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WIRING AND EMBEDDING DEVICE FOR COMB FOUNDATION

Filed Sept. 24, 1928

2 Sheets-Sheet 1

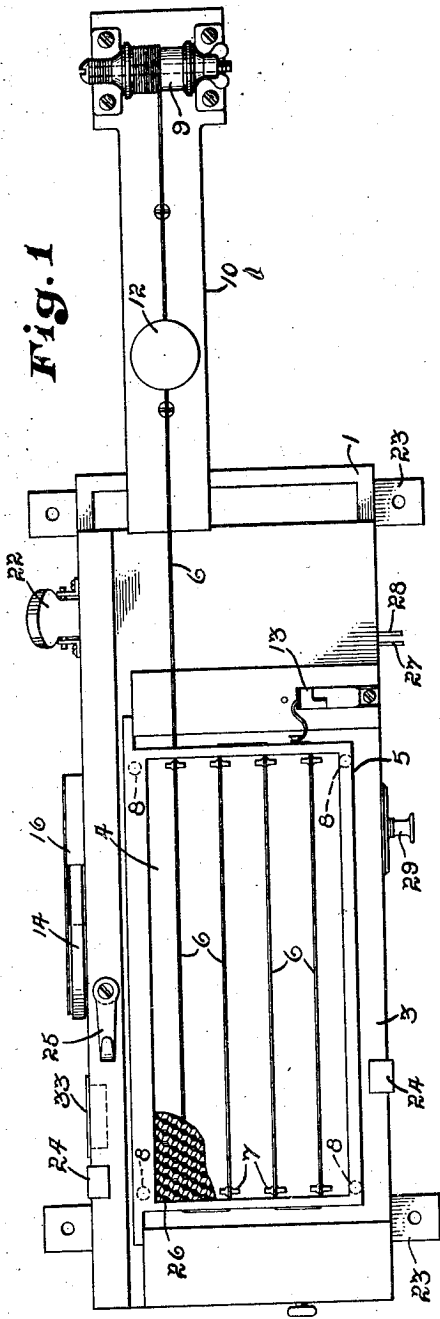


Fig. 1

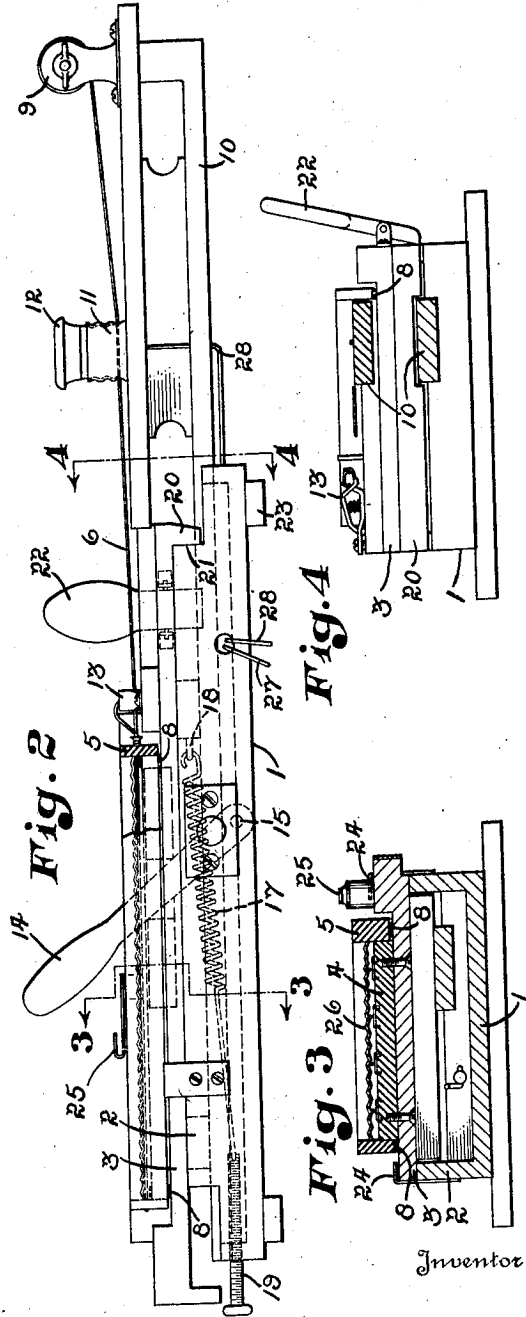


Fig. 2

Fig. 4

Fig. 3

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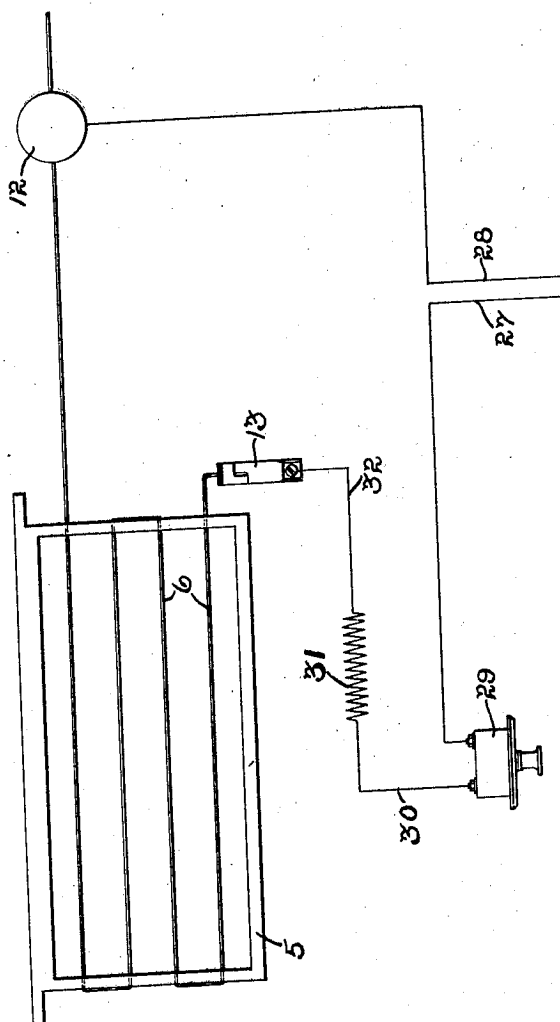
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Fig. 5



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UNITED STATES PATENT OFFICE.

WALLACE A. TRAUFLER, OF TOLEDO, OHIO.

WIRING AND EMBEDDING DEVICE FOR COMB FOUNDATION.

Application filed September 24, 1928. Serial No. 307,892.

This invention relates to a device for wiring a foundation frame for use in the bee industry and for embedding the wires in the foundation.

5 The object of the invention is to provide a simple device which will enable any bee keeper to set the foundation sheets in the frames with the least possible trouble, and so that the frames will be uniformly reinforced by the wires and held without any distortion.

10 The nature of the invention and its mode of operation will be more particularly explained in connection with the accompanying drawings, which illustrate the preferred embodiment thereof.

In the drawings:

Figure 1 is a plan view of the invention.

Figure 2 is a side elevation of the same.

15 Figure 3 is a transverse section taken on line 3—3 of Figure 2.

Figure 4 is a transverse section taken on line 4—4 of Figure 2.

20 Figure 5 is a wiring diagram, showing the arrangement by which the wires may be electrically heated.

In its present form, the invention includes a hollow rectangular base 1, having side rails 2 on which a bed 3 is mounted for longitudinal sliding movement. Secured to the bed 3 is a rectangular block 4 about which the foundation frame 5 fits. The ends of the frame 5 are provided with holes through which the reinforcing wire 6 may be threaded. Clips or staples 7 are secured in the block 4 to provide seats on which the strands of the wire 6 may rest. The frame 5 is supported by screws 8 which are adjustably secured in the bed 3.

30 The supply of wire 6 is carried by a spool 9, which is mounted on an extension 10 of the base 1. From the spool 9 the wire passes through a threaded socket 11, in which it may be clamped by a cooperating plug 12. The wire passes thence through the various holes in the frame 5 and its end is secured in a clip 13 carried by one end of the bed. The movement of the bed 3 is effected by means of a hand lever 14, pivotedly mounted at 15 on the base 1 and extending upwardly through a keeper 16 secured to the side of the bed. The bed is normally urged in a direction to tension the wire by means of a coil spring 17 mounted within the base 1 with one end attached at 18 to the bed and the other end

attached to an adjustable screw 19 mounted in the end of the base. The movement of the bed 3 under the influence of the spring 17 is limited by a flange 20 which extends downwardly from the bed and engages a shoulder 21 on the base.

In wiring the frame 5 after it is placed upon the bed, the wire is passed through the holes in the frame provided for that purpose and its end is secured in the clip 13. The bed is then retracted in opposition to the spring 17 by means of the hand lever 14. A gravity pawl 22, mounted on one side of the bed, is adapted to engage behind the shoulder 21 to hold the bed in retracted position. The block 12 is then screwed up to clamp the wire 6. The pawl 22 is then released and the strands of wire 6 are automatically put under the proper tension by the spring 17. The several strands of wire may be pulled manually to take up any slack which may occur by reason of the friction of the wire against the ends of the frame. While the wire is thus held under the proper tension by the spring 17, it may be nailed to the frame 5.

The base 1 may be provided with suitable cleats 23 for securing it to a table or other suitable support. Clips 24 may be secured to the sides of base 1 for guiding the bed in its longitudinal movement. A latch 25 may be mounted on the bed to hold the frame 5 in position while it is being wired.

35 After the wire 6 has been suitably secured in the frame 5, a sheet of foundation 26 is laid thereon and the several strands of wire are then heated sufficiently to partly melt the wax and to become embedded therein. This may be done most conveniently by means of an electric current. The wiring diagram in Figure 5 illustrates an arrangement by which the usual house current of 110 volts may be used for this purpose. The current is supplied from the usual electric outlet by wires 27 and 28. One of these wires, as 27, leads to a switch 29, thence through wire 30, resistance element 31 and wire 32 to the clip 13. The other wire 28 leads directly to the socket 12. Thus it will be seen that the entire length of wire in the frame 5 is connected in series with the resistance element 31. It has been found that the amount of resistance in an ordinary electric iron is quite suitable for this purpose. In order to simplify the process therefore, it is expedient to provide a socket 33 in the side of base 1, to which the wires 30 and 32 are

connected. Thus an ordinary electric iron may be connected with the socket 33 to provide the required resistance when using the house current for embedding the wires in the foundation.

In case 110-volt current is not available, an ordinary 12-volt storage battery, or even a 6-volt battery fully charged, may be used for heating the wire strands 6. In such case, however, only one strand of wire may be heated at a time. This may be done by means of a spanner which engages the ends of each strand and which is connected to the terminals of the storage battery.

From the foregoing description it will be seen that I have provided a simple and economical device, by means of which a bee keeper may wire his own foundation frames with very little trouble or expense. While I have shown and described in considerable detail the preferred apparatus and process for effecting this purpose, it is to be understood that many modifications may be made therein without any material departure from the scope of the invention as claimed.

What I claim is:

1. In a device of the class described, a bed adapted to receive a foundation frame, a base on which the bed is slidably supported, means at one end of the base for supplying wire, means for securing the end of the wire after it has been threaded through the frame, means for moving the bed in one direction to provide slack in the wire, and spring means to urge the bed in the opposite direction to tension the wire.

2. In a device of the class described, a bed adapted to receive a foundation frame, a base on which the bed is slidably supported, means at one end of the base for supplying wire, and means for placing the wire under a predetermined tension after it is threaded through the frame preparatory to securing it to the frame.

3. In a device of the class described, a bed adapted to receive a foundation frame, a base on which the bed is slidably supported, means at one end of the base for supplying wire, spring means connected with the bed for placing the wire under a predetermined tension after it is threaded through the frame preparatory to securing it to the frame, and adjustable means for varying the force exerted by the spring.

4. In a device of the character described, a bed adapted to receive a foundation frame to be wired, seats across which the respective strands of wire are drawn, vertically adjustable means for supporting the frame at the proper height in relation to said seats, and means for tensioning the wire preparatory to securing it to the frame.

5. In a device of the character described, a bed adapted to receive a foundation frame to be wired, seats across which the respective

strands of wire are drawn, vertically adjustable means for supporting the frame at the proper height in relation to said seats, spring means connected with the bed for placing the wire under a predetermined tension after it is threaded through the frame preparatory to securing it to the frame, and adjustable means for varying the force exerted by the spring.

6. In a device of the class described, a bed adapted to receive a foundation frame, a base on which the bed is slidably supported, means for supplying wire to be threaded through the frame, means for moving the bed in one direction to provide slack in the wire, spring means to urge the bed in the opposite direction to tension the wire, and electric wiring adapted to be connected in series with the entire length of the frame wire to heat the latter and embed it in a sheet of comb foundation pressed thereon.

7. In a device of the class described, a bed adapted to receive a foundation frame, a base on which the bed is slidably supported, means for supplying wire to be threaded through the frame, means for placing said wire under a predetermined tension preparatory to securing it to the frame, and electric wiring adapted to be connected in series with the frame wire to heat the latter and cause it to be embedded in a sheet of comb foundation pressed thereon, said electric wiring being arranged to interpose a resistance element in the circuit to prevent too rapid heating.

8. In a device of the class described, a bed adapted to receive a foundation frame, a base on which the bed is slidably supported, means at one end of the base for supplying wire, spring means connected with the bed for placing the wire under a predetermined tension after it is threaded through the frame preparatory to securing it to the frame, adjustable means for varying the force exerted by the spring, and an electric circuit adapted to be connected in series with the frame wire to heat the latter and cause it to become embedded in a sheet of comb foundation impressed thereon.

9. In a device of the class described, a bed adapted to receive a foundation frame to be wired, seats across which the respective strands of wire are drawn, vertically adjustable means for supporting the frame at the proper height in relation to said seats, means for tensioning the wire preparatory to securing it to the frame, and an electric circuit adapted to be connected in series with the frame wire to heat the latter and cause it to be embedded in a sheet of comb foundation impressed thereon.

10. In a device of the class described, a bed adapted to receive a foundation frame to be wired, seats across which the respective strands of wire are drawn, vertically adjust-

able means for supporting the frame at the
proper height in relation to said seats,
spring means connected with the bed for
placing the wire under a predetermined ten-
5 sion after it is threaded through the frame
preparatory to securing it to the frame, ad-
justable means for varying the force exerted
by the spring, and an electric circuit adapted
to be connected in series with the frame wire
10 to heat the latter and cause it to become em-
bedded in a sheet of comb foundation im-
pressed thereon, said circuit being arranged
to interpose a resistance element to prevent
too rapid heating of the wire.

11. A device for applying a sheet of comb 15
foundation to a foundation frame traversed
by a continuous wire threaded back and
forth through the frame, said device com-
prising a resistance element and electric wir-
ing and means for connecting the same in 20
series with the frame wire, so that the latter
may be heated gradually and embedded in
the sheet of comb foundation as the latter is
pressed thereon.

In testimony whereof I have hereunto 25
signed my name to this specification.

WALLACE A. TRAUFLER.