

# Easy Model-Building

## "Spanner's" Special Section for Juniors

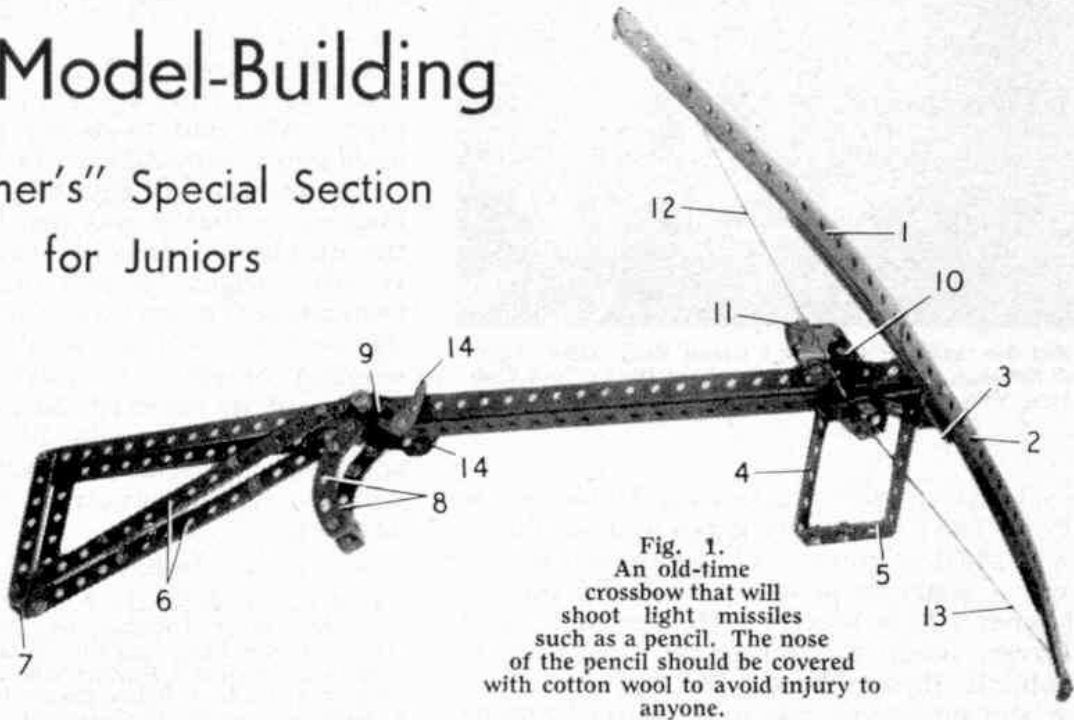


Fig. 1.  
An old-time  
crossbow that will  
shoot light missiles  
such as a pencil. The nose  
of the pencil should be covered  
with cotton wool to avoid injury to  
anyone.

### Cross Bow

THIS model of a weapon of the Middle-Ages, which is a development of the ordinary bow and arrow, is easy to construct and when completed can be used for "shooting" pencils or similar wooden missiles. Care should be taken, however, to ensure that whatever is used for the missile is blunt or round-ended, not pointed; better still, the end should be covered with cotton wool to avoid accidental hurt to anyone.

The construction is quite simple. First build up a spring from five  $12\frac{1}{2}$ " Strips. The first two  $12\frac{1}{2}$ " Strips 1 and 2 are overlapped nine holes, the second pair are overlapped thirteen holes, and the fifth Strip is simply bolted centrally across the back of the other four.

A  $1\frac{1}{2}$ " Angle Girder 3 is bolted to the bow, and to this a Flat Trunnion is fixed. This Trunnion carries the stock of the bow, which is made from two  $12\frac{1}{2}$ " Angle Girders bolted together to form a U-shaped channel girder. A hand grip is also bolted to the underside of the Trunnion and consists of a  $2\frac{1}{2}$ " x 1" Double Angle Strip 4 and a  $2\frac{1}{2}$ " x  $1\frac{1}{2}$ " Double Angle Strip 5 bolted together.

The butt consists of a  $7\frac{1}{2}$ " Perforated Strip bolted to, and overlapping by two holes, the end of the Angle Girder. Two triangles are then built up of two  $5\frac{1}{2}$ " Strips 6 overlapped seven holes, and a  $3\frac{1}{2}$ " Strip that forms the butt end. The two triangles are connected together by two Double Brackets.

The trigger is built up from two Bell

Cranks, one on each side of the stock, pivoted on a  $1\frac{1}{2}$ " Rod passed through the Angle Girders. Two  $2\frac{1}{2}$ " Stepped Curved Strips 8 are bolted to the Bell Cranks together with two Pawls 14. A Driving Band 9 is first passed through a hole in the Angle Girders, then looped around the two Cranks and finally the other end of the Band is looped around the end of the  $1\frac{1}{2}$ " Rod. The trigger assembly is now "sprung". The Pawls engage the firing mechanism, which consists of two  $2\frac{1}{2}$ " Strips bolted together by two Double Brackets. A Double Bent Strip 10, which is bolted to the upper Strip, projects into the space between the two  $12\frac{1}{2}$ " Angle Girders. A  $2\frac{1}{2}$ " Curved Strip is also bolted to the top of this assembly by means of two Fishplates 11.

The firing mechanism is connected to each end of the bow by lengths of Cord 12 and 13 as shown. To operate the Cross Bow the firing mechanism is pulled back until the Pawls 14 engage in holes in the  $2\frac{1}{2}$ " Curved Strip fixed to the Fishplates 11. The missile is then placed in the channel formed by the  $12\frac{1}{2}$ " Angle Girders, the trigger is pulled backward and the missile is "fired".

### Parts required to build the Cross Bow:

5 of No. 1; 2 of No. 1b; 4 of No. 2; 2 of No. 3; 2 of No. 5; 2 of No. 8; 1 of No. 9f; 3 of No. 10; 5 of No. 11; 1 of No. 12; 1 of No. 18a; 39 of No. 37a; 37 of No. 37b; 6 of No. 38; 1 of No. 40; 1 of No. 45; 1 of No. 46; 1 of No. 47; 1 of No. 90; 2 of No. 90a; 2 of No. 111; 1 of No. 126a; 1 of No. 128; 2 of No. 147; 1 of No. 186.