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Z. LICHTNER

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MANUALLY OPERATED WEAVING APPARATUS

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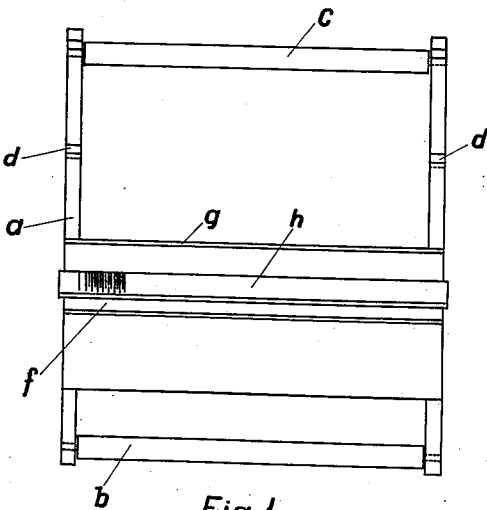


Fig. 1

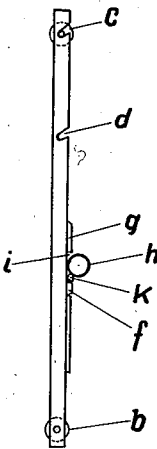


Fig. 2

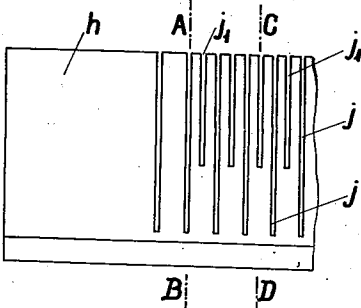


Fig. 3

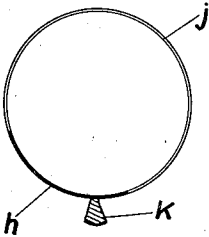


Fig. 4

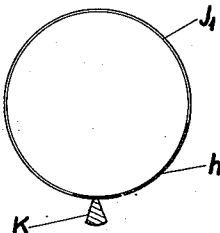


Fig. 5

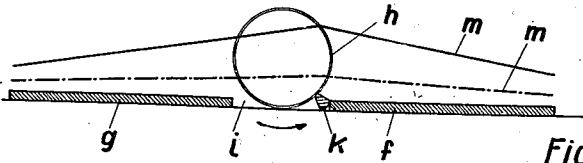


Fig. 6

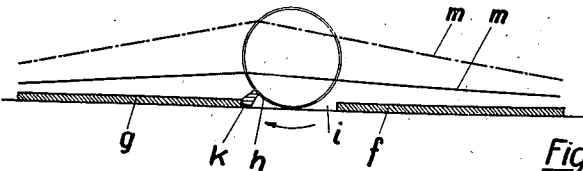


Fig. 7

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MANUALLY OPERATED WEAVING
APPARATUSZoltán Lichtner, Budapest, Hungary, assignor to
István Tivadar Székely, Budapest, HungaryApplication February 2, 1940, Serial No. 317,038
In Hungary February 9, 1939

3 Claims. (Cl. 139—33)

The invention relates to a manually operated weaving apparatus for producing clothes of various colours and designs in an easy and quick manner.

The apparatus according to the invention comprises a frame which is provided at its upper end with a warp roller and at its lower end with a cloth roller, both of smooth mantle surfaces. In the middle part of the frame a trough is formed by transverse plates in which a hollow weaving cylinder is arranged in such a manner that it can be lifted and turned. The mantle of this cylinder is provided with recesses apt to receive the warps, arranged close to each other along a generating line of the cylinder in such a way that adjacent recesses are displaced to each other in the direction of a generating line.

One preferred embodiment of the invention is illustrated by way of example in the accompanying drawing.

Figure 1 represents the front view of and

Figure 2 the side view of the weaving apparatus.

Figure 3 shows one part of the weaving cylinder.

Figure 4 is the cross section of Figure 3 along line 4—4.

Figure 5 is the cross section of Figure 3 along line 5—5.

Figures 6-7 show the warps in two different positions of the weaving-cylinder.

In Fig. 1 *a* indicates the two side uprights of the frame in which the transverse warp roller *c* is journaled at its upper, and the cloth roller *b* at its lower end, both having smooth mantle surfaces. The cylinder *c* is journaled in such a way that it may be lifted from the notches of the uprights *a*. Further notches *d* are provided opposite to each other, in which the axles of the cylinder *c* are journaled. The length of the cloth can be varied by changing the position of the cylinder *c* in the notches of the upright *a*.

Two cross bars *f* and *g* are fixed on the weaving frame and a transverse trough *i* is formed between them to hold the weaving cylinder *h*.

The cylinder *h* is hollow and made of a resilient material, preferably of metal plate, the mantle surface of which is provided with recesses, *j*, *j*₁ adapted to receive the warps and arranged close to each other and along a generating line of the cylinder. These recesses are displaced from each other in the direction of a generating line of the cylinder, Figs. 3-5. The

outer surface of the cylinder is provided with a rib or ledge *k* running along its longitudinal direction. The weaving cylinder *h* is journaled in the trough *i* in such a manner that it can be lifted and turned. The rib or ledge *k* leans either against the lower or the upper edges of the notch and thus determines the degree of turning of the cylinder.

The weaving in connection with the apparatus is carried out as follows:

The warp *m* is laid onto the cylinder *b* and into the first recess *j* of the weaving cylinder *h*, then onto the other cylinder *c* and led on the rear side of the frame to the cylinder *b* where by binding a knot a loop is formed. From this knot the warp is wound on the frame as many times as the cylinder *h* contains recesses *j*, *j*₁. The warp is therefore not cut into pieces but is wound continuously on the frame. After the last winding by binding a knot a loop is formed in a similar way as at the beginning of the thread. The warps positioned on the frame in this way place themselves, owing to the recesses provided in the weaving-cylinder, in two intersecting planes and owing to the resiliency of the weaving cylinder they are always under tension. By turning the weaving cylinder to and fro, Figs. 6 and 7, the position of the warps is changed and the producing of the cloth secured. The wefts are led between the warps by a flat shuttle.

The largest width of the woven goods is determined by the width of the weaving cylinder, but it may be also shorter. The greatest length of the goods to be woven can be the double of the length of the frame, but one can vary the length of the cloth by changing the position of the cylinder *c*.

What I claim is:

1. A manually operated weaving apparatus comprising: a weaving cylinder, said cylinder having the form of a hollow tube having a plurality of parallel circumferentially arranged slots spaced along said cylinder, alternate slots being in a circumferentially rotated position with relation to the remaining slots; a substantially H shaped frame composed of a pair of spaced and parallel side uprights and a pair of spaced and parallel cross bars arranged at right angles to the uprights and connected at the ends thereof to said side uprights, the inner opposed edges of said cross bars forming a trough shaped support for said cylinder.

2. A manually operated weaving apparatus comprising: a weaving cylinder, said cylinder

having the form of a hollow resilient tube having a plurality of parallel circumferentially arranged slots spaced along said cylinder, alternate slots being in a circumferentially rotated position with relation to the remaining slots; a substantially H shaped frame composed of a pair of spaced and parallel side uprights and a pair of spaced and parallel cross bars arranged at right angles to the uprights and connected at the ends thereof to said side uprights, the inner opposed edges of said cross bars forming a trough shaped support for said cylinder.

3. A manually operated weaving apparatus comprising: a weaving cylinder, having a rib arranged longitudinally thereof and co-extensive in length therewith, said cylinder having the form of a hollow resilient tube having a plu-

5 rality of parallel circumferentially arranged slots spaced along said cylinder, said slots being at right angles to the axis of said tube, alternate slots being in a circumferentially rotated position with relation to the remaining slots; a substantially H shaped frame composed of a pair of spaced and parallel side uprights and a pair of spaced and parallel cross bars having an opening therebetween arranged at right angles to the uprights and connected at the ends thereof to said side uprights, the inner opposed edges of said cross bars forming a trough shaped support for said cylinder; whereby the tube may be rotated by manually grasping said rib, the fingers of the operator passing upwardly between said cross bars.

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