

**LOOM**, the weaver's frame; a machine whereby several distinct threads are woven into one piece. Looms are of various structures, accommodated to the various kinds of materials to be woven, and the various manner of weaving them; viz. for woollens, silks, linens, cottons, cloths of gold, and other works, as tapestry, ribands, stockings, &c. See **WEAVING**.

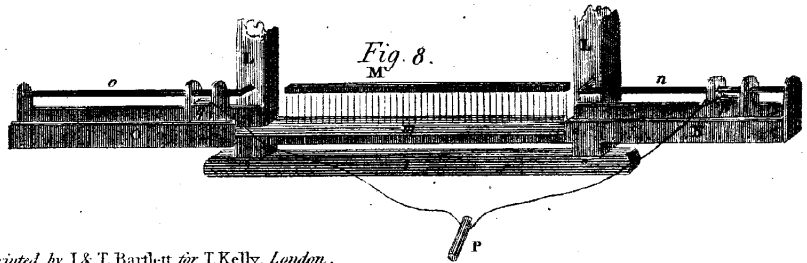
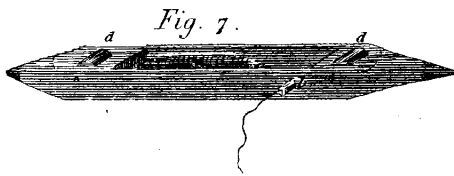
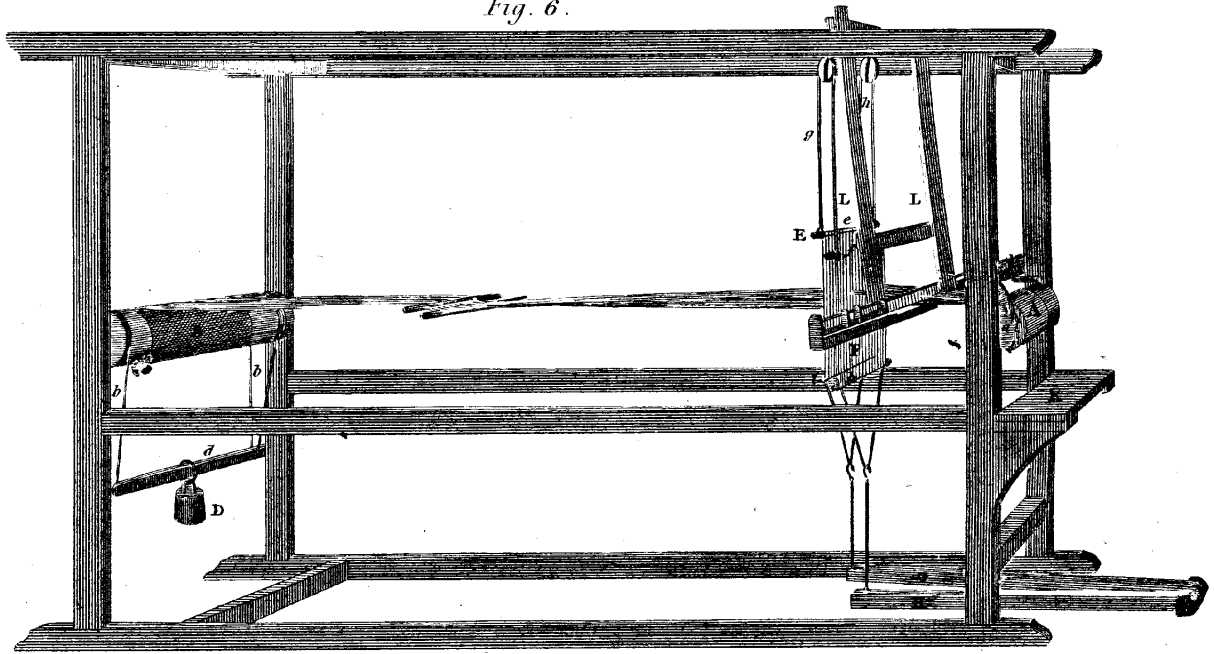
The lower compartment of Plate lxxxix. represents a loom for weaving silks or other plain work. A, Fig. 6, is a roll called the cloth-beam, on which the cloth is wound as it is wove; at one end it has a racket-wheel *a*, and a click to prevent its running back; at the same end it has also four holes in it, and is turned by putting a stick in these

holes: at the other end of the loom is another roll B, on which the yarn is wound; this has two small cords *bb* wrapped round it, the ends of which are attached to a bar *d*, which has a weight D hung to it; by this means a friction is caused, which prevents the roll B turning by accident. EF are called lambs; they are composed of two sticks *efhi*, between which are fastened a great number of threads; to the bar *e* are fastened two cords *gh*, which pass over pulleys, and are fastened to the bar *h* of the lamb F; the lower bars of each lamb are connected by cords with the treadles GH; the workman sits on the seat K, and places his feet upon these treadles; as they are connected together by the cords *gh*, when he presses down one, it will raise the other, and the lambs with them; a great number of threads according to the width of the cloth, are wound round the yarn beam B, and are stretched to the cloth-beam A; the middle of the threads which compose the lamb EF, have loops called eyes in them, through which the threads between the rolls AB, which are called the warp, are passed; the first thread of the warp goes through the loops of the lambs E, the next attached to the lamb F, and so on alternately; by this means, when the weaver presses down one of the treadles with his foot, and raises the other, one lamb draws up every other thread, and the other sinks all the rest, so as to make an opening between the sets of thread: LL is a frame moving on a centre at the top of the frame of the loom; the lower part of this frame is shewn in Fig. 8; LL are the two uprights of the frame, *l* is the bar that connects them, M is a frame carrying a great number of pieces of split reed or sometimes fine wire at equal distances; between these the threads of the warp are passed; the frame M is supported by a piece of wood *m* called the shuttle-race, which is fastened into the front of the pieces LL; each end of this piece has boards nailed to the sides, so as to form troughs NO; at a small distance above these are fixed two very smooth wires *no*; their use is to guide the two pieces *pq*, call-peckers or drivers; to each of these pieces a string is fastened, and these strings are tied to a piece of wood P, which the weaver holds in his hand, and by snatching the stick to either side, draws the pecker forwards very quick, and gives the shuttle, Fig. 7. (which is to be laid in the trough before the pecker) a smart blow, and drives it along across the race *m* into the other trough, where it pushes the pecker along to the end of the wire, ready for the next stroke which throws it back again, and so on. Fig. 7. represents the under side of the shuttle on a larger scale; its ends are pointed with iron; it has a large mortise through the middle of it, in which is placed a quill *a* containing the yarn; *b* is a piece of glass, called the eye of the shuttle, with a hole in it, through which comes the end of the thread; *cd* are two small wheels to make it run easily on the race. The operations are as follow: the workman sitting upon the seat K, holds the stick P in his right hand, and takes hold of one of the bars of the frame LL with his left; presses his foot on one of the treadles GH, which by means of the lambs EF, as before described, divides the warp; he then snatches the stick P, and by that means throws the shuttle, Fig. 7, which unwinds the thread in it, and leaves it lying in between the threads of the warp; he then relieves the treadle he before kept down, and presses down the other; while he is doing this, he with his left hand draws the frame LL towards him, and then returns it. The use of this is to beat the last thread thrown by the shuttle close up to the one that was thrown before it by the split reeds M, Fig. 8. As soon as he has brought the frame LL back to its original position, and again divided the warp by the treadle, *h* throws the shuttle again: when he has in this manner finished about twelve or fourteen inches of cloth, he wind

it by turning the roll A with the stick, as before described. Some very expert weavers will throw the shuttle and perform the other operations at the rate of 120 times per minute.

# LOOM

Fig. 6.



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