No. 825,674. PATENTED JULY 10. 1906.

E. OBERBECK.

PAPER REEL.

APPLICATION FILED MAY 26, 1905.

Fig. 1.

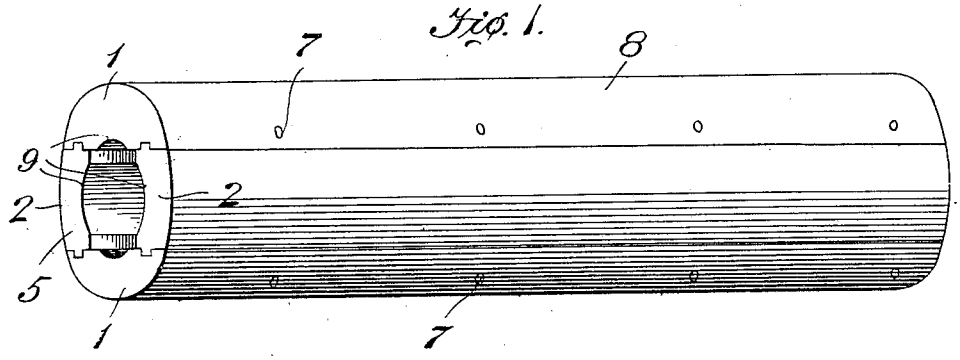


Fig. 2.

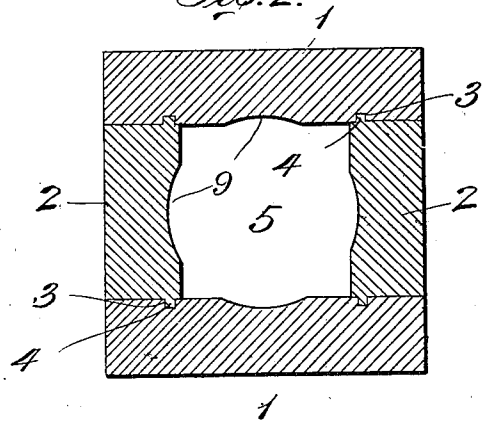


Fig. 3.

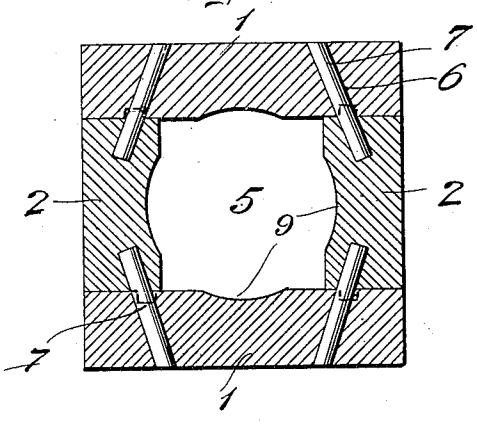


Fig. 4.

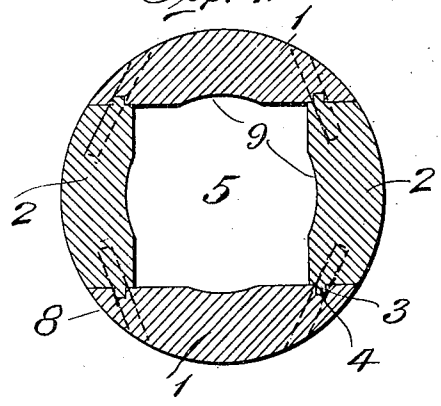
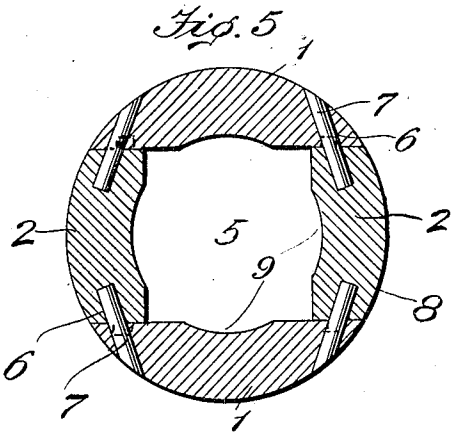


Fig. 5.



Witnesses:

C. F. Duvall.

C. E. Beall.

Inventor:

Ernest Oberbeck,

by W. F. Duvall.

Attorney.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ERNEST OBERBECK, OF GRAND RAPIDS, WISCONSIN.

PAPER-REEL.

No. 825,674. Specification of Letters Patent. Patented July 10, 1906.

Application filed May 26, 1905. Serial No. 262,524.

To all whom it may concern:

Be it known that I, ERNEST OBERBECK, a citizen of the United States, residing at Grand Rapids, in the county of Woods and State of Wisconsin, have invented certain Improvements in Paper-Reels, of which the following is a specification.

This invention relates to a new and improved reel or core for the reception of paper web as it comes from the paper-making machine or rewinders. Heretofore it has been customary to employ for this purpose reels or cores of iron or wood, but usually the former. Such reels or cores are charged for by the paper-mill from whence they come. The iron reels or cores of course are quite heavy, so that the return charges on the latter especially amount to very considerable. The wooden reels or cores, now very little used on account of their imperfect shape, necessitate considerable loss in returned paper, returned by reason of the fact that the imperfections of the roll prevent many times the working off of all the paper. Thus while, as will be observed, rolls formed of wood are preferable, yet the imperfections usually inherent in such rolls prevent their universal use.

The objects of my invention are to construct a reel or core of wood and in such manner as will result in a practical reel or core in that while having the inherent lightness of the wood will yet embody all of the numerous advantages of the metal reel or core now commonly used.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a reel or core constructed in accordance with my invention. Figs. 2 and 3 are similar cross-sections illustrating the method employed in producing the core shown in Fig. 1. Figs. 4 and 5 are similar cross-sections at different points of Fig. 1.

Similar numerals of reference indicate similar parts in all the figures of the drawings.

I preferably construct the reel or core of some soft wood, such as bass or pine, though any other wood may be employed.

In producing the reel or core I employ four sections of any length, such sections being designated as 1 1 and 2 2. These sections are rectangular or oblong in cross-section, and the sections 1 1 are somewhat wider than the sections 2 2. The sections 1 1 each has formed on its inner surface a pair of longitudinal grooves 3, and the edges of each of the sections 2 2 have formed thereon longitudinal tongues 4, corresponding with the grooves 3 and designed to enter the same. The surfaces to be thus joined by the tongues and grooves 3 and 4 are first liberally coated with some waterproof glue, after which the pieces are connected up, thus partially forming the blank form from which the reel or core is to be produced. This blank may be of any length, all in accordance with the stock used, and there is produced a square opening or hole 5. When thus formed, I bore at suitable intervals and in an inclined direction through the pieces 1 and well into the pieces 2 holes 6 and into such openings or holes drive dowel-pins 7 (see Fig. 3) well coated with wateproof glue. The form or blank is now completed and only remains to be turned down exteriorly into cylindrical form in cross-section, whereby the completed reel or core 8 (shown in Figs. 1, 4, and 5) is produced. The same is now sawed into proper lengths in accordance with the width of paper web it is to accommodate.

A reel or core thus constructed will be found to possess lightness and may be cheaply constructed and, moreover, will not crush. It will be found to be in every way adapted for the purpose, and three or four winds of the paper web is all that is necessary to cause the roll to assume and maintain its perfect shape.

The square hole 5, the result of assembling the parts or sections 1 and 2, is of course made the size of the iron bar or spindle employed at the particular mill using the reel; but this requires but little variation, for these spindles are usually of a uniform size.

The employment of waterproof glue prevents the dampness from entering and affecting the joints, and the disposition of the grain prevents crushing, so that when completed I produce a reel as light as the old-style wooden reel—merely a cylinder of wood with an axial hole—but much stronger and far more perfect and, in fact, as perfect as the iron reel now employed. I thus effect a very considerable saving of wasted paper, as well as in the cost involved in returning the reels to the mills.

Although the invention is primarily intended for reels for the purpose of receiving

lengths of paper, yet it will be obvious the same construction may be utilized for any other purpose where found useful, and I therefore do not limit my invention to the particular use herein described.

After the paper has been made up into a roll there occurs many times the necessity of cutting it into a different size, and in such operation it is customary to insert through the core or reel a cylindrical iron shaft. In order to provide for this contingency, I may machine out the inner side of each section for a portion of its width or, in other words, form a segmental channel 9, which channels all being formed on the same circle will combine to produce a cylindrical opening, the latter being capable of receiving the iron shaft, and yet such will in no wise interfere with the square opening 5.

Having thus described my invention, what I claim is—

1. The herein-described wooden tube, the same consisting of the four sections arranged as shown, tongued and grooved, and glued together, the exterior of said sections combining to form an approximate cylinder, and dowel-pins disposed at an angle through two of the sections and terminating in the companion sections.

2. The herein-described wooden tube, the same consisting of the four sections arranged as shown, tongued and grooved, and glued together, the exterior of said sections combining to form an approximate cylinder, and dowel-pins disposed through two of the sections and terminating in the companion sections.

3. The herein-described wooden tube, the same consisting of a series of sections arranged at an angle to each other, tongued and grooved, and glued together, the exterior of said sections combining to form an approximate cylinder, and dowel-pins disposed tangentially through said sections.

4. The herein-described wooden tube, the same consisting of a series of sections arranged at an angle to each other, tongued and grooved, and glued together, the exterior of said sections combining to form an approximate cylinder, and dowel-pins disposed through some of the sections and terminating in the companion sections.

5. The herein-described tube, comprising a plurality of sections secured together, each section having an exterior segmental surface and an interior centrally-grooved surface forming a channel, said sections when combined producing a cylinder having an angular and a central cylindrical passage.

6. The herein-described wooden tube, comprising a plurality of sections tongued and grooved, and glued together, each of said sections having an exterior curved or segmental surface and an internal central groove or channel, whereby when assembled the sections combine to form an approximate cylinder having an internal angular and cylindrical passage, and dowel-pins disposed tangentially and connecting the said sections.

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

ERNEST OBERBECK.

Witnesses:

F. H. TAYLOR,

HELEN E. KROMER.