

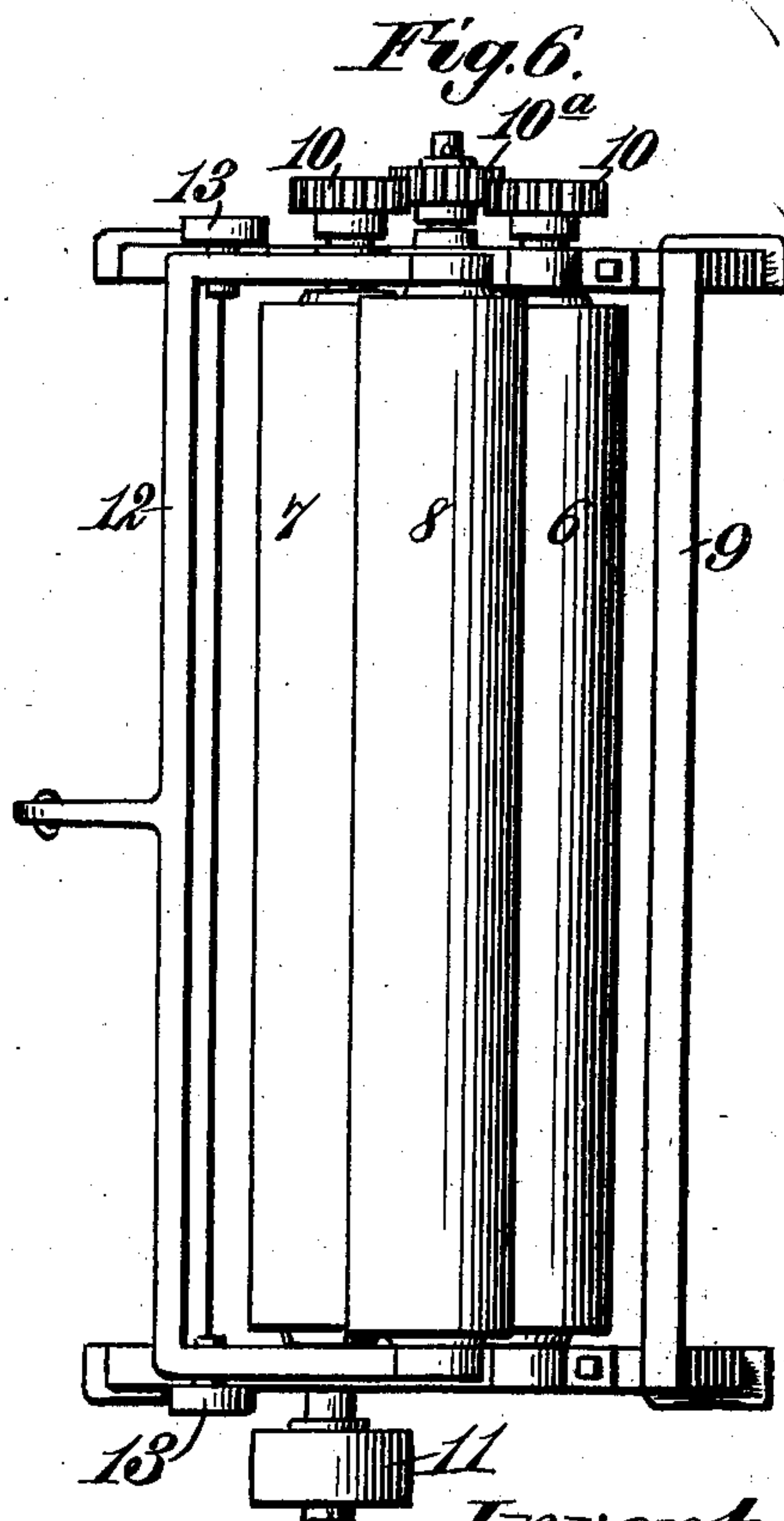
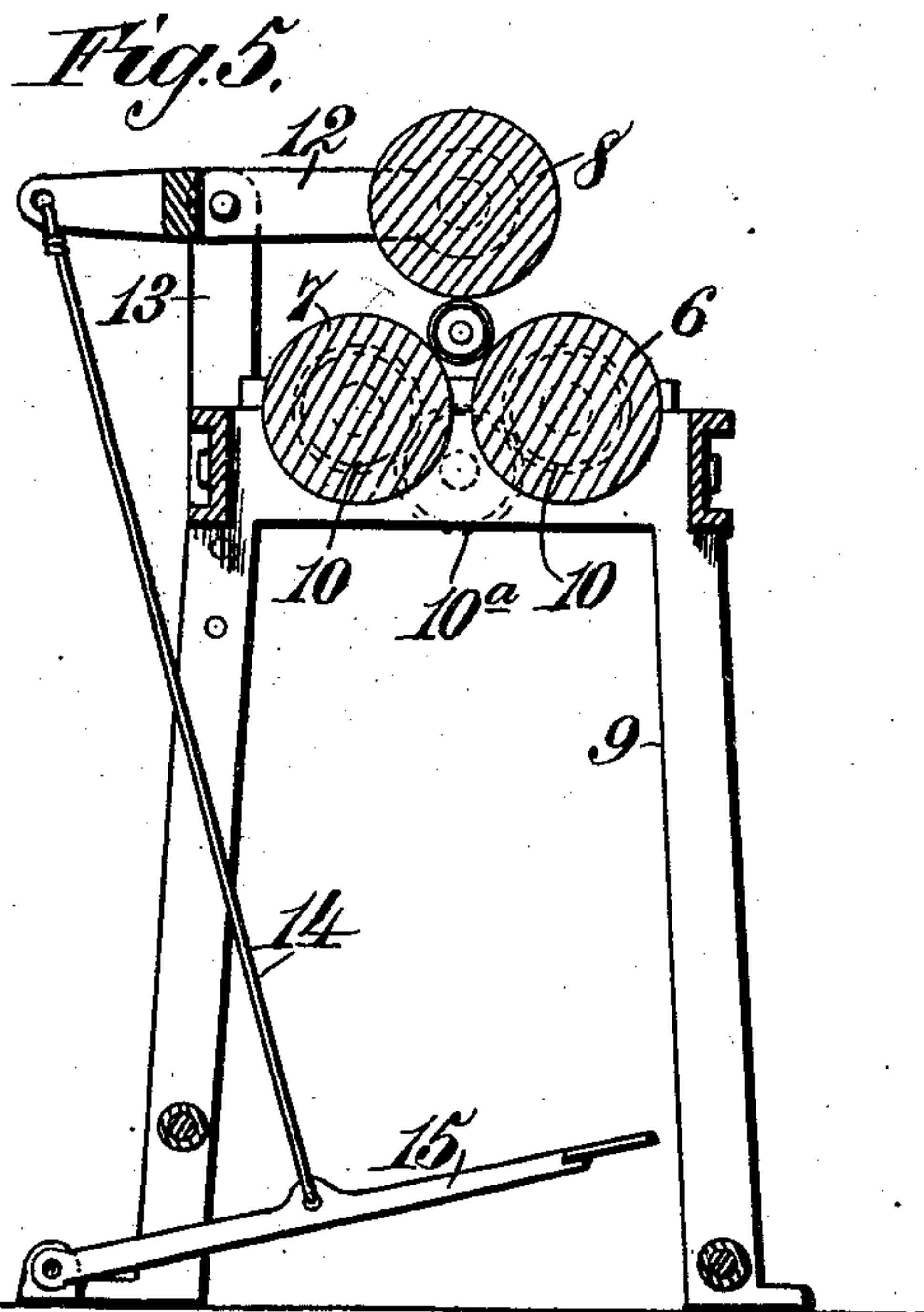
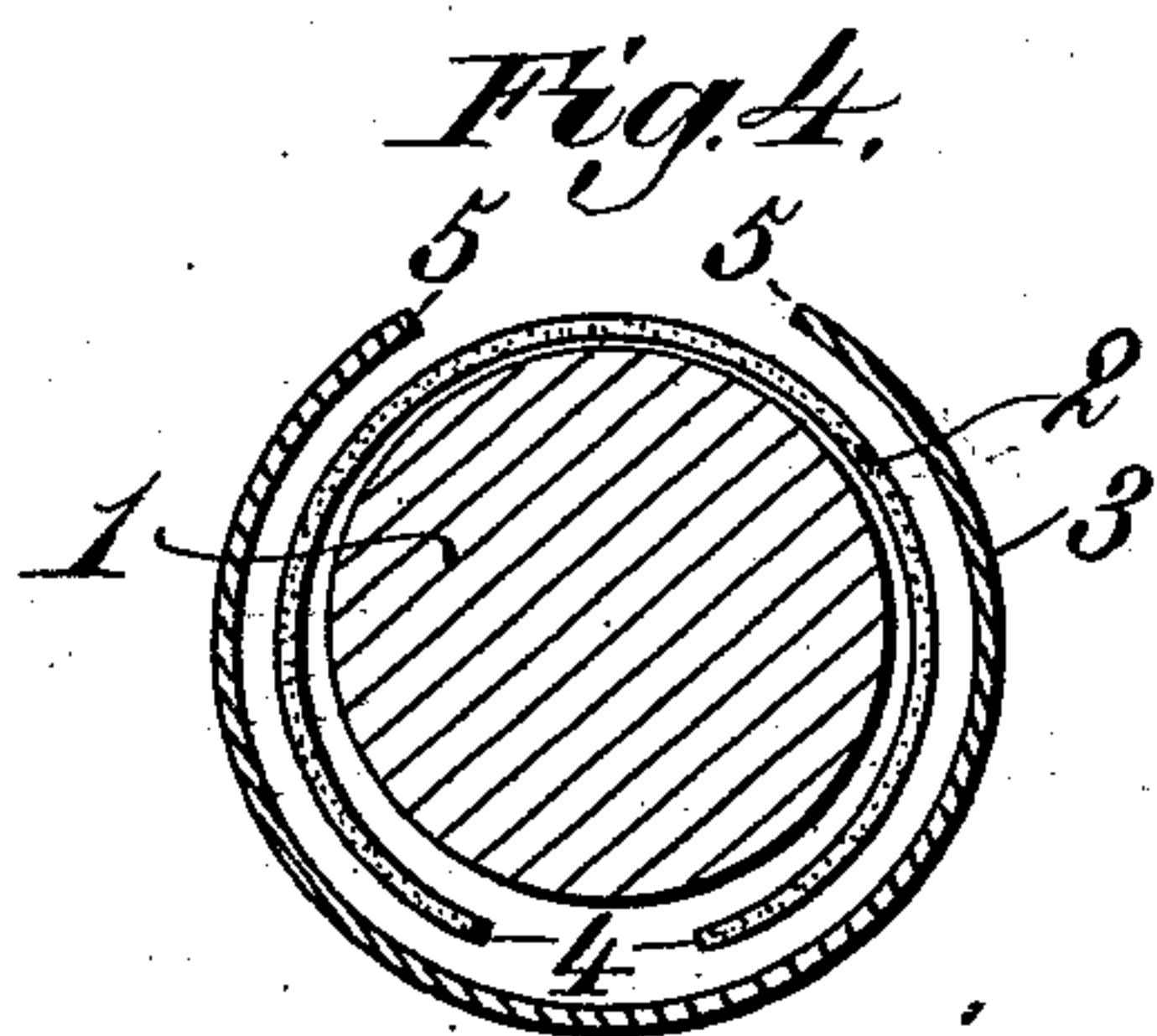
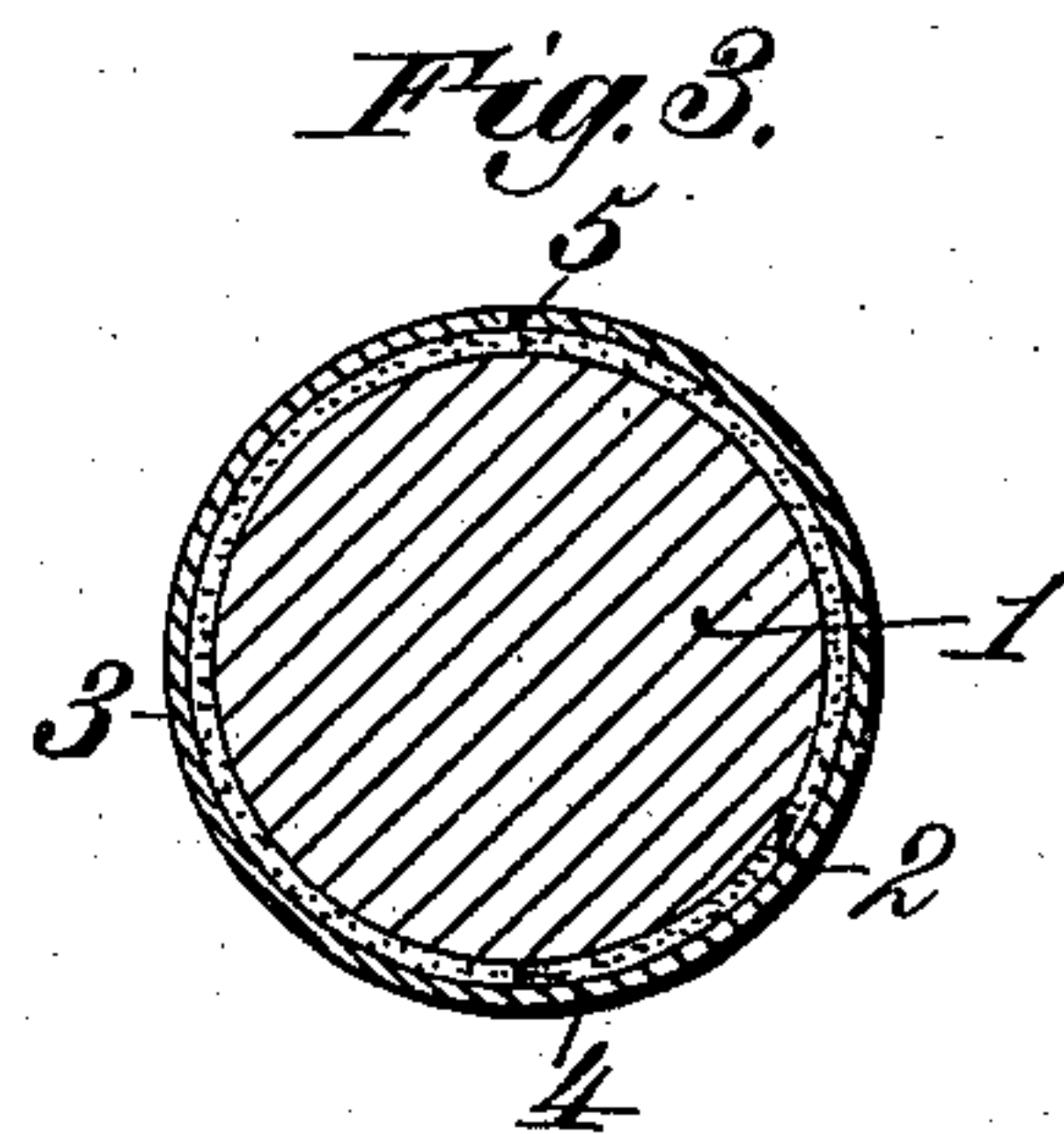
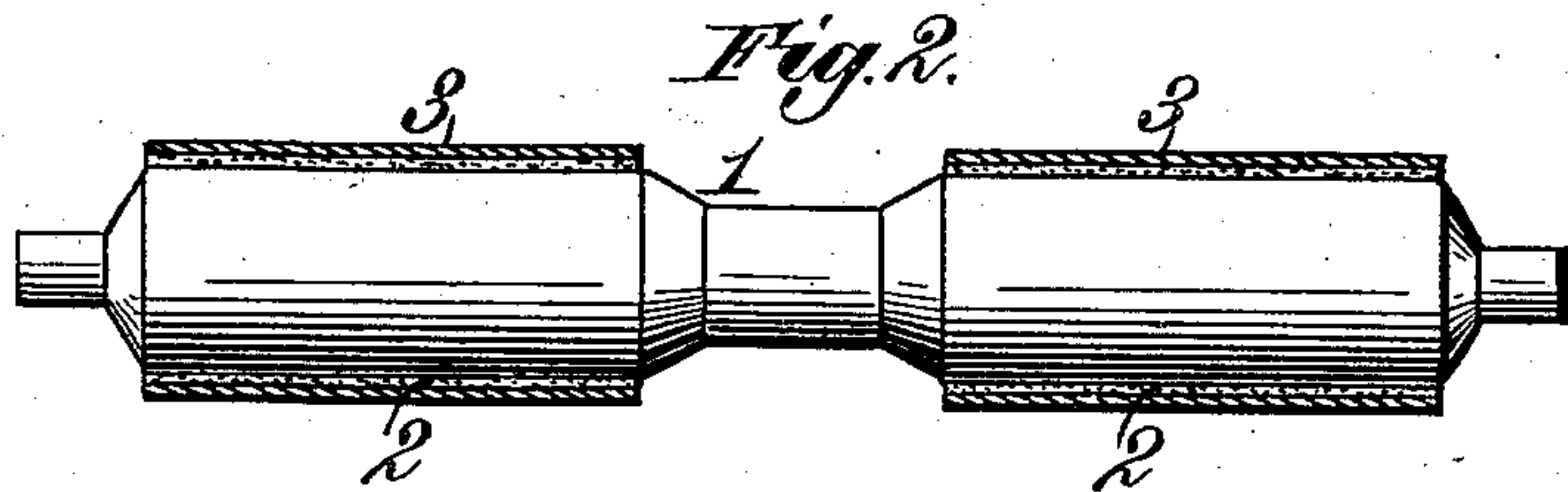
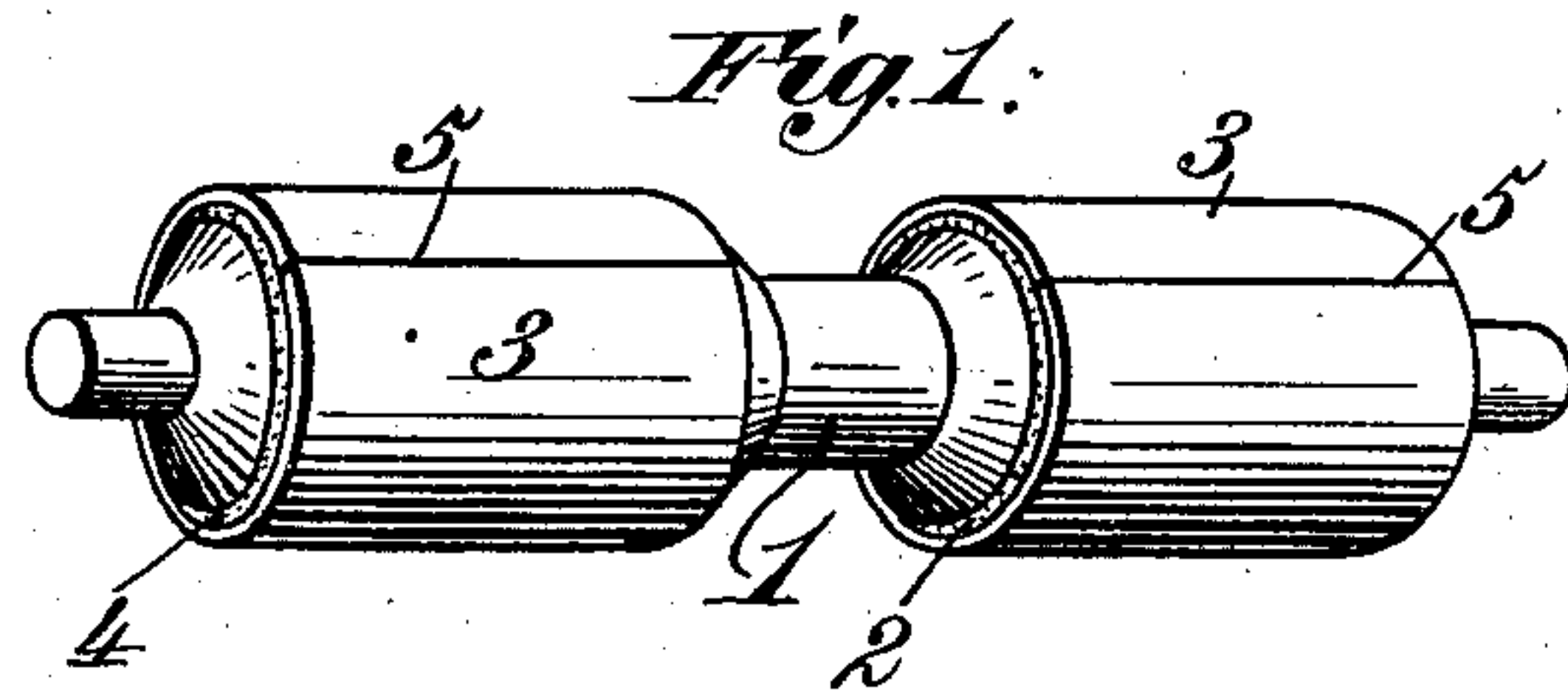
No. 692,855.

Patented Feb. 11, 1902.

J. B. HUDSON.
ROLL FOR SPINNING MACHINES.

(Application filed Apr. 30, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JAMES B. HUDSON, OF CHARLOTTE, NORTH CAROLINA.

ROLL FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 692,855, dated February 11, 1902.

Application filed April 30, 1901. Serial No. 58,146. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. HUDSON, a citizen of the United States, residing at Charlotte, in the county of Mecklenburg and State of North Carolina, have invented new and useful Improvements in Rolls for Spinning-Machines, of which the following is a specification.

My invention is designed for the production of a roll, spindle, or cylinder having a covered surface intended especially for use in connection with spinning machinery. The same is particularly designed for the production of a spinning-roll, the object of the same being to provide a covering for the working surfaces thereof which shall have all the advantages of the leather or sheepskin cot now generally employed and which will overcome many of the disadvantages thereof, the novelty residing in the particular covering material employed and the means for applying the same to the core of the roll.

The invention consists of a roll made up of a metallic core, a layer of yielding fabric or fibrous material cemented or glued to the surface thereof, and a layer of flexible inelastic waterproof material separate from but cemented or glued to the outer surface of said layer of fibrous material with the longitudinal edges thereof abutting against each other and the whole firmly and compactly rolled or otherwise compressed together.

The invention also consists of certain features and details of construction, which will be hereinafter more fully described and claimed.

In the drawings forming a part of this specification, Figure 1 is a perspective view of a spinning-roll made according to my invention. Fig. 2 is an elevation of the same with the two layers of covering material in section. Fig. 3 is a transverse section of the roll. Fig. 4 is a similar section showing the two layers of covering material disunited from the central core and from each other. Fig. 5 is a transverse sectional view of the machine I employ for applying the covering material to the roll, and Fig. 6 is a plan view of the same.

Like reference-numerals indicate like parts in the different views.

While I have shown in the drawings a spinning-roll made according to my invention, I desire it to be understood that the invention

is not limited to spinning-rolls, but applies to slubber-rolls, speeder-rolls, and the like. The central metallic core 1 has cemented or glued to the outer surface thereof a layer 2 of yielding fabric or fibrous material, and on the outside of the layer 2 of fibrous material is cemented or glued a layer 3 of enamel oil-cloth or other flexible inelastic waterproof material. The layer 2 of fabric is formed of a rectangular strip of material whose meeting edges 4 abut against each other when said layer is in place upon the core 1. In this way no uneven or overlapping seam is produced, but a perfectly smooth and even cylindrical contour is provided for. Furthermore, by reason of the fact that the layer 2 is cemented or glued to the core 1 slipping or turning movement of the same on said core is effectually prevented. The oil-cloth layer 3 is likewise formed from a rectangular blank, and when in place upon the layer 2 of fibrous material the meeting edges 5 thereof lie in close contact with each other with no overlapping or projecting portions, which cause or produce an unevenness in the outer surface of the roll. Furthermore, by reason of the fact that the oil-cloth layer 3 is cemented to the layer 2 of fibrous material slipping or turning movement of the covering as a whole on the core is effectually prevented.

For covering my improved spinning or other roll I am now employing at my works a machine constructed in accordance with that shown in Figs. 5 and 6 of the drawings. This machine consists of three cooperating pressure-rollers 6, 7, and 8, the rollers 6 and 7 being mounted in suitable bearings in a framework 9 and having on their projecting ends gears 10 10, meshing with an intermediate gear 10^a, so that said rollers 6 and 7 rotate in unison and in the same direction. The roller 7, on the end thereof opposite the gear 10, is provided with a pulley 11, by means of which the same may be driven from any suitable source of power. The roller 8 is loosely mounted in the free end of a lever 12, fulcrumed at a point intermediate its ends upon a bracket 13, secured to the frame 9. The outer or projecting end of the lever 12 is connected through the pitman 14 with a treadle or foot-lever 15. In applying the covering to the core 1 by this machine the exte-

rior surface of said core has applied to it the cement or glue, and the layer 2 is placed upon the same by hand. The core 1, with the layer 2 applied, is then introduced into the machine, 5 as shown in Fig. 5 of the drawings, the same resting upon the rollers 6 and 7. Of course to insert the partially-covered core 1 into the machine it is necessary to raise the roller 8, which may be conveniently done by merely 10 depressing the treadle or foot-lever 15. When properly seated in the machine, the heavy roller 8 is permitted to fall by releasing the pressure on the lever or treadle 15, and then, through the application of power to the pul- 15 ley 11 on the end of the roller 7, both rollers 6 and 7 and through them the partially-covered core 1 and the roller 8 are caused to turn. This turning movement, with the heavy pres- 20 sure-roller 8 in contact with the outer surface of the layer 2 on the core 1, forces said layer into adhering contact with said core, tightly compressing the same and smoothing out any unevennesses that may be in the fibrous material of which the layer 2 is made. 25 Afterward the core 1, with the layer 2 cemented thereto, is removed from the machine and cement or glue applied to the exterior surface thereof. When this has been done, the oil-cloth layer 3 is applied by hand to the 30 outside of the layer 2, and the core 1, with the layers 2 and 3 thereon, is again introduced into the machine between the rollers 6, 7, and 8. The oil-cloth layer 3 is then, through the action of the machine-rolls 6, 7, 35 and 8, tightly compressed and forced into close adhering contact with the layer 2 of fibrous material. The ends 5 of said oil-cloth layer are also brought into close contact with each other, so that no uneven places or pro- 40 jections are formed on the exterior surface of the completed roll.

A spinning or other roller constructed according to my invention is provided with a regular even working surface equally well 45 adapted for the purpose for which it is designed as the old leather or sheepskin covered roller. Furthermore, the expense of producing my improved roller is much less than that of the ordinary cot-covered roll, and dan- 50 ger of slipping of the covering on the central

core is absolutely prevented. This latter is one of the main objections to the old leather-covered roll. It has been found in practice that these rolls after they have been in use 55 for a short while will, due to the pressure which is applied to them, slip upon the roller-core and be rendered absolutely useless. This tendency to slip or creep on the core is materially increased during damp weather, owing to the absorptive qualities of the ma- 60 terial of which the cot is made. With my improved roll it is absolutely impossible for the same to absorb moisture and be rendered inoperative on this account. In fact, the same may be allowed to remain for a considerable 65 period of time in a body of water without any deteriorating effects whatever being noticed.

It is necessary that the outer layer 3 of my covering be waterproof, flexible, and inelastic, and I have found that the best material for 70 the purpose is enameled oil-cloth. This may be used with either the smooth or pebble finish, and it may be that other substitutes for the same may be found.

Having now described my invention, what 75 I claim as new, and desire to secure by Letters Patent, is—

1. A roll, consisting of a core, a layer of yielding material cemented to the outer surface thereof, and a layer of flexible inelastic 80 waterproof material separate from the layer of yielding material, but cemented to the outer surface thereof.

2. A roll, consisting of a metallic core, a layer of fibrous material cemented to the outer 85 surface thereof and having its meeting edges abutting against each other, and a layer of oil-cloth cemented to the outer surface of said layer of fibrous material and having its meet- 90 ing edges abutting against each other, the whole being tightly rolled or compressed during the operation of covering the core.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES B. HUDSON.

Witnesses:

GEO. W. REA,

WM. M. STOCKBRIDGE.