perch. The wood is of the plainest straight-grained mahogany, handsomely polished. Though somewhat more expensive, it is regarded economical to use such furniture, as in a large museum it is manifestly desirable to avoid any future overhauling, or what householders call "spring cleaning." The polished stands and perches only require the occasional use of a feather duster. Birds once mounted in this manner require nothing further, and remain intact for all time. The base of the perch is hollowed, as indicated by dotted lines at "A." This is to allow labels or written notes to be concealed safely beneath for reference.

The top of the base "B.B." is, practically, a tablet, upon which the label rests and rotates. The upright or column presents an appearance of completeness after the label is mounted; the bead just under which the label works forming the base, all below being out of sight.

Fig. 2.

"E" represents a bit of tin which embraces the label in front on its upper edge, and lies behind and in contact with it. A slender copper wire is passed around the tin, and is then compressed into the groove which surrounds the upright at "C.C." This wire is twisted behind the upright, and left projecting sufficiently to allow it to be held by the thumb-nail while rotating the label upon the tablet, "B.B." It will be readily seen that this movement is easily made, and constitutes the chief point of interest in the perch. We think also that the proportions of the perch, the manifest harmony of parts, the fitting relations of label and tablet, each designed for the other in due proportions, may be regarded as improvements more or less in advance of the old methods.

Another group of birds than those that perch require flat stands; as ducks, walking birds, etc.

Our second illustration exhibits a device, very simple, yet suitable. It is desirable to place the label upon the stand, so that it may be removed or its

locality changed readily. The block, as seen in the figure, has a bead on each edge; these beads are grooved to admit the label, which is of stiff parchment paper. The upper groove is deepest, so that the upper edge of the label may be pressed into it sufficiently to allow the lower edge to drop into the lower groove. It will be seen that we then have a label free to move, the entire periphery giving the utmost freedom for exhibiting every aspect of the specimen. Of course these blocks may be made with upright sides. Though the labels are more expensive for the bevelled ones, the latter have a more pleasing appearance.

COMPETITION BETWEEN THE ANILINE AND MADDER DYES.

BY A. S. MACRAE.

As these dyes are globularly used to the extent of some one hundred million dollars per annum; as they are as well known to the manufacturers of New England as to the horse-hide colorers of Japan, it may be interesting to inquire what effects, in *esse* and *posse* the one is having upon the other in commercial value. And as the market price invariably depends upon supply and demand, the source of the former must be examined into that the estimate of the latter may lead to judicious deductions.

Previous to the modern use of the above, indigo, cochineal, and the vegetable or wood dyes were altogether in vogue, and the inestimable appreciation of the indigo was primarily the cause which led to the discovery of aniline. The coloring matter of indigo has long been technically known as anil, and the manner in which it gave the name to aniline, has perhaps never been published before this present article. The botanist had ever been puzzled to know whence came the coloring matter of the indigo plant. Where it was indigenous the dyeing matter was inherent; but although the plant flourished almost anywhere in tropical climates, it invariably lost its color yielding power on this transportation! How was this? The botanist had to appeal to the chemist for explanation. Investigation demonstrated that the anil or coloring matter was solely due to the subsoil over which the indigo plant fructified, and that apart from this metaliferous or possibly bituminous earth, the coloring idiosyncrasy was lost. It will thus be seen that the article cannot be produced at will, but only where it and the soils are indigenous. However much this certainty baffled the botanist, it only set the chemist a-thinking. His analysis and synthesis showed beyond cavil, that anil, pure and simple, was neither more nor less than a hydro-carbonic compound, and that amongst some of these artificially produced compounds, anil, otherwise than the anil of indigo, might yet be discovered. The cheapest object for this research naturally suggested itself, and common coal-tar—the refuse of gas works—presented itself as the most economic basis of naphtha, and the matrix of an abundant hydro-carbon. It would be irrelevant here to trace the success which crowned the chemists' efforts to produce anil, or as it was now called, aniline, from this once—but now no longer so—rejected filth. But one portion of the discovery must be referred to, not only in demonstrating the discoverers' wonderful patience, but as proof of the capricious supply of this marvellous product. Coal tar, then, yields naphtha; naphtha, benzole; benzole, nitro-benzole; nitro-benzole, aniline. When the naphtha was first distilled from coal tar, no benzole was discovered in it, or, if it was discovered, in such small quantities as to defy remunerative production. But the trace was there, and as most auriferous deposits are discovered by traces, these said traces were pursued until the golden goal was scientifically and successfully attained. When the naptha was distilled by different temperatures, it was found that benzole was produced at one temperature that was smothered at another, and that by grading the distillations actual benzole could be eliminated in paying quantities! From this moment common coal-tar became the matrix of those valuable aniline dyes, which under the names of roseine, aniline reds and crimsons, Nicholson's blues, Humbolts, mauves, magentas, Bismark browns, oranges, iodine greens, purples, magdalas, violets, greens, phosphines, etc., have astonished the world for the last twenty years. Nearly all the dazzling colors worn now-a-days, that dim the sun and flaunt the eyes, are derived from the very cheapest of bases named, yet have arrived at such a value in the manipulation, that prices run from $2 to $30 a pound and in some cases even $6 an ounce.

At the period of these discoveries, madder had largely superceded indigo, cochineal and other dyes, and at its producable price was certainly the most economic dyeing product extant. Madder is neither more nor less than the ordinary madder root ground, a root capable of cultivation to an unlimited extent. Turkey in Asia, Italy, France, Spain, Holland, and Naples produced it in enormous quantities and British India soon followed suit. The importations into Great Britain at one time amounted to 50,000 tons, and at least a similar quantity was consumed in the countries of production. Unknown as madder may be by that nomenclature, every housewife knows it under the appellation of the "Turkey Red," the name manufacturers gave to their prints dyed by this article. Some idea of its consumption even in America may be given, when it is stated that the writer of this article saw some 500 tons of this madder in the manufactory of A. & W. Sprague & Co., of Providence, R. I., when he visited those works a few years ago.

If then aniline is used by the *pound* where madder is used by the *ton*, it may well be asked by merchants, manufacturers and dyers, what will be the effect of the competition between them? the one the limited production of human manipulation, the other the unlimited production of cultivated nature. We will examine the question.

"Every dog has its day," and in the day of aniline