

J. J. LANGAS.
MILL ROLLER.
APPLICATION FILED MAR. 15, 1909.

929,143.

Patented July 27, 1909.

FIG. 1--

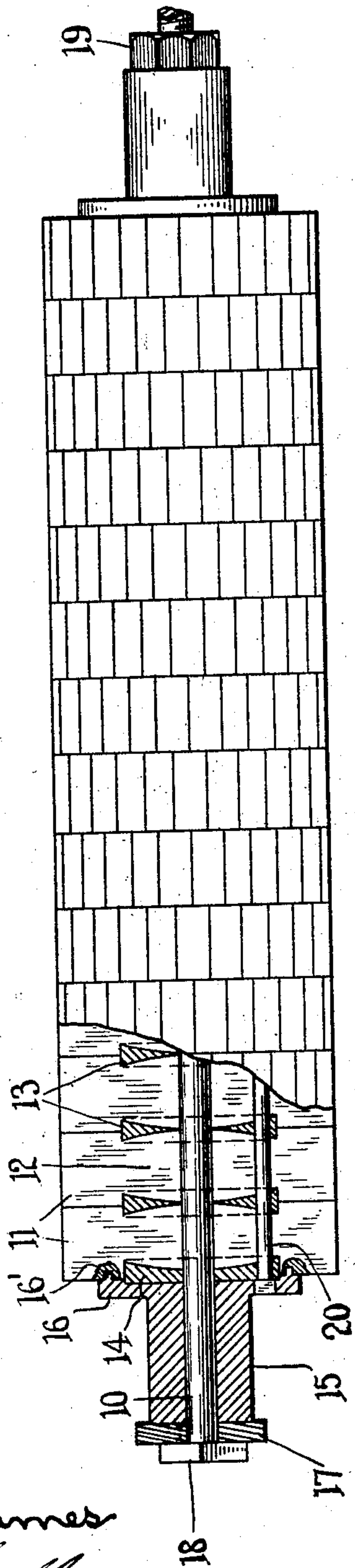


FIG. 2--

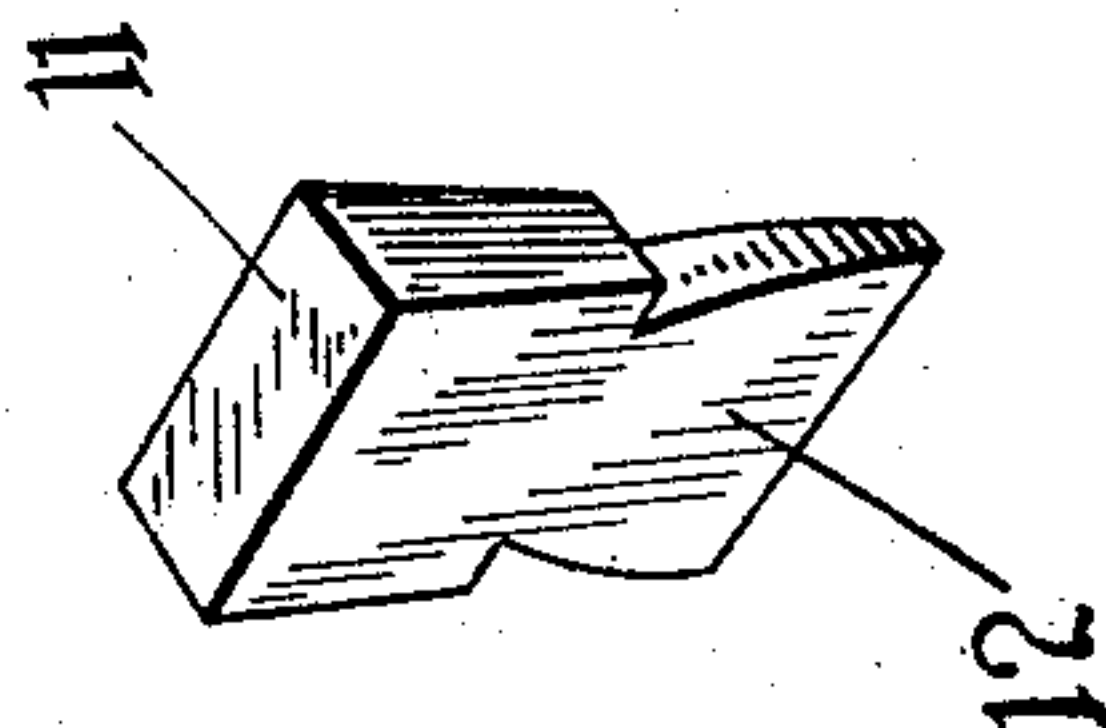
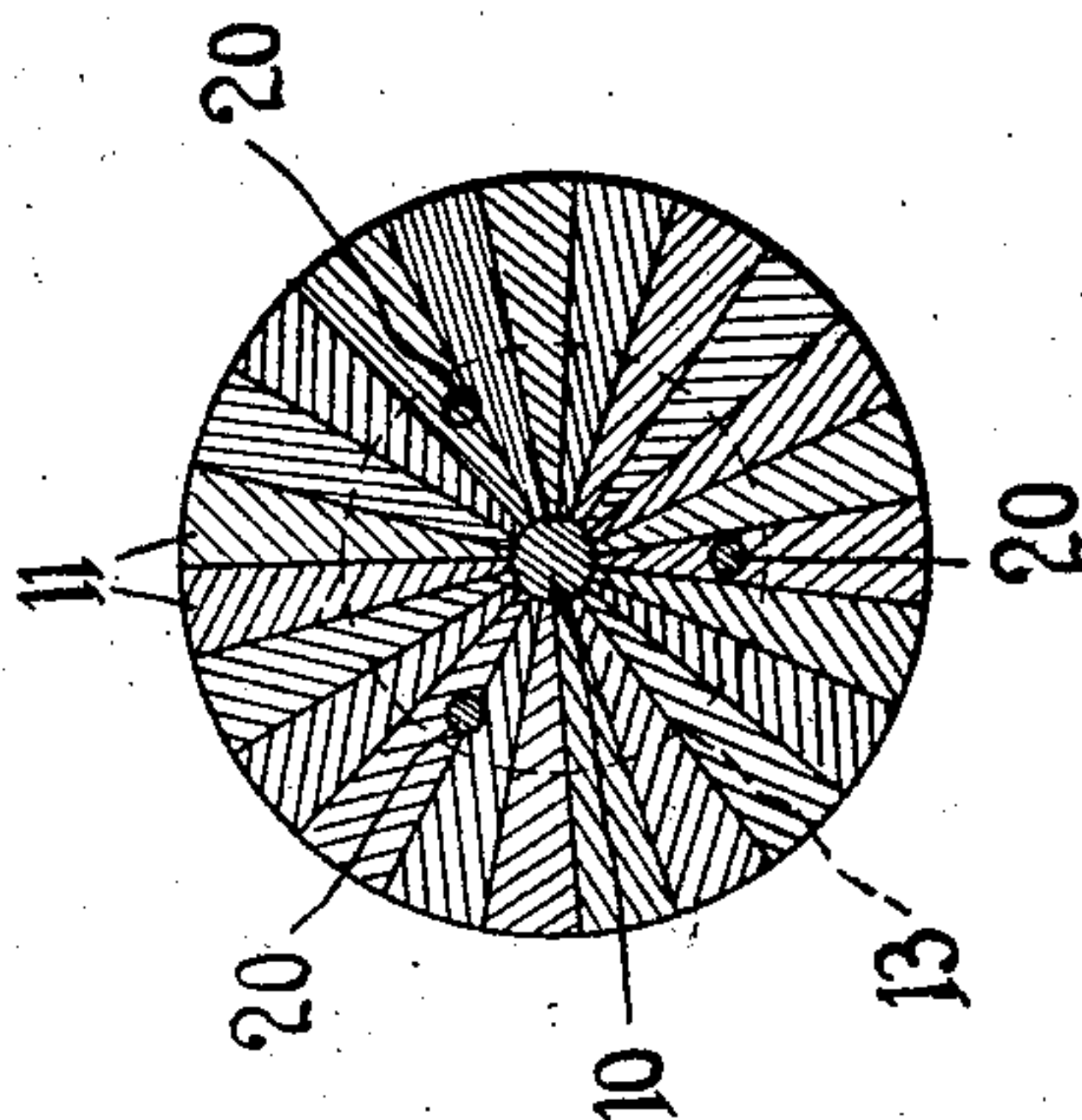


FIG. 3--



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH J. LANGAS, OF ASHLAND, WISCONSIN

MILL-ROLLER.

No. 929,143.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed March 15, 1909. Serial No. 483,452.

To all whom it may concern:

Be it known that I, JOSEPH J. LANGAS, a citizen of the United States, residing at Ashland, in the county of Ashland, State of Wisconsin, have invented certain new and useful Improvements in Mill-Rollers; and I do hereby 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.

This invention relates to press rollers such as are used in pulp mills.

The principal object of the invention is to provide a novel construction of such a roll wherein the wood originally employed in said roll may be arranged so that the grain runs substantially radially to the axis of the roll.

A second object of the invention is to provide a roll of this character with a steel core surrounded by wood which is held upon the core in a novel manner.

With the above and other objects in view the invention consists in general of a steel core, wood sections arranged there around with the grain substantially radial to the core and a novel means for holding said sections firmly in place on the core.

The invention further consists in certain novel details of construction and the combination of parts hereinafter fully described, illustrated in the accompanying drawings and specifically set forth in the claims.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:—Figure 1 is a side elevation, partly in section, of a roller constructed in accordance with this invention. Fig. 2 is a transverse section thereof. Fig. 3 is a detail perspective view of one of the wood sections.

In the construction of this roll there is provided a central core 10 around which is arranged a plurality of series of wedge shaped blocks 11, each having a dove-tailed inner end 12 provided with curved sides. The blocks of one series are arranged in staggered position to the blocks of the adjacent series, and between each pair of series is a circular key 13 arranged to fit closely in the space left between the dove-tailed ends of the adjacent series. Upon each end of the wooden portion of the roll is held a circular key 14 the inner side of which is similar in shape to one of the keys 13, but has the out-

side flat and projecting slightly out from the surface of the wood surrounding it. At each end of the wooden portion there is provided a bearing 15 having a collar 16 recessed to receive the projecting portion of the key 14 and bearing on the wood of the roll. On the exterior of this bearing is held a collar 17. For the purpose of drawing the parts tightly together the core is provided with a head 18 at one end and is threaded at the opposite end to receive a nut 19. The collar 16 is further provided with pins 16' which engage in the end blocks 11 to prevent rotation of the collar on the blocks. The keys and collars 16 are perforated to receive bolts or rods 20 to hold the parts in place if it becomes necessary to remove the bearing, and these rods run through the wooden part of the roll from end to end.

In assembling the device one of the keys 14 is placed in position and a series of blocks 11 placed around the shaft or core 10. A key 13 is now positioned and a second series of blocks assembled, this operation being repeated until the inner roll is built up, care being taken to stagger the adjacent series. Of course it will be necessary to also arrange the various keys and blocks so that the holes for the bolts 20 will be in alignment. It is to be observed that by means of this construction the blocks are locked firmly to the core, substantially the inner width of the block being used for a dovetail.

It is obvious that minor changes may be made in the form and portions of the parts without departing from the material principles of the invention, it is not therefore desired to confine the invention to the exact form herein shown and described but it is wished to include all such as properly come within the scope of the appended claims.

Having thus described the invention what is claimed as new is:—

1. In a roll, a core, a series of wedge shaped sections there around each provided with a dove-tailed end resting on the core, and circular keys, wedge shaped in cross sections held on the core and engaging the dove-tailed ends of the wedge shaped sections.

2. In a roll, a core, a plurality of series of contacting wedge shaped sections there around, each of said sections being provided with a dove-tailed end resting on the core and the sections of one series being in staggered relation to the sections of the adjacent

series and circular keys wedge shaped in cross sections held on the core and engaging the dove-tailed end.

3. In a roll, a core, a plurality of series of
5 wedge shaped sections there around, each of said sections being provided with a dove-tailed end resting on the core, and the sections of one series being in staggered relation to the sections of the adjacent series,
10 circular keys wedge shaped in cross sections held on the core and engaging the dove-tailed ends of the wedge shaped sections and means to force the several series of sections and the keys firmly together.

15 4. In a roll, a core, a series of wedge shaped sections held there around each of said sections being provided with a dove-tailed end resting on the core and the several sections being constructed of wood having
20 the grain substantially radial to the axis of the core, and circular keys wedge shaped in

cross sections held on the core and engaging the dovetailed ends of the wooden sections.

5. In a roll, a core, a plurality of series of wedge shaped sections there around, the sections of one series being in staggered relation to the sections of the adjacent series, each of said sections being provided with a dove-tailed end resting on the core and being constructed of wood with the grain substantially radial to the axis of said core, circular keys wedge shaped in cross sections held on the core and engaging the dove-tailed ends of the various wooden sections and means passing through all of said series
25 30 35 of sections drawing the whole together.

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

JOSEPH J. LANGAS.

Witnesses:

B. J. HOPPENYAN,
CLAUDE GORDON.