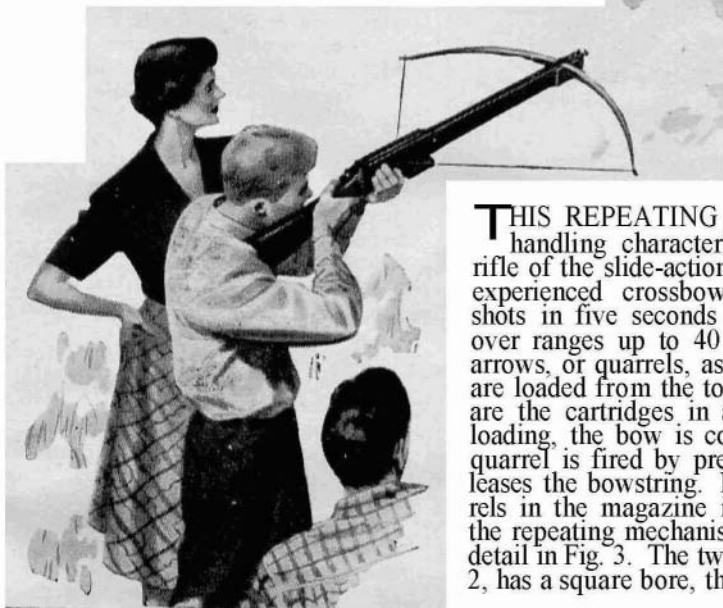
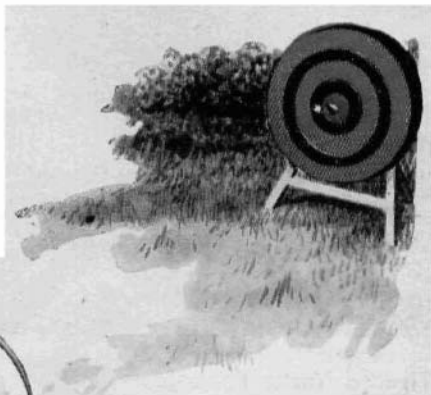
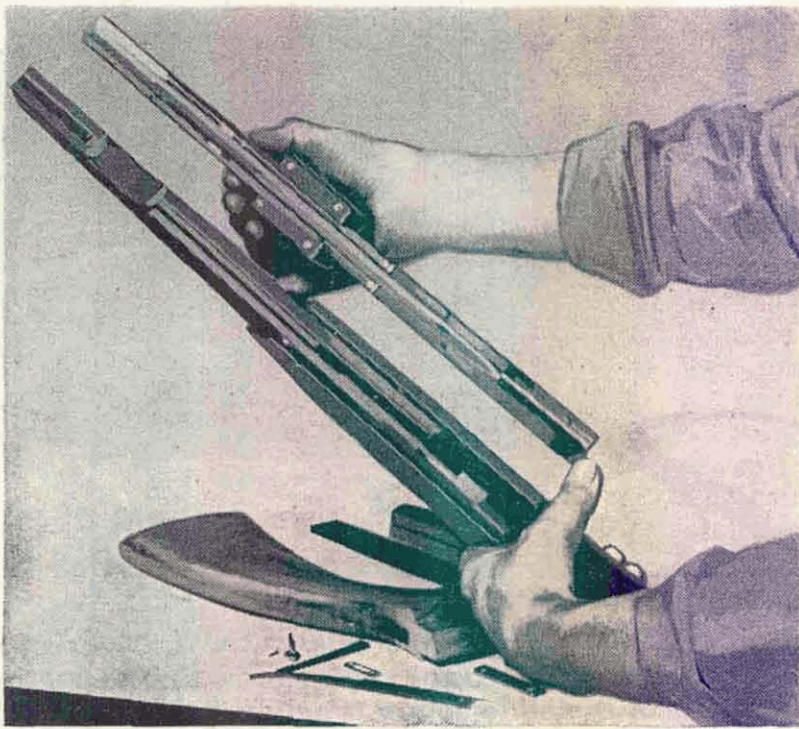


REPEATING CROSSBOW

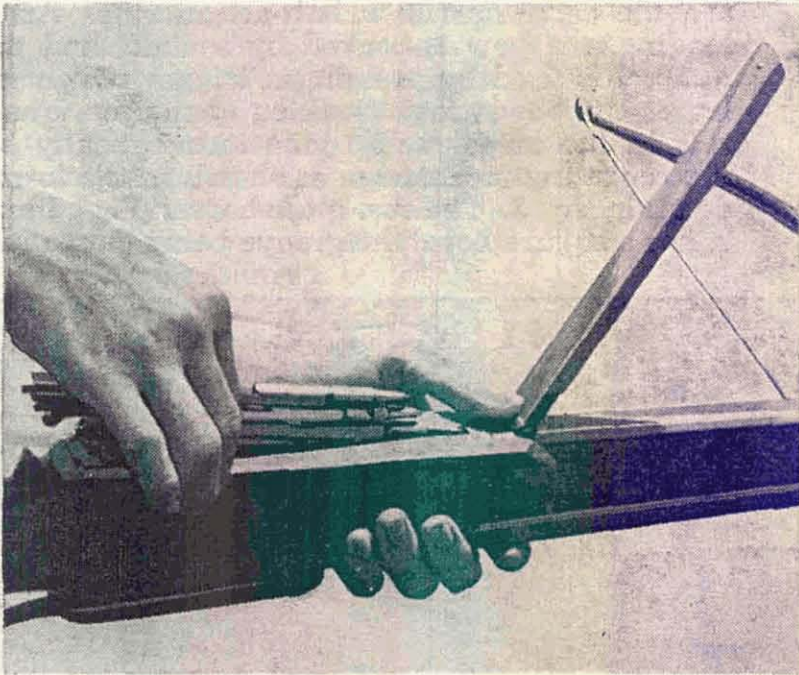
By Austin H. Phelps



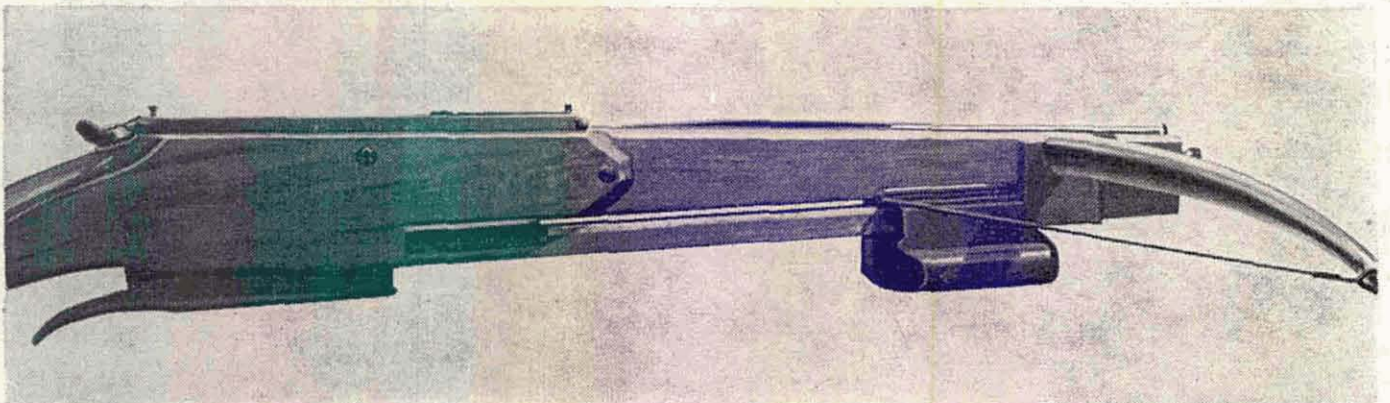
THIS REPEATING CROSSBOW has all the handling characteristics of a fine repeating rifle of the slide-action type. In the hands of an experienced crossbowman it will deliver five shots in five seconds with near-rifle accuracy over ranges up to 40 yards. The steel-pointed arrows, or quarrels, as they are correctly called, are loaded from the top into a magazine just as are the cartridges in a bolt-action rifle. After loading, the bow is cocked by a slide, and the quarrel is fired by pressing a trigger which releases the bowstring. Nocking of the five quarrels in the magazine is done automatically by the repeating mechanism as shown in the lower detail in Fig. 3. The two-piece barrel, Figs. 1 and 2, has a square bore, the groove being cut to full



An assembly view of the two-piece barrel showing the pump slide, brass runners, and the top barrel in position. Stock should be handmade to specifications that fit individual user in the same way as a rifle or shotgun stock. Use hardwood for all parts

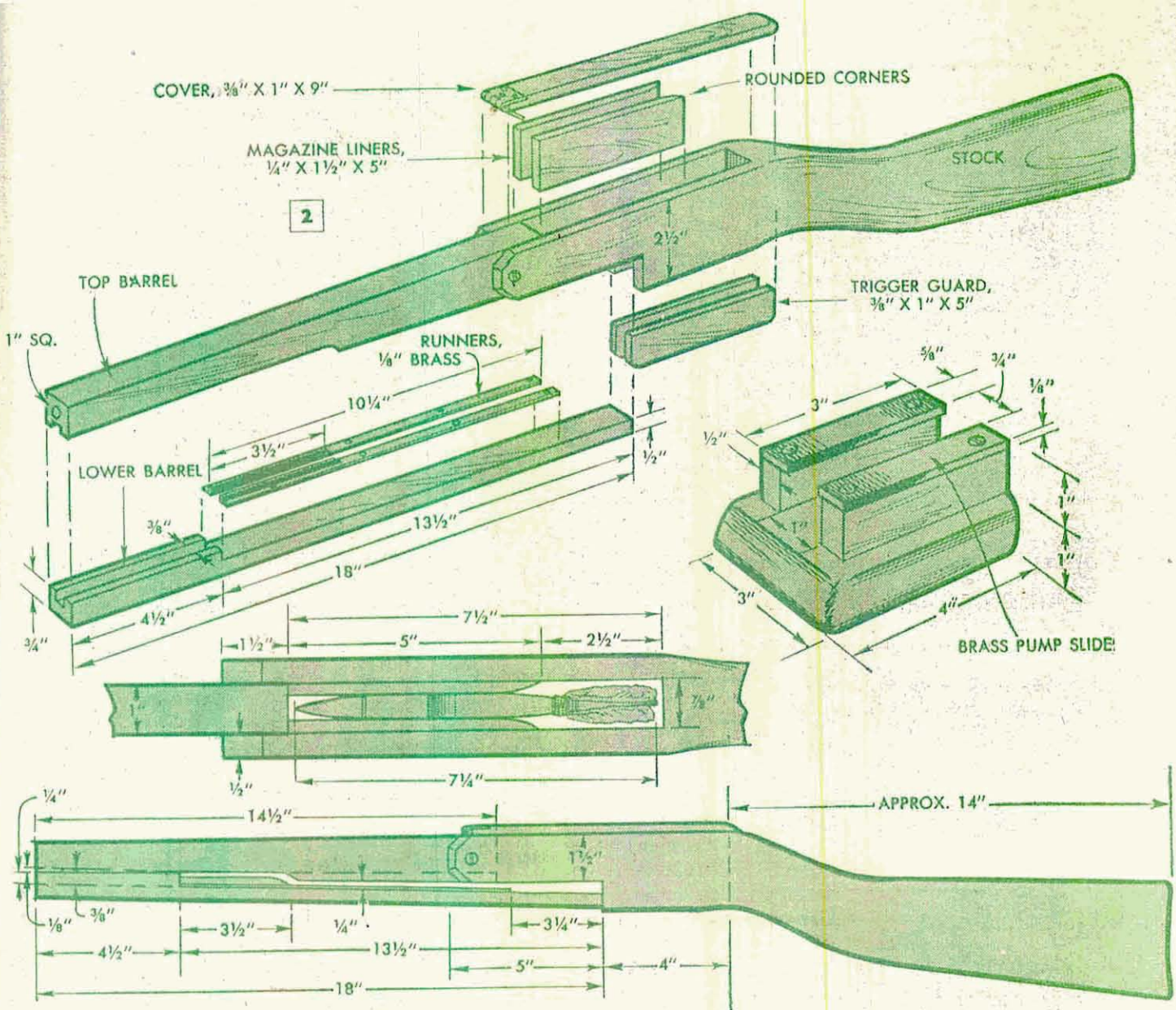


Above, this repeating crossbow is loaded just like a bolt-action rifle, five quarrels being placed in the box magazine at one loading. Below, note the trim lines of the finished job. If desired, you can install either open or peep sights on the barrel



depth in both halves. Then parts of both halves are cut away so that when assembled there will be an offset slot for the bowstring as in the lower detail in Fig. 2. Brass runners, fitted with $3\frac{1}{2}$ -in. brass strips soldered edgewise to them, are screwed to the lower barrel as in the center left-hand detail in Fig. 2. Care must be taken to space the runner strips so that the inner edges are exactly flush with the inner edges of the magazine liners. After making a trial assembly, it may be necessary to file the slanting ends of the $3\frac{1}{2}$ -in. strips or the underside of the upper barrel to permit free passage of the bowstring through the offset slot. The purpose of the offset in the slot is to force the bowstring upward sufficiently to release it from the notch in the quarrel, permitting the latter to enter the bore in free flight.

In making the stock, it's a good idea to copy a rifle or shotgun stock that fits you and has a grip and tang shaped to your liking. Bandsaw the wood to the rough outline of the stock selected, then finish to contour with wood rasps and sandpaper. Care must be used in cutting and finishing the magazine slot in the stock, as the magazine liners must be spaced accurately so that the quarrels drop freely into firing position, Fig. 3. The inner rear corners of the liners are rounded to a smooth curve. To assure free movement of the quarrel in firing position, it may also be necessary to round the inner corners of the brass runners. The pump slide, Fig. 2, engages the bowstring as in Fig. 1 when in the forward position. Overhanging brass strips, which are screwed to the guide blocks, Fig. 2, ride on the brass runners. In cocking, the slide is drawn back as far as it will go and the forward end is pulled



down slightly so that the ends of the brass strips on the slide engage the ends of the runners. This movement locks the slide in firing position and a groove cut across the rear end of the slide engages the trigger sear, as shown by dotted lines in the lower detail, Fig. 3. Simultaneously, the bowstring passes between the first and second quarrels, and the lower quarrel is automatically nocked ready for firing. Provide a hinged cover for the magazine and a trigger guard. Then fit a lemonwood bow of 30 to 50-lbs. pull, using bow plates and a clamp made as in the upper details in Fig. 1. Although the dimensions of the quarrels in Fig. 1 specify that the shaft shall be $\frac{3}{8}$ -in. square, it is best to finish the shaft slightly under this dimension to allow correct clearance. Practice quarrels should be blunt pointed.

