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Clarke

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(54) **LOOM, CARPET**

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Josiah A Clark

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Josiah A Clark himself of his improvement in that part of an improved Carpet Loom called the Engine which forms the figures or ornaments

This improvement consists in substituting a rotary sheet of Paste Board parchment painted Canvas. or any other suitable substance perforated with holes in such a manner as to form the figure required in lieu of the barrel or cylinder with wire cogs or staples set in it (somewhat resembling the barrel of a hand organ) which is commonly used, and also as a substitute for an improvement on the "Jay card machine" so called, or as it is sometimes called, "the Paper machine" and also as an improvement on the Canvas apron with cogs or strips of wood attached to it and with staples set in these cogs. which has been recently brought into use. The sheet of Paste Board &c. required will be of various size according to the design of the figure to be laid out upon it. but always, of a breadth about equal to the length of the Cylinder or cylinder around which the sheet is to operate. & on this sheet is to be laid out the design or the figures, to be woven by it in the same manner as the surface of the cylinder or barrel is usually laid out for the setting of the wire cogs. or staples & in every place where a wire cog would be set in the cylinder punch or cut a fair hole thro the paste board and all these holes in equi distant lines across the paste board. and beside the holes which are laid out to form the figure punch other holes near each edge of the paste board in about every second or third line of the figure holes. This sheet being thus prepared may be conveniently applied and used in the following manner (viz) Please a sheet cylinder of any convenient diameter and of such

length as the work requires, say from 21 to 38 inches long in the same place, or nearly in the same place of the large barrel or cylinder commonly used. This small cylinder is to be fluted or grooved from end to end, with grooves about half an inch deep and just as near together as the lines of holes across the paste board are, in every second or third groove, near each end of the cylinder, drive a pin of wire having a blunt point rising somewhat above the surface of the cylinder and standing in right lines around it like spur cogs, and exactly corresponding with the edge holes in the paste board, at a suitable distance behind this fluted roller cylinder and parallel to it, place another plain cylinder around both of these cylinders wrap the sheet of paste board and lace or lace the two ends together, or as nearly together as ..... may be in the manner of a rotary apron, or creeper. the rows of holes in the edges of which suit to the rows of pins in the fluted cylinder and by which it is regularly moved forward and backward in the same manner and by similar machinery to that which is in common use. In all "pointed" or "gathered" patterns it is best to move the apron forward for the first half of the figure and backwards for the second half, but in all "sprigg" or "cumbei" patterns it is best to move the apron perpetually forward in the same manner as is known and practised by all carpet weavers. In the barrel or cylinder Engine the pins or staples are so arranged, that the wire slides commonly called "leaves" which govern the threads of the warp, slide towards the cylinder at every "hand" or double throw of the shuttle & a part of these slides or leaves meeting with the pins, are obstructed in their course toward the centre of the barrel and the number thus obstructed determines the number of threads of warp, which shall be thrown over the surface of the web from time to time as the weaving progresses to form the figures and a cylinder or barrel with pins differently arranged is requisite for each differently figured pattern But this improvement is different, in that

the leaves or slides, which meet with the holes thro' the pasteboard are permitted to pass inward by entering into the grooves in the smaller cylinder and so determine the number and arrangement of the threads of the warp which shall be thrown upon the surface to constitute the figures. There are however not only several different substances which may answer nearly as well as pasteboard, but also several different arrangements not differing essentially from that more particularly described, especially that instead of the perforated apron passing around 2 cylinders in an elliptical form as before described, it may be bound fast upon the surface of a large cylinder grooved as aforesaid, the grooves being just as far apart as the rows or lines of holes in the apron, but in this arrangement there will be no need of so many holes at the edges as in the former case, and this cylinder may take the same place and be moved by the same machinery, and in the same manner as the common barrel with pins in it is moved. In this arrangement as well as the foregoing, the same cylinder continues always on the Engine and the coverings only are changed to operate all the variety of patterns. In fine the only things which I claim as improvements are the rotary apron perforated so as to perform the figure (upon principles already in use) and as being much cheaper, more simple, more sure to be in order, more easily shifted and requiring less attention in forecmanship than the barrel with pins or staples, the canvas with staples or any other method of forming the figures in Carpet Engines now in use and also the fluted or grooved cylinder upon which the perforated apron operates.

Witnesses
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(11 drawings)