Feb. 16, 1937. J. S. DODD 2,070,713

TAPE DRIVE FOR THE SPINDLES OF SPINNING AND DOUBLING FRAMES

Filed April 3, 1936 3 Sheets-Sheet 1

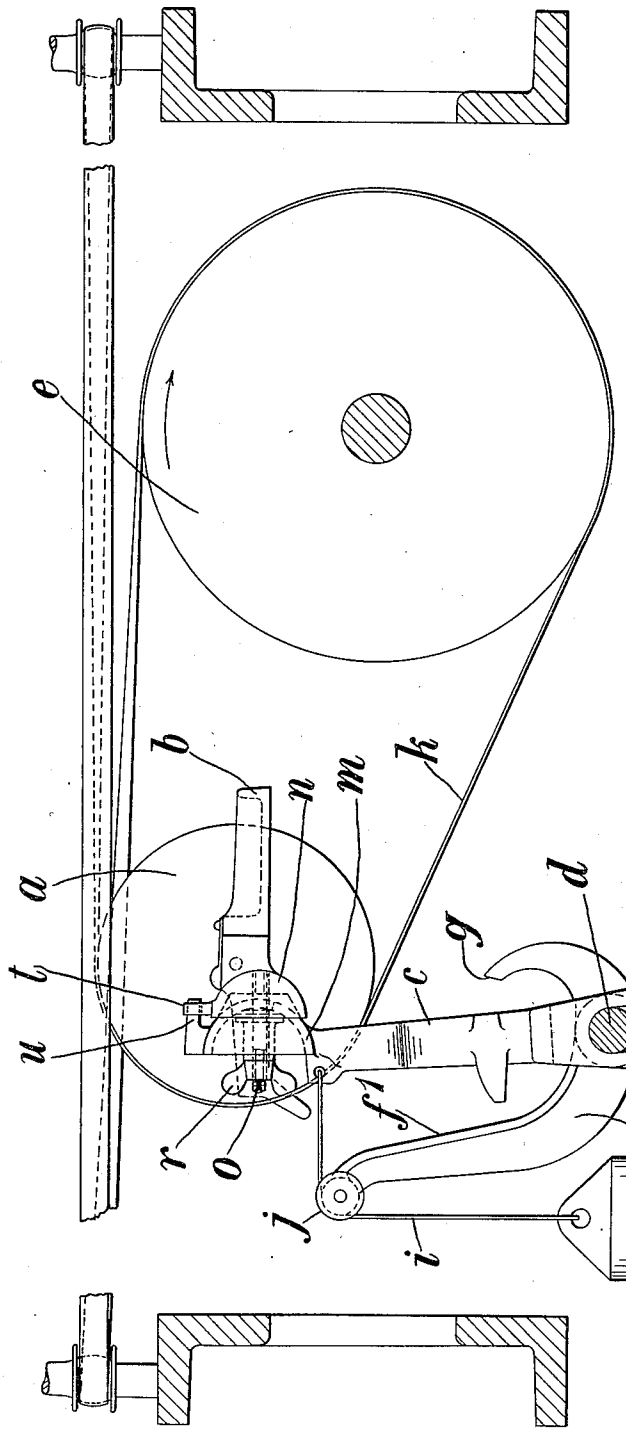


Fig. 1.

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Filed April 3, 1936 3 Sheets-Sheet 2

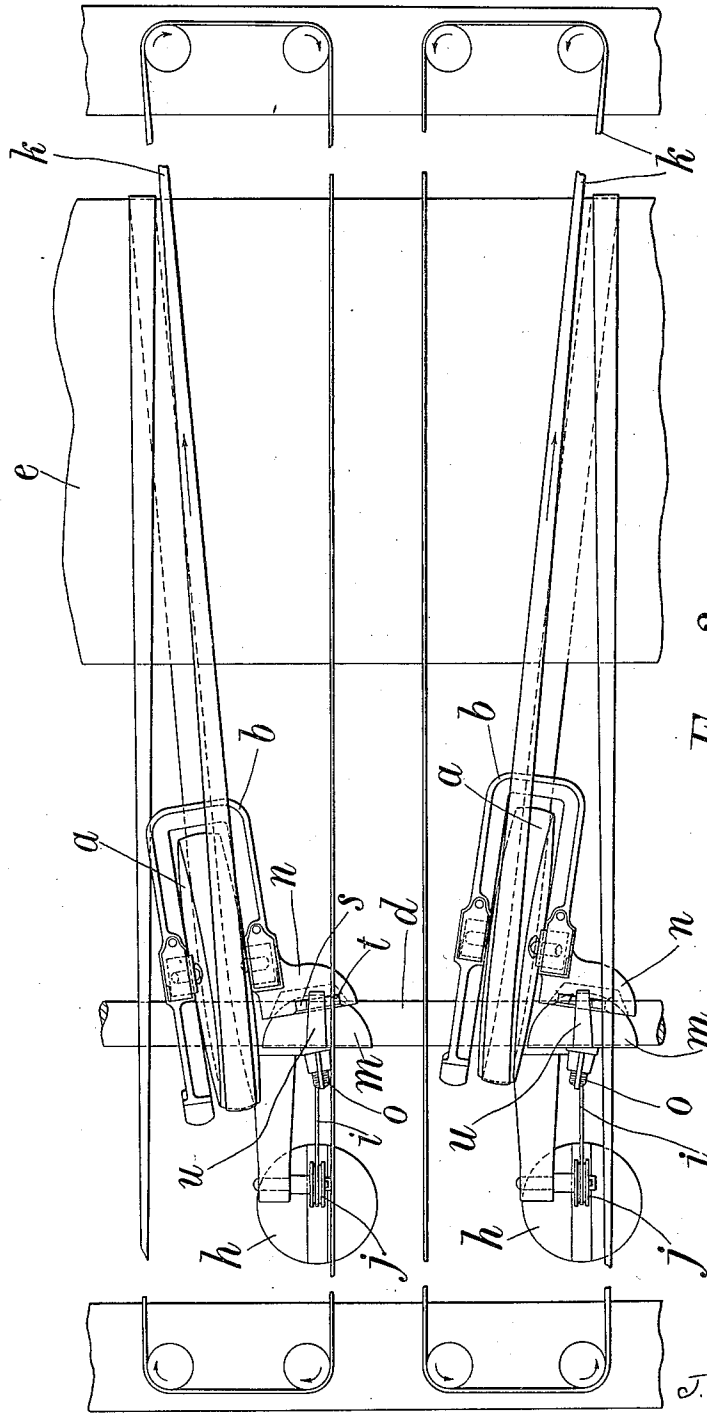


Fig. 2.

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Filed April 3, 1936 3 Sheets-Sheet 3

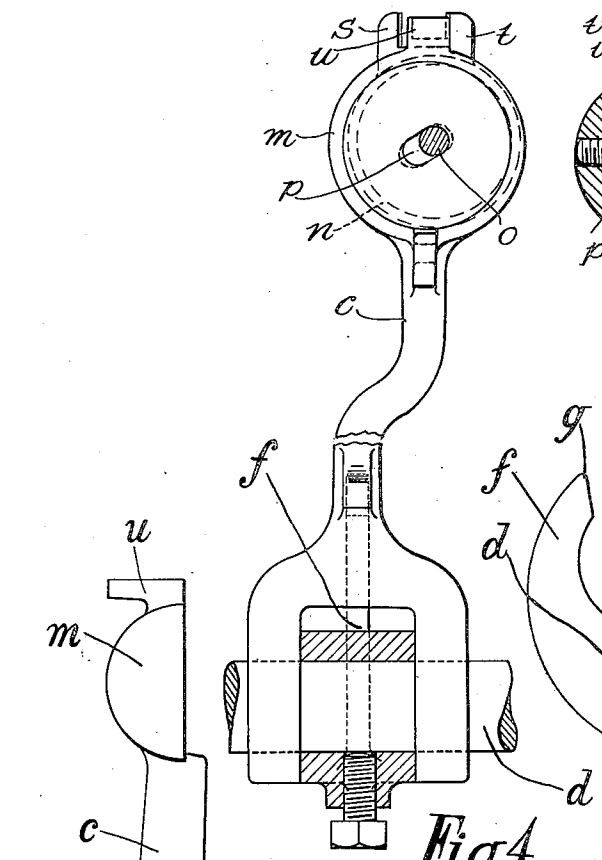


Fig. 4.

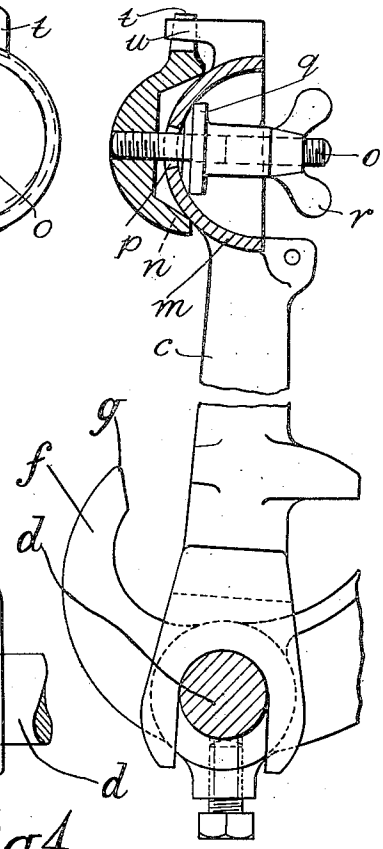


Fig. 3.

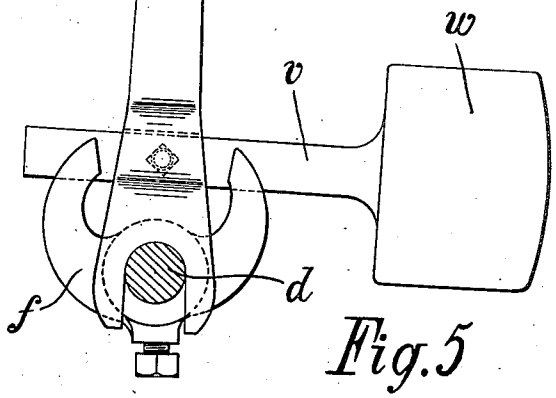


Fig. 5

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UNITED STATES PATENT OFFICE

2,070,713

TAPE DRIVE FOR THE SPINDLES OF SPINNING AND DOUBLING FRAMES

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Application April 3, 1936, Serial No. 72,656
In Great Britain April 10, 1935

2 Claims. (Cl. 118—48)

This invention relates to tape drives for the spindles of spinning and doubling frames and has for its object to provide an improved mounting for the tension or jockey pulleys which will enable them to be adjusted in a simple and ready manner to lead the tapes to the spindles for either the weft or the twist way direction of driving.

The invention comprises the arrangement in which each frame in which a jockey pulley is journalled is mounted upon a member having hemispherical internal and external faces, the said member being upon a counterweighted lever upon a fixed support, a pin and slot connection permitting of adjustment of the frame upon the said member and means for locking the parts together in their adjusted position.

The invention further comprises the arrangement of a pin extending through the member having internal and external hemispherical faces and a part bearing upon the internal hemispherical face, and screwing into the part of the frame which bears upon the external hemispherical face, the said slot being inclined, the pin being at one or other end of the slot for weft or twist way of driving.

The invention further comprises the provision of stops upon the member with internal and external hemispherical faces and the part of the frame which bears upon the external face for facilitating the adjustment of said frame for weft or twist way of driving.

Referring to the accompanying sheets of explanatory drawings:—

Figure 1 is an elevation showing a tape drive with tape reversing means constructed and arranged in one convenient form in accordance with this invention.

Figure 2 is a plan view showing two sets of tape driven spindles, one being driven "weft" way and one "twist" way in accordance with this invention.

Figure 3 is a detail view partly in section of the means for connecting a jockey pulley frame to the lever upon which it is adjusted to suit "weft" and "twist" ways of driving.

Figure 4 is a view looking from right to left of Figure 3 but with the bolt or screw in section to show the inclined slot by which adjustment of parts is permitted in a definite path.

Figure 5 shows a modification of the counterbalancing means for the lever carrying the jockey pulley and frame.

The tension pulleys *a* are each journalled in a stirrup like frame *b* which is mounted upon a lever *c* adapted to turn freely upon a shaft *d* extending the length of the frame parallel with the tin roller *e*, a fitting *f* secured upon the said shaft *d* adjacent to the lever *c* providing stops or abutments at f^1 and *g* to limit the movement of the lever in both directions. A weight *h* suspended from a rope or cord *i* which passes over a pulley *j* upon said fitting *f* pulls the lever *c* in a direction to cause its jockey pulley *a* to tension its tape *k*.

The means for connecting a stirrup frame *b* having a jockey pulley *a* therein to the lever *c* before referred to, comprises a member *m* having hemispherical internal and external seating surfaces (see Figure 3) formed upon or attached to the upper end of the lever *c* and a part *n* upon the said frame *b* which seats upon the hemispherical external surface of *m* and is clamped thereto by a screw or bolt *o* which passes through a slot *p* in the hemispherically shaped member *m* and a part *q* located within the internal hemispherical surface of *m*. There is a wing nut *r* upon the bolt *o* for tightening the parts together. The frame carrying the jockey pulley is supported in a substantially horizontal position (varying with the position of the lever *c* and of the bolt *o* in the slot *p*) and the slot through which the bolt passes is set at an angle as shown in Figure 4. Stops *s*, *t* are provided upon the top of the member *n* between which comes a finger or projection *u* upon the part *m* the said stops serving to facilitate rapid resetting of the jockey pulley frame when changing from weft to twist way driving of the spindles.

When reversing the tapes, the nuts *r* upon the bolts *o* are loosened and the parts *n* upon the jockey pulley frames *b* moved about the external hemispheres *m* so that the bolts *o* move from one to the other end of the inclined slots *p* therein. The nuts *r* are then tightened. This adjustment moves each jockey pulley *a* to the desired extent laterally and tilts it to the requisite angle to give the desired lead to the tape passing there-around when it has been reversed. In Figure 2, the upper jockey pulley frame is set for twist way of driving whilst the lower jockey pulley frame is set for the weft way of driving.

If desired, and as shown in Figure 5, an arm *v* with a weight *w* thereon may be secured to each lever *c* carrying a jockey pulley frame *b* to act as a counterpoise therefor, in place of the weight suspended from a rope or cord as shown in Figures 1 and 2.

What I claim is:—

1. A jockey pulley assembly for use in a tape drive for the spindles of a spinning and doubling

frame, comprising a pulley, a frame in which said pulley is journalled, a hemispherical ball and socket joint, one member of said joint being rigid with said pulley frame, a lever rigid with the second member of said joint, means for mounting said lever to pivot about a support, stops to limit the pivoting movements of said lever, a counterweight to move said lever in one direction towards one of said stops, a slot inclined to the axis of the pulley in one member of the ball and socket joint, a pin secured to the other member passing through said slot, and means upon said pin to clamp both members of said joint together.

2. A jockey pulley assembly as claimed in claim 1 in which there are stops rigid with one member of the ball and socket joint and a member to engage said stops rigid with the other member of said joint to limit the relative movements of the two members.

JOHN SAMUEL DODD.