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CHEMICAL LABORATORY,
DIGESTIVE FERMENTS COMPANY,
DETROIT, MICHIGAN.

A METABOLIC CAGE FOR DOGS.*

BY A. RICHARD BLISS, JR.[1]

The cages, described herein and used in the laboratories of the University of Tennessee Colleges of Medicine and Dentistry and School of Pharmacy at Memphis during the past college session, have proved very satisfactory. Long experiences with stock cages and with cages constructed in the Shop of the University of Tennessee, all of which showed some marked disadvantages from the standpoints of animal comfort, care, accurate work and costs, resulted in the invention of the cages under discussion.

Fig. 1.

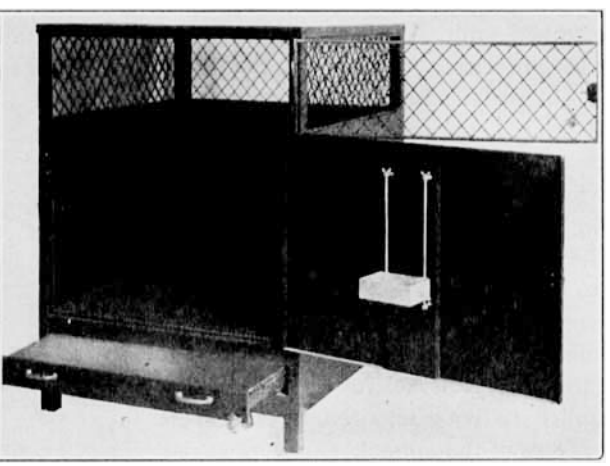

Fig. 2.

These cages, which may be built to any desired dimensions, provide isolating compartments for dogs of any size, cats, rabbits, monkeys or other small animals. They are constructed so as to furnish maximum ventilation and visibility, while affording complete comfort to caged animals. The high degree of comfort provided is conclusively shown by the fact that large dogs, which have been confined by the author in cages of this type 3 ft. x 3 ft. x 3 ft., have given none of

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[1] Dean of the School of Pharmacy; Chief, Division of Pharmacology and Materia Medica, College of Medicine, University of Tennessee, Memphis.

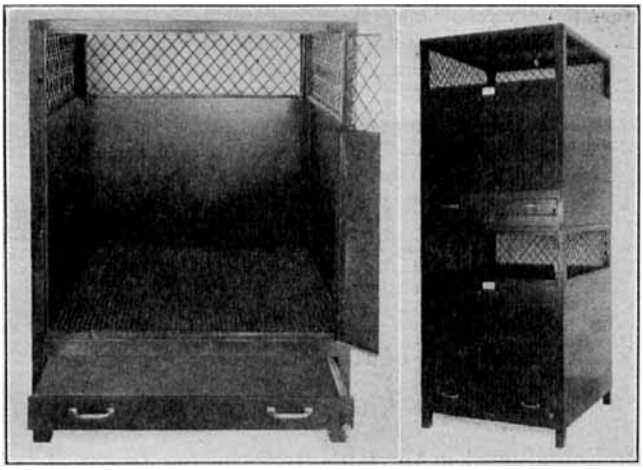

Fig. 3. Fig. 4.

the usual noisy evidences of discomfort and fretfulness.

The cages are constructed of sheet metal (filing cabinet steel) which is covered with baked enamel of desired color, and they present a most pleasing appearance. Figure 1 presents a general view of one of the cages. The back and sides are of steel plate with heavy wire-mesh toppings. The mesh toppings may be made of any desired height. The top of the cage is of steel plate or of wire mesh as desired. The front is a duplex door, the lower unit being a sheet metal door, and the upper a wire-mesh door, each provided with a fastening bolt. The sheet metal door carries a large label holder and has an angular upper edge offset laterally inward, against which the wire-mesh door closes at the bottom. (See Fig. 2.) This arrangement permits close unobstructed observation of the confined animal and the placing of food, water and other materials in the cage with practically no opportunity for the animal to escape.

A water or food tray is carried on the inside of the lower door. (See Fig. 2.) If desired, the tray may be fastened to one of the sides. The tray is attached to threaded rods, the upper ends of which are squared. By simply turning the squared tops of the rods with the fingers the tray is caused to travel up or down to a height which is within comfortable reach of the particular animal under observation, and without the liability of the tray contents being spilled or contaminated by the urine or feces of the animal.

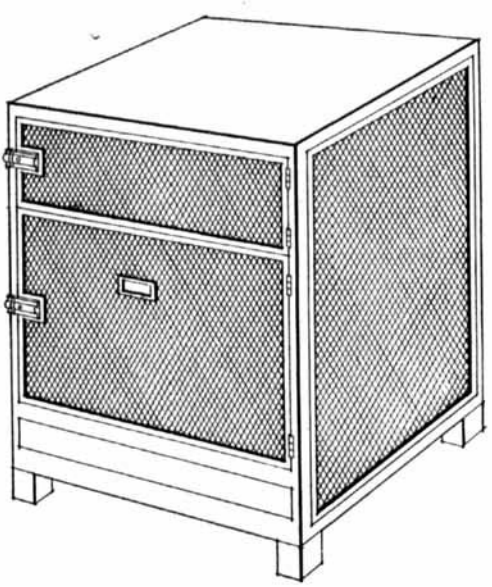

Fig. 5.

The floor supporting the animal consists of a readily removable and replaceable false bottom of suitable wire mesh, which permits the free passage of the urinal discharges of the animal. The removable floor rests on a ledge which is provided with a flange directed laterally inward and downward to deflect liquid passing through the mesh floor away from the lower sides of the cage body. (See Fig. 3.)

Under the floor or false bottom is a removable sliding hopper drawer with its inner bottom sloping in all directions toward one outer corner which is provided with a small drain or draw-off cock. Accordingly, all liquid discharge from the animal will pass into the hopper drawer where it is accurately and completely collected, and from which it may be completely drawn off at will. The construction material insures against corrosion and contamination of the collected fluids. (See Figs. 2 and 3.)

The legs of the cages are removable so that they may be stacked in tiers. (See Fig. 4.) Castor bases may replace the legs.

The construction and the materials of the cages make them practically indestructible, and permit of easy thorough cleansing and sterilization by disinfecting and cleansing agents, boiling water and steam. The weight of the cages permits of easy moving. The cost is surprisingly low.

By an easy modification of the foregoing construction a very inexpensive cage is provided suitable for simple storage and isolation. Full mesh panels may be used for the sides and door of the cage. The back and the top may be made of solid steel or mesh as desired, and the bottom of solid steel in place of mesh. No hopper drawer is then needed. (See Fig. 5.)

ASSAY OF GROUND FLAXSEED FOR NON-VOLATILE, ETHER-SOLUBLE EXTRACTIVE.*

BY JOSEPH L. MAYER.

The U. S. Pharmacopœia X, on page 205 states that "linseed yields not less than 30 per cent of non-volatile, ether-soluble extractive" and on page 206 directs that the assay be made "as under Non-Volatile, Ether-Soluble Extractive on page 466." The method on page 466 is as follows:

"Extract completely 2 Gm. of the prepared drug (paragraph VI) dried over sulphuric acid for not less than twelve hours by subjecting it during twenty hours, to the action of dehydrated ether (page 475) in continuous extraction apparatus. The weight of the extract, after drying in a desiccator and then at 110° C. until of constant weight, represents the non-volatile portion of the extract."

While the continuous extraction apparatus is frequently permitted to run all night and in this way the assay quickly completed, it is often a risk to follow this procedure due to fear of an accident of some sort, and therefore the work is carried on during working hours, three working days being consumed in the assay.

With the object of shortening the time required for the assay I attempted to make the analysis by the following procedure:

A.—One Gm. of ground flaxseed was placed in a 2-oz. bottle, 30 cc. of ethyl ether added and after being corked the bottle was frequently shaken from February 5th until April 9th when the liquid was decanted on a filter, the filtrate being collected in a tared glass crystallizing dish. When the liquid had run through, the residue in the bottle was spritzed on to the filter by means of ether from a wash bottle and when the liquid had run through the bottle and filter with contents repeatedly washed with 10-cc. portions of ether employing a total of about 75 cc. After evaporating the ether on the steam-bath, the material was heated to constant weight.

* Read before annual meeting of the New York State Pharmaceutical Association, June 1929.