Dec. 28, 1948. W. T. BRAND 2,457,301

MACHINE FOR REMOVING THE WAX CAPS FROM HONEY COMBS

Filed Oct. 4, 1946

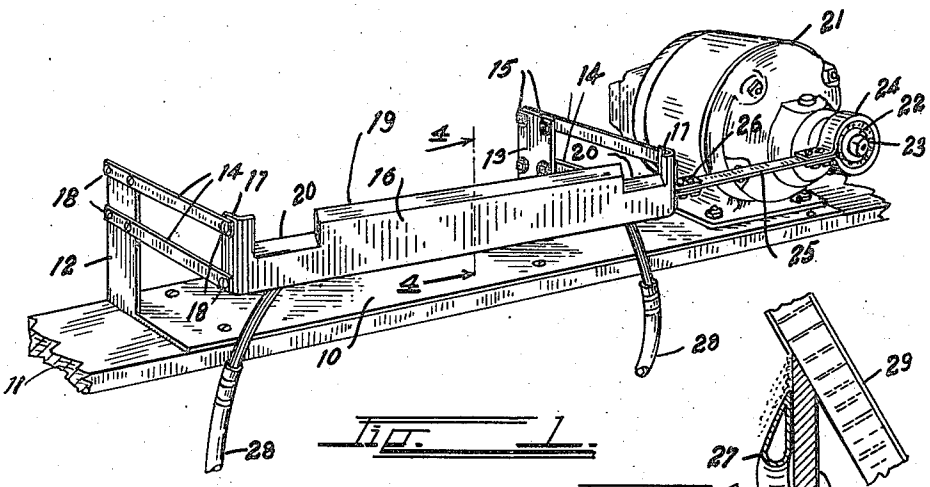


Fig. 1.

Fig. 4.

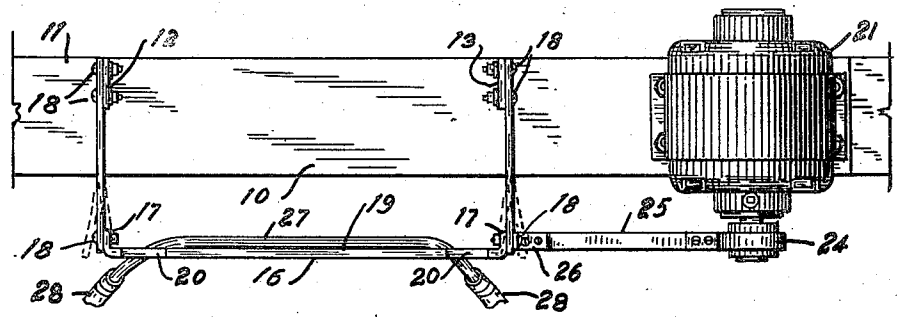


Fig. 2.

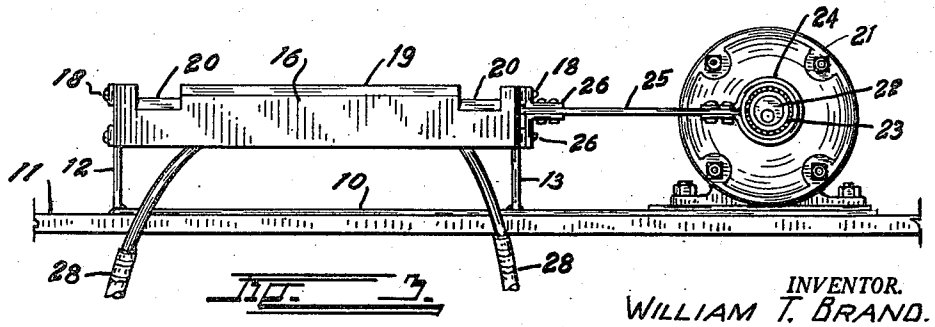


Fig. 3.

INVENTOR.
WILLIAM T. BRAND.

BY

ATTORNEY.

Patented Dec. 28, 1948 2,457,301

UNITED STATES PATENT OFFICE

2,457,301

MACHINE FOR REMOVING THE WAX CAPS FROM HONEYCOMBS

William T. Brand, Beemer, Nebr.

Application October 4, 1946, Serial No. 701,268

1 Claim. (Cl. 6—12)

1

This invention relates to a honey capping machine, and has for its principal object the provision of a device by means of which the wax caps of honeycombs can be rapidly and efficiently removed.

Another object of the invention is to provide a reciprocating capping knife in which all sliding and wearing bearings will be eliminated so that lubricating oil, with the attendant possibility of contaminating the honey, will be unnecessary, and to so suspend the knife that there will be no bearings or other supporting structure to interfere with the passage of the honeycomb thereover.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a perspective view of the improved honey capping machine;

Fig. 2 is a plan view thereof;

Fig. 3 is a front view thereof; and

Fig. 4 is an enlarged, detail section, taken on the line 4—4, Fig. 1.

The improved machine is built upon a base plate 10 which may be secured to any suitable supporting surface, such as a work bench 11. Two flat, upstanding posts 12 and 13 extend upwardly from the base plate 10 adjacent one side thereof in parallel, spaced-apart relation, with their planes extending transversally of the longitudinal axis of the base 10.

Each post supports a pair of spaced apart horizontal arms 14 which are secured to the post in any desired manner such as by means of clamp bolts 15. The arms 14 are formed from spring steel or similar resilient metal and extend to one side of the posts 12 and 13 over the base 10 to support a reciprocating knife blade 16.

The knife blade is preferably formed from relatively thin steel plate and is turned backwardly at its extremities to form two attachment flanges 17, to which the pairs of arms 14 are secured by means of suitable bolts 18. The upper edge of the knife blade 16 is sharpened, as indicated at 19, to provide a knife edge. A notch 20 is formed in the blade at each extremity of the knife edge 19.

It can be seen that the blade is rigidly supported from vertical movement by the horizontal arms 14, but that it is free to reciprocate horizontally due to the natural resiliency of these arms. Therefore, a reciprocating blade is provided without friction and without the necessity for lubrication.

2

The blade is reciprocated by means of an electric motor 21 secured on one extremity of the base 10. An eccentric 22 is keyed or otherwise secured on the shaft of the motor 21 and is surrounded by an antifriction bearing 23. The bearing in turn is surrounded by an eccentric strap 24 which is connected to a resilient connecting rod 25.

The connecting rod is a flat flexible strip with its plane positioned horizontally. The extremity of the connecting rod 25 is fixedly secured to the bolts 18 at one extremity of the knife blade through the medium of suitable angle clips 26. Therefore, there is no frictional contact between the connecting rod and the blade. The vertical component of the eccentric 22 is absorbed by the flexing of the connecting rod 25.

The blade 16 is heated by means of a deformed copper tube 27 which is soldered or otherwise secured along the back face of the blade. The extremities of the tube 24 depend downwardly to a connection with flexible steam hoses 28, which are connected to any suitable source of live steam for blade-heating purposes.

In use, the machine is positioned above and over a honey-melting trough. The combs are suspended by hand from their extremities, as indicated at 29 in Fig. 4, and are allowed to lie on the blade 16. They are then lowered across the hot, rapidly reciprocating blade, which quickly melts its way through the cap and severs the cap therefrom. The notches 20 allow the two side members of the comb frame to pass the sharpened edge 19 without damage to either, and also allow the sharpened edge to be extended any desired distance into the comb frame for reaching and properly severing the cap.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claim, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

A honey capping device comprising: a base plate; two flat, upstanding posts extending upwardly from said base plate adjacent one side thereof in parallel, spaced relation, with their planes at right angles to the long axis of the base

plate; a pair of horizontal, resilient arms secured to and extending from each post over said base plate; a knife blade; rearwardly turned extremities on said knife blade forming terminal flanges thereon; means for fixedly securing each terminal flange to one pair of arms so as to support said knife blade in a vertical plane parallel to the axis of said base plate, the resiliency of said arms allowing said blade to reciprocate longitudinally and horizontally; means for heating said knife blade; a connecting rod fixedly secured at one extremity of said knife blade, said rod comprising an elongated, flat, resilient member lying in a horizontal plane so that its projecting extremity may flex vertically; a motor mounted on said base plate adjacent one extremity thereof; a cam operated by said motor; means for communicating the

ecentric motion of said cam to said connecting rod; and a sharpened upper edge of said knife blade, there being notches in said blade at each extremity of said edge to receive the side members of a honeycomb.

WILLIAM T. BRAND.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,861,939	Root	June 7, 1932
1,884,074	Meyer	Oct. 25, 1932
2,139,298	Brand	Dec. 6, 1938