

V. H. GROVER.

REEL.

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964,420.

Patented July 12, 1910.

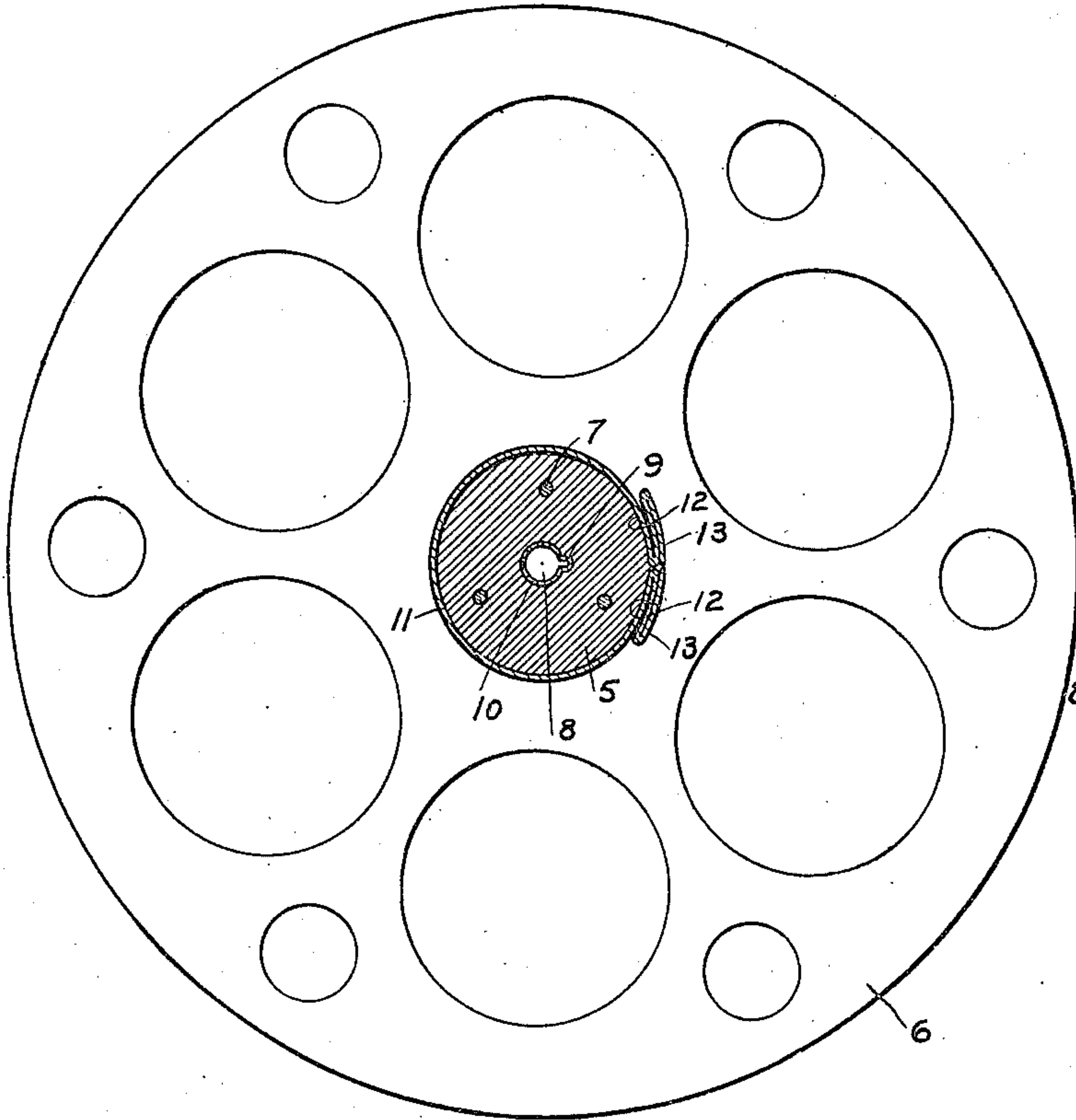


Fig. 1.

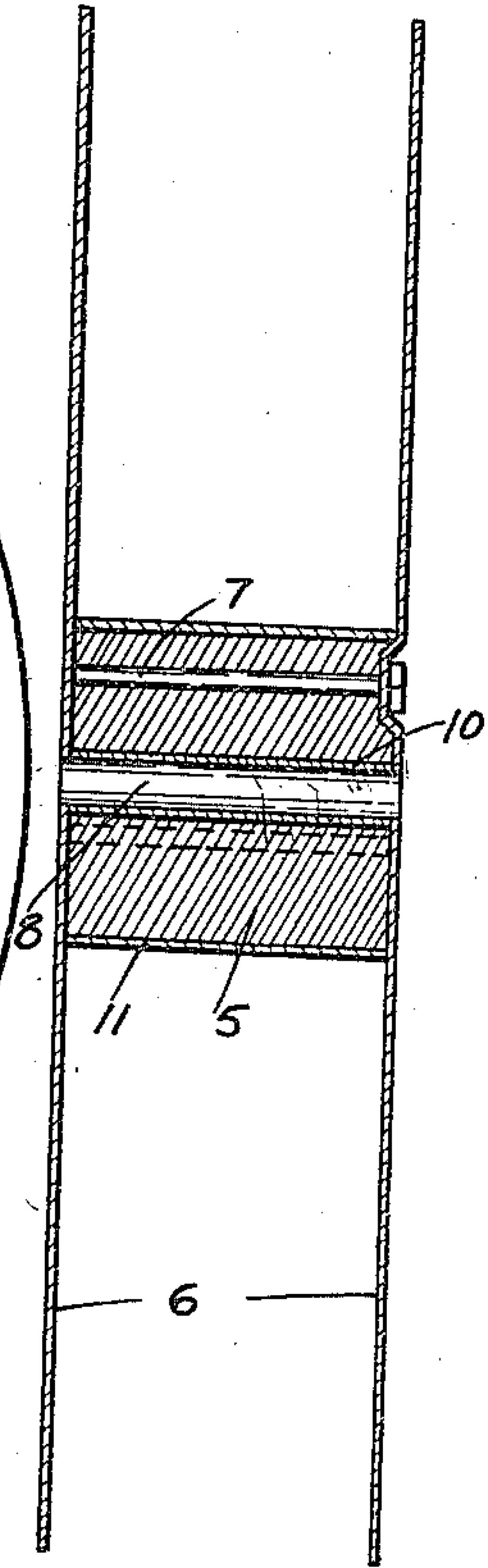


Fig. 2.

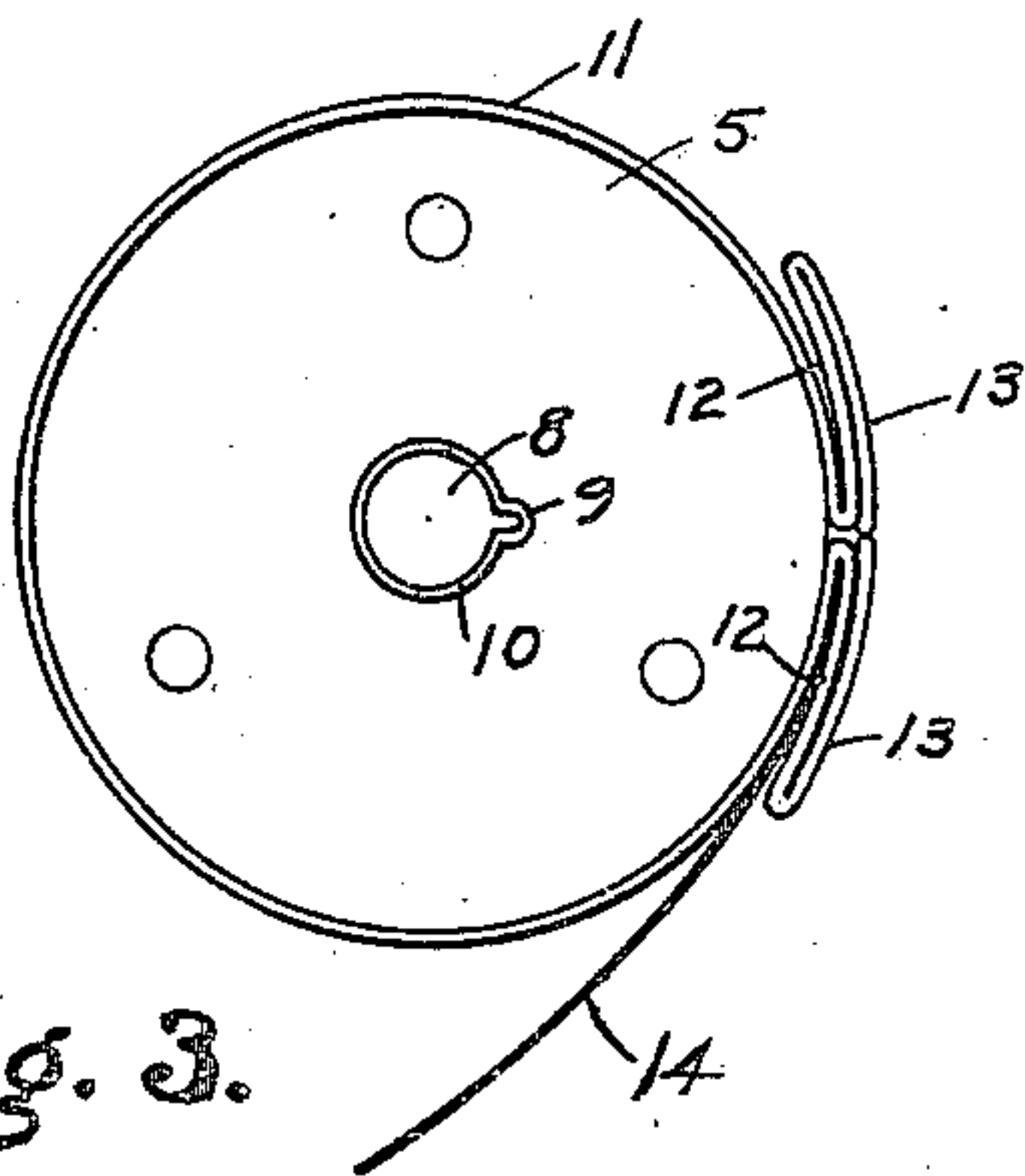


Fig. 3.

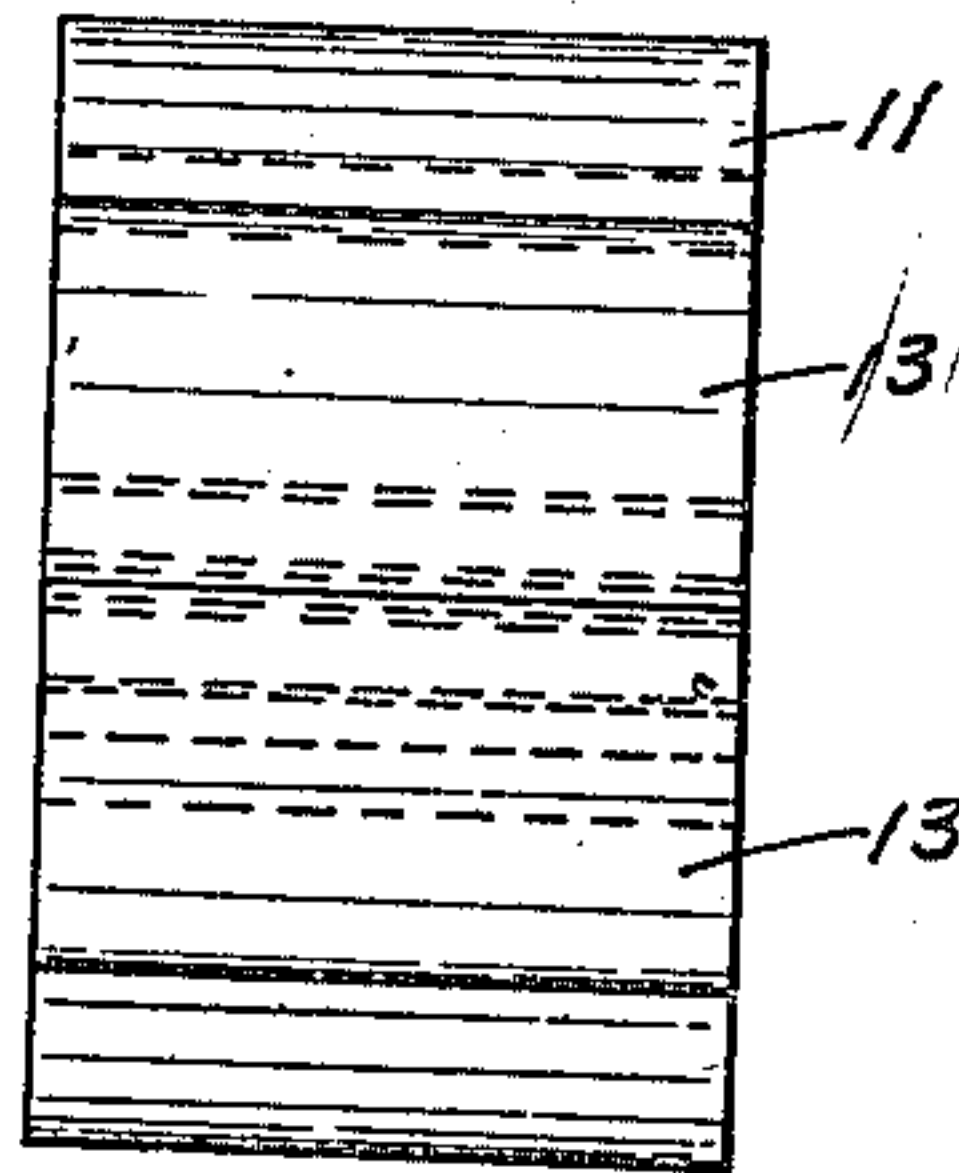


Fig. 4.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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REEL.

964,420.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, VICTOR H. GROVER, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Reels, of which the following is a specification.

This invention has reference to reels for holding moving-picture films, and it has for its object to provide an improved clamping device for attaching one end of the film to the reel.

The invention also has for its object to provide a clamp of the kind stated, which enables the film to be inserted from either side of the reel, thus avoiding turning the reel around if the wrong side is presented first.

A further object of the invention is to provide a reel which is strong and durable and which will give better wear than the ones in use at the present time.

Other objects and advantages will be apparent when the nature of the invention is better understood.

The device consists in a construction and arrangement of parts to be hereinafter described and claimed, reference being had to the accompanying drawing in which—

Figure 1 is a central longitudinal section of the reel. Fig. 2 is a cross section thereof. Fig. 3 is an end view of the core of the reel and the clamp, and Fig. 4 is an elevation thereof.

Referring more particularly to the drawing, the reel comprises a core 5, and circular plates 6 secured to the ends thereof, the film being wound on the core between the plates. The core is a cylindrical block of wood against the ends of which the plates 6 are placed and secured by long bolts 7, passing through the core and the plates. The heads and nuts of the bolts are countersunk so that there will be no projecting parts on the outer surface of the plates. The countersinks for the nuts are made by denting one of the plates, and recessing the contiguous end of the core to receive the dented portions of the plate. The core has an axial opening 8 to receive the spindle which rotates the reel. This opening is formed with a key-way 9. The opening is lined with a metal bushing 10 which also lines the key-way.

The clamp for attaching the film to the core comprises a band or strip 11 of spring

metal, of a width substantially the same as the length of the core so as to fit between the plates 6. This band is bent around the core to completely encircle the same, and at the point where the two ends of the band meet, said ends are bent back for a short distance along the outer surface of that portion of the band encircling the core, as indicated at 12. At the end of these return bends, the two ends of the band are bent forwardly toward each other as indicated at 13, the two ends meeting at a point where the return bends commence.

The parts 12 form two resilient fingers having a normal tendency to spring toward that portion of the band which encircles the core, so that when the end of the film 14, is placed between either one of said fingers and the adjacent portion of the band, as shown in Fig. 3, it will be securely clamped. The spring fingers extend in opposite directions, and either one of them may be employed to attach the film to the reel which makes it possible to insert the film from either side of the reel, and thus avoid turning the reel around if the wrong side is first presented. The clamp also enables the film to be quickly and easily attached and disconnected. The bends 13 stiffen the spring fingers so that they may grip the film with sufficient force to securely hold the same.

The bushing 10 effectually prevents wear of the spindle opening and the key-way. A reel as ordinarily constructed soon wears away at this point to such an extent that it becomes useless, and has to be discarded. By using bolts for securing the plates 6 to the core, the plates are securely held without danger of getting loose. If any looseness does occur, it can be readily remedied by tightening up the nuts. In reels of present manufacture, screws are used to hold the plates 6 to the core, which is objectionable by reason of the fact that the screws are continually coming loose, and eventually so wear the core that they cannot be tightened up. This objectionable feature is practically avoided by the structure herein described.

I claim:

1. The combination with a reel; of a band encircling the core thereof, and bent at its meeting ends into oppositely extending spring fingers coöperating with that portion of the band encircling the core to form a clamp.

2. The combination with a reel; of a band

encircling the core thereof, and return bends at the meeting ends of the band to form spring fingers.

3. The combination with a reel; of a band  
5 encircling the core thereof, return bends at the meeting ends of the band, and forward bends at the ends of the return bends, said return bends forming spring fingers,

and the forward bends reinforcing said fingers. 10

In testimony whereof I affix my signature in presence of two witnesses.

VICTOR H. GROVER.

Witnesses:

H. E. SMITH,

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