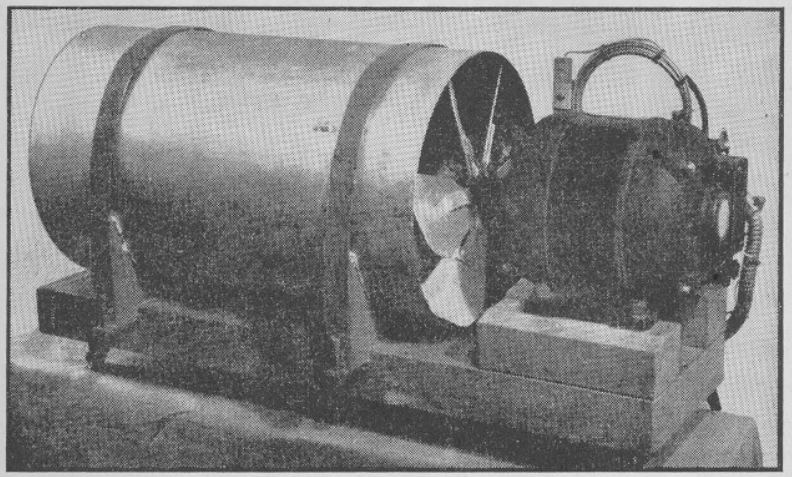
WARMING-ROOM UNIT FOR COMB HONEY

WARMING combs before extracting the honey is becoming a popular procedure with commercial beekeepers, because it speeds up the rate of extraction and assists considerably in the clarification of the honey. In this article C. R. Paterson, Apiary Instructor, Department of Agriculture, Hamilton, describes a compact, mobile warming - room unit which he has designed. The construction of insulated warming rooms will be the subject of a later article. A drying plant which will remove excess moisture from comb honey and honey in settling tanks by indirect heating and lowered humidity was described in the June, 1947, issue of the "Journal".



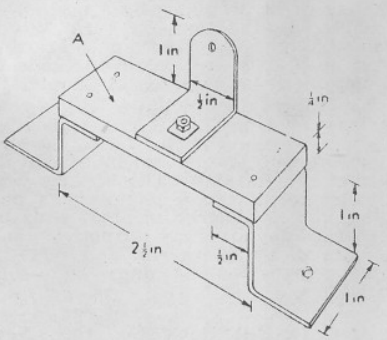
Warming-room unit, showing the fan and motor. The divided wooden blocks which can be seen under the motor allow greater movement of air around the motor.

FOR the past 25 years some commercial beekeepers in New Zealand have realised the benefit of having a warming room in which combs of honey could be placed before extracting the honey. Such a room enables the beekeeper to remove large quantities of honey from the hives during fine weather so that normal extracting operations can proceed when weather conditions are unsuitable for outside apiary work.

Until recently, however, the warming rooms in use were not very satisfactory, because a method of circulating air was not incorporated with the heating device. The reason for this no doubt was that electricity, with its satisfactory automatic form of control, was not available to most beekeepers. Today the position is changed and there are very few honey houses that are not powered by electricity.

The component parts of the unit are as follows:—

Motor: This is a ¼ h.p. electric motor with a speed of approximately 1420 revolutions per minute.



Insulated bracket for elements. A—Insulated material.

Fan: A 4- or 6-bladed fan of 10in. diameter is used. The blades should be set to give the maximum movement of air of which they are capable.

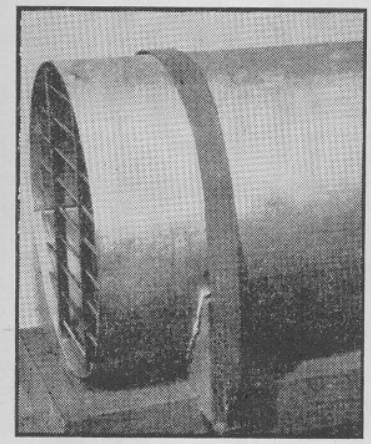
Heating elements: Two 1000-watt radiator elements are used. Insulated clips are made for fastening them to the wind tube.

Wind tube: Approximately 20-gauge flat iron is used for the wind tube, which is 10½in. in diameter and 20in. in length.

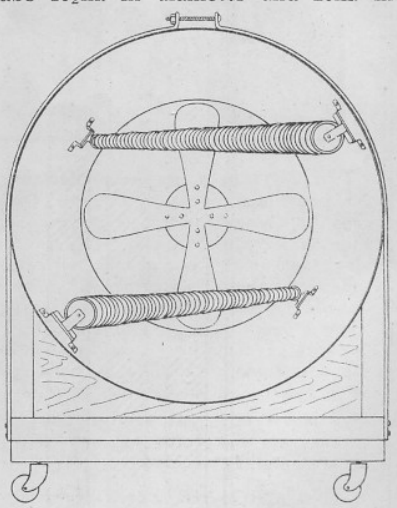
Thermostat: This is the most important part, because the reliability of the unit is dependent on the switching on and off at the required temperatures of the motor and heating elements. Particular care should be taken to see that it is of the desired capacity; that is, it should be capable of dealing with the current required to operate the two 1000-watt elements and the ¼ h.p. motor.

The construction of the heating unit is comparatively simple and straightforward. Purchase, if possible, a ready-made 10in. fan, but if one has to be made see that the blades are securely fastened to the hub flange. Put plenty of set on the blades to ensure a maximum movement of air, otherwise there will be a possibility of honey near the unit becoming too hot. In one instance a heating unit was used in which a small fan was not moving the required amount of air and several tiers of combs became overheated and collapsed. Make sure also that the fan is securely fixed to the motor shaft. For smooth running have the fan evenly balanced and see that it is rotating in the correct direction; that is, blowing the air through the tube away from the motor.

Wind tube: A piece of 20-gauge flat iron 20in. x 33⅜in. will allow a turnover of ¼in. on each end for a seam and the sheet can be shaped into a tube 10½in. in diameter and 20in. in



Protection grid. A strip of asbestos can be seen between the woodwork and the metal tube.



Grid removed, showing method of fixing elements in wind tube.

length. With a 10in. fan rotating inside, the tube must be symmetrical and kept in that shape by the wooden blocks and the straps of hoop iron shown in the upper illustration on the previous page. Strips of asbestos are placed between the woodwork and the metal tube.

Heating unit: Two 1000-watt radiator elements of the rod type are required. To hold these in position inside the wind tube four insulated brackets should be made as shown on the previous page. These are securely bolted to the sides of the tube. The heating elements are arranged to allow the air to attain the greatest possible heat as it is forced through the wind tube.

A guard in the form of a grid is fitted on the end of the tube to protect the elements and as a safeguard against mishap.

The motor and fan are mounted on two blocks of wood to give the correct height and to allow the fan to rotate just inside the wind tube. They should be securely bolted to the wooden base. To allow the unit to be moved four furniture castors should be placed on the base as shown on the previous page.

The only other appliance required is the thermostat. The wiring of this unit will require to be done by a qualified electrician so that it will be best to let him secure the correct type. As there are so many different makes and types of thermostats, care will have to be taken to see that it gives the temperature range required and cuts off at 90 to 95 degrees F.

The mercury tube type should be mounted in a vertical position alongside the motor. Other types may be mounted on the top of the motor. Whichever type is used, see that it is placed where it will not be knocked easily when the unit is moved.

The different parts must be correctly wired together so that the motor and heating elements switch on and off together. There would be a real danger if the motor and fan stopped while the heating elements were still going, but it has been found that there is no need to keep the fan going after the heating elements have cut off.

Supers of honey are brought into the warming room from the apiary and stacked on drip trays, leaving about 4 or 5in. between each pile. There appears to be no need to stagger the supers, but air space between the piles is essential. Leave a little space around the door for the heating unit.

The grid end of the wind tube should face an aisle in the supers.

Switch on the unit and close the door. It is best to have the switch and plug connection inside the warming room.

Experience has shown that when the unit has brought the temperature up to approximately 85 to 90 degrees F. it will cut off for 20 to 25 minutes and then run for about 10 minutes before cutting out again, but the times will of course be governed by the efficiency of the insulation of the warming room.

The amount of electricity used by such a unit is slightly more than 2 units per hour.

THOUGH bulls are recognised as the most dangerous of farm animals, they continue to take their toll of human life. The obviously dangerous bull of the bellowing, sod-throwing type is not the one responsible for these fatalities, for he is respected and every precaution is taken when he is handled. Rather is it the "quiet" type of bull that causes the accidents, for usually he is treated with the indifference arising from years of association with what is regarded as a docile animal. Since official statistics have been recorded in New Zealand, in only 2 years have bulls failed to add at least one to the total of farm fatalities, and twice they have been responsible for four deaths in 1 year. In all, 15 farmers have been killed by bulls in the past 10 years, with undoubtedly a large but unrecorded number of cases in which accidents were not fatal.

Never take risks with any bull, whatever his breed and disposition. Quiet ones are the worst, for bulls that advertise their dislike of the human race are naturally avoided.

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BOOK REVIEW

"Farm Wood Crops": J. F. Preston

THE publication of this book (302 pages) in the American Forestry Series will assure it of acceptance by professional foresters. It should be of interest to many farmers in the Dominion who have developed tree plantations more or less comparable with the "woodlots" of their American contemporaries.

In the present timber shortage the increasing necessity for the economic utilisation of farm-grown timber by the farmer together with the rising value in the next decade of selected, well-grown trees should make the farmer-owner realise the place that well-managed tree crops can hold in the general economy of farming. This point is discussed in the opening chapters of "Farm Wood Crops", where the national aspects of farm tree planting are pointed out in respect to land protection and best land use. Also stated are the general principles involved in the potential financial values of farm woodlots. These values are demonstrated in relation to labour use and general improvement of the farm land (shelter, amenity, and timber products). All these points apply in the present stage of farm planting in New Zealand, which may be aptly described in the author's words on page 17 of his book where he says ". . . the farmer . . . may do a poor job and get almost nothing in return or he may do a good job and get a very satisfactory return".

Much technical information on the formation and treatment of farm plantations is given in a style readable by and interesting to the layman, and New Zealand farm tree planters would have light thrown on their plantation management problems by a perusal of Chapter 9, "Practices on Farm Woodlands", and also from an interesting and up-to-date section on methods of wood preservation given in Chapter 11.

The appendix includes a glossary, extracts from U.S.A. legislative measures relevant to farm forestry development, an efficient index, but no list of illustrations. The book is well illustrated by good photographs and diagrams, is clearly printed, and the general layout is attractive and enhanced by the clear and efficient arrangement of headings and subheadings.

—M.S.

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