J. Greacen Jr. & E. L. Perry, Manufacture of Rubber Rolls.

111449

Patented Jan 31 1871

Fig. 1.

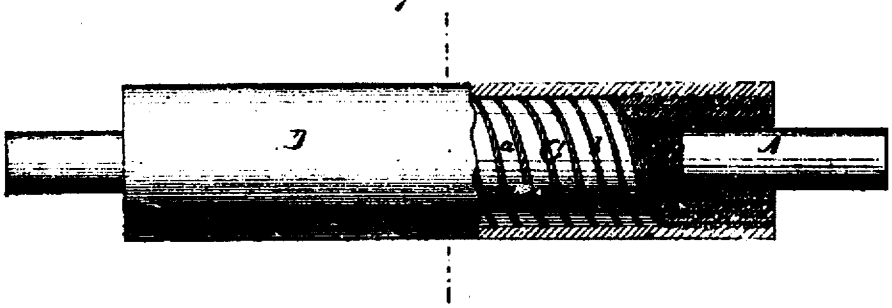


Fig. 3.

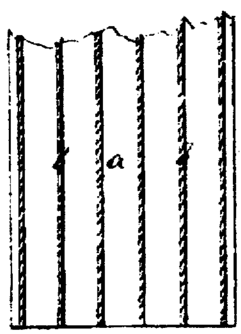


Fig. 2.

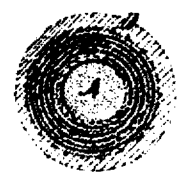
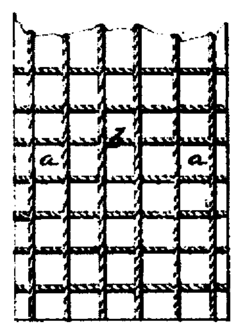


Fig. 4.



Witnesses:

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Atty

United States Patent Office.

JOHN GREACEN, JR., AND EDWARD L. PERRY, OF NEW YORK, N. Y. ASSIGNORS TO COMBINATION RUBBER COMPANY, OF SAME PLACE.

Letters Patent No. 111,449, dated January 31, 1871.

IMPROVEMENT IN THE MANUFACTURE OF RUBBER ROLLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JOHN GREACEN, Jr., and EDWARD L. PERRY, of the city, county, and State of New York, have invented a new and useful Improvement in Rubber Rolls; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The object of this invention is to construct elastic rolls for wringing-machines, and other purposes, in such manner as will prevent the elastic material from rendering or turning around the shaft or spindle, and, at the same time, build up the rolls so that they will not break or tear apart, and yet preserve their elasticity under compression, pressure, or use.

In the several processes heretofore used this has been but imperfectly accomplished, for, in some instances, the roll will render around the shaft, while the body of the roll remains tenacious, and in others the roll will not render on the shaft, but the body of the roll will break or tear.

In our invention both of these objections are fully obviated, as will appear from the following description in connection with the accompanying drawing, wherein—

Figure 1 represents a side view of our roll partially in section.

Figure 2, a transverse section of the same.

Figures 3 and 4, plan views, showing the construction of the material of which the body of our roll is composed.

Similar letters of reference indicate corresponding parts in the several figures.

A represents a shaft or spindle;

B represents the cord;

C represents the filling or body; and

D, the finished surface of the roll.

To construct our roll a shaft, A, of any suitable material or size, is provided, around which is tightly wound the cord B. To make this cord more tightly adhere, the surface of the shaft may first be covered with any suitable cement, if desired, the cord then being covered with cement.

A strip of rubber, *a*, of any required width, having cords *b b* running parallel with its length, (see fig. 3,) is now wound spirally or otherwise around the cord B, (see fig. 1,) until the desired diameter is obtained, when the finishing surface D of rubber is applied, and the roll is ready for vulcanization, after which all the several parts forming said roll will be found tightly cemented together, making one solid and compact body.

Instead of merely affixing the cords *b b* to the surface of the rubber, said cords may be placed between two sheets of rubber, which will add to the strength of the body of the roll, by causing each successive turn or layer around the roll to adhere more firmly to the other, or, instead of using merely parallel cords, as above described, a net-work of cords (see fig. 4) may be used and applied in precisely the same way and for the same purpose; and, instead of winding the strips thus formed spirally around the shaft, said strips may be cut on the "bias," when the same result will be obtained as if they were wound spirally.

From the foregoing it will be seen that the body of our rolls is built up of alternate strips of rubber and cords or corded fabric, the rubber, when vulcanized, combining the whole into a compact, self-sustaining body, effectually preventing the rolls from tearing apart or turning on the shaft.

Having thus described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

An elastic roll, made by first winding cord B directly upon the shaft, then wrapping the same with a filling fabric composed of rubber *a* and cords *b*, and covering the whole with a surfacing of rubber D, the several parts being formed into a compact mass by vulcanization, substantially as herein described, for the purposes specified.

JOHN GREACEN, JR.
EDWARD L. PERRY.

Witnesses:
H. L. WATTENBERG,
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