carrying between them simple girders, $cd, gh$, etc. Generally, however, the number of spans taken has been three, in which case we may have two arrangements. The first is shown in Fig. 2, and corresponds to the part $ch$ in Fig. 1, there being a cantilever over the middle span and projecting into the side spans. The second is shown by Fig. 3, corresponding to $ck$ in Fig. 1, there being a cantilever over each outer span projecting into the middle span and carrying a simple girder $gh$ between them. Finally, by diminishing the spans $ab, ef$, etc., in Fig. 1 so that the two supports of each cantilever come on the same pier, we obtain the general arrangement shown in Fig. 4, in which there is a simple girder in each span. It is clear that this last arrangement requires wider piers than either of the other two, in order to prevent the cantilevers from overturning when loaded on one side; and also that a sinking of a pier will cause no change in the forces acting on any of these systems.

Now a few words regarding the history of these bridges. The principle which they involve is by no means new, and many examples may be pointed out which are based upon it. The corbel and lintel combination, found even in the earliest Egyptian and Indian temples, will be recognized by the architects; and many old wooden bridges supported over the piers on bolsters and inclined struts will be recognized by the civils as involving the idea of Fig. 4 in a rude shape. On the line of the Canadian Pacific Railroad a skeleton bridge was seen rudely built by Indians, and involving the identical principle shown in Fig. 3; while in Thibet there is a bridge of a similar kind built over 200 years ago. In later years various English writers refer to the system, and W. H. Barlow took out a patent in 1859 with reference to that and other