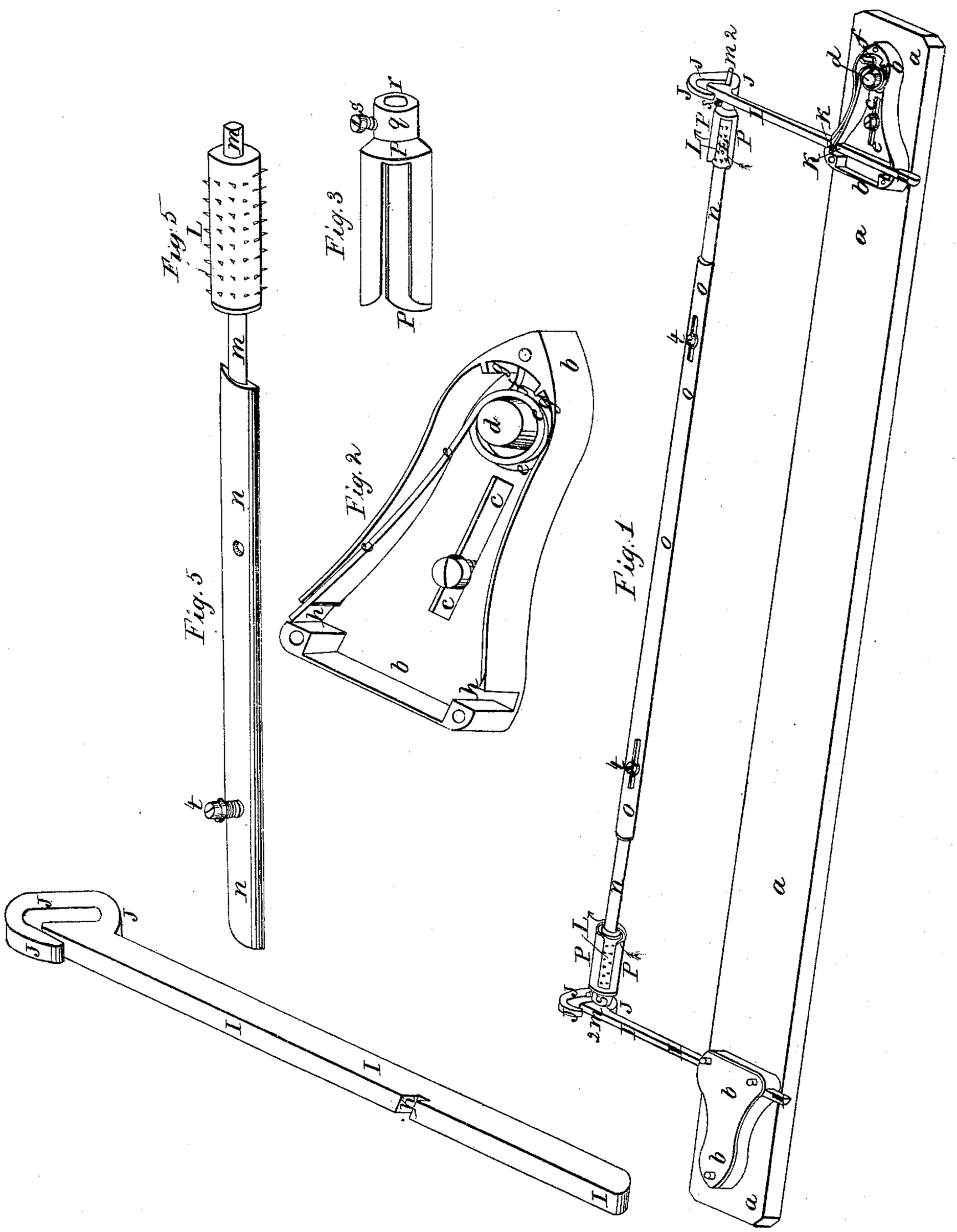
R. Pilson.

Loom Temple.

No. 21,515. Patented Sept. 14, 1858.



UNITED STATES PATENT OFFICE.

ROBERT PILSON, OF LAUREL, MARYLAND.

IMPROVEMENT IN TEMPLES FOR LOOMS.

Specification forming part of Letters Patent No. **21,515**, dated September 14, 1858.

To all whom it may concern:

Be it known that I, ROBERT PILSON, of Laurel, in the county of Prince George and State of Maryland, have invented certain new and useful Improvements in Temples for Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is a perspective view of the temple with the roller attached directly to the connecting-bar. Fig. 2 is a perspective view of the spring box or holder with its cap or covering detached. Fig. 3 is the tubular sheath. Fig. 4 is an ordinary wooden temple-roller. Fig. 5 is the adjustable connecting-bar and roller-spindle.

The nature of my improvements in temples consists in dispensing with the usual roller case or box and instead thereof employing an adjustable extension connecting suspension-bar, on each end of which is an independent tubular sheath or receptacle for holding the pin-roller, and through all of which devices I produce what may be termed a "double-acting compensating spring-temple," which has free vibration to and fro horizontally, as well as a yielding up-and-down motion simultaneously, the advantages of which will be more fully shown hereinafter.

In Fig. 1, *a a* represents the breast-beam of a loom, and at *b b* are stationary spring-holders formed with an elongated slot in their bottom plate, as at *c c*, through which they are screwed into the top or upper part of the breast-beam, whereon they are adjustable to adapt them to varying widths of cloth. The top of the spring-holder may be detached or hinged, so as to admit of ready access to its interior. At *d* is a cast projection formed on the spring-holder, and around this the coiled end of a detachable wire spring *e e e e* is adjusted, the end *f* of which rests against the side of a catch-place *g g*, two of which catches may be cast or formed with the spring-holder.

Transversely through the sides or walls of the spring-holder, toward the front or broad end, are formed guide places or slots *h h*, and in these is fitted a sliding yielding bracket or bearing-bar *i i i*, having one end formed in shape of an oblong hook J J J, and at about one-third of its length on the upper edge or face of the bar is a notch or nick *k*. At suitable distances apart on the top of the breast-beam the spring-holders are attached at distance from each other corresponding to the desired width of the cloth or fabric to be woven.

Within the spring-holders are arranged the sliding yielding brackets or bearing-bars *i i i*, the end of the wire spring *e e* resting in the notch or nick *k*, as shown in Fig. 1. The pin-rollers L L are shipped onto the shank-spindles *m m* of the adjustable extension connecting-bars *n n*, said bars being connected together by a slotted splice length *o o o o*, Fig. 1. This being done, the tubular sheaths P P *q r* are slipped onto the spindle-end m^2 and over the pin-roller L, and its neck part *q*, being bored with a cylindrical opening *r*, the tubular sheaths are held firmly by tightening-screws *s s*. Thus the rollers are connected together by the bars *n n* and splice-lengths *o o o o*, and shank-spindles m^2 m^2 rest in the hooks J J J J of the sliding yielding bracket or bearing-bar *i i i*.

It will be observed that the temples are separate and distinct and independent of any direct connection with the breast-beam of the loom and are detachable at one and the same time instead of being connected with different separated cases or temple-boxes.

I am well aware that a patent was granted August 7, 1855, to James Smith and William Batterville for improvements in temples, wherein a solid individual rod or bar is employed suspended in slotted brackets, said rod or bar bearing up laterally against a fixed flexible strip of metal. To the ends of this solid individual bar or rod temple-cases are attached by their heel parts and not the pin-rollers, as is the mode in my improvements, wherein my pin-rollers are attached directly to the ends of an extension bar or rod, whereby the necessity of employing adjusting and tightening sustaining-screws to prevent the temple-case from falling forward is overcome, and the danger of disarrangement of the pin-roller and its sheath with the pressure forward thereof is greatly obviated. In the above-alluded-to patent the solid bar or rod is not susceptible of extension and adjustability in its longitudinal direction so as to be adaptable to varying widths of cloth; but my de-

vices do present this most important feature of improvement.

In the operation of my temples they are governed wholly and solely by the motion of the cloth which passes around, under, and beneath the rollers, as shown or indicated by the arrows, and consequently the temples, with the bar *n n* and splices *o o o o*, rest on top of the cloth, and the blow of the lay of the loom does not in any way act on the temple. Consequently much power is economized, while all concussion or shock is prevented, the action of the heddles, together with the tension of the cloth, imparting to the temples an equable and sufficiently-yielding action. The ends of the spindles, being disconnected, work perfectly free up and down in the hooks J J J. The motion of the warp up and down, and technically termed the "shades" of the cloth, causes the up-and-down yielding or accommodating motion of the temples, thereby admitting of compensating the tension of the cloth, while at the same time the temples have a horizontal yielding action through the agency of the devices *i i i* and their springs *e e e e*. Thus is all rigidity or stiffness of action of the temples overcome.

Another most important feature pertaining to my improvements is that the construction and arrangement of parts are such that little or no lubricating matter is required, the use of which most generally tends more or less to soil the cloth.

An additional improved feature is the very great facility with which the sheaths P P *q r*, Fig. 3, can be detached separately and independently of the rollers, thus admitting of ready substitution of rollers.

Having given as full and explicit a description of my improvements as is deemed essential, what I claim as new and of my own invention, and desire to have secured by Letters Patent of the United States, is—

The construction of temples for looms, wherein is employed an adjustable extension, compound connecting bar or rod composed of the spindle bars or sections m^2 m^2 *n n* and the splice lengths *o o o o*, the detachable independent tubular sheaths P P *q r s*, Fig. 3, the sliding yielding brackets or bearings *i i i* J J J, spring-holders *b b*, and springs *e e e*, the whole operated as shown, and whereby a double yielding action of the temples is brought about, and for the purposes substantially as herein set forth and described.

ROBERT PILSON. [L. S.]

Witnesses:
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A. ROTHWELL.