

feated, when they see about five thousand professors, doctors, and students, who gathered here during the past week, all hale and hearty, although many of ripe old age, all of whom drink beer in larger or smaller quantities; and as for the statement that he who 'drinks beer thinks beer,' it is a well-known fact that German thought leads the world in more than one branch of science.

Every naturalist and every physician who has published something in scientific or in medical journals is eligible to membership on the payment of a certain fee: here in Berlin it was placed at fifteen marks. Those who are interested in science, but have not published any thing, can, on payment of the same sum, become associates, but not members; i.e., they are entitled to attend all meetings and entertainments, but are not allowed to vote. No election of members is held: only a simple announcement of the facts, and payment of the fees, are needed to obtain a membership card; and so great and so just is the confidence which these gentlemen place in the applicants' honesty, that cases where membership certificates have been obtained under false pretences are so very few during all these years, that they can be ignored entirely.

The sections, to the number of thirty, have no permanent officers. At every meeting a chairman and a secretary are elected, although the latter generally remains in office during the whole week, because it is his duty to make the necessary report, and collect the abstracts of the papers read before the section, for the 'Tageblatt' of the next day. This Tageblatt is a very commendable institution, and takes the place of the 'Daily programmes' of the American association in a very decidedly improved form. It is issued every morning, at about nine o'clock, and contains the membership list, announcements, programme of the day, and *abstracts of all the papers read before all the sections* on the preceding day. This year's Tageblatt forms a small quarto volume of four hundred pages.

The registry shows 2,214 members, 1,914 associates, and 1,475 ladies, who are classed by themselves. The position of the ladies in the Association of German naturalists and physicians can, in part at least, be defined by the reproduction of a short abstract from one of the numbers of the Tageblatt:—

"His majesty the emperor has been pleased to order a special performance at the Royal opera, as well as at the Royal theatre, exclusively for the entertainment of the Association of German naturalists and physicians. . . . LADIES ARE NOT ADMITTED!"

In view of the large numbers present, there was

nothing wrong in this decree, according to German notions at least; but in view of the fact that at least one-third of the members were natives of Berlin, who could have visited either of the theatres at any other time, it would have been more just if these gentlemen had been excluded. But they were all there as 'invited guests of the emperor' (nothing small, indeed); and many of those who had perhaps travelled from the farthest point of Germany had to take a back seat, and, in addition, leave their wives at the hotels or stay away altogether.

The large number of social entertainments furnished by the local committee as well as by the city government were as complete and elaborate as possible. Excursions, exhibitions, regattas, suppers, balls, etc., gave an abundant opportunity to comply with § 2 of the very short constitution: "The aim of the association is to offer an opportunity to the naturalists and physicians of Germany to form a personal acquaintance."

POHLMAN.

THE MOUNTING OF MUNGO.

THE common practice in mounting large mammals is to first make the legs, and, having fastened them securely to a backbone of plank, to pack the remainder of the body with loose filling. While this does well enough for long-haired animals, whose muscles are concealed, for those that are scantily clad some other methods must be adopted in order to reproduce correctly form and features.

To build up an animal that will be lank and flabby is the height of taxidermic art, and a brief description of the manner in which the elephant Mungo was mounted at the national museum will show the methods by which such results may be obtained.

Mungo was an African elephant about six years old, belonging to Forepaugh's menagerie, that thoughtfully selected Washington as the place of his demise. Mr. William T. Hornaday, the distinguished taxidermist, saw in this event an opportunity of putting the new principles of mounting into practice.

The first step in the process of mounting was to take a series of careful measurements of the body, showing its length, height, and girth at various points, and the dimensions of the limbs and the trunk. These were supplemented by sundry drawings, and by plaster casts of the head and of the limbs of one side. The more care was necessary in this, owing to the fact that the entire skeleton was to be mounted separately, and thus no guide left to the position of the joints. This done, the skin was removed, and transferred to a bath

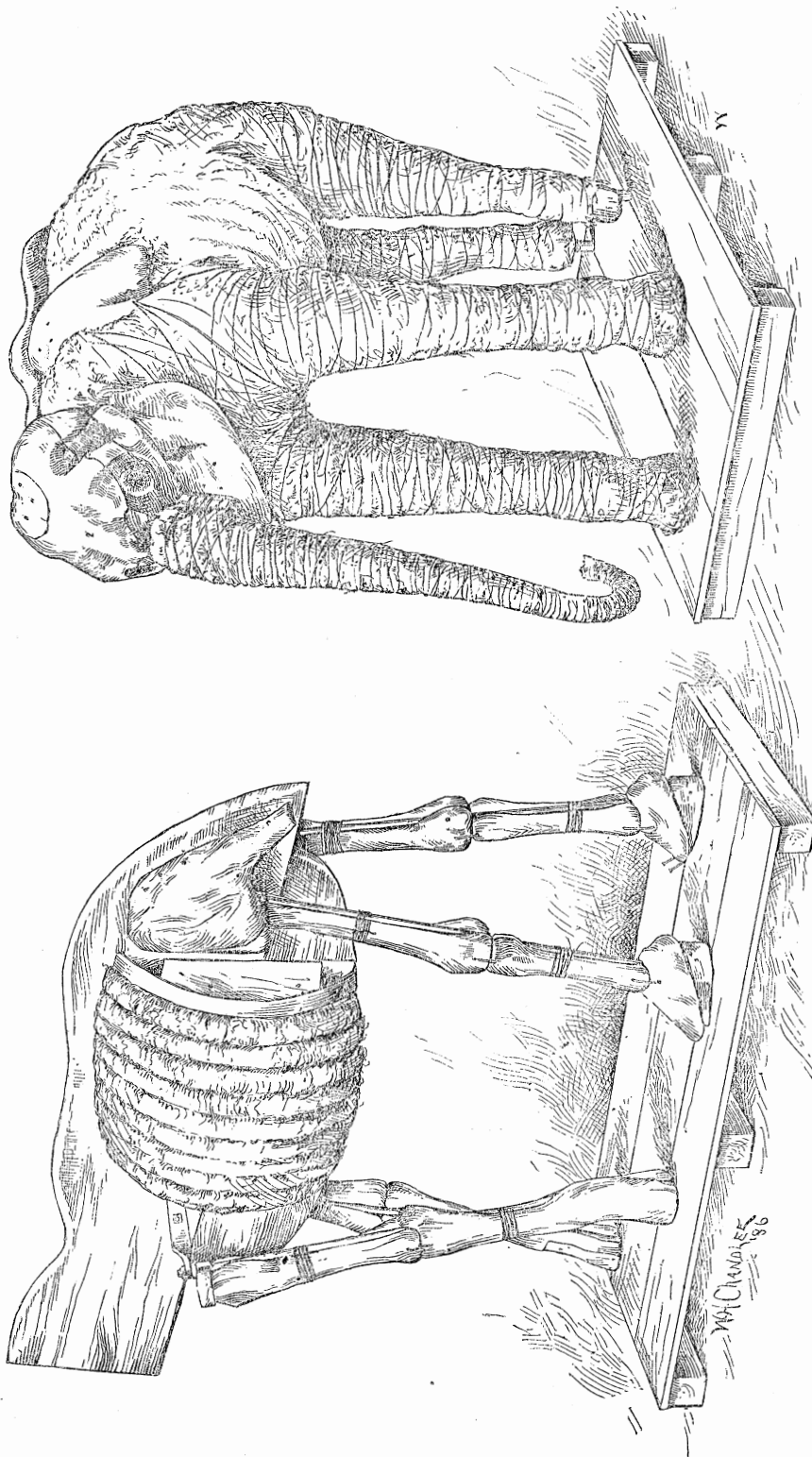


FIG. 1.—SKELETON OF WOOD AND IRON FOR MUNGO, THE BODY WRAPPED WITH ROPES OF TOW.

FIG. 2.—SKULL, BACKBONE, AND SCAPULA OF WOOD, AND WRAPPING OF EXCELSIOR.

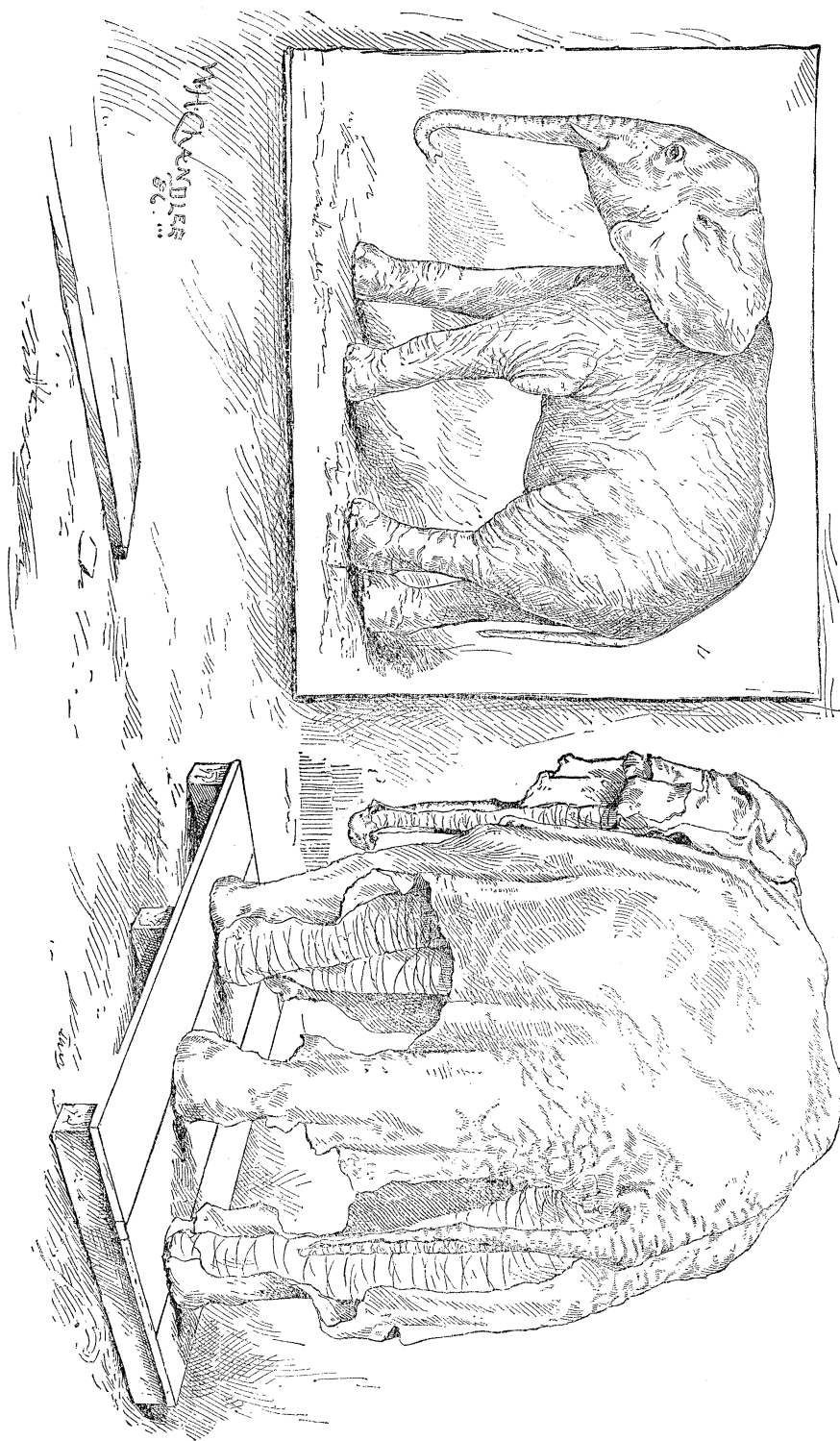


FIG. 4.—MUNGO FINISHED.

FIG. 3.—TRYING ON THE SKIN.

of salt and alum, there to lie until its false body should be ready.

The backbone of this false body (fig. 1) consisted of a broad two-inch plank, the upper edge of which was carefully cut into an exact copy of that dorsal outline which is so characteristic of the African elephant. To this the legs were attached by heavy angle-irons, the iron that formed the axis of the leg running through a hole in the free arm of the L. The legs themselves were formed of excelsior solidly wound around roughly hewn wooden bones.

The accuracy of the work was proved by frequent reference to the measures taken from the dead ani-

measurements, the vacancies existing between the upper parts of the legs and adjacent portions of the body were carefully filled out (fig. 2). Like Mother Rigby's Feathertop, the elephant at this stage stood forth a creature of wood and tow, only waiting for the final metamorphosis which should fill the blank wooden orbits with twinkling eyes, and endow the entire framework with the semblance of life. The thick, stiff skin was now removed from the bath, and carefully thinned down until it had lost half its substance, and become — for an elephant — soft and pliable.

As a careful tailor tries on a partially completed coat to assure himself that the finished garment

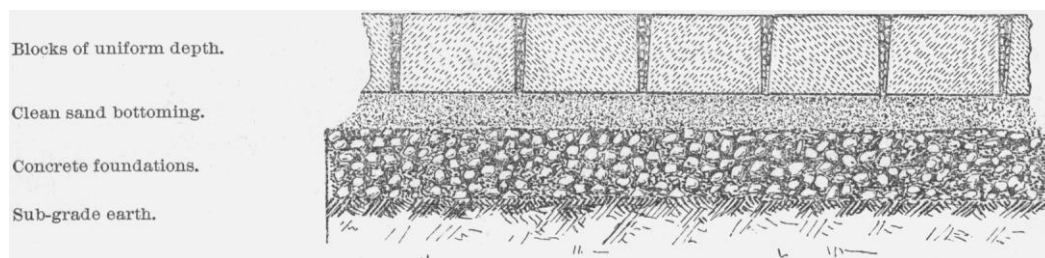


FIG. 1. — PAVEMENT AS CONTRACTED FOR.

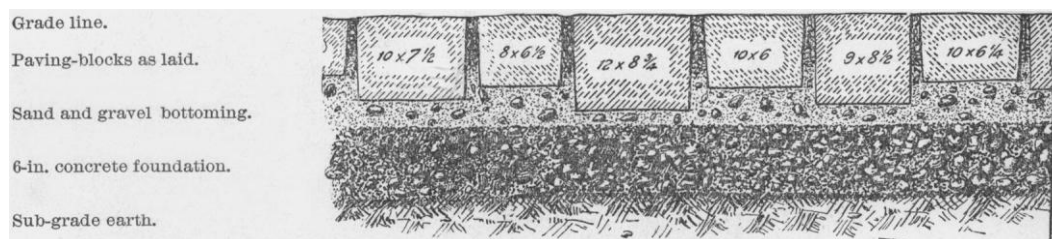


FIG. 2. — PAVEMENT AS LAID.

mal, due allowance being made for the fact that the finished piece would be somewhat larger than its supporting framework. The broad overhanging pelvis was next added; and then the skull, with its massive jaw, was built on, the more salient portions being carved with care from the plaster model, while those buried deeply in the flesh were more roughly copied.

The long ribs of the original were represented by bands of iron wrapped in tow, fastened above to the plank backbone, and below to a second plank shaped to the outline of the under side. A neck of laths, covered with excelsior, joined the head to the body. Wooden shoulder-blades were now put in place, the tail and trunk added, and then, following the diagrams and accompanying

will be a success, so the skin of Mungo was hung upon the manikin (fig. 3). The trial proving satisfactory, the skin was poisoned with arsenical soap, and all was ready for the last act. The skin having been replaced and secured along the back, first one side, then the other, was covered with a thin coating of clay mixed with chopped tow, and the body section sewed up. One by one the legs, trunk, and tail were similarly treated, the skin being covered each night with wet cloths to preserve it moist and flexible throughout. The sewing having been finished, the wrinkles indicated in the skin were followed over with a pointed modelling-tool, thus impressing them deeply in the moist clay, while the deepest wrinkles or thick folds of the trunk, elbows, and flanks, were

secured by wires or twine to hold them in place until dry. Great pains were taken in inserting the eyes,—made from a color-sketch of the originals,—and marking in their surrounding lines, on which depended the expression of the face. After thoroughly drying, all seams were filled with *papier-maché*, while a slight but careful use of color restored the skin to its original aspect (fig. 4).

Thus was Mungo reconstructed, and thus did Mr. Hornaday successfully solve the problem of so mounting an elephant that his hide should appear loose and wrinkled, instead of, as is too often

A FEW WORDS ABOUT PAVEMENTS.

A RECENT report to the commissioners of accounts of this city, prepared by Col. George T. Balch, and relating to a pavement now being laid in Fifth Avenue, shows clearly the difference between pavements scientifically constructed and those with which New-Yorkers are more familiar. The value of the report is enhanced by the judicious use of engravings, some of which are reproduced herewith. Fig. 1 is a transverse section through a pavement constructed in accordance with the specifications prepared by the city

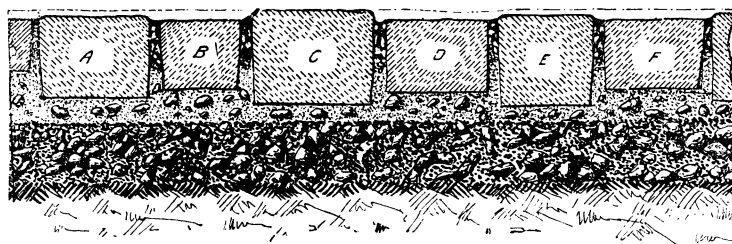


FIG. 3.—PAVEMENT AFTER HEAVY TRAFFIC.

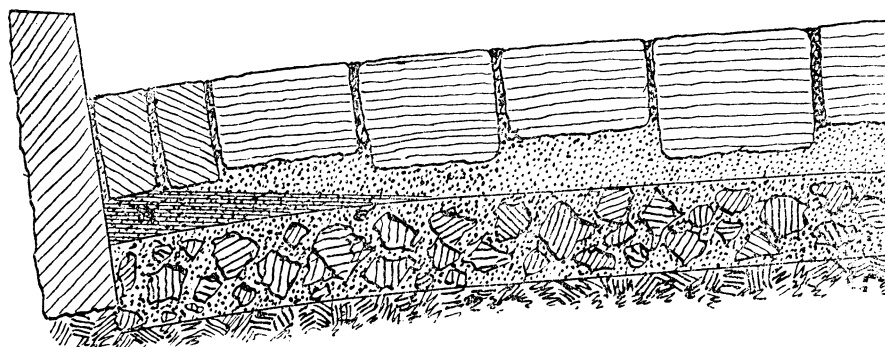


FIG. 4.—EFFECTS OF WET SAND AND LEAKAGE.

the case, smooth and swollen. Mungo was exhibited at the Washington meeting of the Society of American taxidermists, and received the special medal 'for the best piece in the entire exhibition.' This elephant may be said to represent the beginning of the new and better class of taxidermy at the national museum; and although four years ago he stood, as regards quality, almost isolated, he is to-day surrounded by so many pieces of equal merit that we may look hopefully forward to the time when the mounted mammals of the national museum shall be unsurpassed.

FREDERIC A. LUCAS.

authorities. The agreement between the city and the contractor called for sound granite blocks, approximately uniform in size, rammed solidly down upon a bed of sharp, clean, dry sand; the spaces between the blocks to be filled with clean, dry, hard gravel, free from sand, over and through which should be poured hot coal-tar cement. The sand bedding was to rest upon a concrete foundation at least six inches thick, laid upon a well-tamped road-bed. Were the provisions of the agreement carried out, Fifth Avenue would have a pavement nearly perfect of its kind. But, according to Colonel Balch's report, nearly every