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YARN CARRIER FOR WARP PRINTING MACHINES.

APPLICATION FILED DEC. 1, 1909.

964,022.

Patented July 12, 1910.

2 SHEETS—SHEET 1.

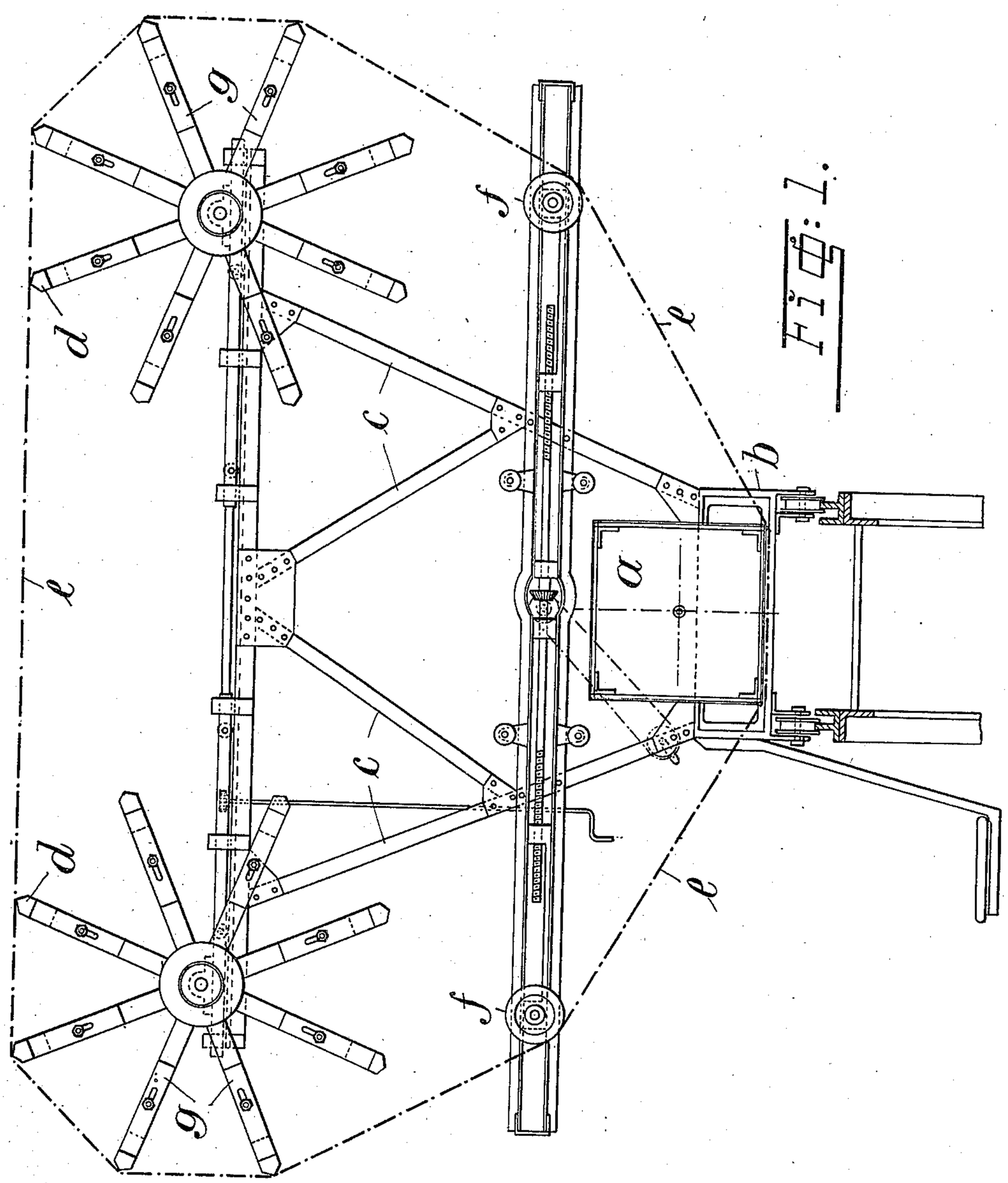

Fig. 1.

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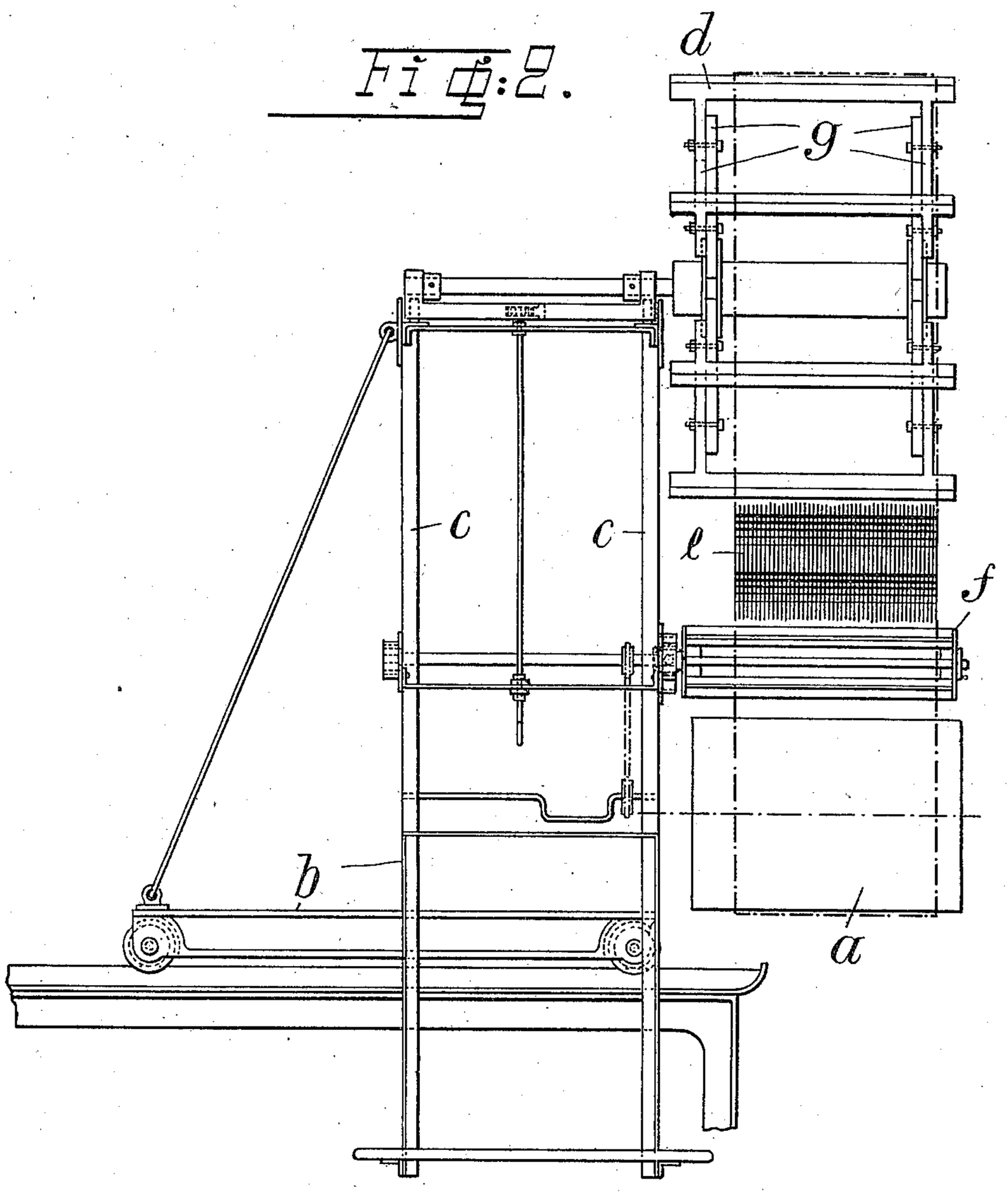
2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

ALFRED HOFMANN, OF GOTTENBORG, SWEDEN.

YARN-CARRIER FOR WARP-PRINTING MACHINES.

964,022.

Specification of Letters Patent. **Patented July 12, 1910.**

Application filed December 1, 1909. Serial No. 530,850.

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 Yarn-Carriers for Warp-Printing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

In printing warp yarns, among the devices used is a prismatic drum, around which the yarn is wound, and which is moved by means of a carriage across printing rollers, said rollers being raised before the passage of the drum according to the pattern to be printed, thereby producing a number of colored stripes across the hank of yarn. Each side or face of the drum has preferably the same length as the width of the printing surface of the printing machine proper, so that the yarn on such a side or face is printed every time the carriage with the drum moves in one direction across the machine, and the drum is then rotated, so that another side or face is turned toward the printing rollers, and the new section of yarn is printed during the return movement of the carriage on which the drum is mounted, until the yarn on all sides of the drum has been printed. The length of the repeat of the pattern thus printed can never exceed the whole circumference of the drum, but the latter cannot be made of indefinite size, as it would become too heavy and difficult to manage, so that very great lengths of pattern repeats, such as are used for weaving measured off carpets or rugs, table cloths, etc., cannot be printed advantageously on such a drum.

The present invention has for its object to increase the efficiency and convenience of yarn printing machines of the class referred to by using, in combination with a drum, one or several rollers or reels, supported by the carriage on which the drum is mounted, so that they are moved along the printing machine with the drum as the latter is moved over the printing rollers. The yarn hank or skein then is placed over one side of the drum, and also over the reel or reels, which are preferably adjustably mounted relative to the drum in the supporting frame and are also preferably provided with longitudinally adjustable arms, so that several possible ways of varying the circumference of the hank or skein which is to be laid around the drum and reels are afforded and a wide range of adjustment is provided for.

In the accompanying drawings, a yarn carrier with one drum and two reels, and a yarn hank or skein laid around the same are shown in an end view in Figure 1 and in a side view in Fig. 2.

Referring to the drawings, *a* is the drum, supported by a carriage *b*, which also carries a frame *c*, in which are mounted two supports, rollers or reels *d*, around which and the drum is laid a hank or skein *e* of the warp yarn, the circumference of which has the length required by the pattern. The two reels *d* are adjustable in the frame *c*, so that they may be moved toward or from each other to accommodate different lengths or sizes of yarn hanks or skeins. Of course it will be understood that only one reel, adjustable to different distances from the drum, or more than two reels may be used, if desired. The frame *c* is preferably provided with adjustable tension rollers *f* to afford proper tension to the warp yarn hank, and the arms *g* of the reels are preferably made lengthwise adjustable, so that said arms are extensible and contractible, to vary the sizes of the reels.

When a section of yarn resting against the under side of the drum has been printed, the drum is partially rotated so that a new side or face, with a new section of yarn, will be turned downward, ready for printing, the yarn being each time fed forward into printing position, until the whole hank has been printed.

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

1. A yarn carrier for warp printing machines comprising the combination with a suitable carriage, of a rotary printing drum mounted thereon, a frame supported by said carriage, and one or more yarn reels mounted on said frame and being thus adapted to travel with said carriage and drum.

2. A yarn carrier for warp printing machines comprising the combination with a suitable carriage, of a rotary printing drum mounted thereon, a frame supported by said carriage and one or more yarn reels adjustably mounted on said frame and being thus adapted to travel with said carriage and drum.

3. A yarn carrier for warp printing ma-

chines comprising the combination with a suitable carriage, of a rotary printing drum mounted thereon, a frame supported by said carriage and one or more yarn reels mounted on said frame and being thus adapted to travel with said carriage and drum, said reel or reels being constructed with adjustable or extensible arms.

4. A yarn carrier for warp printing machines comprising the combination with a suitable carriage, of a rotary printing drum mounted thereon, a frame supported by said carriage, one or more yarn reels mounted on said frame and being thus adapted to travel with said carriage and drum, and tension rolls adjustably mounted on said frame and cöoperating with said reel or reels and said drum.

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.