

occasionally vexes the spirit of the amateur. Mr. R. Knechtel, of Walton, Ont., has mastered the troubles in this connection and he thus gives his mode of dealing with them:—Perhaps the wire unrolls too quickly, and the loose part slips over the ends of the spool; or the frame holes may be poorly punched; or the wire kinks and breaks; and then the young (and sometimes old) bee-keeper may realize that "things are not what they seem. To remedy these evils, see to it that the frame's holes are smooth.

#### SMOOTH HOLES

can be procured by awls, (a) chisel pointed; (b) set to cut across the grain of the wood; (c) made of steel wire filed to suit and fitted in metals from shoemakers' awls; (d) should descend vertically and rise in the same plane; (e) five awls may be worked at once, thereby punching a top bar at at one drop of the foot. Slipping of frames should be prevented by tacking short short strips of wood upon the table. Spools should be on a wire and prevented revolving too rapidly by means of a thin strip of wood, tacked at one end to the table; the other end resting lightly upon the spool. The strip also prevents the wire slipping over the ends of the spool.

#### KINKING OF WIRE

can now be prevented by screwing empty thread-spools to the table at each end of the frame. Place the thread-spools a little from the frame between the holes as needed. For five strands three are sufficient. To tighten your wire tack the threading end; with one hand hold the wire between the wire-spool and frame and draw, as draw, as you remove with the other hand, the wire from the thread-spools, commencing at the attached end first. Complete by the usual way.

#### FASTENING FOUNDATION ON WIRES.

Several methods have been advocated, some, no doubt, serving the purpose very well. The following will be found efficient, simple and speedy: See that your frames have a neatly-fitting, solid and level wiring-board, and your fdn. is of proper temperature.

#### WIRING-BOX.

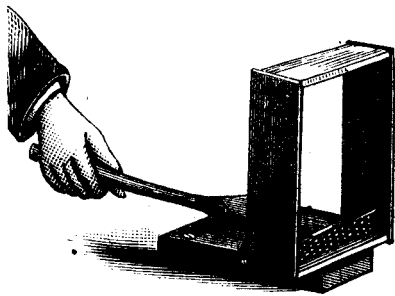
Around a piece of hard wood (oak) well seasoned, 2 x  $\frac{1}{2}$  in. and as long as your wire between the bars, wind a soft wire tightly (one-eighth inch is a good size), having the laps one-half inch apart; keep this damp when using. Place the edge of the wiring-bar on each wire and by a gentle tap from the hammer the work is completed—if the other joints were not neglected."

#### USING STRIPS OF FDN.

In cutting up foundation to suit the size of customers' frames the manufacturers usually have a number of pieces left over, and the apiarist will occasionally also have these on hand. They can be used as "starters" or placed in strips in a frame. The bees will attach them the same as if it was one full sheet and there need not be the slightest waste in this respect.

#### FASTENING FDN. IN SECTIONS.

Foundation for sections is cut into strips the width of the section, and is generally fastened to top of section only. Several handy implements have been devised for doing this work rapidly and well. The "Parker" the construction and mode of operation as shown in the



illustration, is worked by hand; the "Gray" is operated by foot power. The latter is claimed to be the more speedy, but Ernest Root tells of a girl in their employ who can average 3,000 a day with the Parker, and on occasion can put foundation in 1,200 sections in an hour. Though bee-keepers who produce comb honey on a large scale, will require something more speedy perhaps, I think that for all ordinary uses, the "Parker" will be found as handy and complete as any machine method, besides being but a trifling cost as com-