G. C. L. TISCH.

JACQUARD LINK AND DRUM.

APPLICATION FILED APR. 22, 1921.

1,419,084. **Patented June 6, 1922.**

Fig. 1.

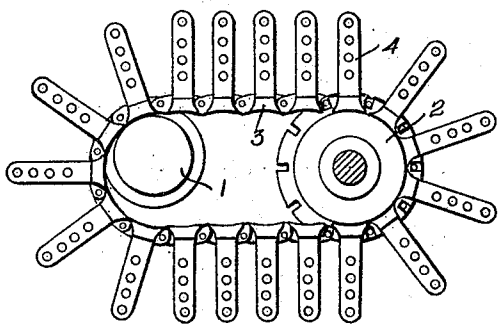


Fig. 2.

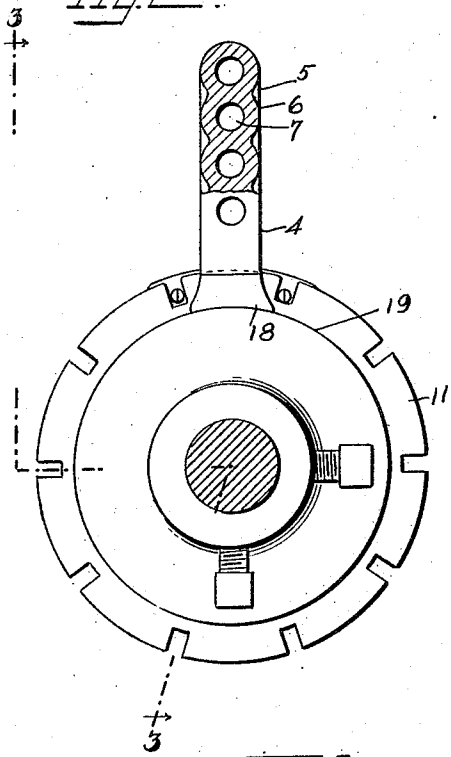


Fig. 3.

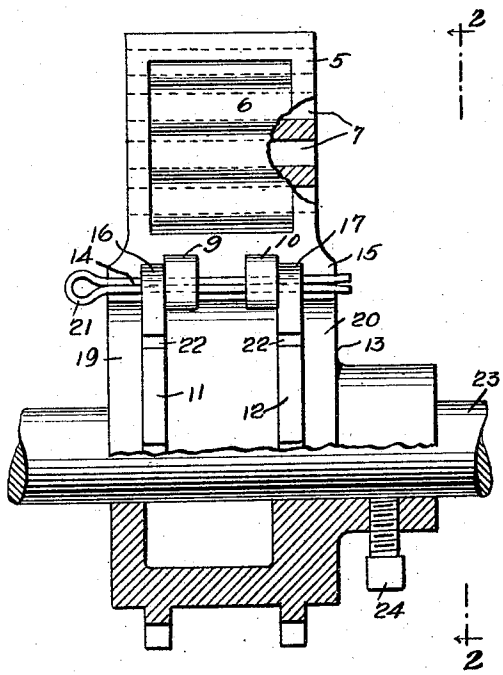


Fig. 4.

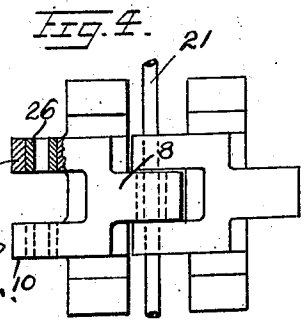
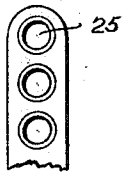


Fig. 5.



WITNESSES

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JACQUARD LINK AND DRUM.

1,419,084. Specification of Letters Patent. **Patented June 6, 1922.**

Application filed April 22, 1921. Serial No. 463,627.

To all whom it may concern:

Be it known that I, GEORGE C. L. TISCH, a citizen of the United States, and a resident of Elizabeth, in the county of Union and State of New Jersey, have invented a new and Improved Jacquard Link and Drum, of which the following is a full, clear, and exact description.

This invention relates to jacquard mechanism and particularly to an improved jacquard link and driving drum and has for an object to provide an improved construction wherein the links will be held against lateral movement as they pass around the driving drum.

Another object of the invention is to provide a jacquard link formed with guiding and steadying grooves together with steadying and bracing bar extensions.

A further object of the invention is to provide a jacquard link in which means are arranged on the base for preventing lateral movement of the link while the body is arranged with continuous passage-ways for receiving guiding bars or rods.

An additional object is to provide a jacquard link and drum formed so that they will interlock in a certain sense during the passage of the link around the drum, the drum being formed with guiding grooves and bearing surfaces for fitting suitable recesses and projections on the links to permit this interlocking action.

In the accompanying drawing—

Figure 1 is a side view of a chain formed from jacquard links, a driving drum and an idler drum.

Figure 2 is a sectional view through Figure 3 approximately on line 2—2.

Figure 3 is a front view of the drum and one of the links disclosing an embodiment of the invention, the drum being partially broken away, said broken away portion being taken approximately on line 3—3 of Figure 2.

Figure 4 is a bottom plan view of a pair of the links shown in Figure 1, the same being on an enlarged scale with certain parts broken away for illustrating a reinforcing bearing.

Figure 5 is a fragmentary view showing the upper part of one of the links illustrated in Figure 1 but disclosing a modified construction of passage-way.

Referring to the accompanying drawing by numerals, 1 indicates an idle drum of any desired kind and 2 a driving drum of a special construction for receiving the jacquard link chain 3 formed of specially constructed links 4 hereinafter fully described. The general assemblage as shown in Figure 1 is the usual assemblage for links of this kind and as disclosed in my prior Patent No. 1,059,918, issued April 22, 1913. In this patent the drum is provided with a groove for receiving projections from the link whereby the link is prevented lateral movement. When the parts are new, lateral movement is prevented but as the link is used the depending portions wear more or less and, consequently, a slight movement is liable to occur and, consequently, the action of the bars or pins fitting in the apertures of the links will not be proper.

In the present construction it is aimed to overcome these objections and provide a steadying bracing structure which will readily wear a sufficient amount to allow an appreciable lateral movement. In constructing a structure of this kind the respective links 4 are provided with a frame 5 merging into a body 6, which in a certain sense conforms to the holes or passage-ways 7 extending through the frame and body. As indicated in Figure 2, the body 6 presents a scalloped outer surface whereby the walls surrounding the passage-ways 7 will be comparatively thin and, consequently, the weight of the link reduced while frame 5 affords ample stiffening means. The frame 5 at the lower end merges into a single lug 8 extending in one direction and a pair of spaced lugs 9 and 10 extending in the opposite direction, said lugs forming one link of the chain 3. The lugs 9 and 10 are spaced apart for receiving between them lug 9 of the adjacent link. The outer edges of lugs 9 and 10 fit rather snugly between the flanges 11 and 12 of the drum 13, and though said fit is sufficiently loose to allow a free motion it will not allow any appreciable side movement. As these lugs depend and as the outer bearing lugs 14 and 15 also depend, grooves 16 and 17 are presented for receiving the respective flanges 11 and 12 while the bottom edges of the projections 14 and 15 are rounded at 18 (Fig. 2) so as to fit flatwise against the respective surfaces 19 and 20 of the drum 13. The various links of the chain 3 are connected together by suitable

pins, as for instance, cotter pins 21, said cotter pins extending through the various notches 22 in the flanges 11 and 12 whereby when said drum 13 is rotated by shaft 23 to which it is secured the links will be properly moved. The drum 13 may be secured to shaft 23 by one or more set screws 24 or by other securing means as desired.

By this construction and arrangement, the lateral bearing surfaces provided in my prior patent above mentioned are maintained and in addition the bearing surfaces of the rounded ends 18 are secured so that it will require a very large amount of wear to cause the link to tilt an undesirable amount. Also, by reason of the body 6 the apertures 7 have a continuous wall from one side of the link to the other whereby a pin entering any of the apertures will freely pass to the next aperture. If desired, steel brushings 25 could be provided as shown in Figure 5 whereby the link can be made out of very light material and yet have ample resistance to wear. The same is true in regard to the bearings for the pin 21, as for instance, auxiliary, steel or other bearing sleeves 26 can be arranged in the chain (Fig. 4). Preferably, and in fact it is almost necessary to make the links out of a light composition and such composition is liable to wear to a great or less extent so that frequent renewals will be necessary to obviate this. Bearing sleeves 25 and 26 may be provided and, consequently, a light structure will be provided and one which will have a longer life.

What I claim is:—

1. In a link of the class described a pin supporting body provided with a downwardly extending projection on each side having a rounded bearing surface and a chain link rigidly associated with the lower part of said body and spaced a predetermined distance from each of said downwardly extending projections and forming therebetween a flange engaging groove.

2. In a jacquard link mechanism of the character described, a link frame having a body, said frame and body having passageways extending therethrough in parallel relationship, and a link structure extending from one end of said frame.

3. In a jacquard link mechanism of the character described a link body, a link member projecting from the lower end of said body, spaced projections arranged on each side of said link member whereby spaced grooves are presented and a driving drum having bearing portions adjacent each side engaging frictionally the lower part of certain of said projections and flanges on the drum extending into said grooves for guiding and holding said body as it passes around the drum.

4. In a jacquard link mechanism of the class described a link body, an integral link member projecting from said body, a pair of integral projections arranged on the bottom of said body spaced from said link member, each of said projections having an arc-shaped lower bearing section and a drum having bearing portions engaging said arc-shaped bearing portions of the projections and flanges projecting between the projections and the link member.

5. In a jacquard mechanism of the class described, a link body, a lateral downwardly extending projection depending on each side of said body, said projections having arc shaped bearing surfaces, a link member projecting between said projections and at a spaced distance from each projection, a drum, a pair of annular flanges spaced from each other arranged on said drum, said annular flanges being adapted to fit in said spaces between said projections and said link, and an annular bearing surface on said drum adjacent the outer side of said flanges coacting with the bearing surfaces of said projections.

6. In a jacquard link mechanism of the character described, a link frame having openings at opposite sides thereof adapted to receive through them a pin and means intermediate said sides for positively directing the pin from one of said openings to the other, and a link structure extending from one end of said frame.

GEORGE C. L. TISCH.