P. R. GLEY.

DRAWING-IN MECHANISM.

APPLICATION FILED AUG. 6, 1912.

1,067,602.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

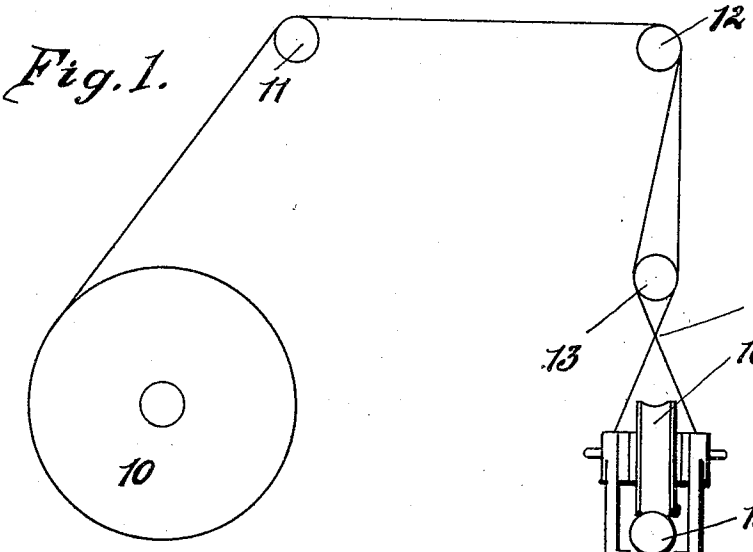


Fig. 2.

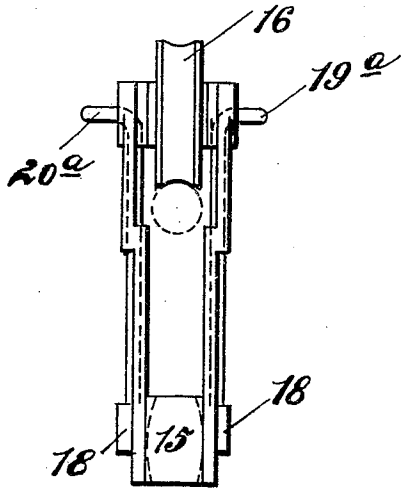
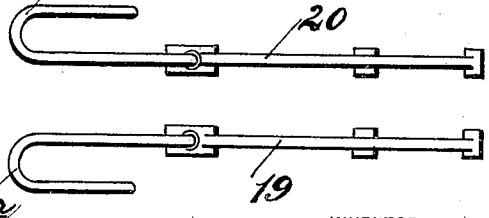


Fig. 4.



WITNESSES:

Arthur O. Wilcox

Frank C. Palmer

INVENTOR.

Paul R. Gley,

BY

Frank H. Allen

ATTORNEY.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

P. R. GLEY.

DRAWING-IN MECHANISM.

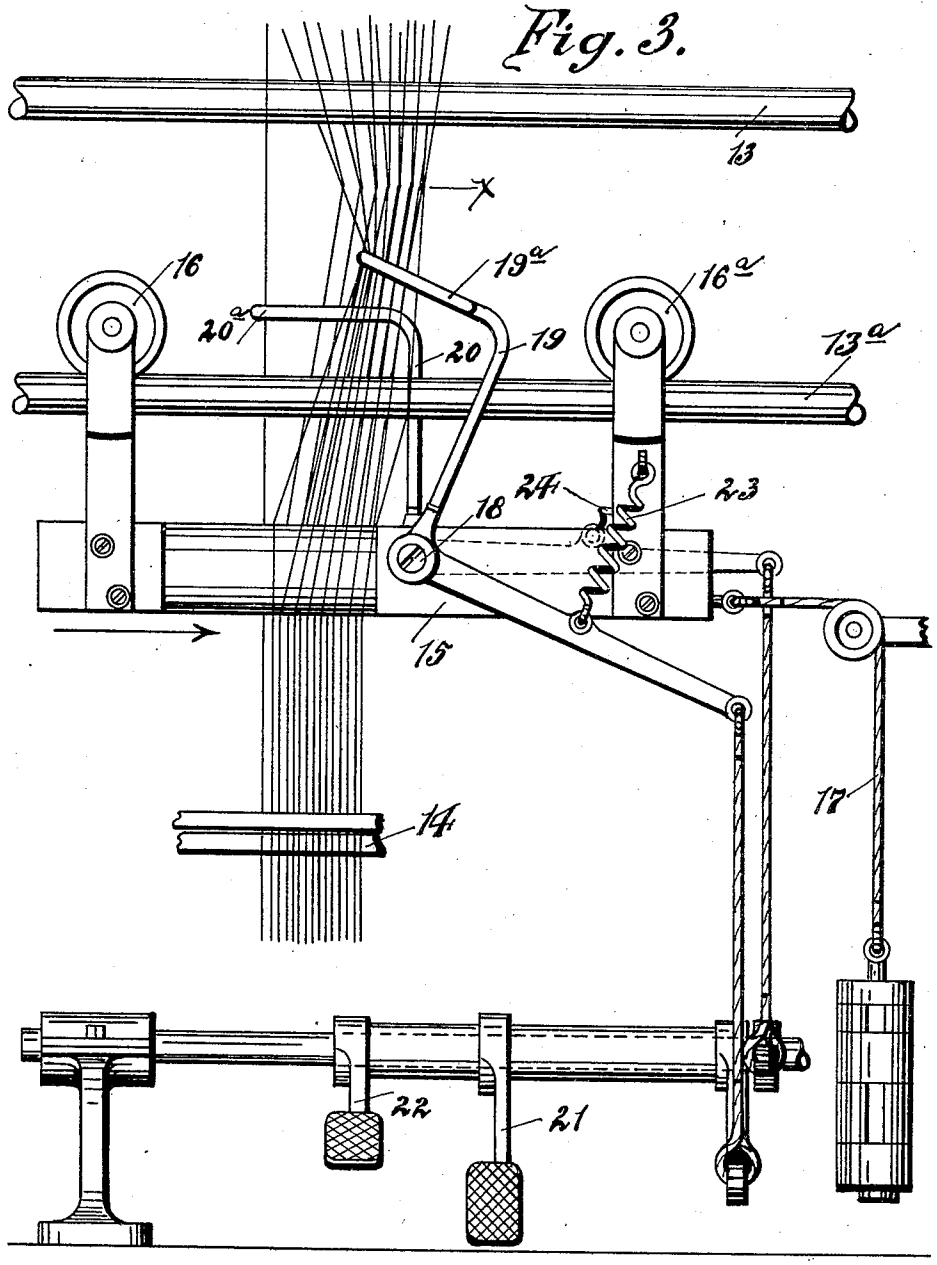
APPLICATION FILED AUG. 6, 1912.

1,067,602.

Patented July 15, 1913.

2 SHEETS—SHEET 2.

Fig. 3.



WITNESSES:

Arthur B. Wilcox.

Frank C. Palmer

INVENTOR,

Paul R. Gley,

BY

Frank N. Allen

ATTORNEY.

UNITED STATES PATENT OFFICE.

PAUL R. GLEY, OF MYSTIC, CONNECTICUT.

DRAWING-IN MECHANISM.

1,067,602. Specification of Letters Patent. Patented July 15, 1913.

Application filed August 6, 1912. Serial No. 713,568.

To all whom it may concern:

Be it known that I, PAUL R. GLEY, a citizen of the United States, residing at Mystic, in the county of New London and State of Connecticut, have invented a certain new and useful Improvement in Drawing-In Mechanism, of which the following is a specification, reference being had to the accompanying two sheets of drawings.

The object of this invention is to provide simple but effective mechanism by means of which the operation of drawing the ends of warp threads through harness may be facilitated; said mechanism having particular relation to the operation of selecting and separating the individual threads as they are needed.

In order to explain my improvement clearly I have provided the accompanying drawings, in which—

Figure 1 is a diagrammatic end view of a warp beam, lease rods and the customary clamp for holding the bunch of warp ends during the drawing-in operation and said view also shows, mounted upon the lower lease rod, a carriage which is one of the features of my present improvement; said carriage being shown, on a relatively larger scale, in Fig. 2. Fig. 3 is a front side elevation of my improved drawing-in mechanism, illustrating particularly the manner of separating the bunch, or group, of threads from the one to be next drawn in. Fig. 4 is a top view of wires 19—20 which are described in detail hereinafter.

Referring to these drawings, the numeral 10 indicates a beam of warp threads, 77 and 12 are rods or rolls over which the said warp threads are guided, and 13—13ª are lease rods around which the said threads are passed in alternate relation to each other, and 14 denotes the usual weighted clamp for holding the bunch of warp ends; the parts thus far described being substantially as now commonly provided in drawing-in frames.

It is a common practice at the present time for the drawer-in to employ an assistant to select the warp threads, one at a time, from the bunch of ends and to hold the selected end at the backside of the harness where the drawer-in can reach it with his hook and draw it forward between the heddle wires, and my present improvement is designed to provide simple mechanical means for selecting the ends, thus making it possible to dispense with the services of the said assistant. The mechanism whereby I attain this desirable result is mounted upon the lower lease rod and includes a carriage 15 that is suspended below said lease rod by means of rolls 16—16ª, as here illustrated, and said carriage is connected with a weighted take-up cord 17 in such manner that it (the carriage) will be automatically moved in the direction indicated by the arrow in Fig. 3 of the drawings as fast as the ends are drawn in to the harness.

Fulcrumed at 18, on the opposite sides of the carriage 15, are levers 19—20 whose upper, free, end portions are bent to form open hooks 19ª and 20ª, one of said hooks being properly located to receive the bunch of warp threads from one side of the upper lease rod and the other hook being properly located to receive the bunch of warp threads from the other side of said upper lease rod. The lower end portions of the levers 19—20 are extended laterally and are connected, respectively, with foot levers 21—22 in such manner that, when the levers 21—22 are depressed, the hooks 19ª or 20ª, as the case may be, will be moved laterally, thus correspondingly moving the bunch of threads inclosed by said hook. The levers 19—20 are brought back to their normal positions by springs 23—24 (see Fig. 3).

Referring now to Fig. 3 of the drawings, it will be seen that the threads are in front of the lease rod 13 and in the rear of the rod 13ª are inclosed by the wire loop 20ª and that the threads that pass from the rear of said rod 13 downward at the front of rod 13ª are inclosed by the loop 19ª, the threads of the two bunches being crossed at the point x and said threads are interlaced at that point excepting the first, or outer, thread, and it will be obvious that, if the proper bunch is drawn to one side, it will carry with it all of the interlaced threads of the other bunch excepting the said "first" one, thus leaving that one in its normal, vertical, position, separated from the other threads and in a position where it may be readily reached by the drawing-in hook and drawn through the harness. The wire loop last in use is then allowed to return to its normal position and the other loop is used next, thus releasing the "first" thread of the other bunch. Thus the

threads are separated, one at a time, by simply using the loops alternately, until the warp has all been drawn into the harness.

Having thus described my invention, I claim as new and wish to secure by Letters Patent:—

1. In drawing-in mechanism of the class described, in combination lease rods for dividing the threads into two bunches and interlacing the same, and means supported from one of said lease rods for moving said bunches alternately to release a single thread and separate it from said bunches.

2. In drawing-in mechanism of the class described, the combination of lease rods for dividing the thread into two bunches and interlacing the same, and means slidably mounted upon one of said lease rods for moving said bunches alternately to release a single thread and separate it from said bunches.

3. In drawing-in mechanism of the class described, lease rods for dividing the threads into two bunches and interlacing the same, a carriage supported upon one of said lease rods, and pivoted hooked members movable with said carriage for moving said bunches alternately to release a single thread and separate it from said bunches.

4. In drawing-in mechanism of the class described, lease rods for dividing the threads into two bunches and interlacing the same, a carriage supported upon one of said lease rods, pivoted hooked members movable with said carriage for moving said bunches alternately to release a single thread and separate it from said bunches, and foot operated mechanism for actuating said hooked members.

5. In drawing-in mechanism of the class described, lease rods for dividing the threads into two bunches and interlacing the same, a carriage supported upon one of said lease rods, pivoted hooked members movable with said carriage for moving said bunches alternately to release a single thread and separate it from said bunches, foot operated mechanism for actuating said hooked members, and means for automatically returning said hooked members to their normal position.

6. In drawing-in mechanism of the class described, the combination of lease rods for dividing the thread into two bunches and interlacing the same, a slidably mounted carrier suspended from one of said lease rods, a counterweight therefor, and means movable with said carrier for moving said bunches alternately to release a single thread and separate it from said bunches as the ends are drawn into the harness.

PAUL R. GLEY.

Witnesses:
FRANK H. ALLEN,
FRANK C. PALMER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."