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TWELVE YEARS' EXPERIENCE WITH RUBBER STOPPERS. USED IN THE BIOLOGICAL COLLECTION OF THE MUSEUM IN CAMBRIDGE.

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The late Professor L. Agassiz, in 1867, requested of me a detailed plan for the development of the entomological department of the Museum. Among the different collections proposed was a biological collection similar to my own for Neuroptera and Pseudo-neuroptera, but extended to include all Arthropoda. The Professor in a marginal note stated that this collection should be commenced immediately, and developed as rapidly as possible. In my collection the alcoholic objects were included in vials placed horizontally near the pinned dry objects, so that all belonging to one species were together and presented a clear view to the observer. I used vials closed with cork stoppers, which for a small collection and by a continual supervision, proved sufficiently safe. Nevertheless experiments were made with several substances, hoping to prevent the evaporation of the alcohol and the necessity of refilling a large number of vials every six months. This arrangement is, as stated, sufficient for a small collection, but when applied upon a comprehensive and extended scale, proves inadequate. The continual supervision and refilling of several thousand vials would have needed a considerably larger expense and a special assistant. The best velvety cork stoppers did not do as well here as in Europe, owing to the greater changes of temperature. Experiments were made during six years upon a large number of substances in the hope of increasing the efficiency of the cork stoppers. Fats, tallow, stearine to impregnate the cork, wax, sealing wax, different resins and varnish, shell-lac, iron-lac, guttapercha and India rubber in different solutions, thick oil paint, collodium, waterglass, very fine bladder around that part of the cork placed in the vial, and glue and paste to cover the external part of the cork with strong paper and bladder, were subjected to trial. Several of these substances were tried on an extensive scale and