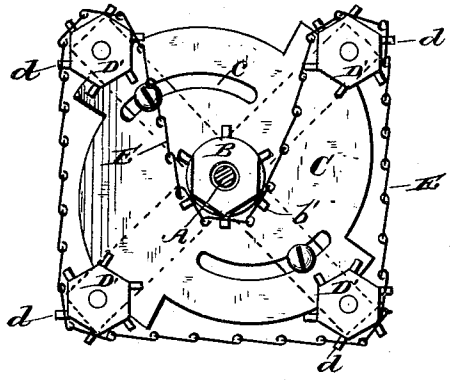
(No Model.)

J. C. RICHARDSON.

MECHANICAL MOVEMENT.

No. 262,478. Patented Aug. 8, 1882.

Fig. 1.



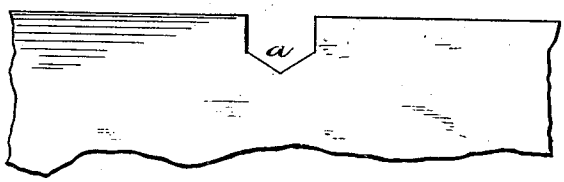


Fig. 2.

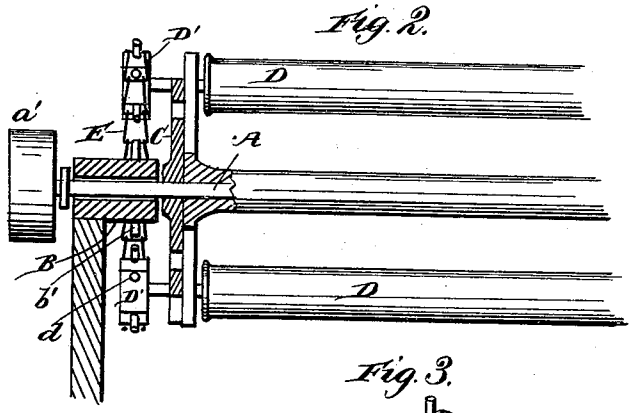
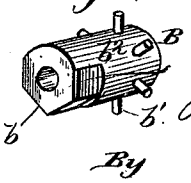


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES C. RICHARDSON, OF BOSCOBEL, WISCONSIN.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 262,478, dated August 8, 1882.

Application filed October 20, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. RICHARDSON, a citizen of the United States, residing at Boscobel, in the county of Grant and State of Wisconsin, have invented certain new and useful Improvements in Mechanical Movements; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to mechanical movements; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The object of my invention is to impart to loosely-journaled rollers of a revolving reel an independent automatic revolving motion, said motion being imparted to said rolls from the reel-shaft by means of an endless chain or the like.

To this end the invention consists essentially in a main shaft having proper power-connections, to which is rigidly secured a frame having rollers or the like journaled therein. Each roller is provided with a sexangular or other angular head, having radiating pins or lugs, over which is rotated an endless chain, the links of which engage the lugs, and which is manipulated by the power conferred to the main shaft. The main shaft revolves in a fixed sleeve or bearing, which said sleeve is provided with radiating pins or lugs and has a rectangular surface which bears properly in a frame. The rollers are journaled in the form of a reel, and the endless chain, engaging the lugs or pins upon the roller-heads, passes over the fixed sleeve, engaging the lugs or pins thereon in a differential manner, so that each roller, connected as shown, must accommodate itself to the rotating sweep of the reel and rollers, giving to the series of rollers a differential motion. The main shaft is connected to the motive power by pulley or other connection, and the endless chain passes over the fixed sleeve from two of the rollers or roller-heads in such a manner that a binding effect will be imparted to the chain, which operates arbitrarily by reason of the links in the chain registering perfectly with the pins or lugs in the roller-heads or the fixed sleeve. The rollers may be forced inward by means of cam-slots.

The invention is fully illustrated in the accompanying drawings, which form a part of this specification, and in which Figure 1 is an end view. Fig. 2 is a side view, partly in section; and Fig. 3 is a perspective view of the sleeve.

To enable others skilled in the art to make and use the invention, I will describe the parts, referring by letter to the said drawings, thus:

A represents the reel-shaft, journaled at one end in a proper frame and at the other in a sleeve, B, having rectangular surfaces *b*, which correspond with a bearing, *a*, in the frame. The shaft A has proper power-connections, *a'*, and is centered in heads C, having cams *c*. Journaled in these heads C are rollers D, having sexangular heads D' and radiating pins *d*, over which operates an endless chain, E, the links of which are constructed so as to register perfectly with said pins *d* and with radiating pins *b'* upon the body b^2 of the fixed sleeve B.

Modifications in details of construction may be made without departing from the principle or sacrificing the advantages of my invention, the essential features of which are the slotted heads, the journaled rollers having rectangular heads and radiating pins, the endless chain, the fixed sleeve having radiating pins or lugs, and the main shaft and power-connection.

The operation is obvious, and another application setting forth a specific purpose for which the invention is designed will be filed, such other application including features not shown or described in this.

It will be understood that the form of the roller-heads may be changed in such a manner as to impart to the rollers a differential movement—that is to say, quadrangular, sexangular, octangular, &c.

It will be observed that the rolls D not only revolve as portions of the reel, but also have an independent revolving motion in their journals imparted by means of the shaft A, sleeve

B, having pins b', and roller-heads D', having pins d, and the chain E.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a device for imparting a mechanical movement, a series of loosely-journaled reel-rollers, combined with a reel-shaft and connections, substantially as described, whereby an independent rotary motion is imparted to said rolls, as and for the purposes specified.

2. In a mechanical movement, the fixed sleeve B b b' and endless chain E, combined with the roller-heads D d, as set forth.

3. The heads C c, combined with rollers D d, the chain E, fixed sleeve B b', and power-connections, as set forth.

4. The combination of the fixed sleeve or bearing B b b' b^2, heads C c, and rollers D D d with the endless chain E and shaft A, having proper power-connections, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES C. RICHARDSON.

Witnesses:
H. CLAY SMITH,
C. S. BUNDY.