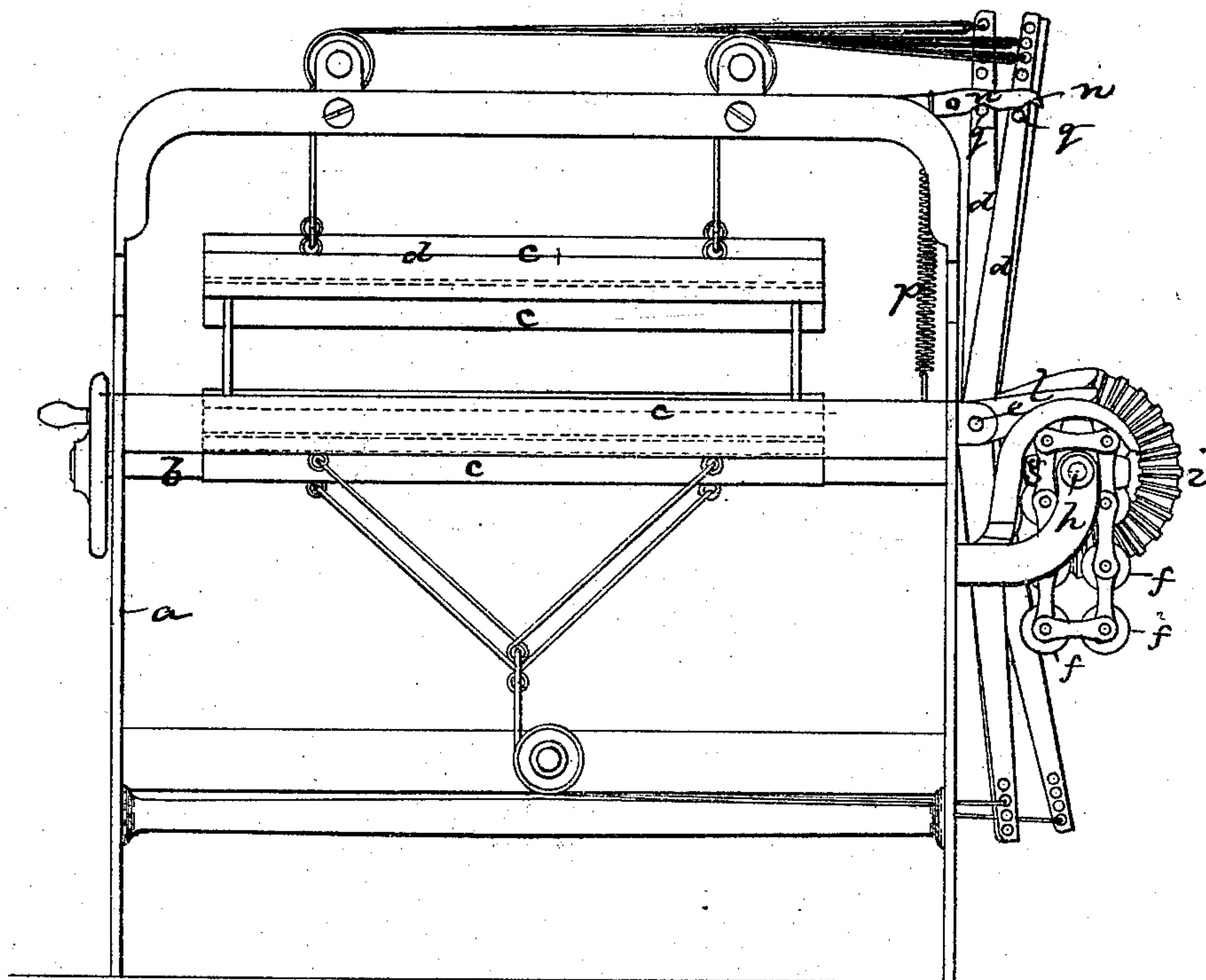


I. L. WILBER.  
Loom-Shedding Mechanisms.

No. 144,176.

Patented Oct. 28, 1873.

Fig. 1.



Witnesses.  
Ab. W. Frothingham.  
Ed. H. Seaton.

Inventor.  
Isaac L. Wilber,  
By his Attys.  
Crosby & Gould

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Fig. 3.

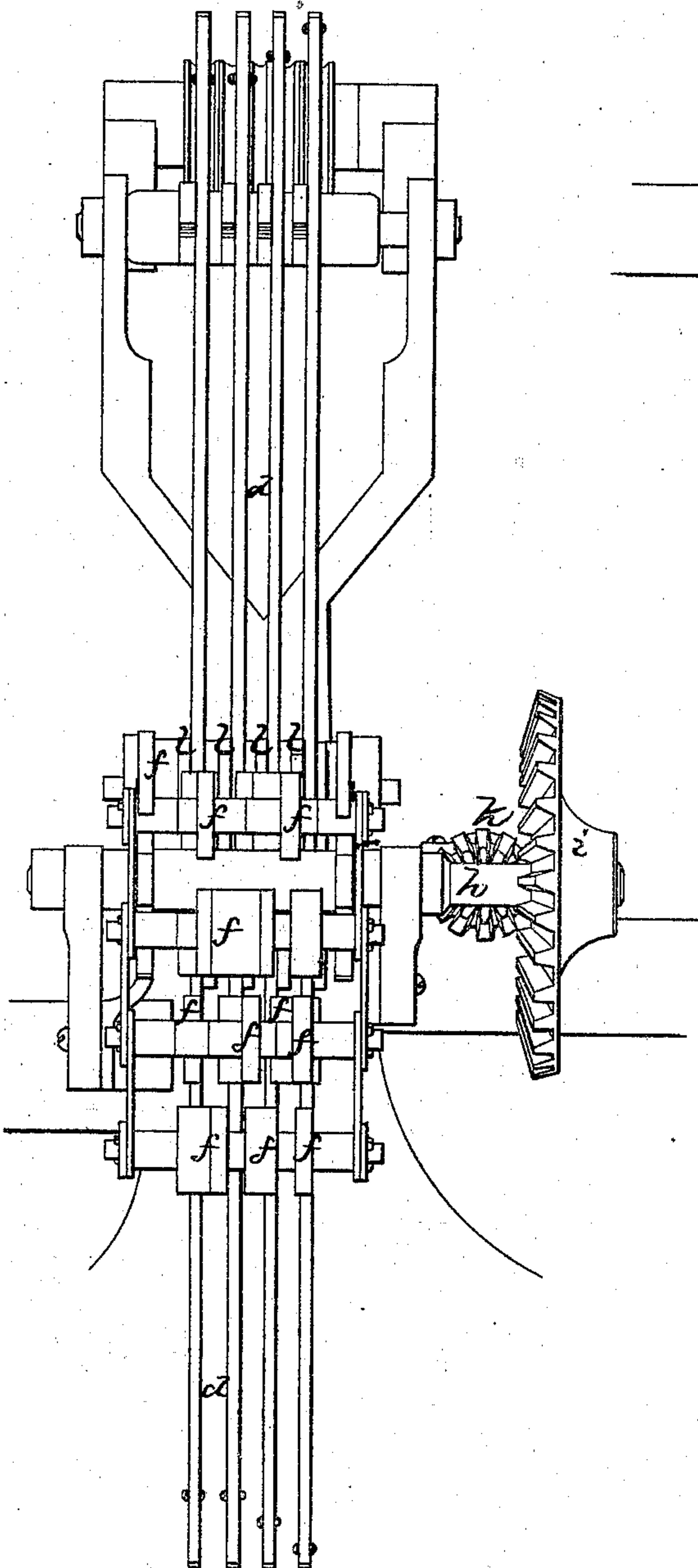
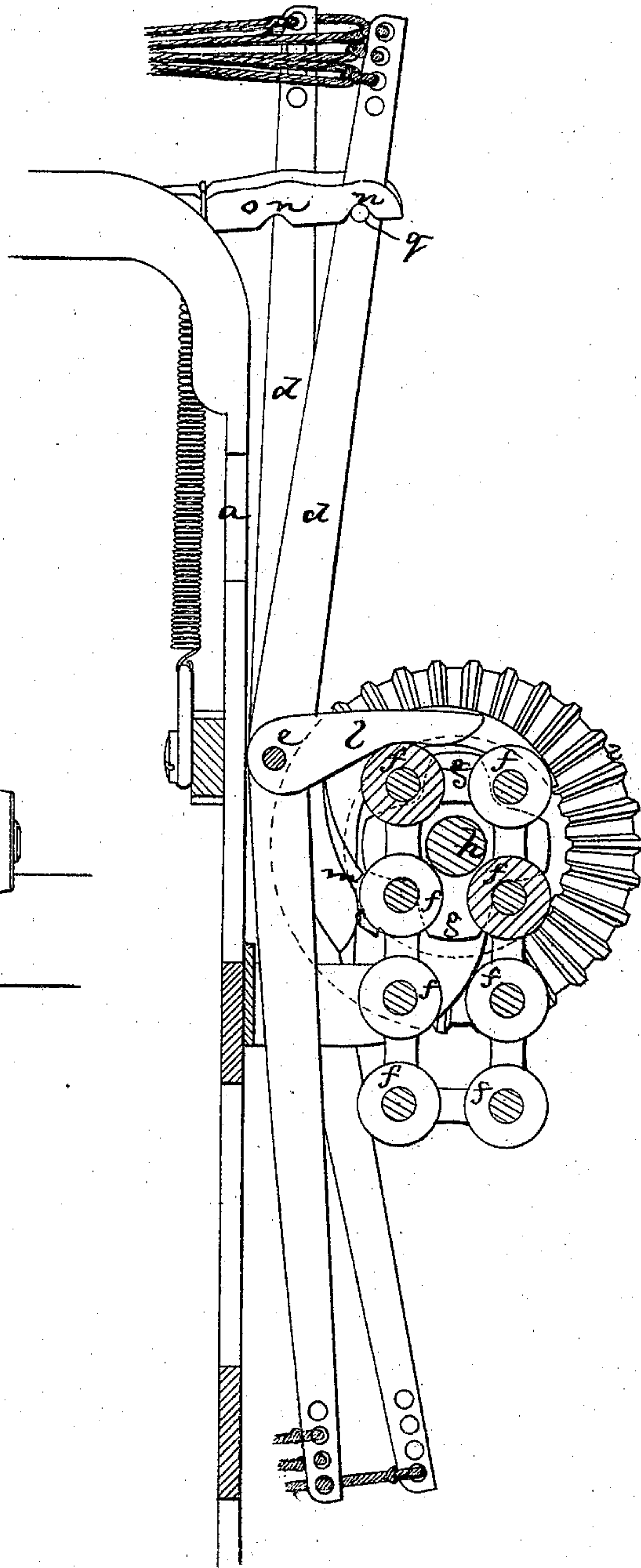


Fig. 2.



Witnesses.  
M. W. Frothingham.  
L. M. Latimer.

Inventor.  
Isaac L. Wilber,  
By his Atty.  
Crosby & Gould



# UNITED STATES PATENT OFFICE.

ISAAC L. WILBER, OF TAUNTON, MASSACHUSETTS.

## IMPROVEMENT IN LOOM SHEDDING MECHANISMS.

Specification forming part of Letters Patent No. 144,176, dated October 28, 1873; application filed August 16, 1873.

*To all whom it may concern:*

Be it known that I, ISAAC L. WILBER, of Taunton, in the county of Bristol and State of Massachusetts, have invented an Improvement in Looms; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to an improvement in that class of fancy looms in which upright harness-levers are employed to effect the shedding of the warp.

In my invention, the levers being pivoted at about their centers, I extend from each lever, at or near its pivotal point, two arms, one extending right angularly, or approximately so, from the lever, and the other extending at an acute angle from the lever, it being nearly right angular to the first. The pattern-chain is so arranged, with relation to the arms of the respective levers, that the lever-arms embrace the operative rolls of the pattern-chain, one of the arms of each pair being held or operated by some one of the rolls of the chain, the lever being moved to raise the harness-frame when a roll acts against the vertical arm of either lever to throw it back, and being moved to depress said frame if a roll acts upon the horizontal arm to throw it up. The levers are positively operated by the action of the chain upon these arms, and in forming each shed those levers only are actuated that are required to be moved for the change of warp, the shed being always open, and the unchanged levers being held by notched levers or other devices during the formation of the shed, all of the levers being locked in position by the pattern-chain after the shed is formed, or for the pick.

The drawing represents a loom embodying my invention, only such parts of the loom being shown as have direct connection with my invention.

Figure 1 shows the loom in elevation. Figs. 2 and 3 show the upright levers in side and end elevation.

*a* denotes the loom-frame; *b*, the crank-shaft; *c*, the harness-frames. By suitable cording and sheaves, these frames are connected at top and bottom to the upper and lower ends of the upright harness-levers *d*. These levers *d* are pivoted upon a pin, *e*, at or near their center, and placed outside of them

is the pattern mechanism, consisting of a chain carrying pins, upon which are rolls *f*; the chain running upon wheels *g* on a shaft, *h*, journaled in suitable bearings, and carrying a bevel-wheel, *i*, to which motion is imparted by a bevel-pinion, *k*, on the crank-shaft *b*. From each lever extends the horizontal or approximately horizontal arm *l*, and the vertical or approximately vertical arm *m*, each arm *l* extending from one side face of the lever, and each arm *m* from the opposite side thereof, or so that the two arms are in two planes, by which means a roll that operates the horizontal arm may be in the plane of such arms only, and the roll that operates the other arms in the planes of such arms only; whereas, if the arms were in the same plane, they would both be necessarily operated (successively) by a roll that operated either.

As the chain moves, the rolls or rings distribute the levers *d* and harness-frames in accordance with the shed to be formed, and as each lever comes to position, one of two notches, *n*, in a lever, *o*, drawn down by a spring, *p*, springs over a pin, *q*, extending from one side of the lever *d*, the notched levers thus holding the harness-levers in respective positions for the open shed and the movement of the shuttle, while the chain moves on to bring the next set of rolls into position for the next shed. As the rolls strike the arms *l m*, they press such levers as are to move, so that the pins leave the notches, the harness-levers not to move being still held by the notches of the stop-levers. When the rolls are not in contact with the arms, all the harness-frames may be brought by hand into the same plane, to close the warp for any purpose, the stop-levers *o* readily yielding to permit the harness-levers to move.

By my construction, the harness mechanism is very much simplified, the harness-levers are positively moved, a perfect organization for an open shed is obtained, and the loom may be made for any desirable number of different picks or shades.

I claim—

The notched spring-levers *o*, in combination with the upright harness-levers *d*, arms *l m*, and pattern-chain, and operating substantially as described.

ISAAC L. WILBER.

Witnesses:

WM. C. LOVERING,  
C. D. McDUFFIE.