

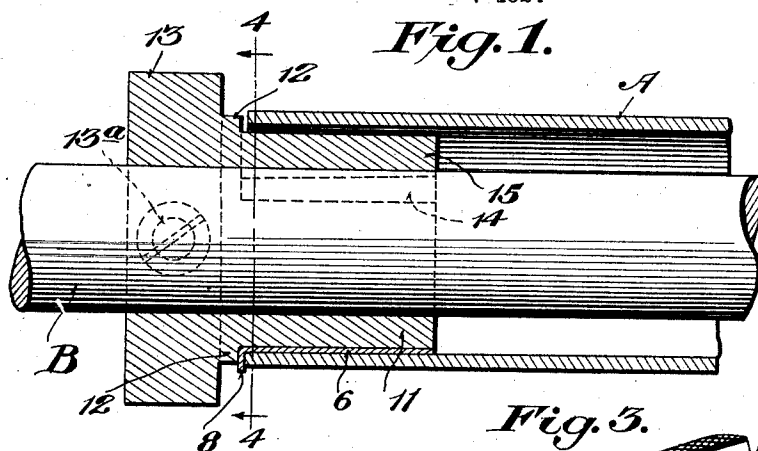
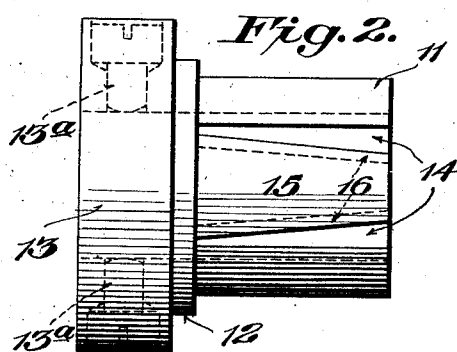
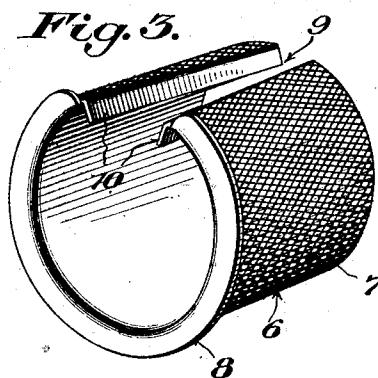
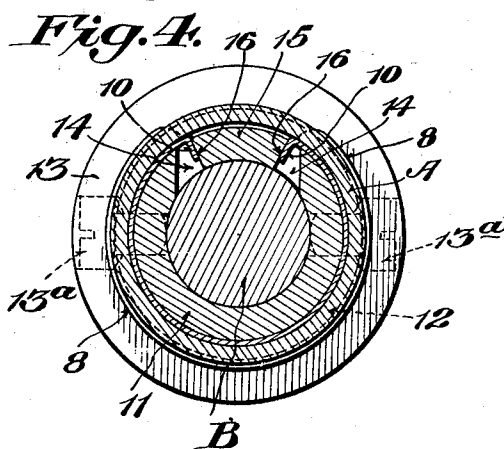
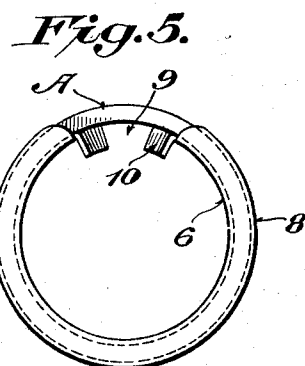
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J. A. LAMOTTE

CHUCK FOR WINDING CORES

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UNITED STATES PATENT OFFICE.

JOSEPH ARTHUR LAMOTTE, OF RHINELANDER, WISCONSIN.

CHUCK FOR WINDING CORES.

Application filed January 7, 1924. Serial No. 684,853.

To all whom it may concern:

Be it known that I, JOSEPH ARTHUR LAMOTTE, a citizen of the United States, residing at Rhinelander, in the county of Oneida and State of Wisconsin, have invented certain new and useful Improvements in Chucks for Winding Cores, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to devices for association with the ends of tubular cores whereon paper and other sheet stock is wound for shipment, storage, and dispensing, the chucks being provided for supporting and reinforcing the cores at their ends and for attaching them to a supporting-shaft on which they are mounted while stock is being wound thereon and unwound therefrom. These cores usually are of paper or cardboard stock.

It is an object of the invention to provide improvements in the type of chucks disclosed by United States Letters Patent No. 1,180,955, April 25, 1916, to Edward L. Stuck, in order to overcome difficulties experienced in the use of that type of chuck, to decrease the number of parts, and generally to afford a chuck that is more efficient and reliable in use and easier to associate with and disassociate from the cores.

More particularly, the invention provides an expansible member, for disposition inside of a core and gripping and reinforcing it, so arranged that it cannot be driven too far into the core, and a unitary core-bushing and shaft-collar member so arranged that, when driven into the expansible member, it will expand the latter against the wall of the core.

When considered in connection with the description herein, the characteristics of the invention are apparent from the accompanying drawing, forming part hereof, wherein an adaptation of the invention to a core of paper or similar material is disclosed, for purposes of illustration.

Although the disclosures herein exemplify what now is considered to be a preferable embodiment of the invention, it is to be understood that it is not the intention to be limited necessarily thereto in interpretation of the claims, as modifications and adaptations within the limits of the claims can be made without departing from the nature of the invention.

Like reference characters refer to corresponding parts in the views of the drawing, of which—

Fig. 1 is a longitudinal section of the device in association with a core and shaft;

Fig. 2 is a view of the bushing and collar member;

Fig. 3 is a view of the expansible member;

Fig. 4 is a section on the line 4—4, Fig. 1; and

Fig. 5 is an end view of the sleeve in a core.

In the drawing, A designates a tubular core of the type commonly used in wound paper or other sheet stock and B a shaft such as used to support the core while stock is being wound on or unwound therefrom.

An expansible member 6, which is the sleeve of the chuck, is arranged to be disposed in an end portion of the core. The sleeve is of approximately cylindrical shape, it preferably is made of sheet metal and tensioned to contract slightly, it is knurled or otherwise roughened on its outer surface as shown at 7 to prevent its slipping in the core, and its outer edge or marginal portion is turned outwardly as an annular flange 8 constituting an abutment to contact with the end edge of the core and prevent it from being moved too far into the core. The sleeve is split by a wedge-shaped keyway 9 extending from end to end and having greater width at its outer end than at its inner. The side walls of the keyway are formed by turning the material of the sleeve inwardly to afford flanges 10.

A chuck member cooperates with the sleeve to expand it and to afford means for supporting the core and connecting it to the shaft. This member includes a bushing 11 arranged to be inserted into the sleeve and to have the shaft disposed therein, an abutment 12 arranged to contact with the flange 8, and a collar 13 having therein set-screws 13^a arranged to hold the member on the shaft.

The portion of the bushing that extends into the sleeve has two slots or grooves 14 extending from its inner end toward the collar, and a key 15 is located between the slots or grooves. The key is wedge shape and of less width at its inner end than at its outer. It is arranged to be moved into the keyway and to expand the sleeve. This expansion is caused by side walls 16 of the

key, which are disposed at angles with respect to the axis, contacting with the side walls of the keyway. When the bushing is in the sleeve, the slots or grooves 14 accommodate the inturned flanges 10. The key is an integral part of the bushing.

Two of these devices, one at each end, are used with each core.

When a device is to be associated with a core, the sleeve 6 is inserted into an end portion with its flange 8 in abutment with the core end. The chuck member then is driven into the sleeve until its abutment contacts with flange 8, and the sleeve is expanded by the side walls 16 of the key against the inner surface of the core. The flange 8 prevents the sleeve from being forced too far into the core while it is being inserted and while the chuck member is being driven thereinto. After the two devices thus have been associated with the core, the shaft can be passed therinto and connected to the devices by the set-screws.

When it is desired to remove a device from a core, the chuck member is pulled outwardly from the sleeve, and the sleeve then is withdrawn. If the chuck member offers unusual resistance to outward pull, it can be loosened by tapping with a hammer against the collar; and, if it is found difficult to pull out the sleeve, it too can be loosened by tapping with a hammer against the flange 8.

The device includes only two separable parts—the chuck member and the sleeve—and they can be associated with and disassociated from a core without employment of special tools, a hammer only being required in some circumstances to disconnect the parts and perhaps sometimes in driving in the sleeve and chuck member. The device not only constitutes a support for the core and a means for connecting it to a supporting-shaft, but it also affords a reinforcement for the end portion of the core.

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

1. An end device for tubular cores comprising an expansible split sleeve insertable into a core and having a keyway at the sleeve split, and a chuck member insertable into said sleeve and having integrally formed thereon a wedge-shaped key arranged to be disposed in said keyway and expand said sleeve.

2. An end device for tubular cores comprising a split sleeve insertable into a core, and an integrally-formed member including a bushing insertable into said sleeve and having therein walls inclined to the axis of the

device contactable with walls of said sleeve at its split and arranged to expand said sleeve.

3. An end device for tubular cores comprising an expansible split sleeve insertable into a core, a bushing insertable into said sleeve, and a wedge-shaped key integral with said bushing insertable into said sleeve split arranged to expand said sleeve.

4. An end device for tubular cores comprising an expansible split sleeve insertable into a core and having its material inturned as flanges affording side walls of a keyway, and an integrally formed member including a bushing insertable into said sleeve and having grooves accommodating said flanges and angularly-disposed groove-walls contactable with said flanges and arranged to expand said sleeve.

5. In an end device for tubular cores, the combination of an expansible sleeve insertable into a core and having a keyway, an abutment on said sleeve arranged to limit movement thereof into the core, and a chuck member insertable into said sleeve and having integrally formed thereon a wedge-shaped key arranged to be moved into said keyway and expand said sleeve.

6. In an end device for tubular cores, the combination of an expansible sleeve insertable into a core and having a keyway, an outturned flange at the outer end of said sleeve contactable with an end of the core, and a chuck member insertable into said sleeve and having integrally formed thereon a wedge-shaped key arranged to be moved into said keyway and expand said sleeve.

7. In an end device for tubular cores, the combination of an expansible sleeve insertable into a core and having a keyway, an outturned flange at the outer end of said sleeve contactable with an end of the core, a bushing arranged to be driven into said sleeve, an abutment on said bushing contactable with said sleeve-flange, and a wedge-shaped key on said bushing movable therewith into said keyway and arranged to expand said sleeve.

8. An end device for tubular cores comprising an expansible sleeve insertable into a core and having a keyway and an integrally-formed member including a collar arranged to embrace a shaft, a bushing extending from said collar insertable into said sleeve, and a key extending from said collar arranged to be disposed in said keyway and expand said sleeve.

In testimony whereof I affix my signature.

JOSEPH ARTHUR LAMOTTE.