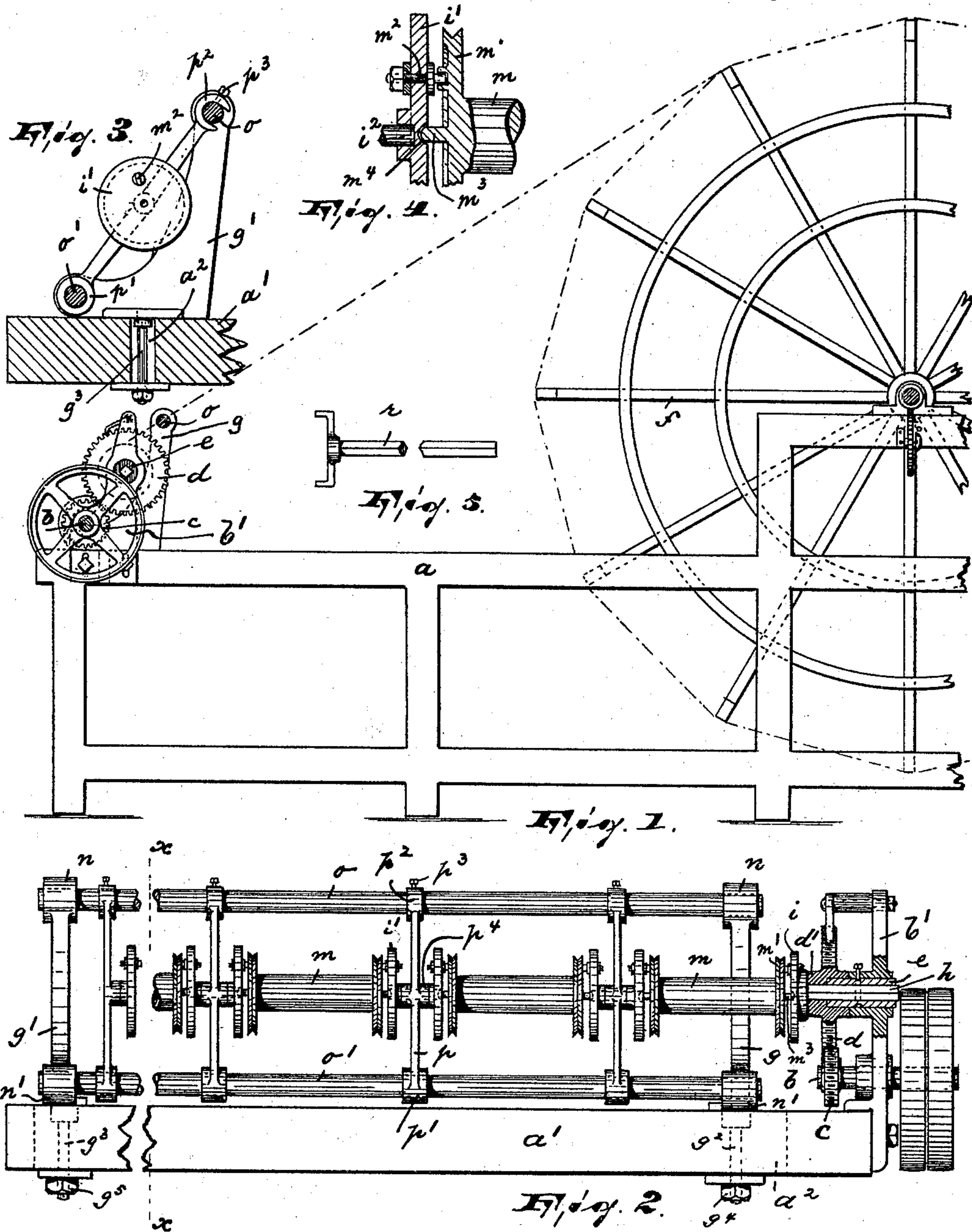


(No Model.)

O. W. SCHAUM.
BEAMING ATTACHMENT.

No. 585,878.

Patented July 6, 1897.



WITNESSES:

Wm. D. Bell.
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UNITED STATES PATENT OFFICE.

OTTO W. SCHAUM, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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BEAMING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 585,878, dated July 6, 1897.

Application filed March 27, 1897. Serial No. 629,493. (No model.)

To all whom it may concern:

Be it known that I, OTTO W. SCHAUM, a citizen of the United States, residing in Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Beaming Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My improvements relate to beaming attachments for warping-mills adapted to beam the warp for narrow or wide warp looms, respectively.

The object of this invention is to provide an adjustable beaming attachment for warping-mills of simple, strong, and durable construction, reliable in operation, quickly and easily adjusted, and by means of which the beams are always true and centered—that is to say, their center lines are in alinement with each other and with the center line of the motion-transmitting means.

The invention consists in the improved beaming attachment, in the fulcrumed intermediate brackets adapted to form the bearings for the shafts of the beam-carrying disks, and in the combination and arrangement of the various parts, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

In the accompanying drawings, Figure 1 is a side elevation of a warping-mill provided with my improvements, only those portions being shown which are necessary to illustrate the nature of the said invention; Fig. 2, an enlarged front elevation of Fig. 1, certain portions being removed and others shown in section; Fig. 3, a sectional view of the line $x-x$ of Fig. 2; Fig. 4, an enlarged detail view of one of the disk and beam connecting means, and Fig. 5 a detail view of a mandrel adapted to be used in connection with the warping-mill when adjusted for beaming the warp for wide-warp looms.

In said drawings, a represents the frame,

and f the winder, from which the warp is to be wound upon a series of beams m in the usual and well-known manner.

On one side of the frame a and in alinement with its forward cross-bar a' is secured in any desired manner the bracket or standard b' , forming bearings for the driving-shaft b and the pawl-controlled gear-wheel d , which latter meshes into pinion c , securely mounted on shaft b . The said gear-wheel d is provided with a hub d' , mounted on the revolving sleeve e , having its bearing in the bracket or standard b' , which latter and also the hub of the wheel is centrally penetrated by a square or polygonal-shaped hole or opening adapted to be engaged by and to receive a similarly-shaped shaft h , as clearly shown in the drawings. On the inner end of said shaft h is mounted a face-plate i , carrying an eccentrically-arranged pin or stud adapted to engage the head or flange m' of the first of the series of beams m , and also provided in its center with a recess adapted to receive the trunnion m^3 of said beam.

The cross-bar a' is provided with an elongated vertical slot a^2 , in which are adjustably arranged, by means of the bolts $g^2 g^3$ and nuts $g^4 g^5$, the end brackets g and g' , respectively provided at their lower and upper portions with enlargements n' and n , forming the bearings for the rods or braces o and o' . Said rods are so arranged with relation to each other that the rod o is parallel to the rod o' and above and in rear of the same.

A series of bracket-arms p are fulcrumed by means of their sleeves p' on the lower rod o' and engage with their upper forked portions p^2 the rod o and are secured thereto by means of the set-screw p^3 , as clearly shown. The sleeves p' and their respective bracket-arms p can be moved laterally on the rod o' , and thus the spaces between adjoining bracket-arms adjusted to beams of various lengths, as will be manifest.

Each bracket-arm is provided substantially in its center with an enlargement forming the bearing for the shaft i^2 , on which are mounted the disks $i' i'$, carrying the eccentrically-arranged pins m^2 and provided with central holes or recesses m^4 . Said recesses are adapted to

receive the trunnions m^3 of the beams m and the pins m^2 to engage the heads m^3 of said beams, as clearly shown.

From the foregoing it can be seen that the
5 bracket-arms, after being adjusted and secured on and to their respective rods, will always be parallel, and those portions which form the bearings for the disk-supporting shafts are bound to be in alinement with each
10 other, and therefore the beams supported and carried by said disks are bound to rotate truly and in unison with each other. By this arrangement the complicated and unreliable adjustment of independent brackets, such as
15 have heretofore been used for similar purposes, is fully avoided, and the skill required in placing the beams after the attachment is once centered is reduced to a minimum. Furthermore, the replacing of beams is greatly
20 simplified and can be accomplished in comparatively little time.

It has been stated heretofore that the polygonal-shaped shaft h is removably arranged in the sleeve e and hub d' of the gear-wheel
25 d . When the machine is to be adjusted for warp-beaming for wide-warp looms, the said shaft h and the face-plate i are removed and the mandrel r is inserted in its place. Said mandrel conforms in section to the hole or
30 opening in the sleeve e and hub d' and is laterally movable therein and is operated in a manner well understood in the art.

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

35 1. A warping attachment, consisting of two parallel connected rods, a series of bracket-arms fulcrumed on one of said rods and adjustably secured with their other ends on the other rod, a series of pin-carrying disks revolv-
40 lubly and centrally mounted on said bracket-arms, and a series of beams carried by said disks, and mechanism for rotating said disks and beams, substantially as and for the purposes described.

45 2. A warping attachment, consisting of two

parallel connected rods, of a series of bracket-arms, each of said arms being provided at one end with a sleeve loosely mounted on one of said rods and on its other end with a forked portion adapted to engage the other rod, and
50 a series of beam-supports revolubly arranged on and carried by said bracket-arms, and means for rotating said beam-supports, substantially as and for the purposes described.

3. A warping attachment consisting of two
55 end brackets, two parallel rods arranged in and connecting said brackets, one of said rods being above and in rear of the other, a series of bracket-arms fulcrumed on one of said rods and adapted to engage with their
60 other ends the other rod, a series of shafts parallel with said rods and having their bearings in said bracket-arms, a series of pin-carrying disks mounted on said shafts and each provided with a central hole or recess, a series
65 of beams carried by said disks and bearing with their trunnions in the holes or recesses of their respective disks, and means for rotating said disks and beams, substantially as described.

4. In a warping attachment, the combination with driving mechanism comprising a gear-wheel, a face-plate carried thereby, a pin eccentrically arranged on said face-plate,
70 two parallel rods suitably connected together, a series of bracket-arms fulcrumed on one of said rods and engaging with their free ends the other rod, a series of pin-carrying disks revolubly mounted on said bracket-arms and
75 parallel and in alinement with the face-plate, and a series of beams carried by said disks and the face-plate respectively, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of
85 March, 1897.

OTTO W. SCHAUM.

Witnesses:

D. STEWART,

ROBERT W. LLOYD.