

No. 616,184.

Patented Dec. 20, 1898.

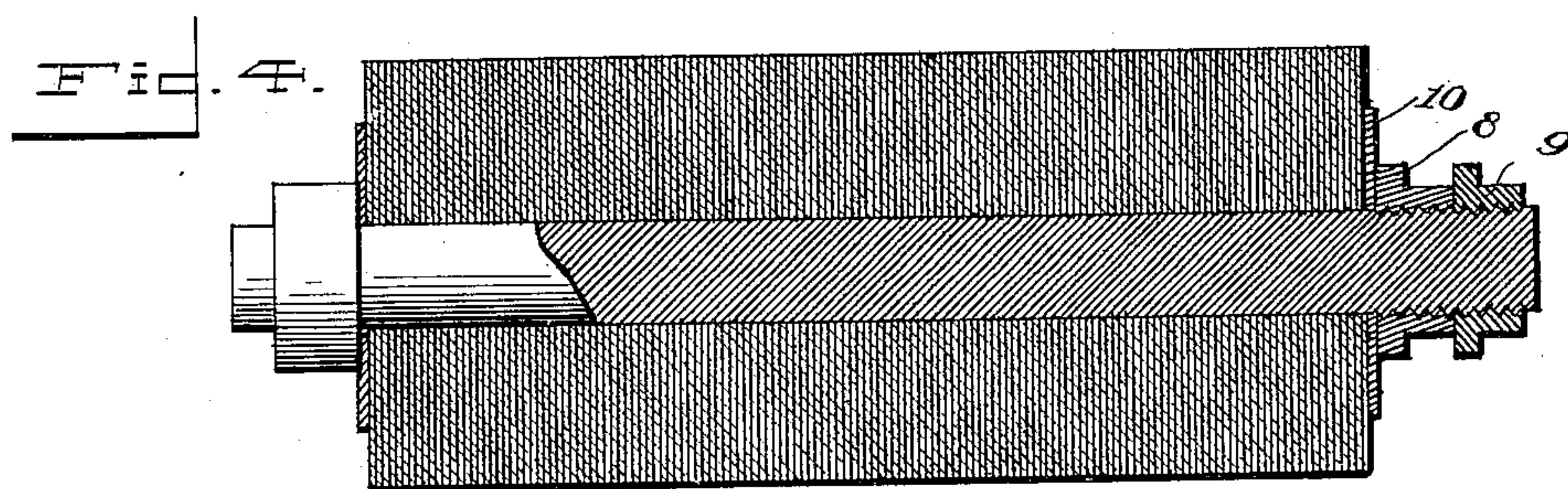
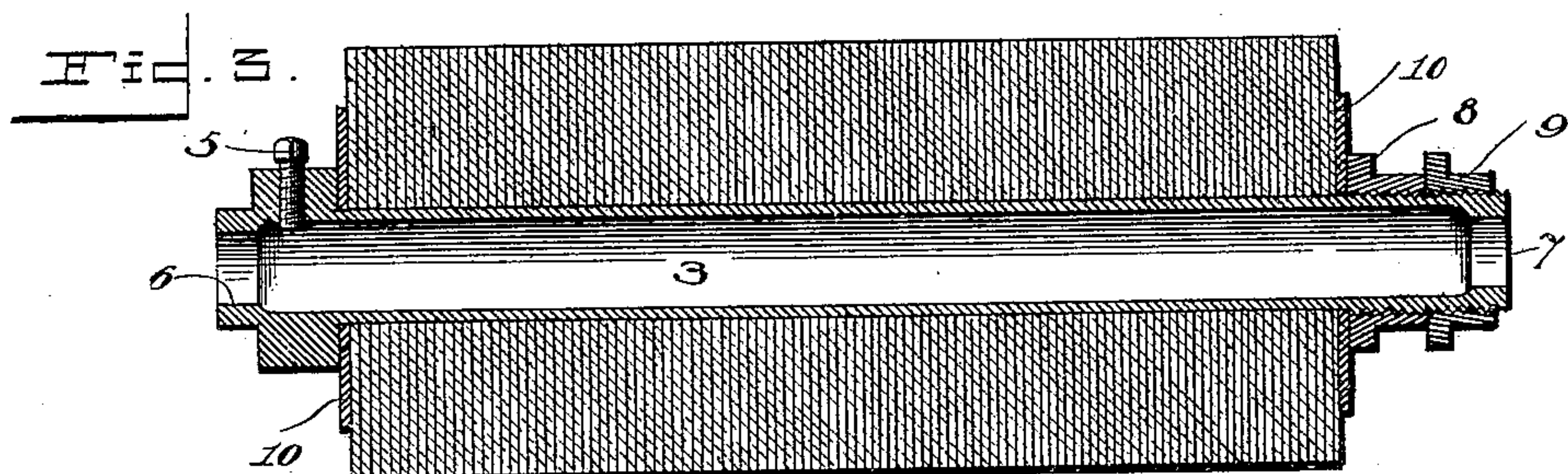
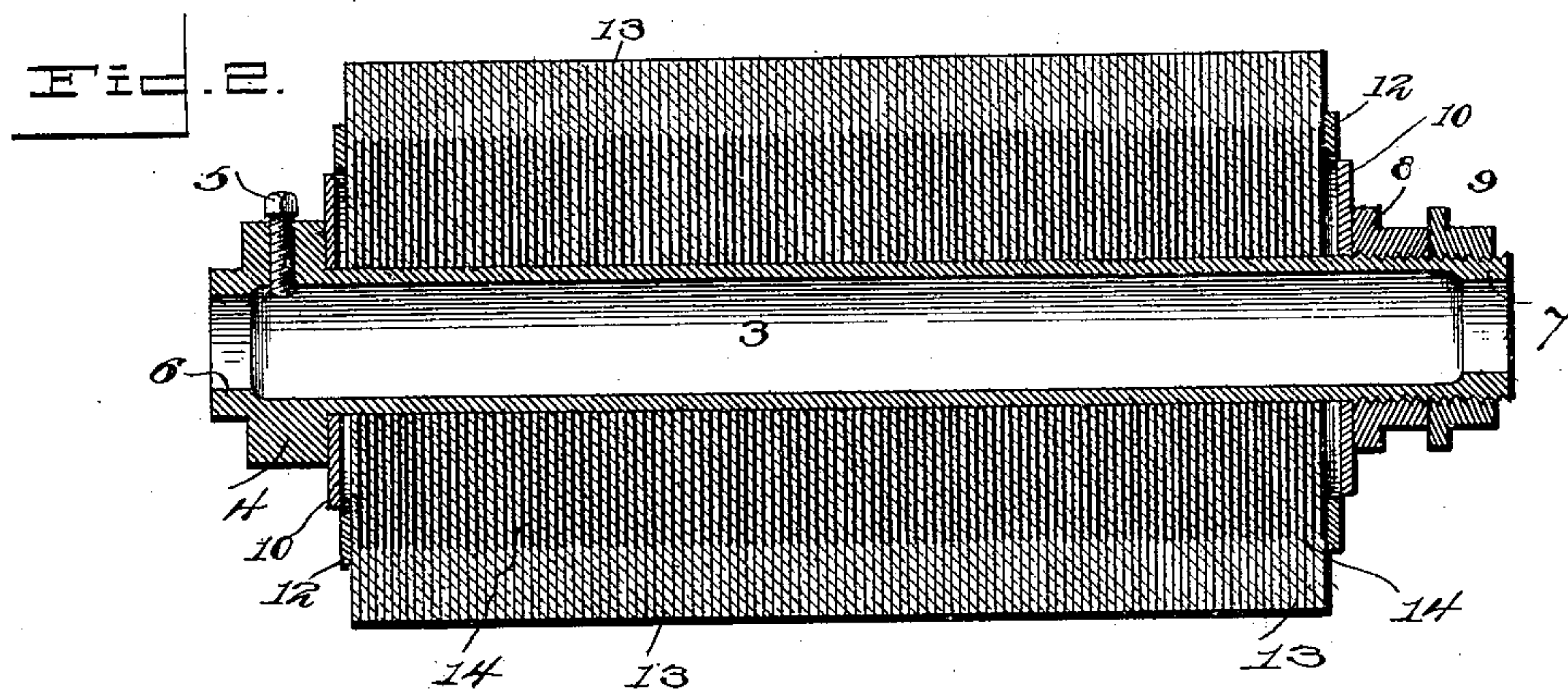
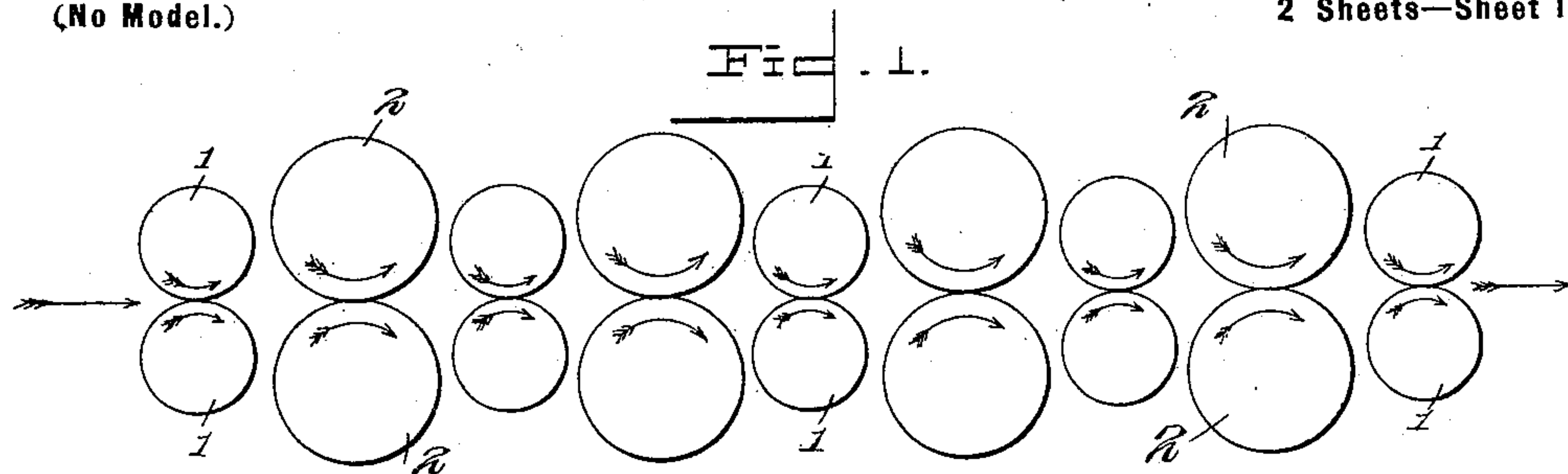
A. J. DEMMLER.

POLISHING AND FEED ROLLS FOR METAL SHEET OR PLATE POLISHING, CLEANING,  
AND GREASING MACHINES.

(Application filed Jan. 11, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.  
*Fenton S. Belt,*  
*J. W. [Signature]*

Inventor:  
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Attorney.



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2 Sheets—Sheet 2.

Fig. 5.

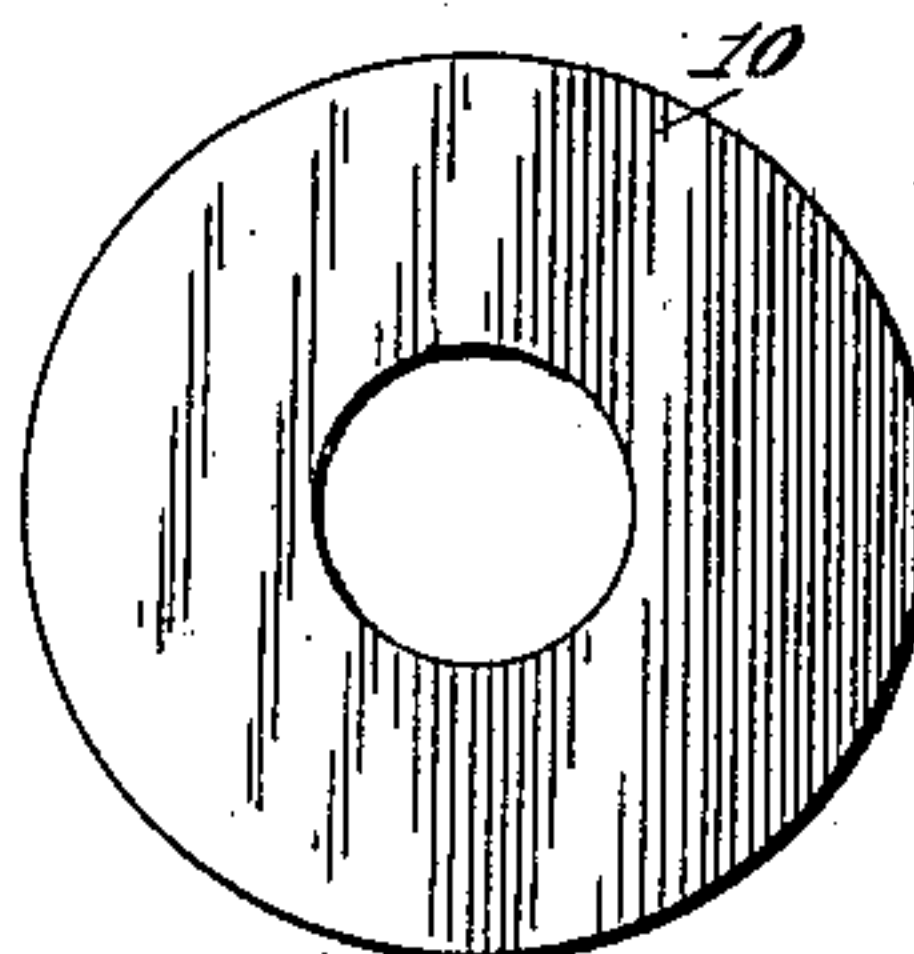
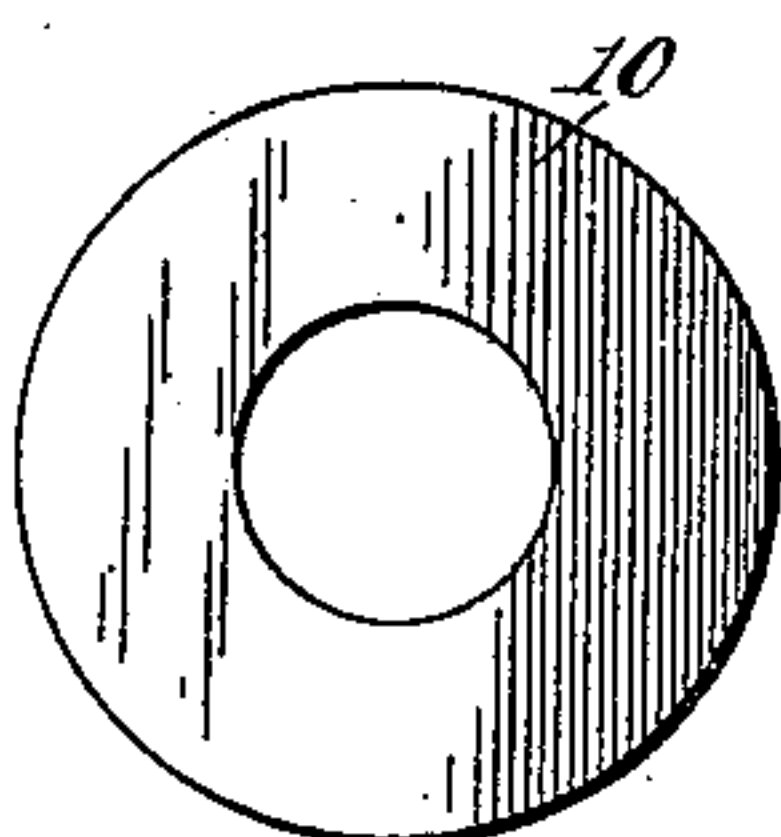
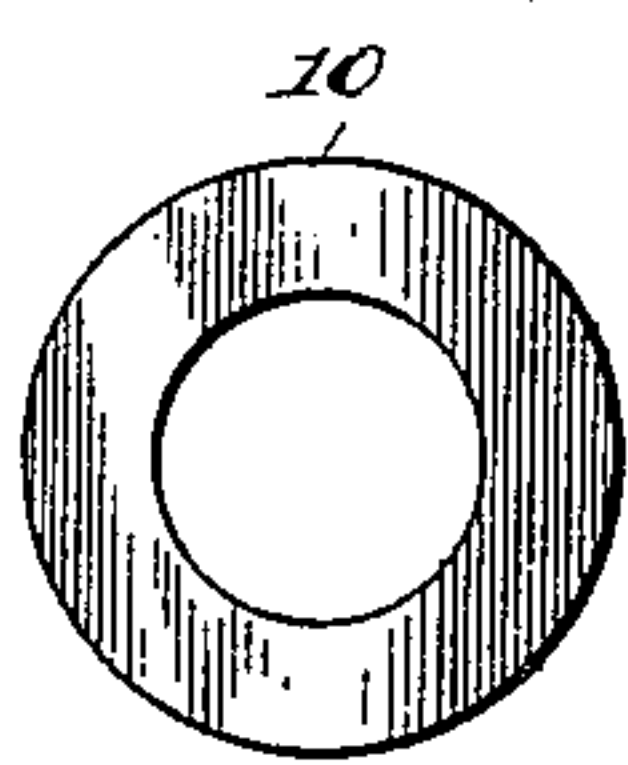


Fig. 6.

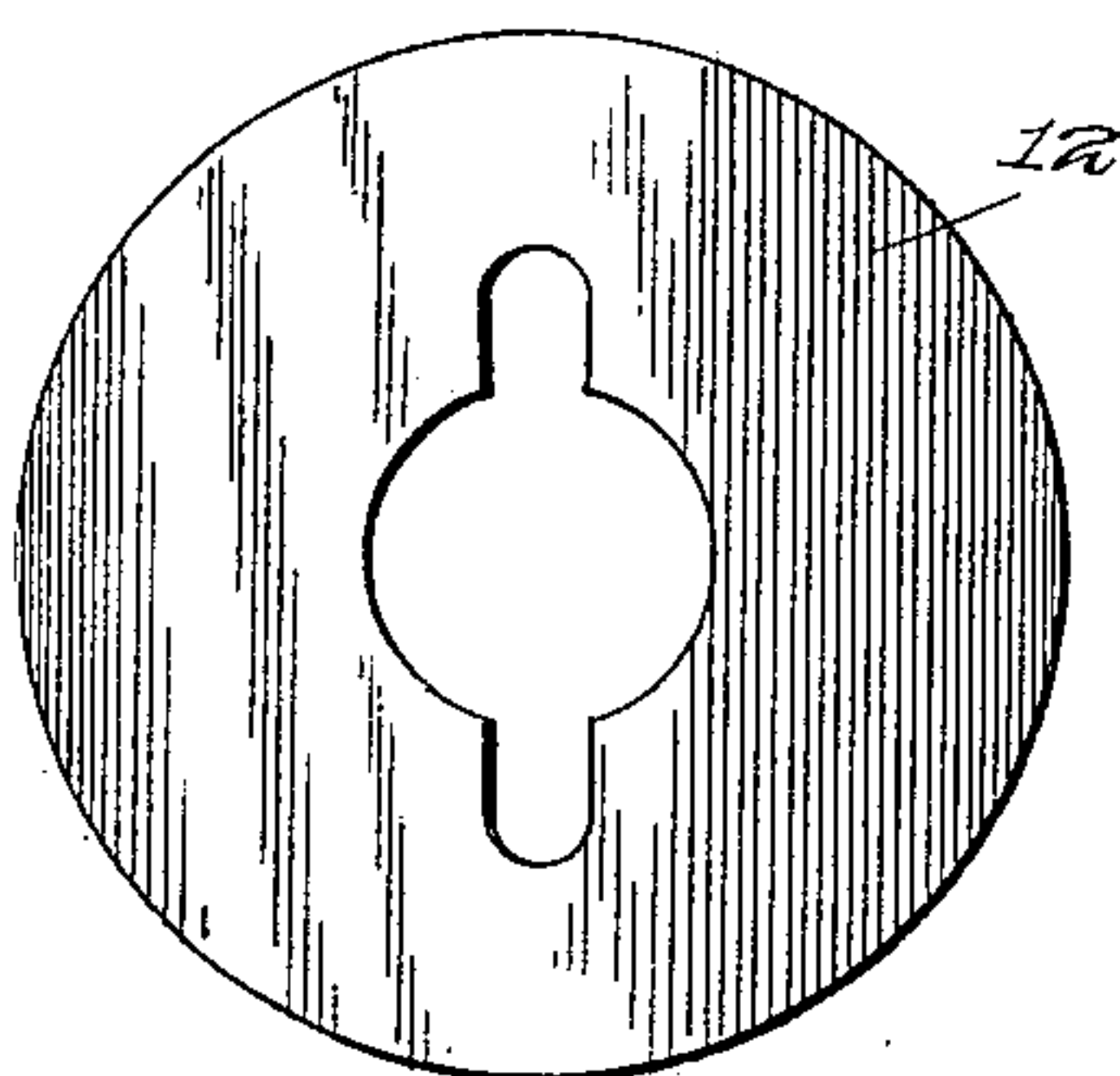


Fig. 7.

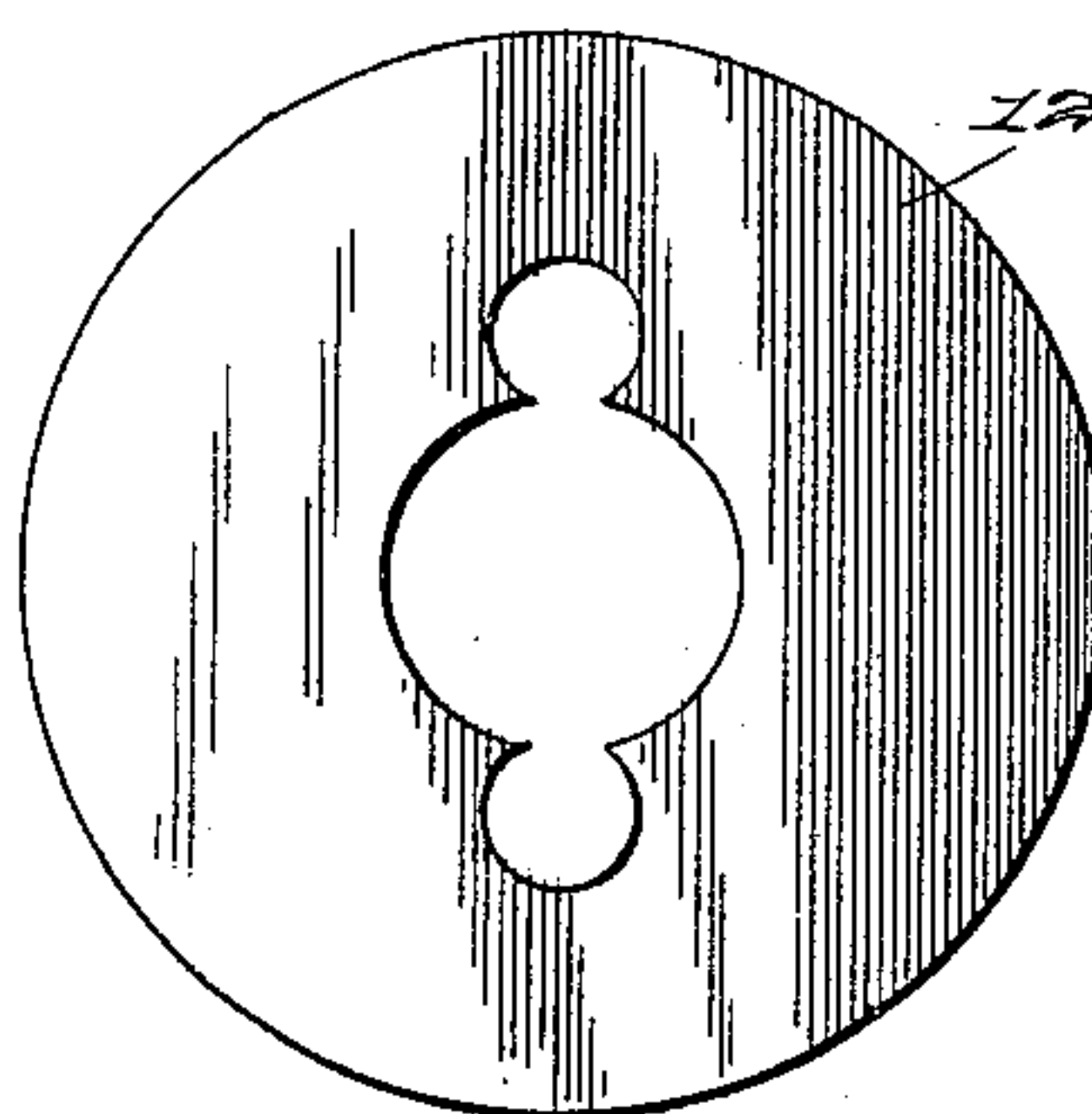


Fig. 8.

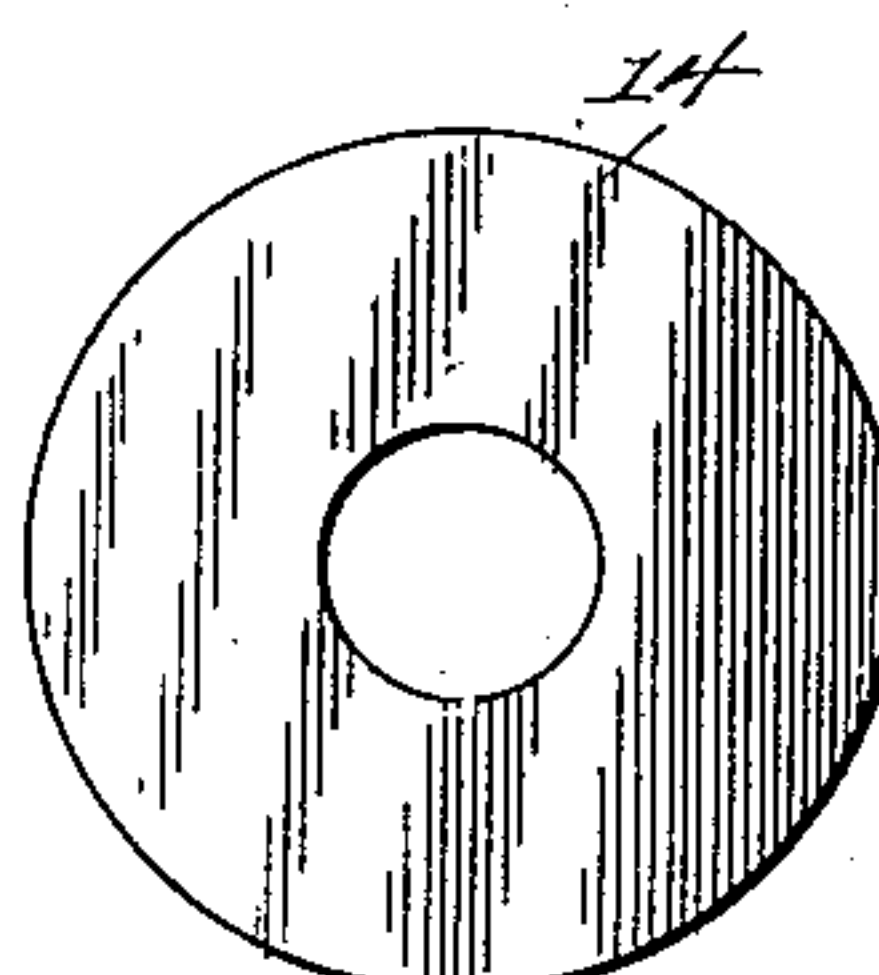
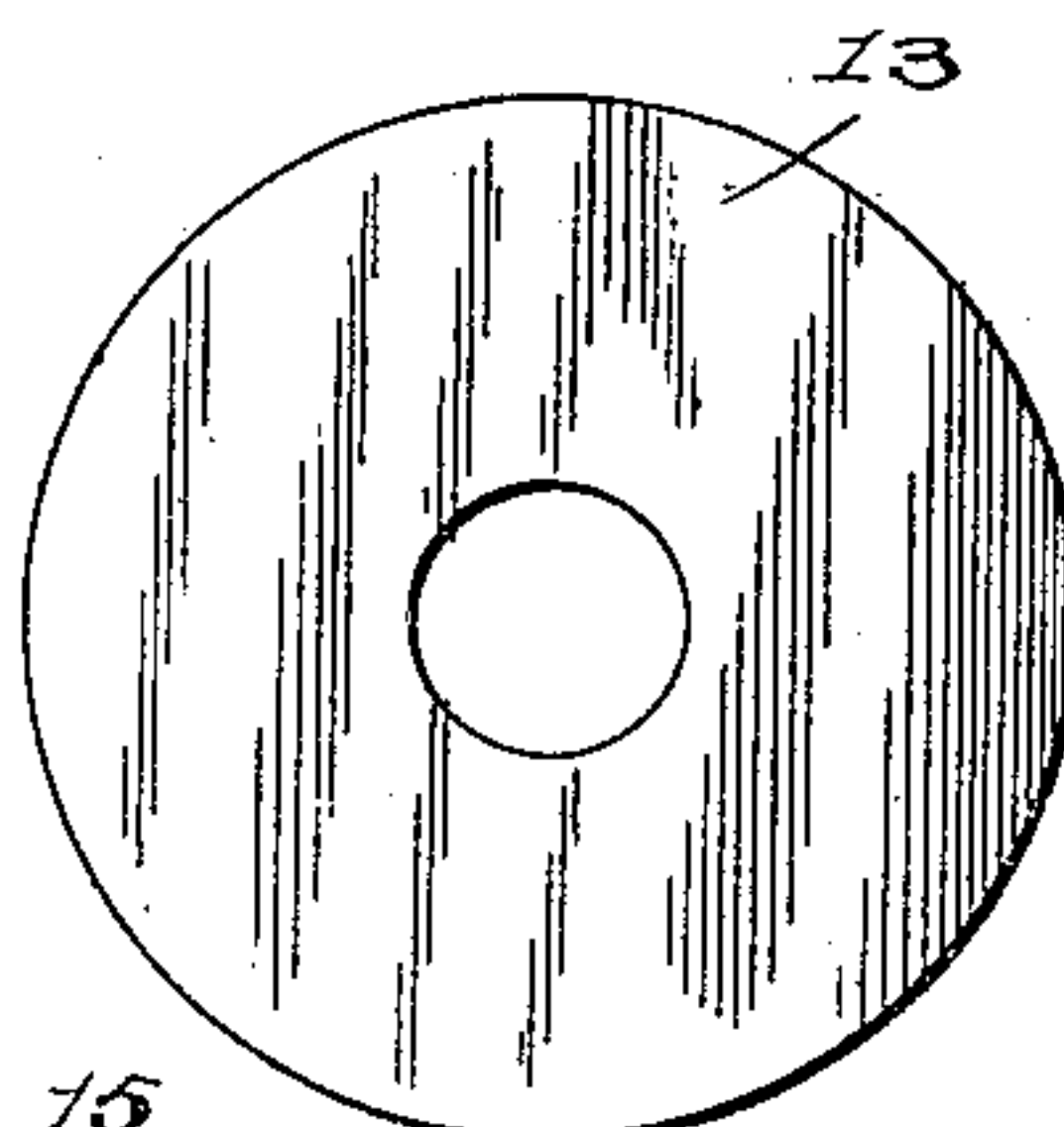
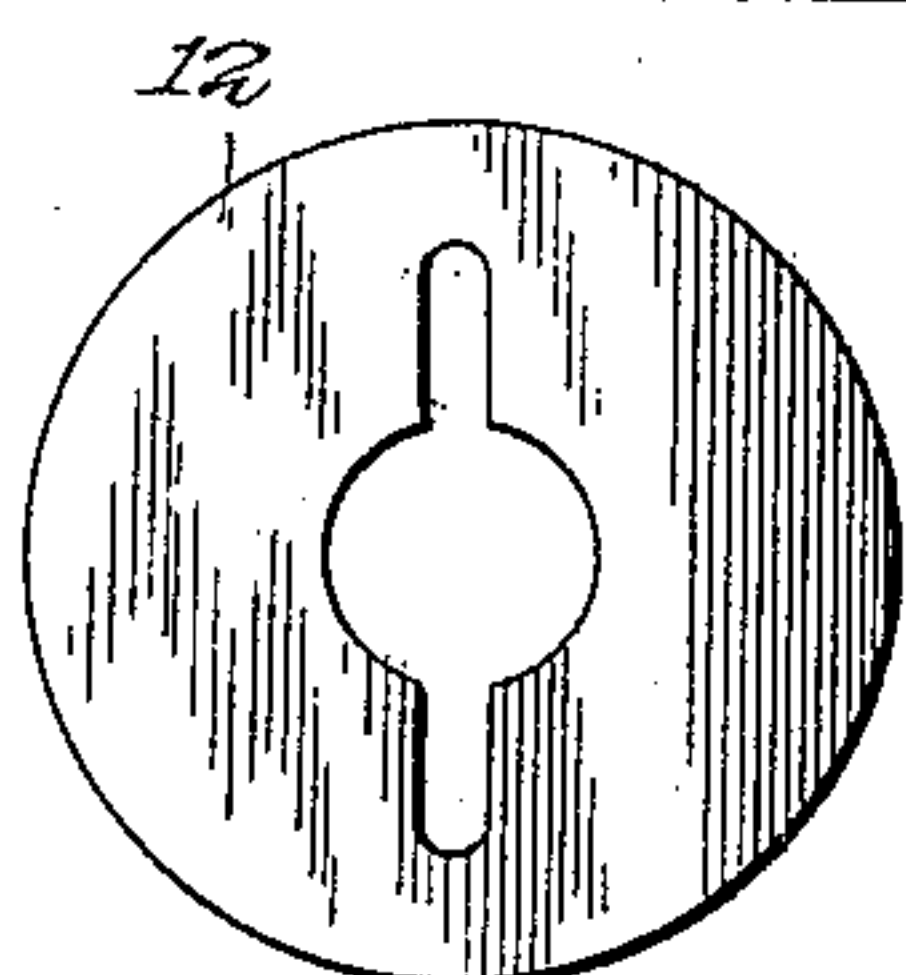
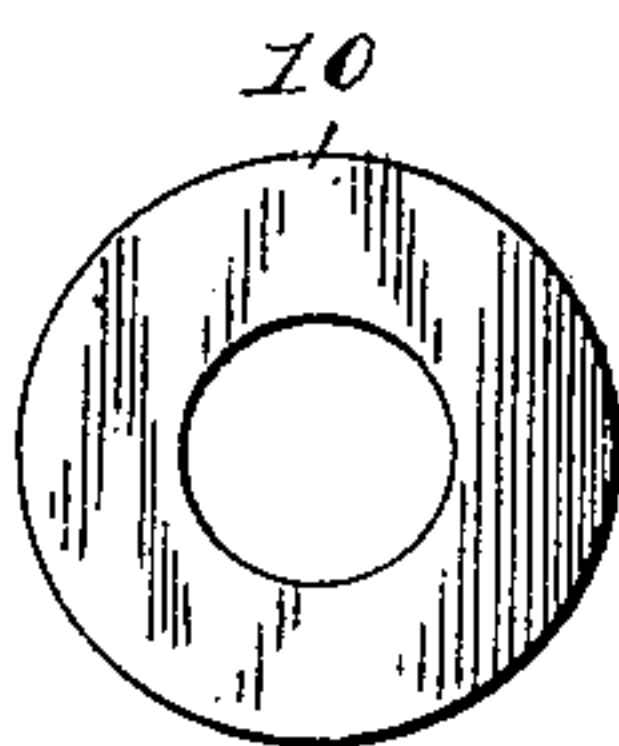
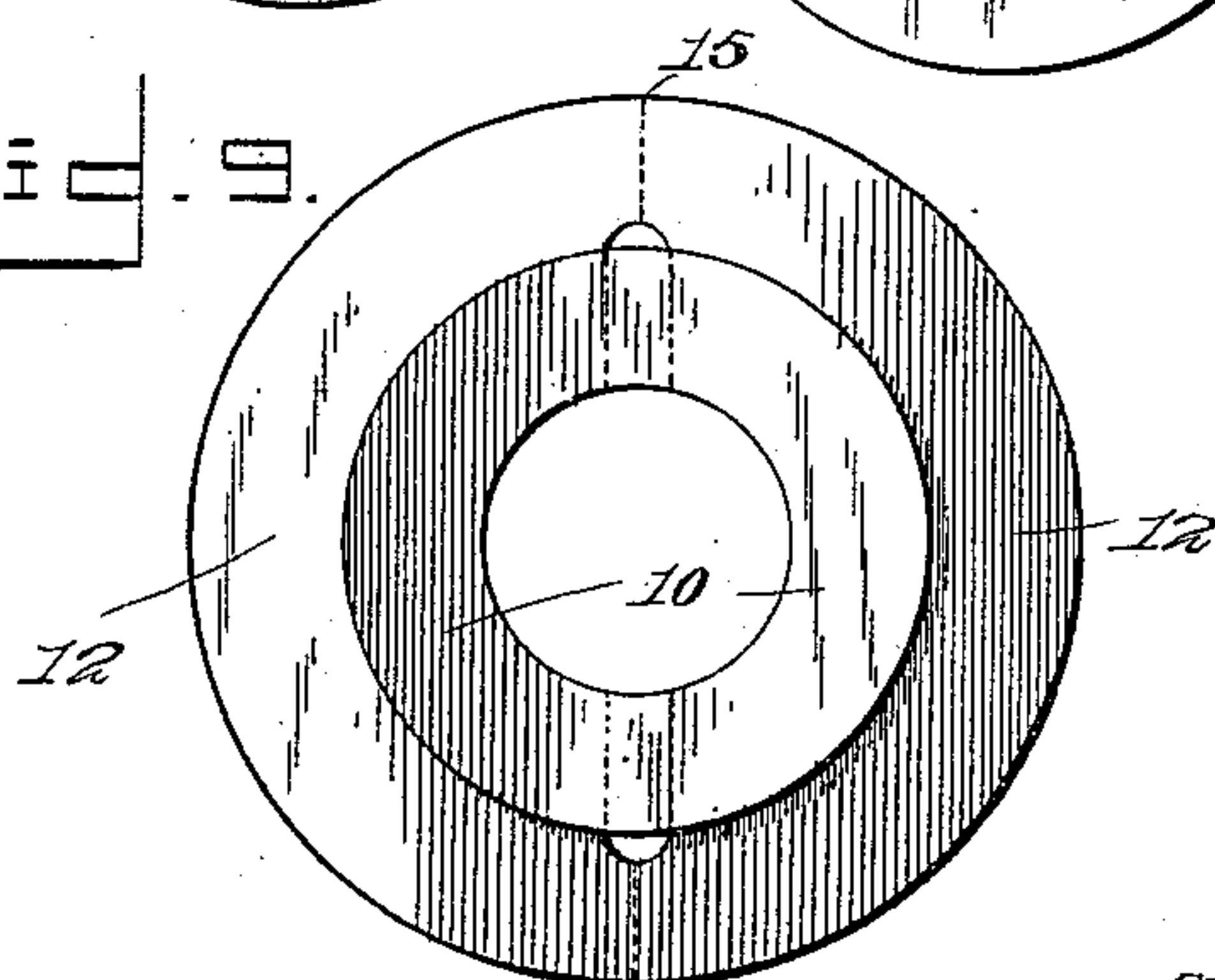


Fig. 9.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ALBERT JOHN DEMMLER, OF NORTH VERSAILLES, PENNSYLVANIA.

POLISHING AND FEED ROLLS FOR METAL SHEET OR PLATE POLISHING, CLEANING, AND GREASING MACHINES.

SPECIFICATION forming part of Letters Patent No. 616,184, dated December 20, 1898.

Application filed January 11, 1898. Serial No. 666,338. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT JOHN DEMMLER, a citizen of the United States, residing in North Versailles township, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Polishing and Feed Rolls for Metal Sheet or Plate Polishing, Cleaning, and Greasing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to polishing and feed rolls for metal sheet and plate polishing, cleaning, and greasing machines; and the object is to simplify the construction and increase the effectiveness and durability and prolong the life of this class of rolls.

To this end the invention consists in the construction, combination, and arrangement of the several parts of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

The accompanying drawings show my invention in the best form now known to me; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of my invention as set forth in the claims at the end of this specification.

The same reference characters indicate the same parts of the invention.

Figure 1 is a schematic plan view of the arrangement of the feed and polishing rolls of a metal sheet and plate polishing, cleaning, and greasing machine which embody my invention. Fig. 2 is a longitudinal section of my improved polishing-roll. Fig. 3 is a similar view of my improved feed-roll. Fig. 4 is an illustration of another manner of building up either of the above rolls. Fig. 5 is a plan view of the solid washers. Figs. 6 and 7 are different forms of the partly-cut washers. Fig. 8 is a plan view showing the comparative sizes of the solid washer, the partly-cut washer, the textile disk, and the spacing-disk. Fig. 9 is a plan view of one of the partly-cut washers, with a superimposed solid washer to illustrate the relative position of the outer ends of the cuts or slots in the

partly-cut washer 12 with reference to the perimeter of the solid washer.

Referring to Fig. 1, the numerals 1 1 represent the feed-rolls, and 2 2 the polishing-rolls, of a machine for polishing or cleaning tin and lead (or terne) plates and for greasing metal sheets or plates, the entire series of rolls revolving in the direction of the curved arrows, and the straight horizontal arrows indicate the direction in which the sheets or plates travel while being polished, cleaned, or greased. In practice the polishing, cleaning, or greasing rolls usually make two or more revolutions to one of the feed-rolls.

Referring to Fig. 2, the numeral 3 denotes a metal pipe or sleeve, on one end of which is shrunk, welded, or otherwise fixed a collar 4, through which passes a set-screw 5 for removably securing said sleeve on a driving-shaft (not shown) which should snugly fit said sleeve. Should it be desirable to use a sleeve or pipe having a bore larger than the diameter of the driving-shaft, I then upset the ends 6 6 of the pipe, so as to reduce its internal diameter at the ends, and then bore them out to snugly fit the shaft. The opposite end 7 of the pipe or sleeve is externally threaded to receive the clamping-nut 8 and the jam or lock nut 9.

In assembling the roll a solid washer 10 is first slipped over the sleeve or tube 3, so as to rest against the collar 4. The partly-cut washer 12 is placed on the sleeve next to the solid washer 10, and the textile disks 13, alternating with the spacing-disks 14, are then slipped on the sleeve in regular order until the roll is built up to the proper length. A partly-cut washer 12 is now placed on the end of the sleeve, followed by a solid washer 10, and the clamping-nut 8 is then adjusted to the proper point to give the requisite tension to the textile disks and the jam-nut 9 screwed against the clamping-nut 8 to lock it in place on the sleeve. The roll is now secured upon the driving-shaft by the set-screw 5. The large textile disks 13, which form the polishing-face of my improved polishing-rolls, may be made of any suitable fabric—such as silk, wool, linen, muslin, cotton, and the like—but I prefer to use muslin or canton-flannel, as they are cheap, durable, and answer every



purpose; but I do not wish to confine myself to any particular fabric. The smaller separating or spacing disks 14, which are interposed between the textile disks, may be made of any preferred kind of textile fabric, paper, leather, card or paste board, or any other suitable material; but I prefer to use paper on account of its cheapness, and they may be of any desired thickness, and said spacing-disks may be inserted so as to alternate with the polishing-disks, or they may be employed between every two, three, four, or more of the polishing-disks, so as to form polishing-rolls of different degrees of softness to suit the end in view. Of course it will be understood that the larger the number of spacing-disks used the softer will be the surface of the finished roll, and, vice versa, the lesser number of spacing-disks employed the finished roll will have a correspondingly harder surface. A very important advantage of this form of polishing-roll is the fact that when the textile disks 13 on the polishing-roll have been worn down to the size of the partly-cut washers 12 said washers may be cut with a cold-chisel on the dotted lines 15 15 (shown in Fig. 9) and the separated halves of the washer removed from the sleeve without interfering with the organization of the roll proper. After the cut washers have been removed the roll can again be used for polishing until it is worn down to the spacing-disks, after which it forms a perfect feed-roll and as such will render effective service for an indefinite period of time.

In forming the feed-rolls illustrated in Fig. 3 the partly-cut washers are omitted, the disks are smaller in diameter, and the spacing-disks are dispensed with. Otherwise the parts and the manner of building up the feed-roll is identical with that employed for the polishing-roll. The disks can be made of any suitable kinds of textile fabrics—such as are

made of cotton, wool, silk, linen, &c.—or the same may be made of paper, cardboard, or pasteboard, &c. I prefer to use muslin disks, as they are cheap and durable; but I do not wish to confine myself to any particular fabric.

The polishing, cleaning, and greasing machines are identical in construction, the only difference being that oil or grease is applied to the polishing or cleaning rolls in order to convert it into a greasing-machine. In practice I may thread both ends of the sleeve so as to apply the clamp and lock nuts to each end, and where desirable the sleeve may be entirely dispensed with and the entire polishing-roll built up on the solid driving-shaft in the same manner as it is formed on the sleeve.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. A roll of the class described comprising a longitudinal core, the partly-cut washers detachably secured on said core and a series of independent textile polishing-disks fixed on said core, between said washers, and means for compressing said washers against said disks, as and for the purpose set forth.

2. A roll of the class described comprising a longitudinal core, a series of independent textile disks encompassing said core, a partly-cut washer encompassing said core contiguous to each end disk, a smaller solid washer arranged contiguous to each of said partly-cut washers, and means for simultaneously binding said washers and disks together on said core, as and for the purpose set forth.

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

ALBERT JOHN DEMMLER.

Witnesses:

W. M. THEOBALD,  
D. M. WHITE.