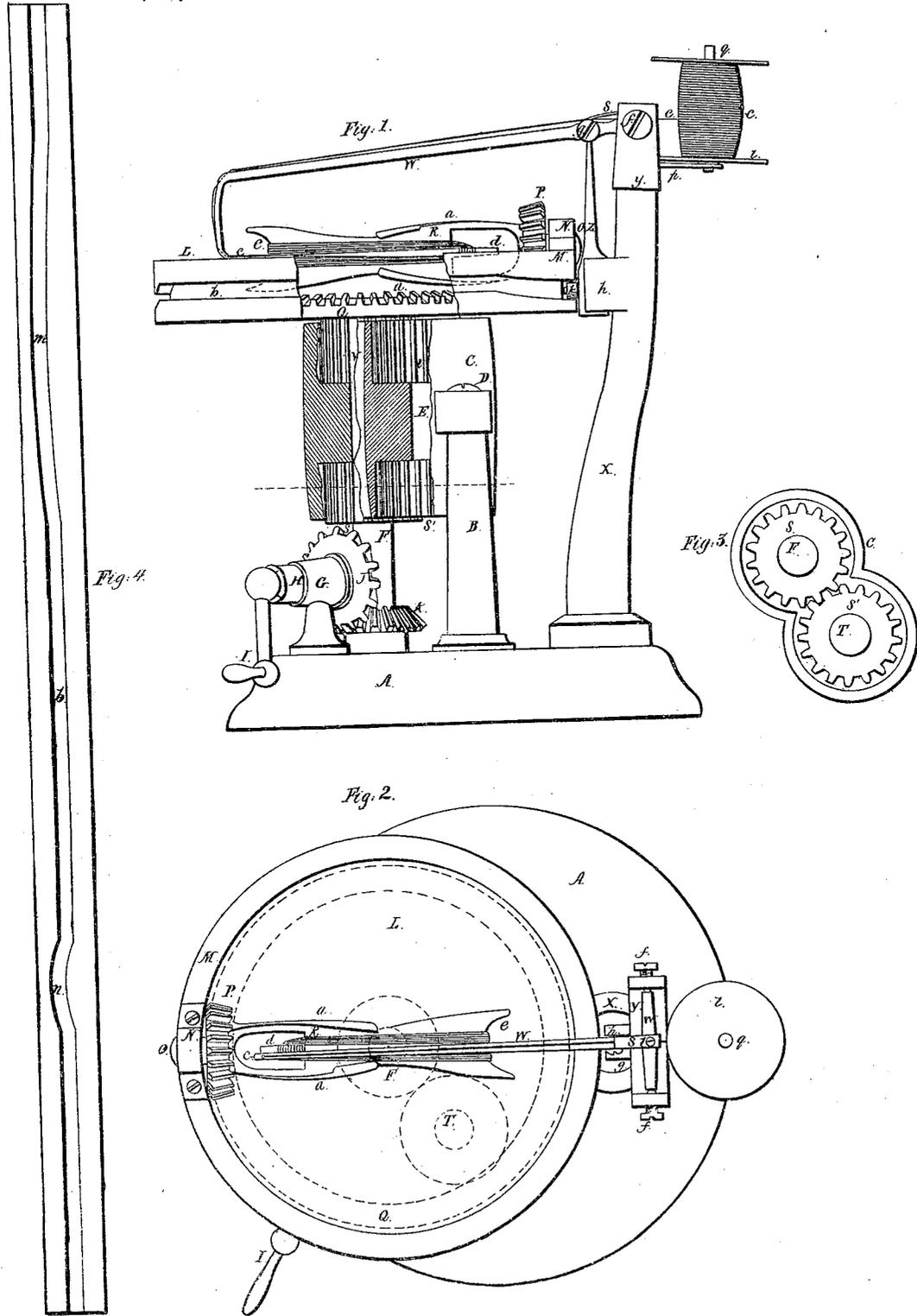


H. M. Glines.
Weaving Heddle.

No 13629.

Patented Oct. 2, 1855.



UNITED STATES PATENT OFFICE.

H. M. GLINES, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR TO JOHN M. STANTON AND S. F. STANTON.

MACHINERY FOR FILLING SEINE-NEEDLES.

Specification forming part of Letters Patent No. 13,629, dated October 2, 1855; Reissued July 15, 1856, No. 378.

To all whom it may concern:

Be it known that I, HUMPHREY M. GLINES, of Manchester, in the county of Hillsboro and State of New Hampshire, have invented a new and useful Machine for Winding or Filling the Needles with Twine Which are Used in Making Weavers' Harness, Nets, Seines, &c.; and I do hereby declare that the same is described and represented in the following specification and drawings.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction, use and operation, referring to the drawings in which the same letters indicate like parts in each of the figures.

Figure 1, is an elevation of the machine. Fig. 2, is a plan. Fig. 3, is a plan of the gearing. Fig. 4, is a plan of the cam, which operates the cam to deliver the twine to fill the needle.

The nature of my invention consists in affixing the needle temporarily to a revolving shaft, which is so arranged and operated as to give the needle a rotary motion around its own center, both longitudinally and transversely, and at the same time supplying it with twine by means of a vibrating arm, so arranged and operated as to deliver the twine under the tongue of the needle, and through the score in the opposite end of the needle, as it revolves as above mentioned.

In the above mentioned drawings A, is a circular base of cast iron, into which the posts B, B, are firmly fastened; to support the case C, which is provided with ears fitted to the tops of the posts, and secured by screws as represented at D, in the drawing. The side of the case C, is represented as broken away in Fig. 1, to show the arrangement of the gearing, and it is bored out at each end in the form of a figure 8, (eight,) see Fig. 3, so as to receive two gear wheels which work together as represented in Fig. 3, and the middle portion E, has two holes through it for the journals of the shafts which carry the gears or upon which they turn. The lower journal of the shaft F, turns in the base A, and its upper journal turns in the middle E, of the case C. The stand G, is fastened to the base A and is perforated for the journal of the shaft H, which is provided with a crank I, so as to

operate the machine by hand; but it may be furnished with a gear or pulley, so as to operate it by other power. The gear J is fastened to the shaft H, and turns the gear K, fastened to the shaft F, which shaft has the cam wheel L fastened to its upper end so as to turn with the shaft. The wheel L has a rim M, on its upper surface to which the box N is fastened for the journal of the shaft O, which is fitted to turn in said box; which shaft has the gear P of twenty teeth fastened to it which is acted upon by the gear Q, of eighty teeth which turns in a recess in the lower side of the wheel L. The shaft O, has two curved arms α , projecting from it, in toward the center of the wheel L. These arms are made elastic and provided with scores for a short distance near their ends to fit the edges of the needle R, which is inserted between them by springing the arms apart and placing the needle R, between them and letting them spring together so as to hold it; the end of the needle being inserted into a score prepared for it in the end of the shaft O, at the same time.

The gear S, is fastened to the shaft F, and turns the gear S' each of those gears have seventeen teeth as represented in Fig. 3, and the gear S' is fastened to a short shaft T, that turns in the middle E, of the case C. This shaft T, has the gear v , of eighteen teeth fastened to its upper end to drive the gear V, of 16 teeth which turns on the shaft F, and is fastened to the gear Q, so as to turn it faster than the cam wheel L, turns which is fastened to the shaft F. The result or effect of this arrangement of gearing is, to turn the shaft O, which carries the needle just as fast as the cam wheel L is turned, so that the arm W, which is vibrated by the cam groove b , in the wheel L, will deliver the twine c, c , alternately under the tongue d , and across the score e , of the needle R as the machine is operated by turning the crank I heretofore described.

The stand X, is fastened to the base A, and it is provided with a T cross, Y at the top, which has two ears perforated by the screws f, f , with conical points which fit into the ends of the axle W' of the arm W, so as to allow it (the arm) to vibrate when it is operated by the traversing rod Z, fastened to it by the screw g , which rod is fitted to traverse in a score in the projection h , on

the stand X; the rod Z, being provided with a pivot for the roller *k*, to turn upon which works in the cam groove *b*, in the wheel L, as represented in Fig. 1.

5 The periphery of the wheel L is represented as unrolled in Fig. 4, to show the cam groove *b*, which is provided with a long curve *m*, to depress the arm W, and carry the twine *c, c*, into the score *e*, in the
10 needle R; and a short curve *n*, to depress the arm W, suddenly and carry the twine under the tongue *d*, of the needle R, as the machine is operated.

The arm *p*, is fastened to the stand X,
15 and has the spindle *q*, fastened in it on which the spool *r*, turns as the twine *c, c*, is drawn from it through a hole in the axle W'; and under the spring *s*, which may be
20 adjusted by the screw *t*, so as to apply sufficient friction to the twine *c, c*, as it passes under it, and through the holes in the angles of the arm W, as represented by dotted lines, and wind it with a proper degree
25 of tension on the needle R, as represented.

When the needle R, is filled with twine it may be removed by springing open the arms *a, a*, and another needle put in between the arms as heretofore described.

I have described the method which I deem best adapted to carry out in detail the invention which I have made, but I contemplate that the machine may be modified in various ways, which will readily suggest themselves to experienced machinists, without departing from the merits or principles of my invention. I believe I have described the construction, operation and use of my invention so as to enable any person skilled in the art to make and use it. I will now specify what I desire to secure by Letters Patent, to wit:

I claim giving the needle a rotary motion around its own center, both longitudinally and transversely, by means of devices substantially such as are herein described or their equivalents, in combination with a vibrating delivering arm or its equivalent, so constructed, arranged and operated, as to supply and deliver the twine or other material to the aforesaid needle substantially as described.

HUMPHREY M. GLINES.

Witnesses:

DROWN POTTER,
JAMES HERSEY.