

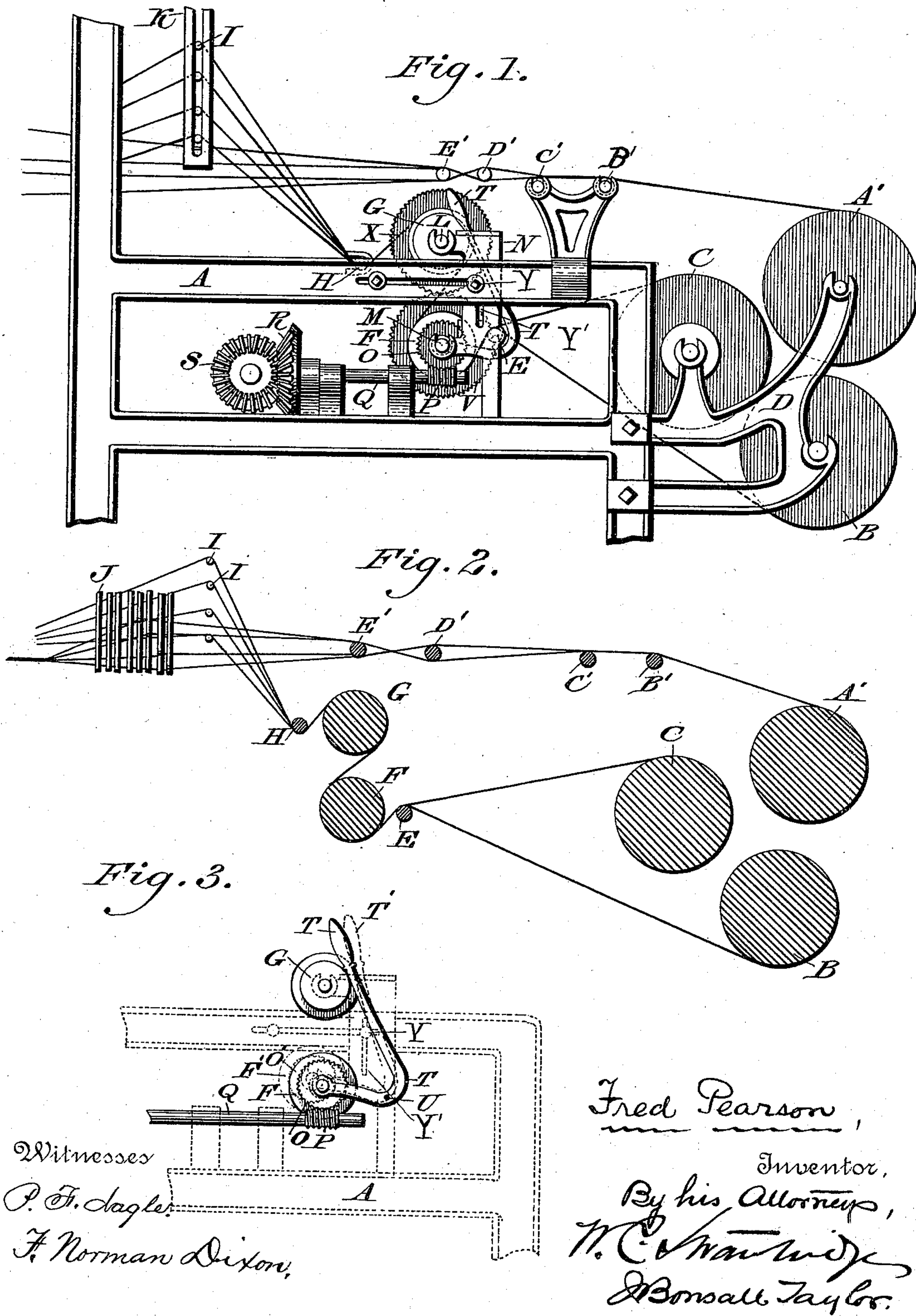
(No Model.)

F. PEARSON.

PILE WARP DELIVERY MECHANISM FOR DOUBLE PILE FABRIC LOOMS.

No. 383,825.

Patented May 29, 1888.



UNITED STATES PATENT OFFICE.

FRED PEARSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN C. GRAHAM, OF SAME PLACE.

PILE-WARP DELIVERY MECHANISM FOR DOUBLE-PILE-FABRIC LOOMS.

SPECIFICATION forming part of Letters Patent No. 383,825, dated May 29, 1888.

Application filed December 1, 1887. Serial No. 256,601. (No model.)

To all whom it may concern:

Be it known that I, FRED PEARSON, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Pile Warp Delivery Mechanism for Double Pile-Fabric Looms, of which the following is a specification.

My invention relates particularly to those parts of a double pile fabric loom which serve to supply and guide to the heddles the pile-warp threads with which the pile of the fabric is formed.

The general construction of double pile-fabric looms to which my invention is applicable is well understood, and, in looms of this class, the warp threads, in the formation of the pile of the fabric, are contained upon cylinders or beams from which said threads are fed to the heddles by means of friction rollers around which they are caused to pass.

The object of my invention is to provide such mechanism for feeding and guiding pile warp threads to the heddles and to so locate it as to, first, prevent the loose waste detached from the warp threads in their passage over the feeding and guiding mechanism from falling upon the warp after it has passed this mechanism; second, provide means whereby said feeding and guiding mechanism may be quickly and easily thrown out of action to permit of the weaving of two sheets of plain cloth or of selvages upon the ends of previously formed pile fabric; and, third, provide means by which the gearing of the feeding and guiding mechanism may be easily and quickly changed to vary the length of the pile of the fabrics produced in the loom.

In the drawings, Figure 1 is a side elevation of a part of a loom for weaving double pile-fabrics embodying my invention. Fig. 2 is a detail sectional elevation of a part of the devices shown in Fig. 1. Fig. 3 is an elevational detail of part of the devices shown in said Fig. 1. B and C are pile warp cylinders or beams, mounted in bearings in a bracket D attached to the main frame A.

E and H are guide rollers mounted in bearings in the frame A, and F and G are main or friction rollers, the extremities of the axes M and L of which are mounted in open bearings

in an adjustable bracket N attached to and mounted upon the main frame A by a bolt Y which passes through a vertical slot Y' in the bracket.

The axis M of the main roller F is, at one end, provided with a worm wheel O which gears into a worm P on one end of a horizontal shaft Q which is driven by gear wheels R and S; and upon the opposite ends of the axes L M of the main rolls F and G are mounted gear wheels V X which gear into each other.

T is a lever, pivotally fulcrumed at U on the main frame A, and at its lower end, provided with a bearing or seat in which the axis M of the main roll F at or near the end thereof upon which the worm wheel O is mounted, is contained and supported.

In the drawings the rolls F and G are shown located one above the other.

J are the heddles.

A' is a backing-warp cylinder or beam.

B' C' are supporting or guide rollers, and E' D' are brace rods.

The pile-warp threads, upon the beams B and C, are, together, carried over the guide roll E, under and around the main roll F, under and around the main roll G, under the guide roll H, and over the horizontal yielding, or spring supported rods I contained in the vertical guides K, and are thence run to the heddles.

In the operation of a loom provided with my invention, it is, from the location of the main and guide rolls, apparent that the waste or loose fiber, which falls from the pile-warps after they pass the guide roll H, will not fall upon said warp threads or upon any part of the machinery of the loom which can be clogged thereby, for the reason that the construction and arrangement of the parts referred to enables the guide roll H to be so located that the warp threads in their passage from it to the heddles do not pass over any part of said warp threads or over the operative mechanism of the loom.

From the construction described it will be understood that the lever T, when shifted to the position T' shown in Fig. 3, will operate to elevate the main roller F, and its worm wheel O, to the positions shown in dotted lines at F' O' in said figure, and to carry said

worm wheel out of contact or gear with the worm P, whereby the revolution of the main rollers F and G will be discontinued and the feeding of pile-warp threads to the heddles 5 stopped, with the result that plain fabric or selvage will, by the backing warps contained upon the beam A', be formed upon the ends of the pile-fabrics theretofore produced in the loom.

10 From the construction described it will also be understood that the gearing of the main rolls F and G, and the consequent speed at which the pile-warp threads are fed to the heddles, and the resulting length of pile formed 15 upon the fabrics woven, may be changed by the simple substitution of a smaller or larger worm wheel O upon the axle M of the main roll F and by the elevation or depression of the bracket N and its supported rolls F and G 20 which may be rendered necessary by the increase or decrease in size of the worm so substituted, which adjustment is effected by the bolt Y which passes through the slot Y', as hereinbefore explained.

25 In double pile-fabric looms, as heretofore constructed, the loose waste from the pile-warp threads has fallen upon, and been carried forward by, said threads and interwoven with the fabric, and has also fallen upon and 30 operated to clog the moving parts of the loom, or it has, to some extent, been caught upon and carried away by a shield or guard which in some instances has been interposed between the warp threads and the operative parts of 35 the loom, and also between the parts of said threads from which said waste has dropped

and the parts upon which it would, in the absence of such shield or guard, have fallen and been caught.

Having thus described my invention, I claim 40 and desire to secure by Letters Patent:—

1. In combination, pile-warp beams, guide rolls E and H, main rolls F and G, located one above the other, one of said rolls, at one end of its axis, being provided with a worm 45 wheel, and each of said rolls, at the opposite end of its axis, being provided with a gear wheel which gears into the other, and a horizontal shaft Q provided with a worm which engages with said worm wheel, substantially 50 as and for the purposes set forth.

2. In combination, pile warp beams, guide rolls E and H, main rolls F and G, located one above the other, one, at one end of its axis, being provided with a worm wheel, and each, 55 at the opposite end of its axis, being provided with a gear wheel which gears into the other, a horizontal shaft Q provided with a worm screw which engages with said worm wheel, and a lever pivotally fulcrumed on the loom 60 frame and adapted to be operated to lift the main roller provided with the worm wheel and throw said worm-wheel out of gear with the worm on the horizontal shaft Q, as and for the purpose set forth. 65

In testimony whereof I have hereunto signed my name this 15th day of November A. D. 1887.

FRED PEARSON.

In the presence of—

WM. C. STRAWBRIDGE,
J. BONSALE TAYLOR.