Fig. 1. Dog with movement-restricting collar attached. Note the flange extends well over the scapula

placed through the $\frac{1}{2}$ -in. hole on one side of the collar and brought across the chest in the back of and between the fore-leg to the hole on the opposite side of the flange. A canvas strap three inches wide with metal loops to accommodate snaps or short leather thongs which are crossed under and between the forelegs can be employed as an alternative to the rope.

This collar has proved very satisfactory by first being well tolerated by laboratory animals under conditions of restricted quarters. The dog fretted very little and apparently had sufficient latitude of movement to enable reasonable activity and comfort in eating and resting. These dogs were observed for a continuous six-week period, at the end of which time the fur and skin under the collar was not irritated in any way.

The optimum requirements for such a collar are for the lightest possible material which would produce the least amount of bulk. The only other effective type is the disk collar, but it was seen in our series of animals to be only 30 per cent effective against 92 per cent with the wrap-around type. A comparison of some values shows the disk type to weigh 1 $\frac{3}{4}$ lb. against 8 oz. Moreover, the cost of the latter is much lower. The ease of application and construction is far greater in the wrap-around and it can be changed rapidly if the occasion demands.

Two factors have to be avoided: (1) To make the strings to the chest strap secure, as without these the collar can rotate on the neck, thus allowing the animal access to the protected site. (2) To make the flange sufficiently long to restrict motion successfully.

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Prophylaxis of Trypanosome Infections in Cattle

THE introduction of 'Ethidium' (I) in 1952 made available to veterinarians in Africa a drug with very high therapeutic activity against the two most important trypanosomes of cattle, *Trypanosoma congolense* and *T. vivax*, and this drug is now widely used. There still seemed to be the need, however, for a drug which would confer a prolonged period of protection to dosed animals, and we have therefore, worked to this end. One particular series of drugs (II) showed, in mice, therapeutic activity of a very high order, and also a prophylactic action greater than that of any other drug available. Two of the most active of this series, 'R.D. 2787' and 'R.D. 2801', were sent to Africa for trials in cattle. 'R.D. 2801', which had appeared the better of the two in tests in mice, has shown considerable promise in tests in Tanganyika and in Nigeria, against both *T. congolense* and *T. vivax*. In one trial, for example, a single dose of 2 mgm./kgm. protected cattle for at least six months. Trials are still in progress, and full results of both these trials and of our laboratory findings will be published elsewhere.

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Dehydrochlorination of DDT by Resistant Houseflies and Mosquitoes

THE recent characterization of DDT dehydrochlorinase in resistant houseflies¹ has prompted an investigation of this enzyme and of the production of 2,2-bis(*p*-chlorophenyl)-1,1-dichloroethylene (DDE) in mosquitoes, in which DDT-resistance is now developing². As an initial step, two strains of resistant houseflies were assessed for DDT-dehydrochlorinase content. The DDT-45 strain showed no less activity than originally reported¹, the DDE production in 3 hr. by the equivalent of six flies averaging 98 μ gm. for homogenates and 52 μ gm. for acetone powders. The Dilan strain, developed by two years of dilan pressure without any exposure to DDT, showed an enzymic DDE production of 100 μ gm. for homogenates and 34 μ gm. for acetone powders. This Dilan strain resembled the DDT-45 strain in having an LD₉₀ exceeding 50 μ gm. and being able to convert 90 per cent of 10 μ gm. of DDT topically applied to DDE in 24 hr.

Two instances of DDT-resistance in mosquitoes were then investigated. (1) Resistant salt-marsh