Oct. 22, 1929. A. HOMBRECHER 1,732,720

CROWN BEATER FOR BRAIDING AND LACE MACHINES

Filed Jan. 5, 1928

Fig. 1

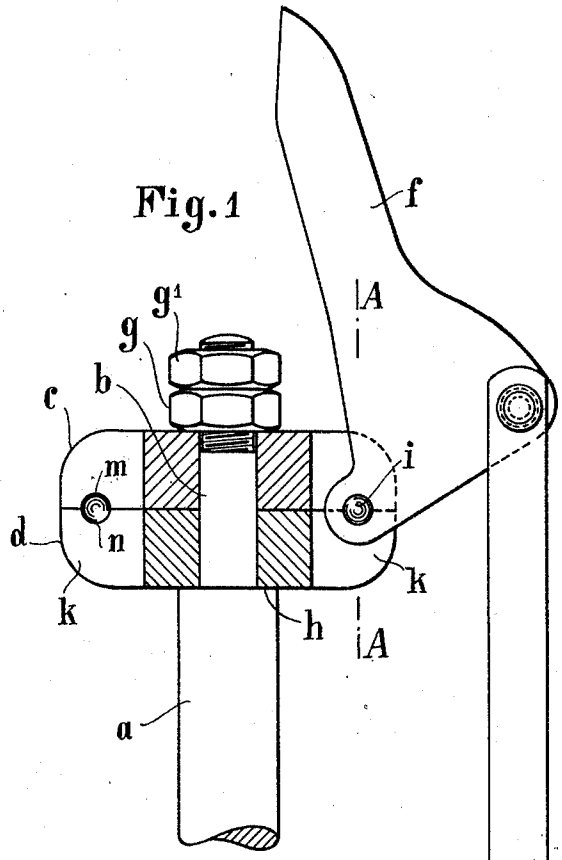


Fig. 3

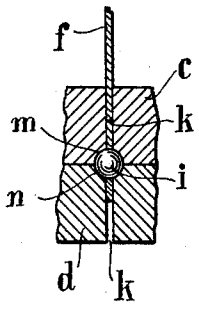
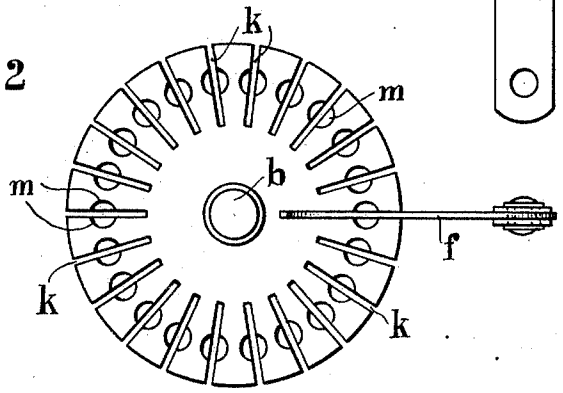


Fig. 2



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UNITED STATES PATENT OFFICE

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CROWN BEATER FOR BRAIDING AND LACE MACHINES

Application filed January 5, 1929, Serial No. 330,664, and in Germany September 10, 1928.

The invention relates to crown beaters for braiding and lace machines.

Hitherto the crown beater has commonly included a metal ring forming a common axis of rotation for all the beating knives, the metal ring being held against rotation in a two part crown or bearing.

According to my invention each beating knife has its own journal on which the knife rotates, and to which the knife is fixed, the journals being rotatably mounted in the bearing crown. The journal preferably consists of a steel ball fixed within a perforation in the knife and projecting on both sides of the same. The projecting parts of the ball are mounted in cavities or sockets formed in a two-part bearing crown, of which each part forms one half of the socket. In this way large bearing surfaces are obtained, so that wear is reduced. Play in the sockets due to wear can be corrected by grinding down the contacting surfaces of each part of the bearing crown. Finally, it is possible to remove each knife separately, which is a great advantage when changing the knives.

An example of apparatus according to the invention is shown in the annexed drawings. For reasons of clearness only one of the numerous knives is shown.

Fig. 1 shows an elevation, partly in section, of the bearing crown,

Fig. 2 is a plan view of the lower portion of the bearing crown, with the knife in position, and

Fig. 3 a fragmentary vertical section on the line 3—3 of Fig. 1.

The central or main rod or shaft *a* is reduced in diameter at its upper end to provide a fixed spindle *b* to receive the crown bearing *c*, *d*, which is held in position between nuts *g*, g^1 and a shoulder *h* at the intersection of the body of the shaft with the spindle. The bearing crown consists of two parts an upper part or bearing member *c* and a lower part or bearing member *d*.

f is one of the beating knives. The knives *f* are mounted in the bearing crown so that they can rock in vertical planes, within radial slots *k*.

Each knife has its own journal in the form of a steel ball *i* pressed tightly into a perforation in the knife, so as to project equally on both sides of the knife. For receiving the balls, semi-spherical cavities or sockets *m*, *n* are provided in the contacting surfaces of the parts *c*, *d* respectively. The cavities intersect the slots *k* and extend equally on either side thereof, as shown in Fig. 2. The sockets embrace the balls, permitting them to rotate freely.

By using steel balls the wear is practically confined to the sockets, and play due to wear can be readily corrected by grinding down the contacting surfaces of the parts *c* and *d*.

It will be understood that modifications of detail may be made without departing from the invention as set forth in the subjoined claims.

Claims:

1. A crown beater for braiding and lace machines embodying a shaft, a two-part bearing on said shaft having an annular series of radial slots and comprising an upper bearing member and a lower bearing member, the opposed faces of said members being provided with a pair of opposed hemispherical bearing sockets intersecting each slot, beater knives having bearing portions fitted in the slots, each bearing portion being provided with a transverse aperture, and a spherical journal fitted in the aperture of each knife and projecting beyond opposite sides of the knife and engaging the sockets of the faces of the bearing members intersecting the slot in which the knife is fitted.

2. A beater crown or bearing according to claim 1, in which each knife journal comprises a spherical steel ball fixed within a perforation in the knife and projecting to equal degrees beyond the opposite sides thereof.

In testimony whereof I affix my signature.

ALBERT HOMBRECHER.