

Mechanical Loading in the Apiary

PROGRESSIVE beekeepers are constantly devising ways of alleviating the heavy work associated with commercial beekeeping. A loading elevator, devised by Mr. G. Corlett, a commercial beekeeper of Gate Pa, Tauranga, is described in this article by R. Goddard, Apiary Instructor, Department of Agriculture, Tauranga.

THE appliance is used mainly for unloading and loading supers of honey, but it can also be used with equal success in the shifting of hives. Supers of honey can be raised quickly and deposited with a minimum of jarring. Breakages of new combs heavy with honey have been reduced considerably since the machine has been used and beehives have been shifted with a minimum of disturbance; in some cases hives three storeys high have been moved by one man to different locations, normally an impossible feat.

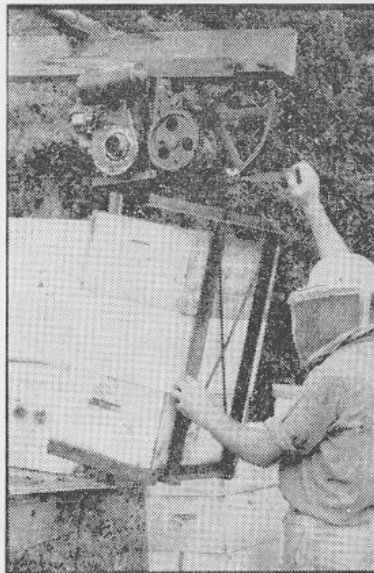
The honey is taken off the hives by the use of escape boards or by brushing the bees, and the supers are stacked three high on a wooden platform. On this platform a drip tray is placed to prevent honey leaking over the floor of the truck. If robbing is prevalent, gauze screens or escape boards are placed over each pile of supers. Usually, all honey ready for extraction is taken off the hive and stacked before loading begins.

Method of Operation

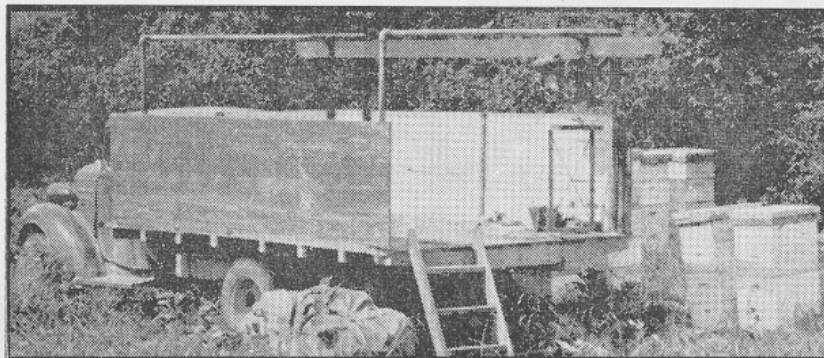
The supers are first wheeled to the back of the truck and then, as shown in the upper photograph on this page, the sling is placed under the supers and the machine set in motion. When the supers have been lifted clear of the floor of the truck the operator releases the handle, which automatically disengages a friction drive, and the weight of the engine presses a rubber brake against the outside of an 18in. pulley, thus locking the load. A slight push is all that is required to slide the load along the travelling rail to the desired position for lowering.



Sling under supers, and the beginning of the lift.



Above—Load lifted clear of truck tray and ready to be pushed into position.
Below—Truck and lifting apparatus.



Overhead Travelling Rail

The two arches on which the travelling rail is mounted are of 1½in. galvanised-iron piping fitted with flanges at the bottom which are bolted to the truck body. To allow the travelling rail to slide freely across the body of the truck two pieces of 2in. galvanised piping 20in. long fit loosely over the horizontal bars. The travelling rail is constructed of 6in. x 2in. heart rimu with a length of 4in. x ¼in. flat steel bolted to the underside, thus forming a 1in. ledge on each side. The carriage is bolted to 4 ball races, which allow free running on the edges of the travelling rail. At each end of the rail there is a rubber buffer which prevents the carriage running off and also acts as a cushion to prevent jarring or bumping of supers.

Engine and Winch

The motor is of 1 h.p., air cooled and petrol driven. The engine base is carried through to the opposite side of the centre mounting and is hinged with a pin to the bottom of the main frame or centre mounting. This extension forms the control handle which when pulled down raises the motor and thus brings the friction drive on the engine into mesh with the 18in. double A-section pulley mounted on the top shaft of the winch reduction gear. A ratchet on the side of the motor gives the half-way position between driving and braking and allows the rope to be unwound from the drum when unloading or loading. The winch drum is 3in. in diameter and 4½in. long. The motor revolutions are 700 per minute, the top shaft 150, and the drum 30.

The sling is constructed of 2in. x ¼in. flat steel.

The illustrations show a home-made set up which works well and which may be followed to construct a similar loading device, using standard equipment where possible.

Photographs by Rendell's Photo Service.