J. G. Henderson.

Hand Loom.

No. 96,320. Patented Nov. 2, 1869.

Fig: 2.

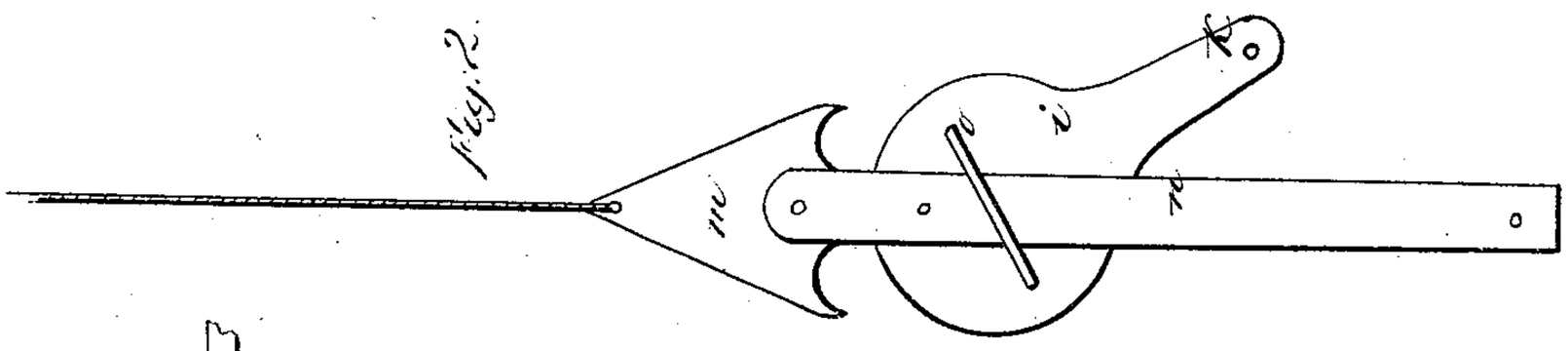


Fig: 3

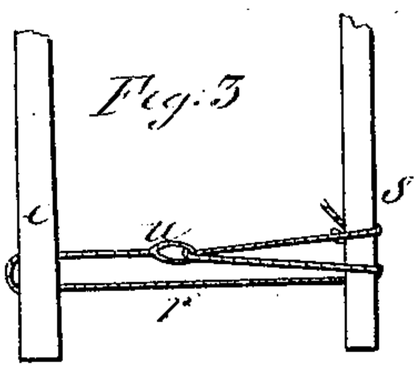
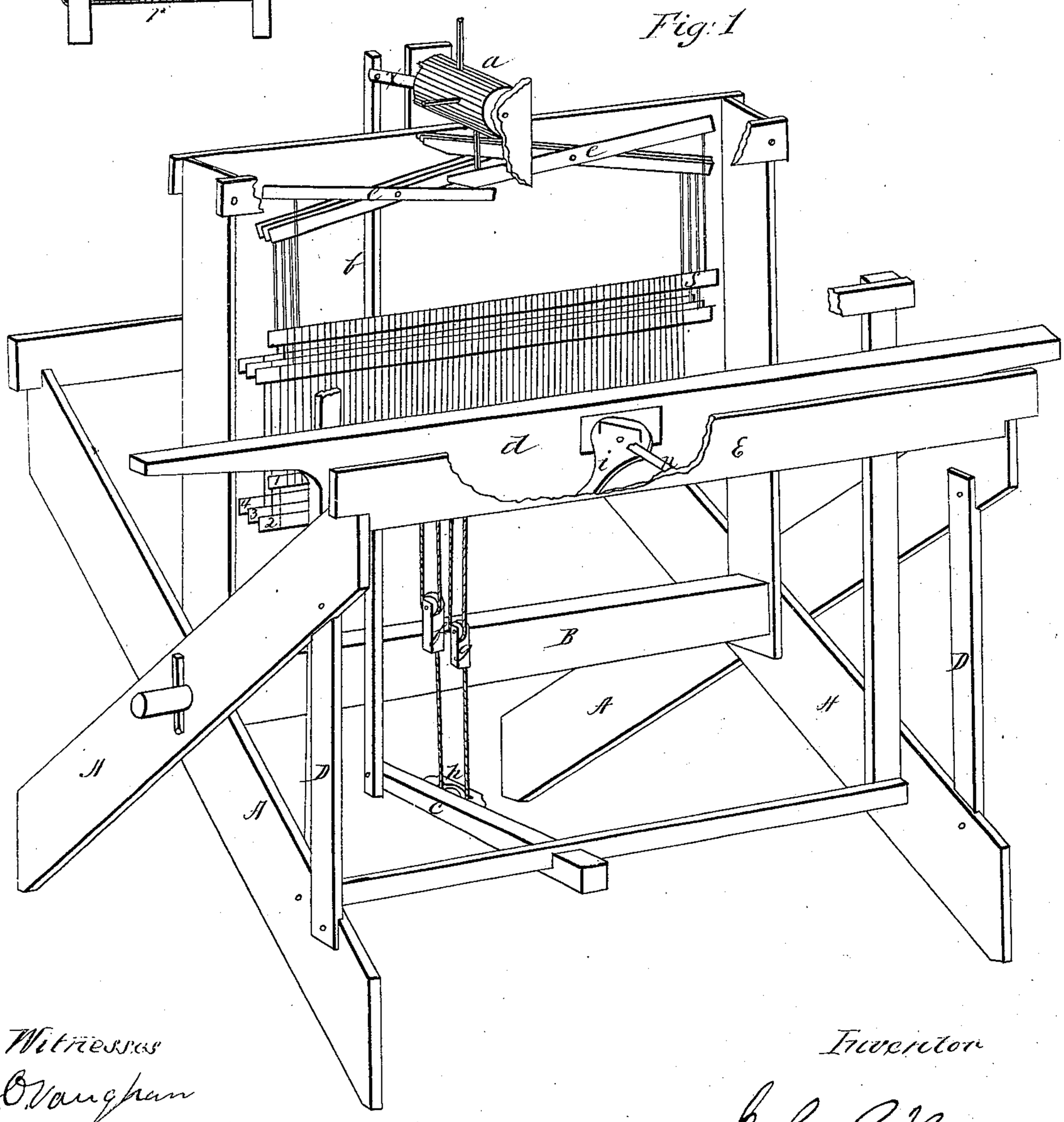


Fig: 1



Witnesses
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Washington Taylor

Inventor
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JOHN G. HENDERSON, OF KEOKUK, IOWA.

Letters Patent No. 96,320, *dated November* 2, 1869.

IMPROVEMENT IN LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JOHN G. HENDERSON, of Keokuk, in the county of Lee, and State of Iowa, have invented a new and useful Improvement in Hand-Looms; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a view of a device for throwing the shuttle.

Figure 3 is a view of the mode of attaching the shafts to the jacks.

The frame is constructed of four side-pieces, A A A A, fig. 1, made all the same shape.

A hole is made in the centre of each, through which the round tenon of the tie B passes, which holds the frame together.

The supports D D are halved on and bolted to the side-pieces, and hold them the proper distance apart, without the side-pieces being gained into each other.

The cam-wheel *a*, fig. 1, is rolled partly around at each forward motion of the lay by the dog *x*, which is worked by the rod *b*, which is pivoted to the lever *c*, which is attached to the lower part of the lay *d*.

The pins in the cam-wheel operate the jacks *e e*, which, being attached to the harness-shafts, make the upper shed.

A cord passes from the pulley *g*, around the pulley *h*, on the lever *c*, to the pulley *f*.

A cord passes from the first shaft around the pulley *g* to the second shaft, and a cord passes from the third shaft around the pulley *f* to the fourth shaft, so that when one or more of the shafts are held up, the rest are drawn down as the lay goes backward, completing the shed.

The shuttle is thrown by straps attached to blocks, in the usual manner, and to the picker-staff *i*, fig. 2, at *k*.

This picker-staff is pivoted in a mortise in the lay, as seen at fig. 1, and across its top is placed a staple, *o*, fig. 2, through which a strap, *n*, fig. 2, passes, which is attached at one end to the breast-beam E, fig. 1, as seen at *n*, fig. 1, and at the other to the arrow-shaped iron *m*, fig. 2.

As the lay goes backward, the iron *m* engages the end of the staple *o* that is farthest back, throws the picker-staff around, and, as the lay goes back the next time, engages the other end, throwing the shuttle back and forth, as required.

On one end of the cord *r*, fig. 3, a loop is formed, as seen at *u*.

The other end is then passed through the jack, a part of which is shown at *e*, fig. 3, and is returned and passed around the harness-shaft *s*, fig. 3, then through the loop *u*, and tied to the shaft *s*.

When it is required to make the shed higher, the operator has only to draw the loop *u* toward the jack *e*, as far as desired, and it will remain where it is put, thus making the change without tying the strings.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The pattern-cylinder, placed on the top of the loom-jacks *e e*, rod *b*, pulleys *f g h*, and connecting-cords, and the lever *c*, all combined and arranged as shown, to form the shed.

2. The arrangement, with the jacks and harness-frames, of the looped cord *r u*, to adjust the position of the harness, to form a small or large shed without untying the strings, as described.

JOHN G. HENDERSON.

Witnesses:

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