

(No Model.)

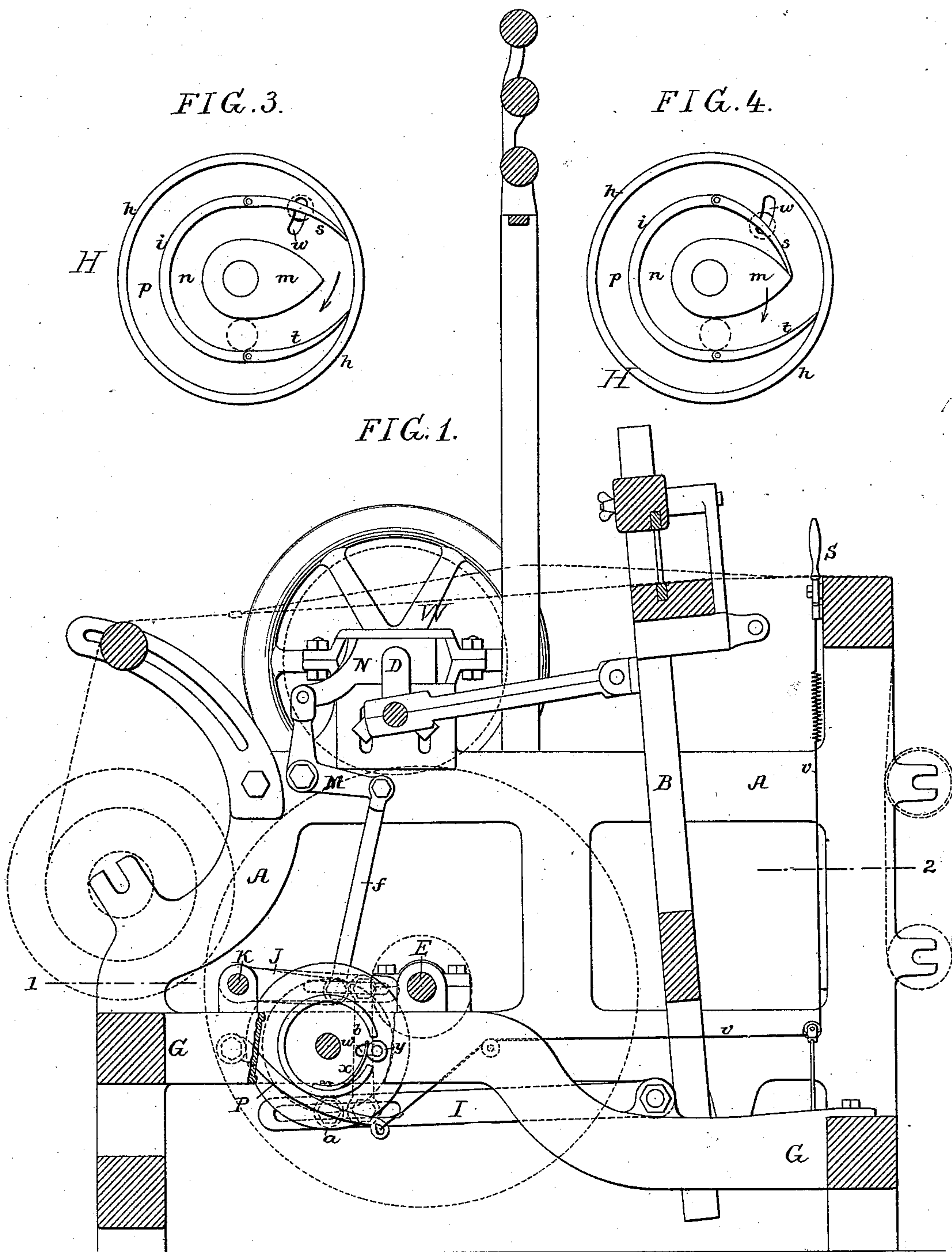
2 Sheets—Sheet 1.

T. A. BRADY.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

No. 358,376.

Patented Feb. 22, 1887.



Witnesses:
Harry Drury
Wm. F. Davis

Inventor:
Thos A. Brady
by his Attorneys
Howe and Co

(No Model.)

2 Sheets—Sheet 2.

T. A. BRADY.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

No. 358,376.

Patented Feb. 22, 1887.

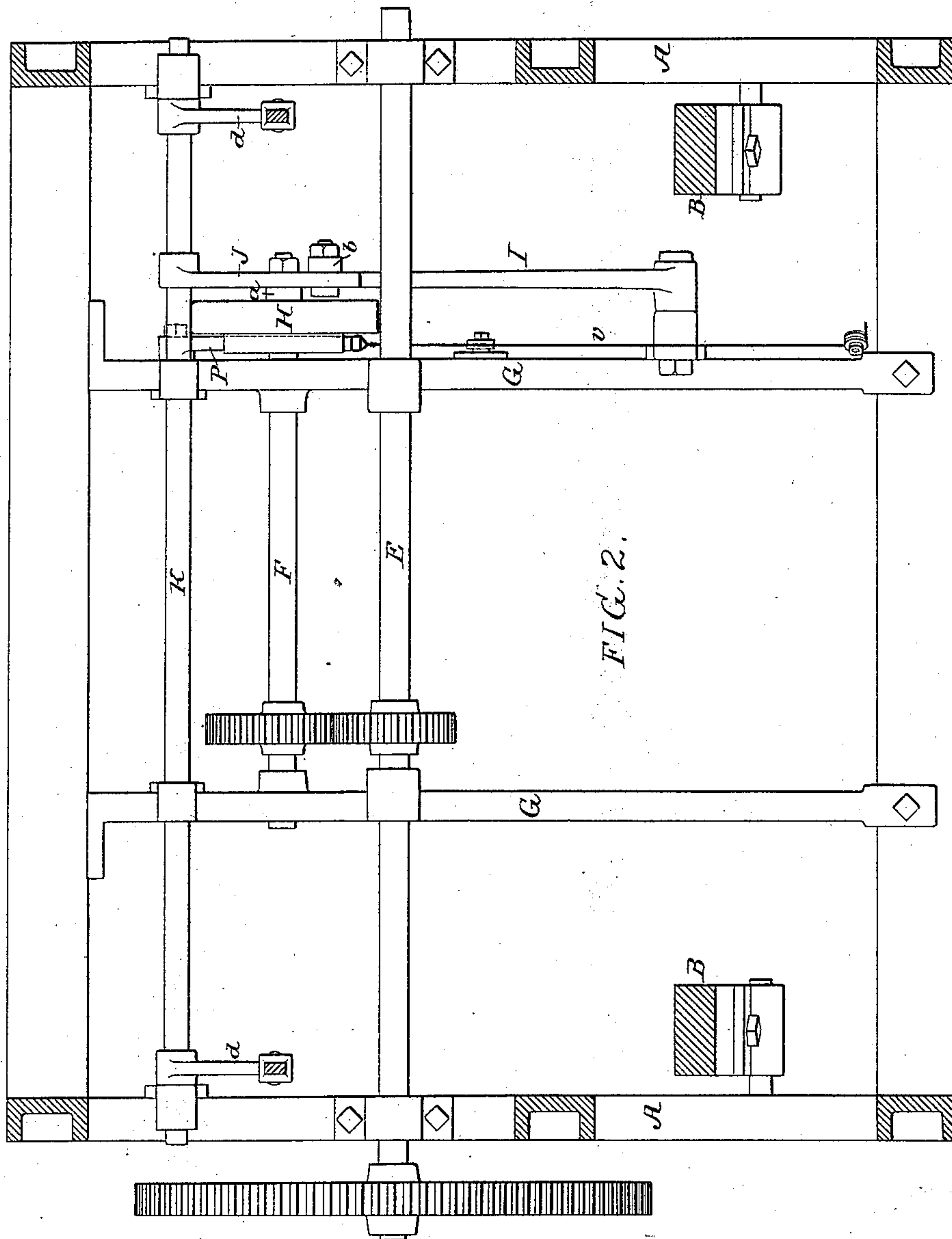
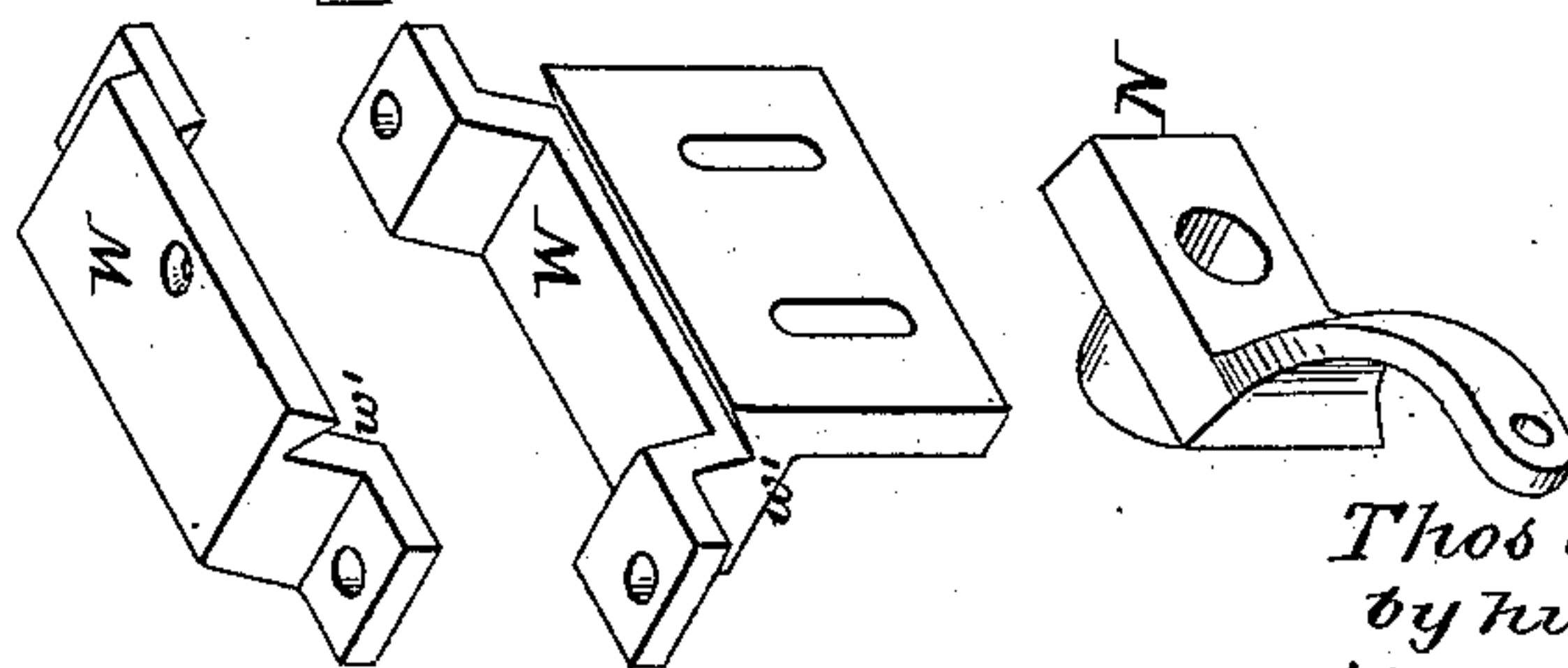


FIG. 5.



Witnesses:
Harry Drury
William F. Davis

Inventor:
Thos A. Brady
by his Attorneys
Horton and Co.

UNITED STATES PATENT OFFICE.

THOMAS A. BRADY, OF PHILADELPHIA, PENNSYLVANIA.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

SPECIFICATION forming part of Letters Patent No. 358,376, dated February 22, 1887.

Application filed March 4, 1886. Serial No. 193,939. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. BRADY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Looms for Weaving Looped or Terry Fabrics, of which the following is a specification.

My invention relates to that class of pile-fabric looms which are used for weaving coarse
10 pile fabrics—such as Turkish towelings—and in which there is a differential throw or beat of the lathe, due to the shifting of the boxes or bearings for the crank-shaft of the loom, the object of my invention being to provide
15 simple and efficient mechanism for effecting the positive movement of these boxes in both directions, and, further, to combine the same with means whereby the boxes may be held in one position for any desired length of time,
20 as, for instance, when the weaving of plain fabric is necessary.

In the accompanying drawings, Figure 1 is a longitudinal section of sufficient of a loom to illustrate my invention; Fig. 2, a sectional
25 plan view of the same on the line 1 2, Fig. 1; Figs. 3 and 4, enlarged face views of a cam forming part of my invention, and Fig. 5 perspective views of a portion of the loom to which my invention relates.

30 A A are the opposite side frames of the loom; B, the pivoted lathe; D, the crank-shaft, and E the cam-shaft geared to the crank-shaft by spur-wheels, (shown by dotted lines in Fig. 1;) and F is a short shaft driven by spur-gearing
35 from the shaft E and adapted to bearings on frames G, this shaft being common to an ordinary pile-fabric loom of the class to which my invention relates, and being known as the "terry" shaft.

40 On the end of the shaft F is a cam, H, the detailed construction of which will be described hereinafter, this cam acting upon an anti-friction roller, *a*, on a stud projecting from an arm, I, pivoted to a lug on one of the
45 frames G, and connected by a link, *b*, to an arm, J, which is secured to a rock-shaft, K, adapted to suitable bearings on the frame of the loom and on the frames G. This rock-shaft K has near each end a projecting arm,
50 *d*, which is connected by a link, *f*, to a bell-crank lever, M, hung to the side frame of the

loom and connected to one of the bearings N for the crank-shaft D, each of said bearings being guided and free to slide in a two-part box, W, secured to the side frame of the loom. 55
It will be evident, therefore, that as long as the arm I is held in an elevated position by the cam H the slides N, forming the bearings for the crank-shaft D, will be retracted, and there will be but a partial forward beat of the
60 lathe—that is to say, the lathe will not move forward sufficiently to drive the filling-threads to the full beating-up point; but when the arm I is depressed by the cam H the slides N will be thrust forward, and on the next forward
65 stroke of the lathe the filling-threads will be fully beaten up, thus causing the terry-warp threads in advance of the same to form a looped or piled surface.

The construction of the cam whereby the
70 parts are operated to effect the shifting of the slides N is shown more fully in Figs. 3 and 4.

The cam has an outer flange, *h*, an intermediate segmental flange, *i*, and a central cam,
75 *m*, the inner portion of which is concentric with the flange *i*, so as to form an inner groove, *n*, while the outer portion of the cam is such as to direct the roller *a* on the stud of the arm I into a groove, *p*, formed between the flange
80 *i* and the outer flange, *h*.

Pivoted toes *s* and *t* form continuations of the flange *i*, these toes being such that their ends can be thrown inward, so as to bear upon the nose of the cam *m*, or can be thrown outward, so as to come in contact with the outer
85 flange, *h*, of the cam. The toe *s* has a projecting pin passing through a segmental slot, *w*, in the disk of the cam, and having an anti-friction roller, *y*, which is acted upon by a spring, *x*, tending to thrust the point of the
90 toe outward against the flange *h* of the cam, so that, supposing the cam to be rotating in the direction of the arrow, Fig. 3, the roller *a* on the stud of the arm I would be under the influence of the cam *m* and inner groove, *n*, and
95 the arm I would be depressed at the proper intervals to effect the forward movement of the slides N and the full beat of the lathe. If the toe *s*, however, is adjusted to the position shown in Fig. 4, the roller *a* will traverse the
100 outer groove, *p*, of the cam, and will be free from the influence of the cam *m*, so that there

will be no vibration of the arm I and no movement of the slides N and crank-shaft, the lathe moving forward to the full-beat point on each stroke, so as to produce plain or unpiled fabric.

5 The toe *t* serves to bridge the groove *n* when the roller *a* is traversing the outer groove, *p*, there being in such case a practically unbroken flange, *i*, so as to insure the proper guidance of the roller.

10 In order to permit the ready adjustment of the toe *s* to the position shown in Fig. 4, when such adjustment is desired, I hang to one of the frames G an arm, P, which is adapted to act on the roller *y*, carried by the pin of the
15 toe *s*, this arm P being connected by a suitable cord, *v*, to a lever, S, hung to a stud on the breast-beam of the loom, so as to be within easy reach of the attendant.

When the arm P is allowed to remain down,
20 it is out of the path of the roller *y*, and the toe *s* is allowed to retain the position shown in Fig. 3; but if the lever S is moved so as to lift the arm P the latter will, as the cam rotates, strike the roller *y* and move the toe *s*
25 to the position shown in Fig. 4, the toe being retained in this position long enough to insure the direction of the roller *a* into the outer groove, *p*, of the cam.

To lessen the friction upon the slides N the
30 latter have upper and lower rounded or beveled edges, adapted to like grooves, *w'*, in the upper and lower portions of the boxes W, secured to the side frames of the loom, the construction of these boxes and of the slides being
35 shown more fully in Fig. 5.

One of the essential features of novelty in my invention is the grooved cam as a means of effecting the shifting of the boxes carrying the crank-shaft, for by this means there is a
40 positive movement of said boxes in both directions, thus overcoming that irregularity of action which is a defect in that class of looms in which the movement of the shaft-boxes in one direction is dependent upon the action of
45 a spring or springs.

I claim as my invention—

1. The combination of the crank-shaft of a loom, movable bearings therefor, a cam having two grooves and a movable toe, by the
50 adjustment of which either groove may be

thrown into action, rotating mechanism for said cam, a stud adapted to traverse either groove of the cam, and mechanism, substantially as described, whereby the movement of said stud is transmitted to the bearings of the
55 crank-shaft, all substantially as specified.

2. The combination of the crank-shaft of a loom, movable bearings therefor, a cam having two grooves and a pivoted toe, whereby either groove may be thrown into action, means
60 for rotating the cam, a stud adapted to traverse either groove of the cam, mechanism, substantially as described, whereby the movement of the said stud is transmitted to the crank-shaft bearings, an arm for operating the toe of
65 the cam, an actuating device for said arm carried by a distant part of the loom, and means for connecting said actuating device to the arm, all substantially as specified.

3. The combination of the frame of a loom,
70 the crank-shaft, slides longitudinally guided on the frame and carrying the bearings for said crank-shaft, a grooved cam and its rotating mechanism, a pivoted arm, I, having a stud adapted to the groove of the cam, bell-crank
75 levers M, connected to the slides of the crank-shaft, a rock-shaft having three arms, and rods, whereby one of said arms is connected to the arm I and the others to the bell-crank levers M, all substantially as specified.
80

4. The combination of the crank-shaft of the loom and movable bearings therefor with the cam having two grooves, a pivoted toe carried by said cam, a spring acting on said toe to move it in one direction, an arm acting
85 on the toe to move it in the other direction, a second toe loosely pivoted to the cam and free from the control of the arm, a stud adapted to traverse either groove of the cam, means for rotating said cam, and mechanism whereby
90 the movement of the stud is transmitted to the crank-shaft bearings, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of
95 two subscribing witnesses.

THOMAS A. BRADY.

Witnesses:

WILLIAM D. CONNER,
HARRY SMITH.