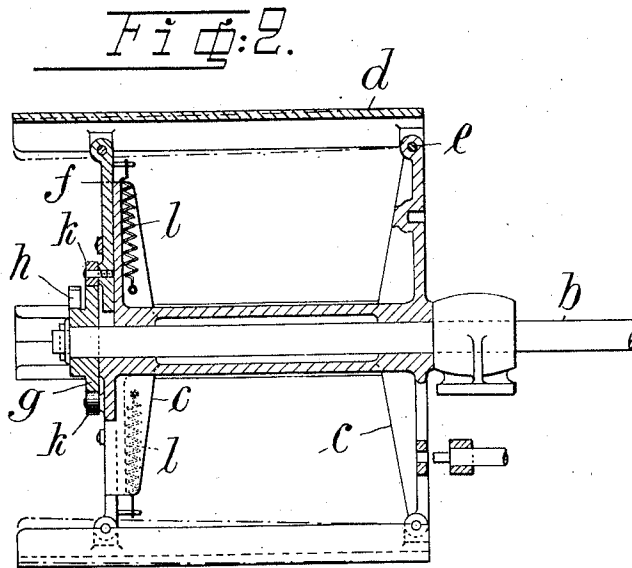
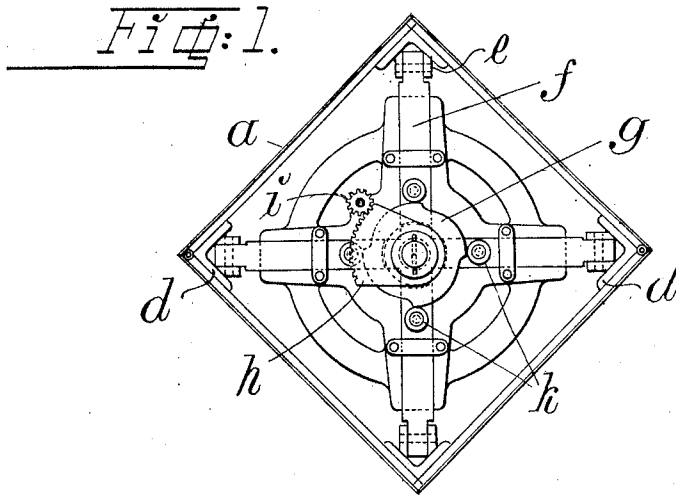


A. HOFMANN.
PRISMATIC DRUM FOR WARP PRINTING MACHINES.
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964,023.

Patented July 12, 1910.



Witnesses:
C. M. Loney
J. E. Dimmick

Inventor:
Alfred Hofmann,
by *Calvin Kalow*
Attorneys.

UNITED STATES PATENT OFFICE.

ALFRED HOFMANN, OF GOTTENBORG, SWEDEN.

PRISMATIC DRUM FOR WARP-PRINTING MACHINES.

964,023.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed December 1, 1909. Serial No. 530,851.

To all whom it may concern:

Be it known that I, ALFRED HOFMANN, director, a subject of the King of Sweden, residing at Gottenborg, Sweden, have invented certain new and useful Improvements in Prismatic Drums for Warp-Printing Machines, of which the following is a specification.

In warp yarn printing machines it is common to employ prismatic drums on which the yarn is wound, and which, with the yarn thereon, are moved over printing rollers arranged in different dye receptacles, and which rollers are raised one by one for the passage of the drums, for the purpose of applying the patterns to the body or hank of yarn wound on the drums.

The present invention has for its object to provide a yarn-holding drum of such a character that the yarn may be tightly or smoothly held thereon for the printing operation, but which drum is so constructed that when the yarn is to be removed some of the faces of the drum may be moved inwardly for the purpose of slackening the yarn to facilitate its removal.

In the accompanying drawings, Figure 1 is an end view of the improved drum and its holding parts, and Fig. 2 is a longitudinal section of the same.

Referring to the drawings, the prismatic drum *a* therein illustrated is made square, comprising four faces, but it might also be made triangular comprising three faces, or might have a larger number of faces than four. In the improved drum two contiguous faces are made separate from each other and are pivotally connected or hinged together, so as to be adapted to be moved inward; and any desired number of said faces may be thus pivotally connected or hinged together. In the form of the improved drum herein illustrated the frame or holder of the drum, mounted on the shaft *b*, comprises two spiders *c* separated from each other and preferably formed integral with a central connecting hub or sleeve encircling said shaft. To the outer ends of the arms of the spiders are attached angle irons *d*, said angle irons being jointed to the outer ends of said arms by means of the attaching pivot-bolts *e*. In the construction of spider shown to the right in Fig. 2 each of the arms thereof consists of a single part integral with the hub or sleeve of the holder, while in the construction of spider shown to the left in Fig. 2 each of the

arms is formed of two pieces comprising inner and outer parts, the outer parts *f* being jointed to the angle irons *d*. This construction provides contractible and extensible arms for the spider last referred to.

Loosely mounted on the shaft *b* is a cam plate *g* having four cam parts each of which engages a projection or roller *h* mounted on an arm part *f*. Movable with the cam plate *g*, and preferably integral therewith, is a toothed segment *h* meshing with a pinion *i* the shaft of which may be constructed for being turned by means of a suitable key, for the purpose of partially rotating the said toothed segment and the cam plate *g* movable therewith, to extend or contract the two-part arms of the spider shown to the left in Fig. 2. The rollers *h* on the arm *f* are held in contact with the cams of the cam-plate *g* by means of springs *l*.

From the foregoing it will be apparent that when it is desired to slacken the yarn wound on the drum, for the purpose of facilitating its removal, the cam-gate *g* may be partially rotated by means of the pinion *i* to move the angle irons *d* inward, as indicated in dotted lines in Fig. 2, thereby drawing the faces of the drum inward, as will be understood, as the angle irons *d*, in this slackening movement, are moved inward to the positions denoted by dotted lines in Fig. 2.

Having thus described my invention I claim and desire to secure Letters Patent:—

1. A prismatic drum, for warp printing machines, consisting of a plurality of faces having jointed or hinged connections with each other, and a frame or holding portion comprising two separated spiders the arms of which support the face portions of the drum, one of said spiders having contractible and extensible arms, thereby permitting said face portions to move inward for the purpose of slackening the yarn wound on the drum, and means for adjusting said contractible and extensible arms.

2. A prismatic drum, for warp printing machines, consisting of a plurality of faces having jointed or hinged connections with each other, and a frame or holding portion comprising two separated spiders the arms of which support the face portions of the drum, one of said spiders having contractible and extensible arms, thereby permitting said face portions to move inward for the purpose of slackening the yarn wound on

the drum, angle irons interposed between the said faces of the drum and the arms of the said spider and having hinged or jointed connections with said arms, and means for
5 adjusting said contractible and extensible arms.

3. A prismatic drum, for warp printing machines, consisting of a plurality of faces having hinged or jointed connections with
10 each other, a frame for supporting said drum faces comprising two separated spiders, angle irons interposed between said spiders and the faces of said drum and having jointed or hinged connections with the
15 arms of said spider, one of said spiders having extensible and contractible arms formed in two parts, the outer portions of said arms being provided with projections or rollers, a cam-plate having a series of
20 cams engaging said rollers, and means for partially rotating said cam plate for the purpose of extending or contracting said arms.

4. A prismatic drum, for warp printing
25 machines, consisting of a plurality of faces

having hinged or jointed connections with each other, a frame for supporting said drum faces comprising two separated spiders, angle irons interposed between said
30 spiders and the faces of said drum and having jointed or hinged connections with the arms of said spider, one of said spiders having extensible and contractible arms formed in two parts, the outer portions of said arms being provided with projections or rollers, 35 a cam-plate having a series of cams engaging said rollers, and means for partially rotating said cam plate for the purpose of extending or contracting the said arms, said means comprising a geared segment con- 40 nected with said cam plate and a rotatable pinion meshing with said segment.

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

ALFRED HOFMANN.

Witnesses:

KLAS JONSON,
E. JOHNSON.