O. J. PLAYER.

WARP REPLENISHING APPARATUS.

APPLICATION FILED NOV. 13, 1919.

1,357,346.

Patented Nov. 2, 1920.

2 SHEETS—SHEET 1.

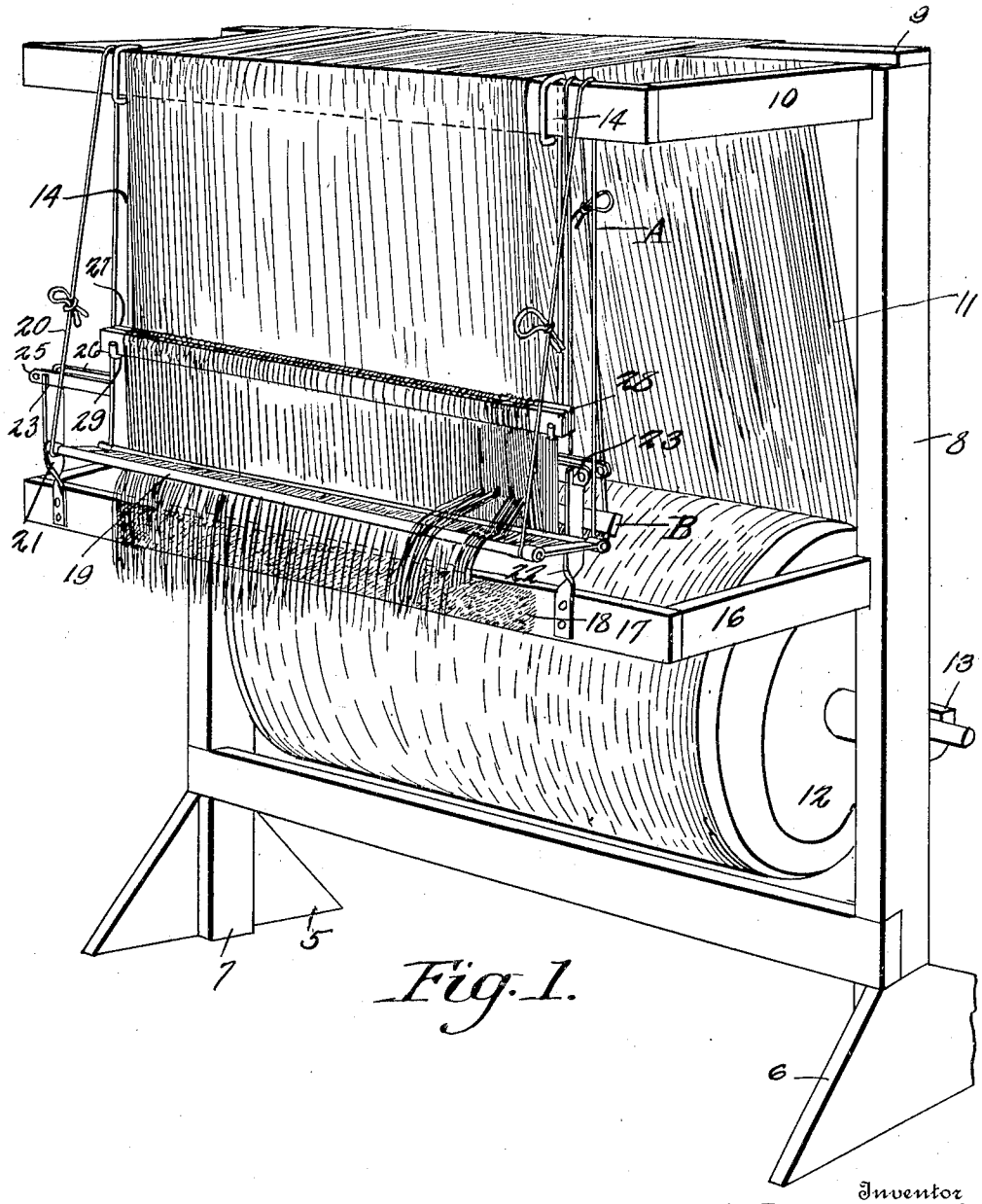


Fig. 1.

Witness

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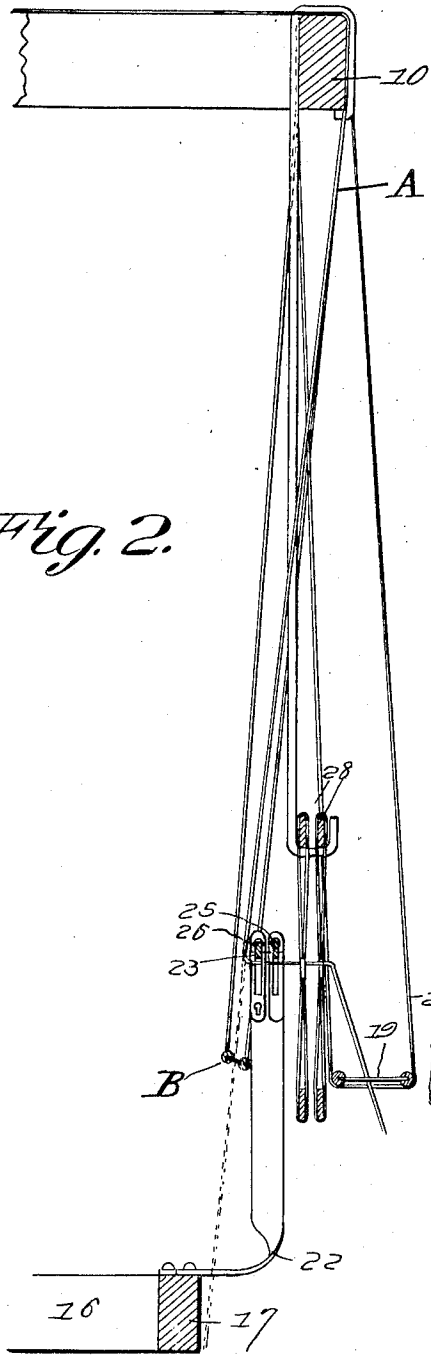


Fig. 2.

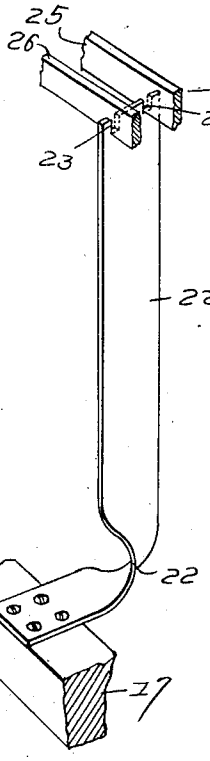


Fig. 3.

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UNITED STATES PATENT OFFICE.

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WARP-REPLENISHING APPARATUS.

1,357,346. Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed November 13, 1919. Serial No. 337,639.

To all whom it may concern:

Be it known that I, OSTEEN J. PLAYER, a citizen of the United States of America, and resident of Rockingham, in the county of Richmond and State of North Carolina, have invented certain new and useful Improvements in a Warp-Replenishing Apparatus, of which the following is a specification.

This invention relates to weaving, and particularly to warp replenishing devices.

An object of the invention is to provide novel means for supporting harness, thread or yarn for warps, and a reed in such relation to one another that the warp thread may be expeditiously inserted in the harness and the dents of a reed without causing the crossing of the threads or tangling the same.

Furthermore, an object of the invention is to provide novel means for holding the said warp threads near or at their ends, prior to their being manipulated; to insert them as aforesaid, thus holding the said threads in convenient position for an operator.

Furthermore, an object of this invention is to provide a mounting for the drop wire rods whereby the rows of drop wires are held in spaced relation to each other and the said drop wires are held in spaced relation to the harnesses and to the threads prior to their being drawn, thereby avoiding the entangling of these elements and holding them to facilitate the drawing operation.

Furthermore, an object of the invention is to produce a device of the character indicated, which will facilitate the drawing of warps and economize in the saving of materials from loss due to tangling of the yarns.

With the foregoing and other objects in view, the invention consists in the details of construction and the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a view in perspective of a warp replenishing apparatus embodying the invention;

Fig. 2 illustrates an enlarged detailed sectional view through the harness, drop wire supports and reed, and

Fig. 3 illustrates a detailed view showing a fragment of the drop wire rod and its support in elevation.

In these drawings 5 and 6 denote the base members of the frame having standards 7 and 8 attached to them.

The standards 7 and 8 are connected by a brace 9. A frame structure 10 is supported by the standards over which the threads 11 are run from the spool or roller 12, which latter is rotatably mounted on brackets such as 13.

Hangers 14 are suspended from the frame and the said hangers normally support harness 28 of a loom of known construction, which need not be described in detail.

Arms 16 extend from the standards and they have their outer ends connected by a bar 17 carrying wire bristles or teeth 18 which engage the threads in relative position to one another before being manipulated to place them in the dents, and this holding means prevents their being tangled or disarranged.

As shown in the drawing the frame structure 10 projects far enough to support the threads in a vertical position and preferably parallel with the harnesses and drop wires but spaced therefrom so that the supporting device for the threads and the supporting device for the drop wires and the supporting device for the harnesses hold each in spaced relation to the one succeeeding it and makes it possible to facilitate the selection of the thread and the selection of a drop wire so that the thread may be drawn through the harnesses expeditiously.

The reed 19 is supported by slings 20 in position to receive the threads.

Brackets 21 and 22 are attached to the bar 17 and said brackets each preferably have notches such as 23, which receive rods or bars 25 and 26 which are employed for supporting drop wires in rows, the said rods or bars being held in spaced relation to each other and in spaced relation to the harness and the threads prior to the drawing of the threads.

As shown in the drawing, the threads 11 are run from the spool over the top of the frame and before they are pulled, extend vertically downward so that they are parallel with the drop wires and harness, but spaced therefrom so that when the parts are held in the relation stated, the operator in drawing threads can select the appropriate thread and the appropriate drop wire with-

out liability of confusion or having the threads tangle or having the threads drawn through the incorrect eyes.

A device made in accordance with this invention enables the performing of a given amount of work in much less time than with devices now in common use and economizes in the matter of labor very materially.

Slings A are supported from that portion of the frame 10 over which the threads are drawn and from which they hang, the said slings terminating below the drop wires and having a comb B supported by them, the function of which one skilled in the art will understand.

I claim:

1. In a warp replenishing apparatus, a standard having a warp-thread spool supporting means, a frame extending outwardly from the support over which threads from the spool are extended and from which they hang substantially vertically, hangers suspended from that portion of the frame from which the threads hang whereby the said hangers are approximately parallel with the threads, the said hangers having an outwardly extending support, harnesses suspended from the outwardly extending portions of the hangers parallel with and in spaced relation to the threads, arms extending upwardly in a plane between the support for the harnesses and the said threads, the said arms having notches in their upper ends, bars held in spaced relation to each other in the notches of the brackets, drop wires slidably applied to the said bars, slings suspended from that portion of the frame from which the threads hang, said slings extending downwardly in front of the harnesses, a reed supported by the said slings, slings supported by the portion of the frame from which the threads hang, the last mentioned slings hanging back of the said drop wires, and a comb supported by the last mentioned slings through which the threads are pulled.

2. In a warp replenishing apparatus, a standard having a warp-thread spool supporting means, a frame extending outwardly from the support over which threads from the spool are extended and from which they hang substantially vertically, hangers suspended from that portion of the frame from which the threads hang whereby the said hangers are approximately parallel with the threads, the said hangers having an outwardly extending support, harnesses suspended from the outwardly extending portions of the hangers parallel with and in spaced relation to the threads, arms extending upwardly in a plane between the support for the harnesses and the said threads, the said arms having notches in their upper ends, bars held in spaced relation to each other in the notches of the brackets, drop wires slidably applied to the said bars, slings suspended from that portion of the frame from which the threads hang, said slings extending downwardly in front of the harnesses, a reed supported by the said slings, slings supported by the portion of the frame from which the threads hang, the last mentioned slings hanging back of the said drop wires, a comb supported by the last mentioned slings through which the threads are pulled, and a member having bristles supported by the frame below the reed for holding the ends of the threads before being pulled during the threading operation.

OSTEEN J. PLAYER.