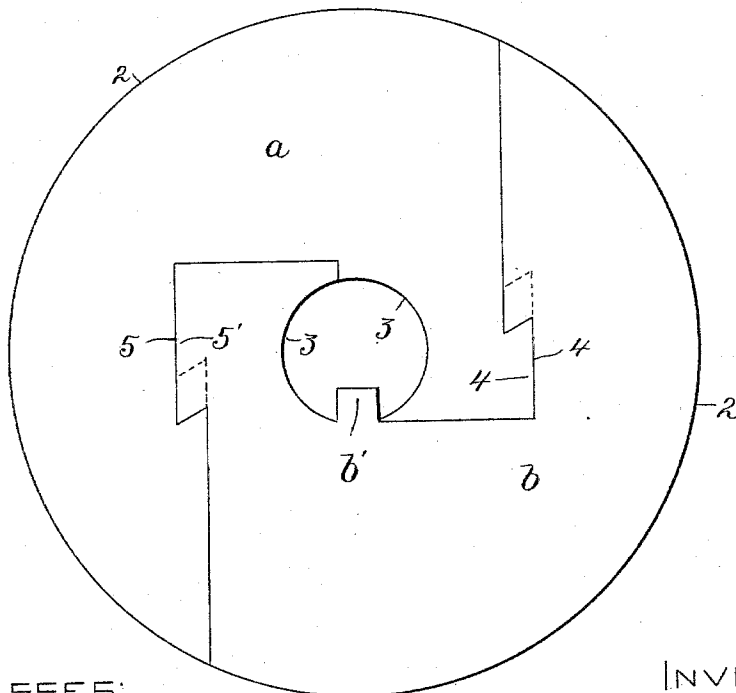
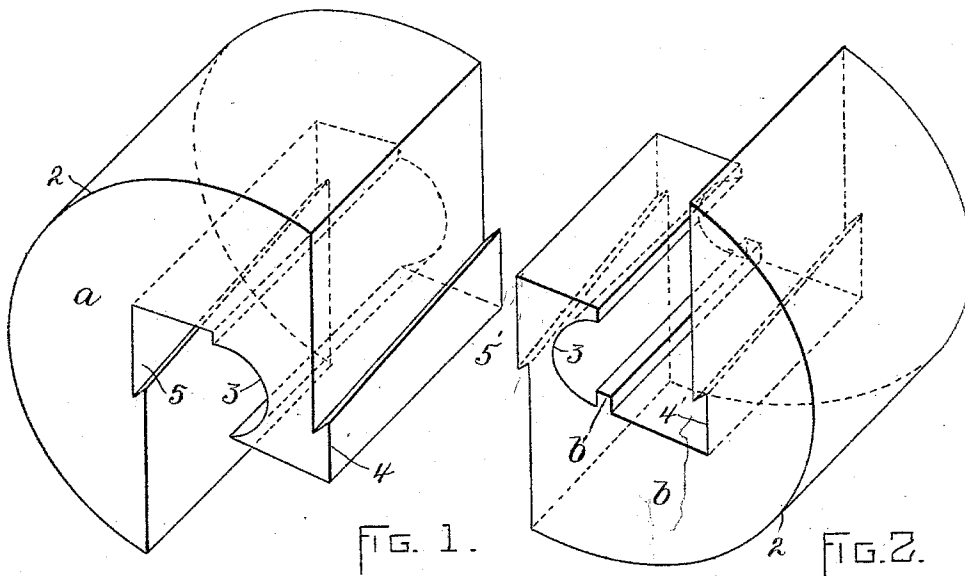


(No Model.)

G. E. PERKINS.
SPLIT ROLL OR PULLEY.

No. 569,663.

Patented Oct. 20, 1896.



WITNESSES:

H. A. Hall.
Rollin Abell.

FIG. 3.

INVENTOR:

Geo. E. Perkins
by *Wm. B. Smith*
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE E. PERKINS, OF CAMBRIDGE, MASSACHUSETTS.

SPLIT ROLL OR PULLEY.

SPECIFICATION forming part of Letters Patent No. 569,663, dated October 20, 1896.

Application filed March 1, 1895. Renewed March 10, 1896. Serial No. 582,661. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. PERKINS, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Split Rolls or Pulleys, of which the following is a specification.

This invention has for its object to provide a roll or pulley which can be readily removed from the shaft which supports and drives it and as readily reapplied thereto, so that different rolls or pulleys may be conveniently used interchangeably with the same shaft, my invention being intended particularly for use in connection with molding-machines used in woodworking where different feed-rolls are required for different kinds of work, there being frequently occasion to substitute one feed-roll for another upon the same shaft.

The invention consists in the improved construction which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figures 1 and 2 represent perspective views of the parts of my improved sectional roll. Fig. 3 represents an end view of the roll, showing the parts thereof connected.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention I construct a roll in two longitudinal sections or divisions *a b*. Each section has a curved outer face 2, forming a part of the periphery of the roll, and a curved inner face 3, forming a part of the shaft-receiving bore of the roll. The section *a* is provided at one side of its internal surface 3 with a dovetail projection or rib 4, which extends lengthwise of the roll and is tapering, it being wider at one end than at the other, as shown in Fig. 1. The section *a* is also provided with a dovetail recess 5, which is located at the opposite side of the curved internal surface 3 from the dovetail projection 4, said recess 5 also extending longitudinally of the roll and being of tapering form, its wider end being at the same end of the roll as the narrower end of the rib or projection 4.

The section *b* is provided at one side of its curved internal face 3 with a dovetail groove or recess 4', formed to closely fit the rib or projection 4 on the section *a*, said recess 4'

being of tapering form, as indicated by the dotted lines in Fig. 2. The section *b* is also provided at the opposite side of the curved internal face 3 with a dovetail rib or projection 5', formed to closely fit the dovetail groove 5 of the section *a*, said rib or projection 5' being of tapering form, as shown by dotted lines in Fig. 2.

It will be seen that when the sections 2 and 3 are to be connected the narrower end of the rib or projection 4 on the section *a* is placed in the wider end of the groove or recess 4' in the section *b*, the wider end of the groove or recess 5 in the section *a* at the same time receiving the narrower end of the rib or projection 5' on the section *b*. One section is then moved longitudinally upon the other until the two sections are brought side by side, and when this is done the grooves and projections come to a close bearing each upon the other, preventing further movement of one section upon the other in the same direction as the movement which caused the engagement of said grooves and projections. The two sections are thus firmly interlocked along two lines, one at one side and the other at the opposite side of the shaft-receiving bore or orifice of the roll.

When it is desired to remove the roll from the shaft, one of the sections is moved backwardly upon the other in the direction required to separate the ribs of one section from the grooves of the other. By thus locking the parts of the roll together at two points at opposite sides of the shaft I obtain a secure connection of the parts and reduce liability of accidental endwise movement of either section upon the other, the large areas of binding-surface afforded by the duplicate ribs and grooves enabling the parts to be securely held together by friction.

The section *b* is provided with a spline *b'* at one edge of its internal face 3. When the sections are being connected upon the shaft, the tapering form of the ribs and grooves causes the movement of one section upon the other to force the spline into the groove formed for its reception in the shaft, so that when the sections are connected the spline is by the same operation firmly seated in its groove.

It will be seen that the ribs 4 and 5' and

the corresponding grooves or recesses are arranged to cause a compressive or clamping action of the roll or pulley upon the shaft when the sections are interlocked with each other, each rib and groove acting to force the two sections together in opposite directions. The spline *b'* is arranged so that it is forced into the groove in the shaft and its outer edge seated firmly on the bottom of said groove by the described clamping action of the ribs and grooves.

I claim—

1. A longitudinally-divided pulley or roll consisting of two sections each having a curved external face forming a part of the periphery of the roll, a curved internal face forming a part of the bore of the roll, a longitudinal tapering dovetail projection or rib at one side of the internal face and a longitudinal tapering dovetail recess at the opposite side of said internal face, the projection and recess of one section being formed to engage respectively the recess and projection of the other section and cause a compressive or clamping action when one section is moved longitudinally upon the other, so that the sections are interlocked at opposite sides of the

bore and at the same time clamped upon the shaft.

2. A longitudinally-divided pulley or roll consisting of two sections each having a curved external face forming a part of the periphery of the roll, a curved internal face forming a part of the bore of the roll, a longitudinal tapering dovetail projection or rib at one side of the internal face and a longitudinal tapering dovetail recess at the opposite side of said internal face, the projection and recess of one section being formed to engage respectively the recess and projection of the other section and cause a compressive or clamping action when one section is moved longitudinally upon the other, one of said sections having a spline at one edge of its curved internal surface arranged to be forced into its groove by said clamping action.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of February, A. D. 1895.

GEO. E. PERKINS.

Witnesses:

C. F. BROWN,

A. D. HARRISON.