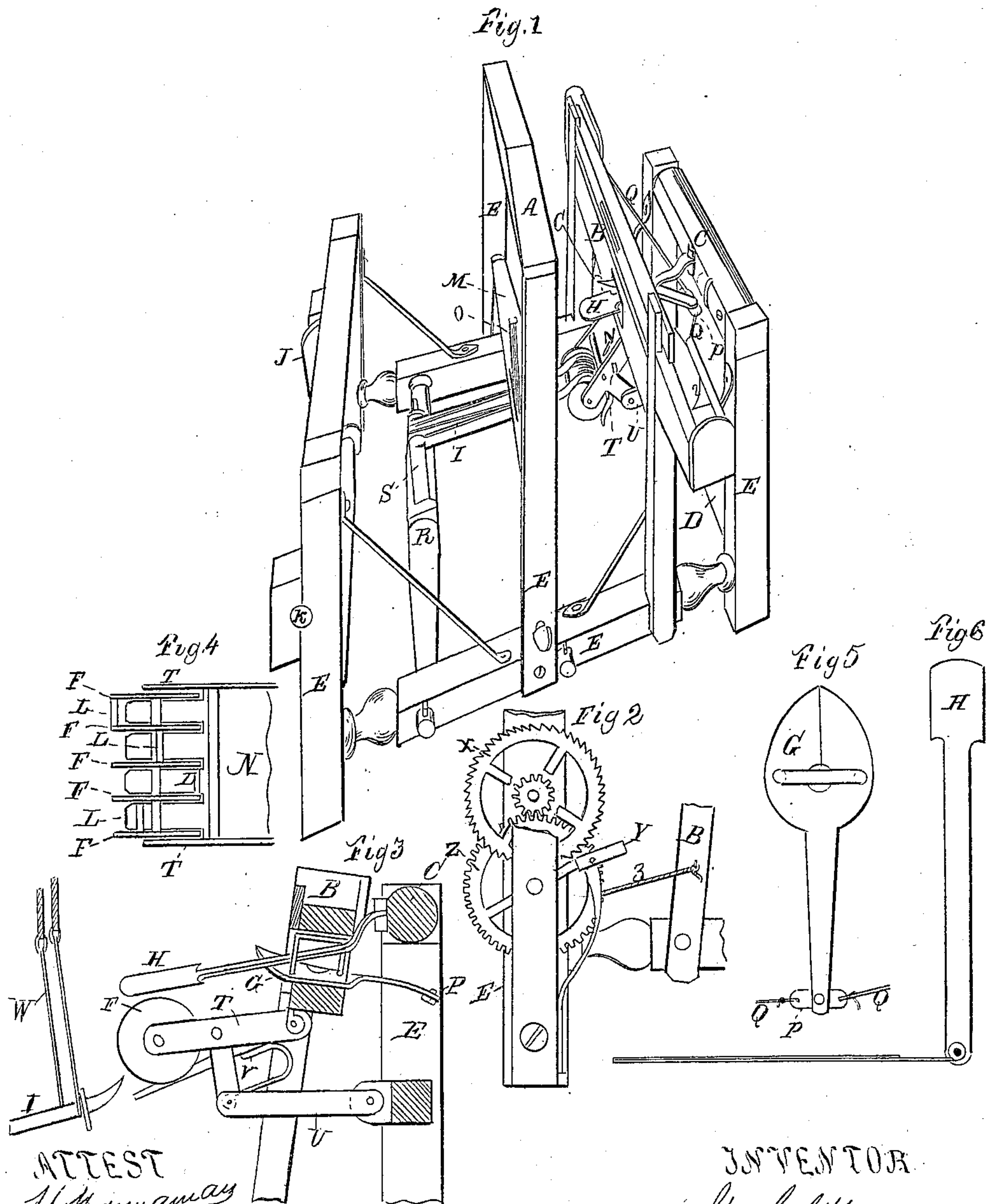


# G. Cliff, Hand Loom.

No. 77,169.

Patented Apr. 28, 1868.



ATTEST  
H. H. Sprague  
H. S. Sprague

INVENTOR  
Geo. Cliff  
By His atty  
H. S. Sprague

# United States Patent Office.

GEORGE CLIFF, OF MEMPHIS, MICHIGAN.

*Letters Patent No. 77,169, dated April 28, 1868.*

## IMPROVEMENT IN LOOMS.

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

### KNOW ALL MEN:

That I, GEORGE CLIFF, of Memphis, in the county of Macomb, and State of Michigan, have invented a new and useful Improvement in Looms; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

Figure 1 is a perspective view of my loom.

Figure 2 is a side view of the gearing and attachments which wind up the cloth-beam.

Figure 3 is a sectional view of parts of the lathe, frame, and breast-beam, with apparatus for throwing the shuttle and attachment of treadle-wheel.

Figure 4 is a top view of the oscillating-frame, standard, and treadle-wheel.

Figure 5 is a top view of the shuttle-thrower.

Figure 6 is a top view of the latch.

The same letters indicate like parts in each figure.

The object of this invention is to construct more particularly a hand-loom, cheap to manufacture, perfect in its work, requiring but little power, and that will be so connected in all its parts, that the operator is only required to operate the lathe in the usual way, after having prepared his web and adjusted his machine.

The operator, standing at the breast-beam C, and working the lathe B, in the usual way, causes it to spring the harness, and throw the shuttle at the same time, and wind up the cloth on the beam D, by means of the cog-wheels X and Z, which are operated by the dog and spring Y, by means of the cord 3, which is attached to the lathe B. The winding of the cloth may be made faster or slower, by raising or dropping the dog, as may be required. As the operator throws the lathe backwards and forwards, the shuttle-thrower G changes its position, and being connected, by the button P and cords Q, to proper slides in each end of the bed 2, which slides operate upon and throw the shuttle from side to side with each forward and backward motion of the lathe B. The same motion of the lathe operates the treadle-wheel, F, throwing it back, so that pins, L, catch alternately into and lift the treadles I, which act upon the harness by means of the hangers W, which connect the harness with the treadles. In every alternate motion of the lathe B, the first and third treadles go down, and the second and fourth go up, and so on alternating. The spring-bar M, on top of the treadles, holds them in their position.

The device for altering the web to be delivered from the yard-beam K is that in ordinary use in most looms.

Having thus described the uses of my loom, and its operation, I will now proceed to name its various parts, so that those interested and skilled in the art can manufacture it.

A is the top-beam, from which the harness is suspended.

B is the lathe.

C is the breast-beam.

D is the cloth-beam.

E is the frame.

F is the treadle-wheel.

G is the shuttle-thrower.

H is the latch.

I are the treadles.

J is a tightener-pulley, on

K, the yard-beam.

L are pins in the treadle-wheel.

M is the spring-bar.

N is the standard for treadle-wheel.

O is the frame, attached to a suitable rock-shaft, in which the treadles work.

P is a button on the end of the shuttle-thrower, to which are attached,



Q, cords to throw the shuttle.

R is a transverse tie, to which is attached,

S, the standard, to which are pivoted the treadles.

T is an oscillating-frame, to which is attached the treadle-wheel.

U is the connection between the oscillating-frame and the frame E.

V is a spring, which holds the oscillating-frame in place.

W are hangers, which connect the harness with the treadles.

X is a geared wheel, on the frame E, with a pinion, and meshing into

Z, another geared wheel, which is operated by the dog and spring Y, which is connected to and worked by the lathe.

2 is a bed, in which the shuttle plays.

3 is the cord connecting the dog and spring Y to the lathe.

In describing this loom as a hand-loom, I do not mean to be understood that it may not just as well be used and operated by power.

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

The combination of the top-beam A, the lathe B, the breast-beam C, the cloth-beam D, the frame E, the treadle-wheel F, the shuttle-thrower G, the latch H, the treadles I, the pulley J, the yard-beam K, the pins L, the spring-bar M, the standard N, the frame O, the button P, the cords Q, the transverse tie R, the standard S, the oscillating-frame T, the connection U, the spring V, the hangers W, the geared wheel X, the dog and spring Y, the geared wheel Z, the bed 2, and the cord 3, when constructed, arranged, and operating substantially as and for the purposes hereinbefore described and shown.

GEORGE CLIFF.

Witnesses:

H. S. SPRAGUE,

GEO. RUHLANDT.