No. 891,267. PATENTED JUNE 23, 1908.

W. H. LAFAELLE.

POWER SHIPPING MECHANISM.

APPLICATION FILED APR. 29, 1908.

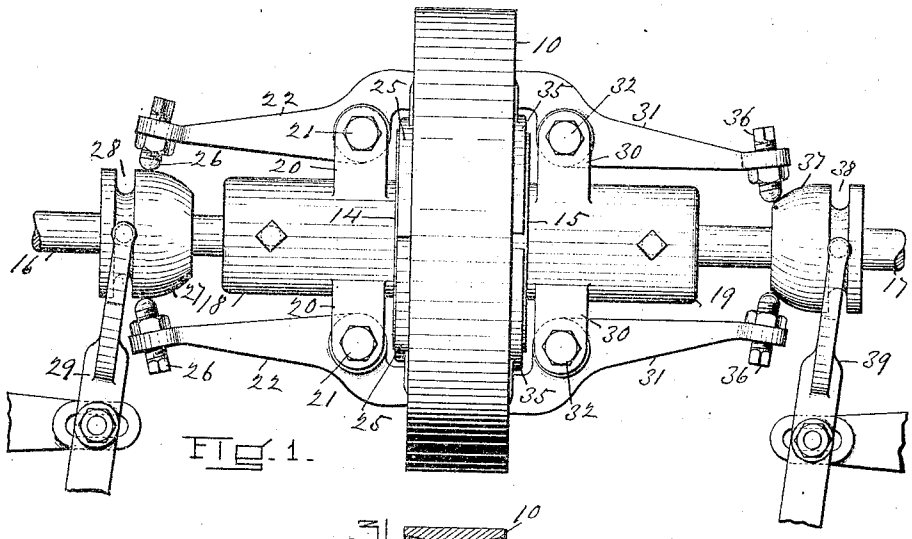


Fig. 1.

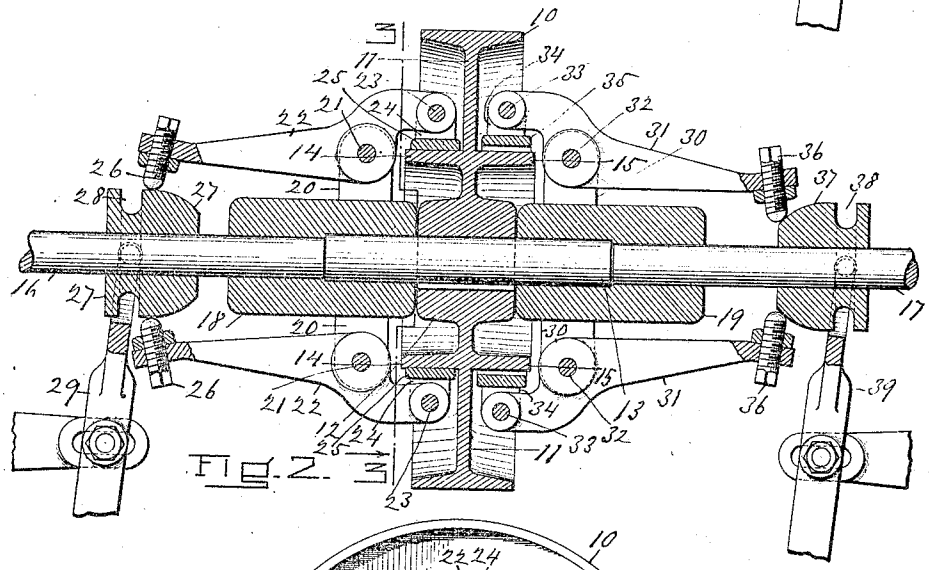


Fig. 2.

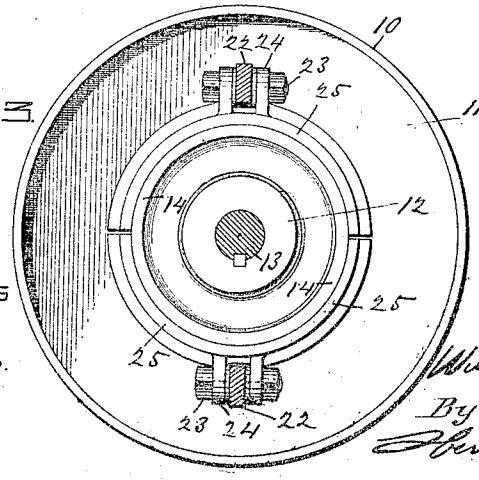


Fig. 3.

Witnesses

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POWER-SHIPPING MECHANISM.

No. 891,267. Specification of Letters Patent. Patented June 23, 1908.

Application filed April 29, 1908. Serial No. 429,897.

To all whom it may concern:

Be it known that I, WILLIAM H. LAFAELLE, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Power-Shipping Mechanism, of which the following is a specification.

This invention relates to that class of power-shipping mechanisms to which the invention described and illustrated in Letters Patent of the United States numbered 420,160, granted to me January 28, 1890, belongs; and it is intended to be an improvement over and upon the said invention, and in inventions in which the power of a continuously-rotating shaft may be transmitted to either or both of two shafts which operate as main shafts in transmitting motion to two different machines, such as looms, for example.

In my improvement the principal objects are to provide greater simplicity, to lessen the liability of any of the shafts becoming bent or twisted and thus getting out of line, to provide a better balance of the main shafts, and to provide an improved mechanism whereby the clutches are directly connected with the driving-pulley by means of friction-yokes which are located within the general limits of the pulley on opposite sides of the web thereof and are directly operated by a double flange or a pair of oppositely extending flanges integral with said web and located between the periphery and the hub of the pulley, thereby rendering the mechanism exceedingly compact and rigid.

The nature of the invention is fully described below, and illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation or side view of my improved mechanism. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a vertical section taken on line 3—3, Fig. 2, looking toward the right.

Similar numerals of reference indicate corresponding parts.

Reference numeral 10 represents the driving-pulley which is connected with the power, 11 being the web thereof and 12 the hub rigid on the central shaft 13.

14, 15 represent a pair of flanges integral with the web, extending on opposite sides thereof, and concentric with the periphery of the pulley, said pair constituting practically a double flange.

16 and 17 are main shafts which may extend into two separate machines, such as looms, and operate as driving-shafts for the same. These shafts are in line with the driving-shaft or pulley-shaft 13, extending from opposite ends thereof, and rigid on the shafts 16 and 17 are collars 18 and 19 respectively. The collar 18 is provided with two pairs of integral ears 20 on which are pivotally mounted at 21 clutch-levers 22 whose inner ends are pivotally connected at 23 with ears 24 integral with the two yokes 25 which are concentric with the flange 14. The outer ends of the clutch-levers 22 are provided with adjustable screws 26 which bear on the periphery of a cone 27 adapted to slide on the shaft 16 and provided with an annular groove 28 by means of which the cone is engaged by a shipping-lever 29. On the opposite side of the web 11 of the driving-pulley are two pairs of ears 30 integral with the collar 19, and clutch-levers 31 pivoted at 32 to said ears 30 and pivotally connected at 33 with ears 34 on yokes 35, said clutch-levers being provided with adjustable screws 36 bearing on a cone 37 grooved at 38 to receive a shipping-lever 39,—the mechanism on both sides of the pulley being exactly alike.

In the drawings the yokes 25 on the left of the web 11 of the pulley are represented as in engagement with the concentric flange 14 on that side, said yokes having been placed in engagement by the shipper 29 which has moved the cone 27 inward or toward the pulley, thus lifting the outer ends of the clutch-mechanisms 22 by forcing the higher portion of the cone under the screws 26. The yokes 35 however on the right hand side of the web are out of engagement with the flanges 15 on the same side, as the shipping-lever 39 is holding the cone 37 outward, or toward the right, allowing the outer ends of the clutch-levers 31 to drop with their screws 36 onto the lowest portion of the periphery of the cone 37. The driving-pulley therefore which being fast on the shaft 13 is rotating said shaft constantly, engages by means of its flange 14 the clutch-mechanisms on the left side, imparting rotation thereto, and by means of the ears 20 imparts rotation to the collar 18 which incloses the adjacent ends of the shafts 13, 16, and is rigid with the latter, and thus imparts rotation to said shaft 16 and communicates power to the loom or other machine on that side. The shaft 17 however remains stationary, as the clutch-

mechanisms on the right side are out of engagement with the flange 15 and remain stationary, and hence do not impart rotation to the collar 19 rigid on said shaft 17. It is evident therefore that in this mechanism, like that described in the Letters Patent numbered 420,160 above referred to, power may be imparted to one or both or neither of the shafts 16 and 17. In this invention however the two sets of clutch-mechanisms are engaged, one or both at a time, by one or both of the concentric flanges 14 and 15, which are within the general limits of the very heavy central driving-pulley 10, and being integral with the web of said pulley constitute practically a double flange. This brings the friction-yokes within the general limits of the pulley on opposite sides of the web, and not only simplifies the mechanism but centralizes the power, producing a much better balance, and providing a stiffer and much more compact power-shipping mechanism, preventing the shafts 16, 17 from getting out of line with the shaft 13 and twisting or bending.

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

1. In a power-shipping mechanism of the character described, a central driving-shaft, a central driving-pulley rigid on said shaft, a pair of flanges concentric with the periphery of the pulley and extending outward from opposite sides of the web between the hub and the periphery, curved yokes on opposite sides of the web of the pulley concentric with the flanges, a pair of oppositely extending main shafts in line with the central shaft, collars on and rigid with said main shafts and extending from the inner ends thereof around the outer ends of the central shaft, clutch-mechanisms pivotally connected with said collars and intermediate of the yokes on the opposite sides of the driving-pulley and the two main shafts, and means for operating said clutch-mechanisms and moving the yokes into engagement with the flanges, for the purpose set forth.

2. In a power-shipping mechanism of the character described, a central driving-shaft, a heavy central driving-pulley rigid on said shaft, a pair of flanges concentric with the periphery of the pulley and extending outward from opposite sides of the web between the hub and the periphery, curved yokes on opposite sides of the web of the pulley within the general limits thereof and concentric with the flanges, a pair of oppositely extending main shafts in line with the central shaft, collars on and rigid with said main shafts and extending from the inner ends thereof around the outer ends of the central shaft, clutch-mechanisms pivotally connected with said collars and intermediate of the yokes on the opposite sides of the driving-pulley and the two main shafts, and means for operating said clutch-mechanisms and moving the yokes into engagement with the flanges, for the purpose set forth.

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

WILLIAM H. LAFAELLE.

Witnesses:

HENRY W. WILLIAMS.

M. A. ATWOOD