W. Tongue.

Shedding.

No. 12,229. Patented Jan. 9, 1855.

Fig: 1

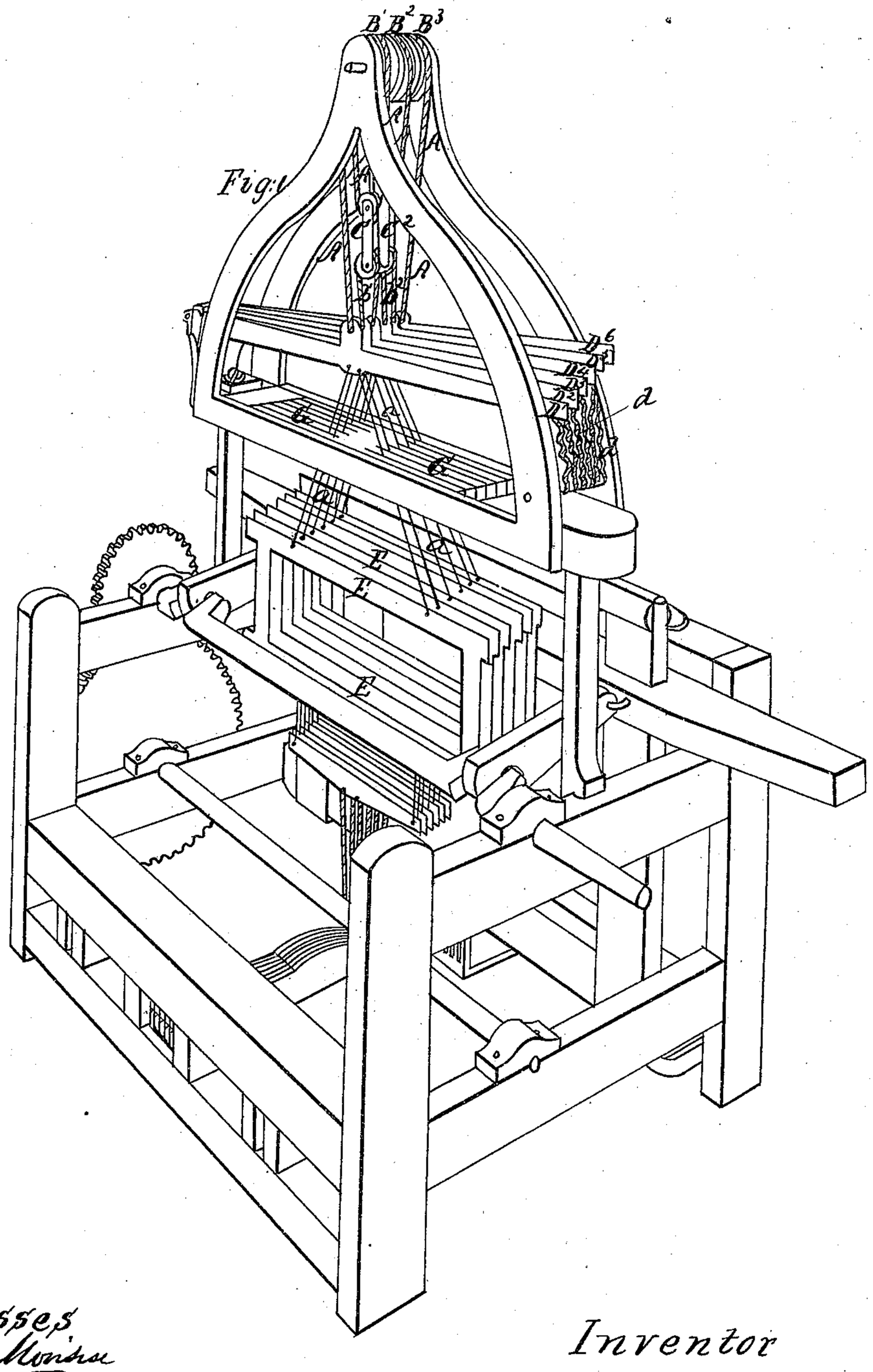
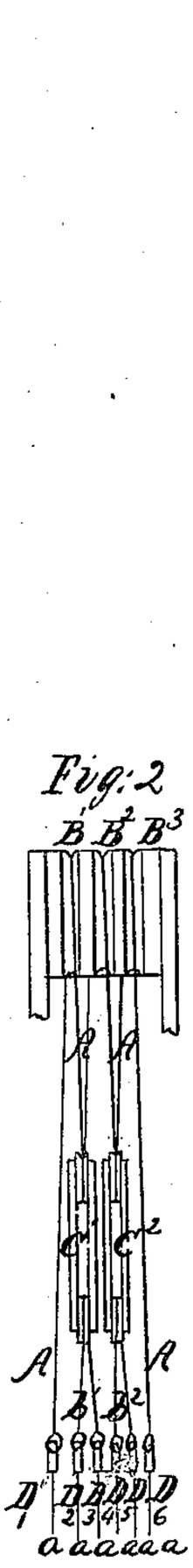


Fig: 2



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WILLIAM TONGUE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO W. TONGUE AND JAMES BUCKLEY, OF SADSBURYVILLE, PENNSYLVANIA.

LOOM.

Specification of Letters Patent No. 12,229, dated January 9, 1855.

To all whom it may concern:

Be it known that I, WILLIAM TONGUE, of the city of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement on the Loom; 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 of a loom with the improvement applied, and Fig. 2, a sectional end view of the improvement—like letters indicating the same parts when on both figures.

The nature of my invention consists in so combining and applying to the leaves of heddles of looms, a continuous cord, and pulleys, that any number of the said heddles may be selected and operated (any change of shed being thereby effected) at the pleasure of the operator.

Referring to the drawings, Fig. 1, represents a back view of a power loom—but as the invention relates particularly only to the operation of the heddles—the usual or well known parts therein shown need not be described.

A, is the continuous cord; B, the pulleys over which it passes and from which it is suspended; C^1, C^2, are two double pulleys suspended upon the continuous cord (A). D, are levers which are also suspended from the continuous cord (A)—the two outside ones, in immediate connection with the two ends of the cord (A), and the four inner ones, (through the medium of the two double pulleys C^1, C^2,). From these levers (D,) are suspended the leaves of heddles (E), by means of the wires (a), and with these heddles are connected the treadles in the usual manner.

G, G, is a rack, consisting of a double series of slats, placed parallel with each other, and at small distances apart, so as to allow the wires (a) which connect the heddles (E) with the levers (D), to pass up and down freely between them, and at the same time keep each pair of wires separate, and the several pairs parallel with each other. The continuous cord (A) is applied by attaching the one end thereof to one of the outside levers (D^1,) and passing the other over the first pulley of the series (B^1), thence downward, through one of the blocks containing the double pulleys (C′), thence upward and over the pulley (B^2,), thence downward and through the next block of double pulleys (C^2), thence upward and over pulley (B^3,), and downward to the other outside lever (D^6,) and to which this end of the continuous cord is attached, as shown in the drawings. The two outside levers (D^1, D^6,) and the two blocks of double pulleys (C^1, C^2,) being thus suspended, the intermediate levers are now suspended immediately from the two double pulley blocks—thus, the levers D^2, and D^3, by means of a short cord (C^1) which passes over the lower pulley of block C^1, and the levers D^4, D^5, in like manner by a cord (b^2,) over pulley C^2.

The operation of my invention will now be apparent. The treadles of the loom being in connection, as before described, with the heddles, and these, as just explained, with the continuous cord (A) through the medium of the wires (a), levers (D) and double pulleys (C), when any one, or any number less than the whole of the treadles, is depressed, the corresponding leaves of heddles necessarily follow, uplifting all the others, and each heddle leaf being kept separated laterally, from the others, by means of the rack (G,) as before described, their motion up and down is steady, free, accurate and unobstructed.

The devices heretofore used for producing the sheds, in looms of this kind, and called either "dead pulleys" or "oscillating rollers," are incapable of allowing the leaves of heddles to work in any other manner than in pairs—that is to say, every two leaves of heddles are suspended over a fixed pulley or roller by a short separate cord, and consequently, when one heddle leaf is drawn down, its fellow must necessarily be elevated, and hence a selection of any contiguous number to be drawn down while either a less or great number is to be elevated, could not be accomplished or effected. Hence the advantage of my invention is very apparent. As any number of the leaves of heddles can be selected and operated thereby, at the pleasure of the operator, and the loom consequently be adapted thus, for a greater variety of fabrics, at a very small cost.

The continuous cord (A) may be applied in the same manner to operate a greater

number of heddles, by simply increasing the number of the double pulleys (C) in the combination, and the levers (D) and wires (*a*) may be dispensed with, by extending the upper part of the leaves of heddles so as to operate between the rack slats (G) and in immediate connection with cords, although the levers are well calculated for the purpose, and afford a convenient mode of checking or limiting their rising too high at any time by means of the check cords (*d*) as shown in the drawings.

Having thus described the construction and operation of my invention, and pointed out its advantages over the old devices, I proceed to state that I do not claim the double pulleys (C) nor the levers (D) nor the wires (*a*); but

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

The combination of the continuous cord (A) with the pulleys (B) and double pulleys (C), substantially and for the purpose as herein described and irrespective of the number of the double pulleys (C), or pulleys (B), as these are intended to be increased or diminished as the number of sheds wanted may require.

WILLIAM TONGUE.

Witnesses:

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