

is fairly warm, insulation is perhaps of less importance. When regulating the thermostat it is advisable to take frequent thermometer readings of both the water and the honey.

The appliance should be washed clean of all traces of honey after use. Otherwise corrosion may occur at any weak spots in the metal. Not only will this eat into the metal, but it will cause the affected surface to impart a bad taste to any honey which passes through it afterward. Once this corrosion has begun it is doubtful if it can be effectively arrested.

Another important safeguard against corrosion is to empty the water out of the heater as soon as work with it has been completed.

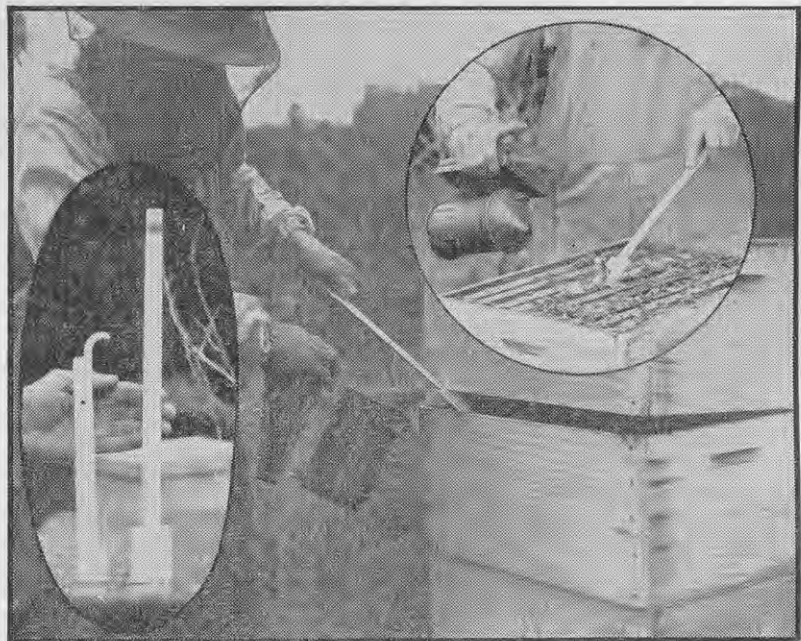
So many beekeeping appliances are designed to be operated by electric power that the producer outside a reticulated area often has to work under a disadvantage. As this is a hot-water appliance, it should also operate satisfactorily if heated by steam from a low-pressure boiler or by some type of kerosene heater placed underneath it. Frequent checking of the temperatures of the honey and water would be necessary when the heater is operated without thermostatic control of heat.

Station	Height of station above M.S.L. (ft.)	Air temperatures in degrees (Fahrenheit)				Rainfall in inches				Bright sunshine hours	
		Approx. mean	Difference from normal	Absolute maximum and minimum		Total fall	No. of days of rain	Difference from normal	Maximum fall		
				Maximum	Minimum				Amount		Date
Kerikeri .. .. .	201	68.4	+ 2.8	80.0	50.0	10.08	19	+ 5.91	1.79	2	130.6
Auckland .. .. .	160	69.2	+ 2.5	81.8	56.0	5.64	11	+ 1.73	1.63	19	150.6
Tauranga .. .. .	10	68.2	+ 3.2	79.0	48.1	2.78	10	+ 0.95	1.20	3	181.5
Ruakura .. .. .	131	65.9	+ 2.6	82.1	43.7	3.25	13	+ 0.27	0.93	9	150.3
Rotorua .. .. .	969	65.6	+ 2.7	82.5	45.5	5.30	16	+ 1.55	2.56	3	143.6
Gisborne .. .. .	12	66.1	+ 0.5	82.1	45.5	5.29	13	+ 2.24	2.38	16	176.8
New Plymouth ..	160	65.0	+ 2.5	78.8	44.9	4.54	12	+ 0.56	1.14	27	167.2
Napier .. .. .	5	67.0	+ 1.6	85.6	48.6	2.22	8	+ 0.46	0.93	16	177.8
Karioi .. .. .	2125	61.8	+ 4.2	82.0	37.0	4.01	12	+ 0.04	1.02	9	
Wanganui .. .. .	72	65.0	+ 1.3	81.9	45.5	2.09	15	+ 0.88	0.63	2	187.6
Palmerston North	110	65.6	+ 3.1	81.8	49.0	1.94	10	+ 1.15	0.44	3	170.0
Waingawa .. .. .	350	64.7	+ 2.3	88.0	45.0	0.94	7	+ 1.87	0.50	3	184.5
Wellington .. ..	415	62.6	+ 1.3	79.6	51.3	2.91	7	+ 0.37	1.02	2	167.3
Nelson .. .. .	5	62.4	+ 1.2	76.0	39.5	4.08	6	+ 1.46	1.30	18	180.4
Blenheim .. .. .	12	63.4	+ 0.1	86.9	43.5	1.18	7	+ 0.96	0.46	25	177.9
Hokitika .. .. .	12	58.8	+ 0.7	73.3	40.0	12.86	13	+ 5.13	3.50	27	157.1
Hanmer Springs ..	1225	60.7	+ 1.3	87.0	35.0	1.07	7	+ 2.58	0.70	25	168.5
Christchurch .. .	22	62.2	+ 1.4	85.7	41.0	0.52	6	+ 1.28	0.32	27	142.6
Ashburton .. .. .	323	62.4	+ 1.4	92.2	35.4	1.09	6	+ 1.60	0.64	27	157.3
Timaru .. .. .	56	60.2	+ 0.0	87.0	40.5	1.62	9	+ 0.60	0.79	27	151.4
Alexandra .. .. .	520	62.8	+ 1.4	87.0	37.1	1.47	5	+ 0.00	1.10	1	206.5
Taieri .. .. .	80	57.8	+ 0.1	87.8	35.2	0.87	7	+ 1.44	0.43	27	178.3
Invercargill .. .	32	56.9	+ 0.4	77.0	35.0	2.35	14	+ 1.11	0.59	1	175.0

## USES FOR A HEAVY-DUTY HIVE TOOL

THE heavy-duty hive tool illustrated has been found very useful where supers and frames have become stuck together and require levering apart. Inset at the left is shown for comparison the smaller Pender hive tool and the heavy-duty hive tool. Uses for the heavier tool are also shown. Burr comb is being removed in the inset at the right, the action being easier than with the smaller tool and the hand more removed from the bees. The body of the photograph shows the heavy-duty hive tool being used to separate supers. Use of efficient hive tools for opening up hives heavy with honey will reduce fatigue, bruising or damage to woodwork, and also the time spent with each hive.

THE length of the tool (14in. to 15in.) enables good leverage in stubborn cases, and the blade is broad enough to force an opening without spoiling the edges of the supers. It is common to see older supers with their corners and front edges so bruised that bees have easy access. In autumn, when robber bees seek out poorly defended hives, bruised or open crevices can make suppression of robbing bees difficult.



The blade of the heavy-duty tool has a shoulder on each side which can be used for loosening frames when the smaller Pender hive tool is not on hand for the lighter work. The blade is about 2½in. long and 1½in. wide so that it can be used to clear burr comb from inner walls of supers. It may be worked freely up and down in the space where a frame has been removed. Because of the strain this tool is put to it is desirable to get a blacksmith or engineer to make it out of approximately ¼in. spring steel or to temper the metal for heavy work. The

top end of the handle should be shaped to form a circle or scroll and the handle enamelled white to prevent it being lost in long grass. If the tool is made out of a large flat file, the serrated surface should be smoothed off, for it could harbour the bacillus of foul-brood.

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Photographs by Commercial Studios.