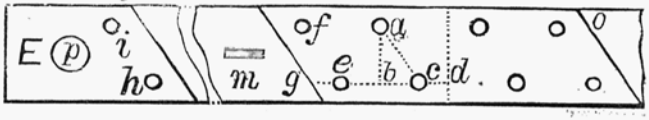
The area of rivet section should equal at least, about 5-8ths of the net section of the chord plate, on each side of the joint; and, go, (Fig. 60,) denoting the splicing-plate, the distance cd, from joint to centre of first rivet, should be, at least twice the diameter of the rivet, (depending somewhat upon the size of rivet and thickness of plate, as well as the soundness of grain in the iron,). The succeeding rivets, a, e, f, &c., should be placed alternately on opposite sides of the centre, so that the oblique distance, ac, $(= O,)$ may equal the transverse distance ab, $(= T,)$ + diameter of hole, $(= H)$. Then, representing the longitudinal distance bc, by L, we have $T + H = O$, &, $(T + H)^2 = O^2$, $= T^2 + L^2$, $= T^2 + 2T.H + H^2$; . . whence $L = \sqrt{(2T.H + H^2)}$

Fig. 60.



If the plates be 6″ wide, and $T = 3\frac{1}{2}$″, (which is regarded as in good proportion,) the above Formula gives . . $L = 2\frac{1}{2}$″, very nearly, for a 3-4″ hole.

Then, 5″ being allowed for the space ce, and 2″ each for cd & eg, the splice-plate would have a length of $20\frac{1}{2}$″; and 7-8ths of the whole section of chord plates would be available for tension, since an oblique section through two holes, would quite equal a direct transverse section through one hole.