

(No Model.)

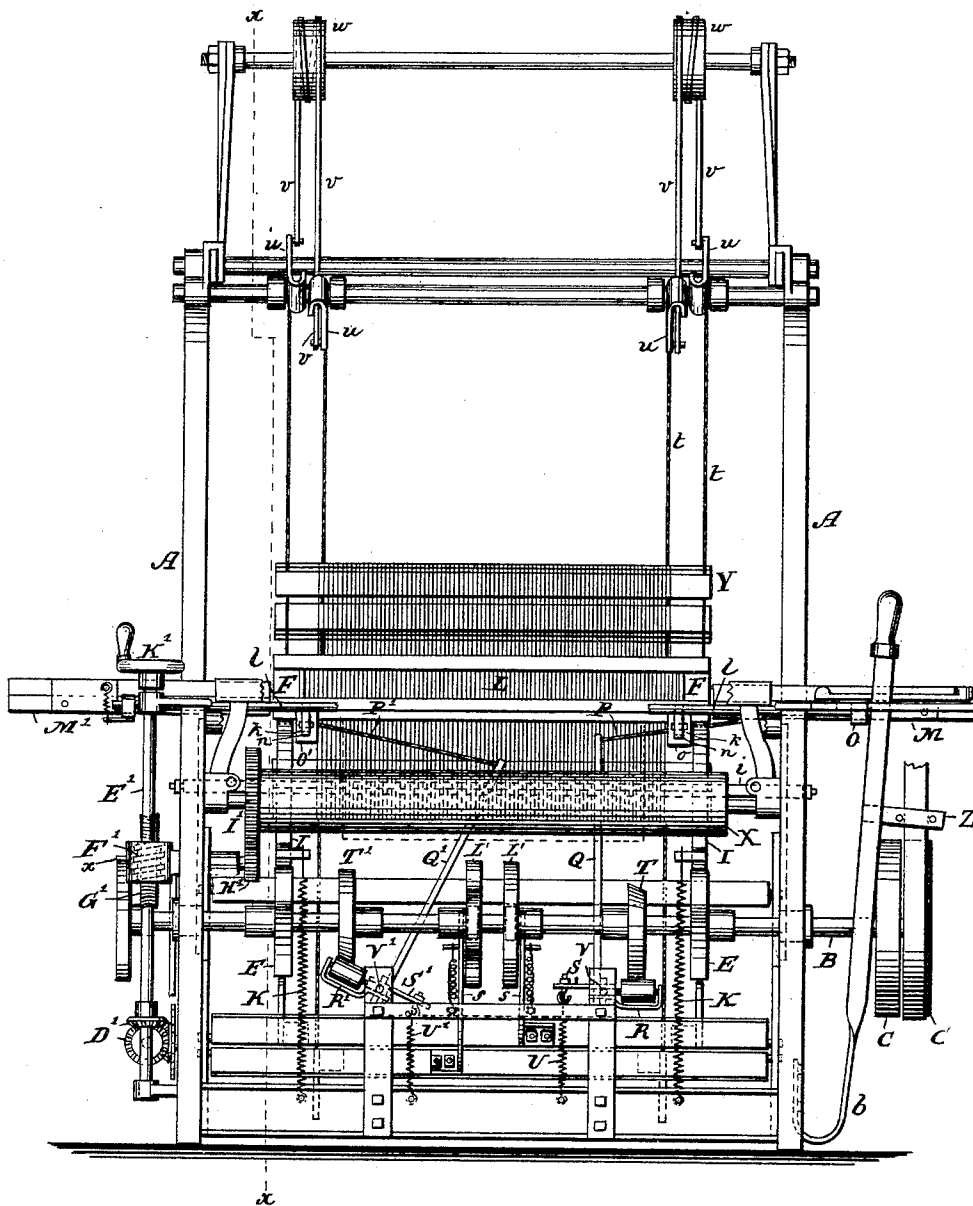
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H. WIDMER.
LOOM.

No. 477,094.

Patented June 14, 1892.

Fig. 1.



WITNESSES:

Edward Wolff.
William Miller

INVENTOR:

Heinrich Widmer.

BY

VanSantons & Hauff
his ATTORNEYS

(No Model.)

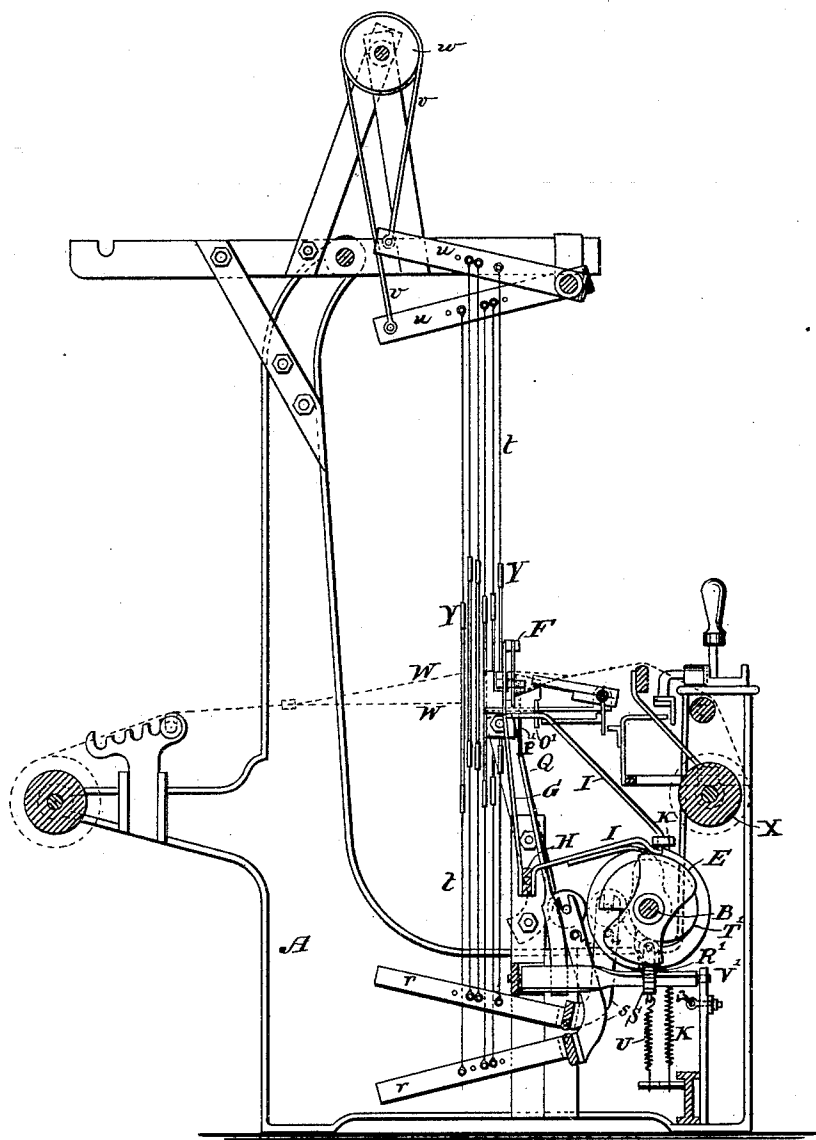
2 Sheets—Sheet 2.

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Fig. 2.



WITNESSES:

Edward Wolff
William Miller

INVENTOR:

Heinrich Widmer.

BY

Vandant & Hauff
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

HEINRICH WIDMER, OF WEST HOBOKEN, NEW JERSEY.

LOOM.

SPECIFICATION forming part of Letters Patent No. 477,094, dated June 14, 1892.

Application filed October 29, 1891. Serial No. 410,235. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH WIDMER, a citizen of Switzerland, residing at West Hoboken, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Looms, of which the following is a specification.

This invention relates to an improvement in looms; and it consists in the details of construction set forth in the following specification and claim and illustrated in the annexed drawings, in which—

Figure 1 is a front elevation of a loom embodying my invention; and Fig. 2 is a section taken on the line *xx*, Fig. 1.

In the drawings the letter A indicates a frame or support having a main shaft B, provided with fast and loose pulleys C C. On the main shaft are cams E, which serve to actuate the batten F. The batten is supported by arms G, swinging on a support or pivots H, and the arms or brackets I extend from the batten to the cams E. Springs K are connected to the brackets I. When the brackets I rest on the high parts of cams E, the batten is held back; but when the high parts of cam E have passed away from the brackets I the springs K draw the batten forward, so as to beat up the woof by means of the batten-reeds L. The batten oscillates between the fixed shuttle-boxes M M'. The shuttle is thrown by the blocks or drivers O O', actuated by links P P' and levers Q R S and Q' R' S', to which motion is imparted by the cams T T' on the main shaft B. When the high part of cam T acts on lever-arm R, the driver O is held back; but when the high part of cam T has passed out of contact with lever-arm R the spring U acts on lever-arm S, so as to throw or move the arm Q, link P, and driver O, with the shuttle N, toward the box M'. The driver O' and arm P' and lever Q' R' S', with the cam T' and spring U', act in a similar way to return the shuttle to box M. By providing the lever-arms R R' with anti-friction rollers the operation is eased. While the shuttle is traveling the batten F is held

back, and when the shuttle is on one of the boxes M or M' the batten is thrown forward. The levers Q R S and Q' R' S' have their fulcrums at V V'. The warp-threads W W are made to form sheds by heddles Y Y and the finished fabric is received by the take-up X.

The bell-crank levers *rs* are reciprocated by suitable cams L' on the shaft B, and the heddles or harness are connected by suitable lashings *tt* to the lower arms *r* and to the swinging arms *u*, which are connected by cords or chains *v*, passing over pulleys *w*. The reciprocations of the levers *rs* actuate the heddles Y at the proper periods.

The miter-gears D' convey motion from a suitable shaft (not shown) to a shaft E', having a worm F', rotating the toothed wheel G' and pinion H', which latter actuates the toothed wheel I' on the take-up X. A hand-wheel K' enables the shaft E' to be operated by hand when required.

It will be noticed that by my construction the batten, the shuttles, and the heddles are all driven from a common shaft B, so that the machine is comparatively simple in construction and operation, and as the shuttle-boxes do not move with the batten the latter is relieved of considerable weight and the shaft B has comparatively light work.

What I claim as new is—

The combination, with the fixed shuttle-boxes and the heddles, of a batten having pivoted arms G, provided with attached brackets I, springs K, connected with the brackets for depressing the latter to throw the batten forward, and a driving-shaft B, carrying cams E, adapted to act on the brackets, and cams T T' and L', adapted to actuate the shuttle and the heddles, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HEINRICH WIDMER.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.