

(No Model.)

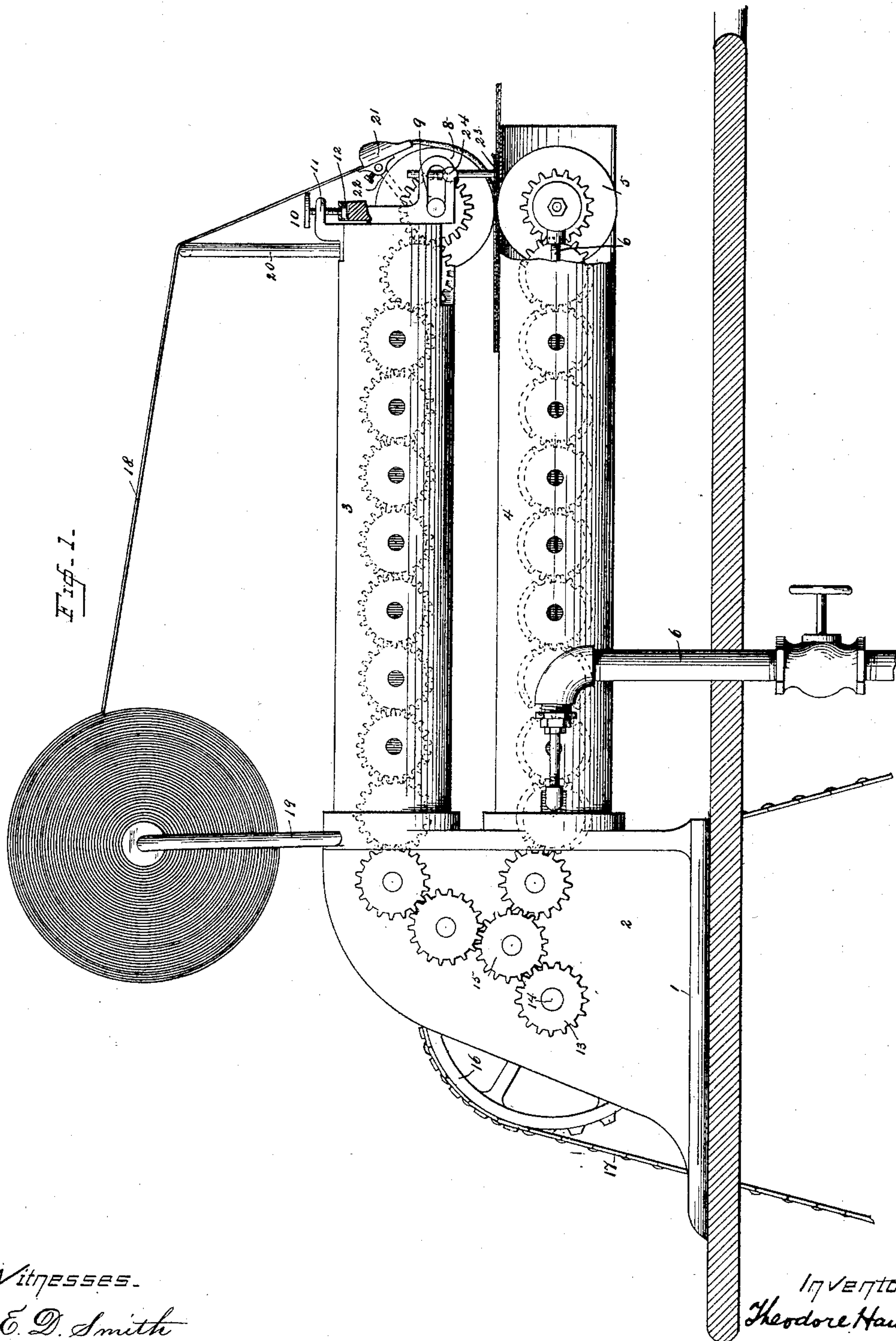
2 Sheets—Sheet 1.

T. HAWLEY.

MACHINE FOR JOINING PIECES OF RUBBER CLOTH.

No. 371,315.

Patented Oct. 11, 1887.



Witnesses.

E. D. Smith
C. E. Ruggles.

Inventor
Theodore Hawley
By A. M. W. Water
Atty.

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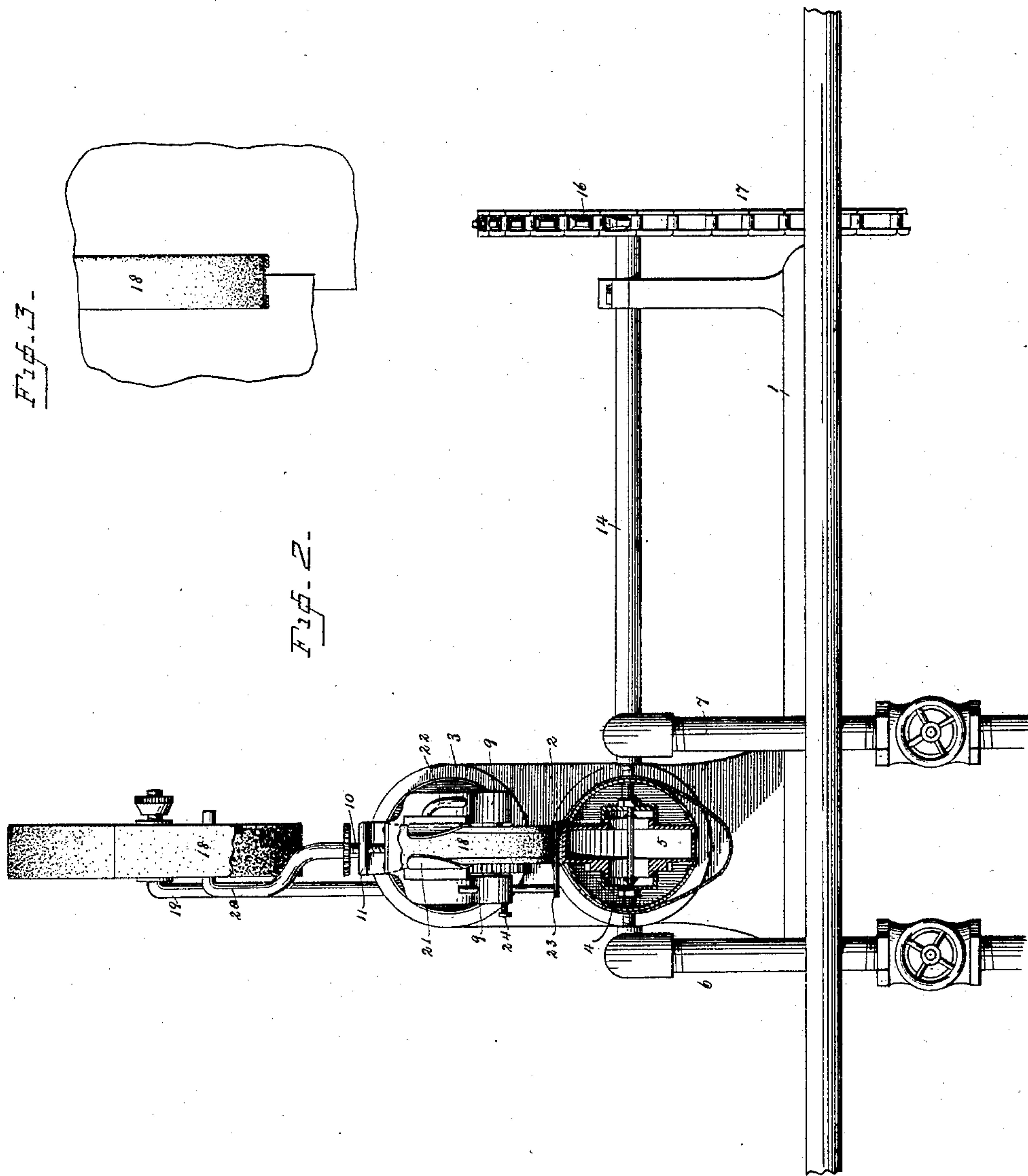
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Inventor -
Theodore Hawley
By
J. M. Wooster
att'y.

UNITED STATES PATENT OFFICE.

THEODORE HAWLEY, OF FAIRFIELD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO THE FAIRFIELD RUBBER COMPANY, OF SAME PLACE.

MACHINE FOR JOINING PIECES OF RUBBER CLOTH.

SPECIFICATION forming part of Letters Patent No. 371,315, dated October 11, 1887.

Application filed November 24, 1886. Serial No. 219,848. (No model.)

To all whom it may concern:

Be it known that I, THEODORE HAWLEY, a citizen of the United States, residing at Fairfield, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Machines for Joining Pieces of Rubber Cloth; 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.

My present invention is a carrying forward and development of the principles illustrated and described in my former Letters Patents Nos. 338,068 and 338,069, dated March 16, 1886, and has for its object to produce a machine for joining pieces of rubber cloth in which the heated table shall be entirely dispensed with, which, while adapted to all general classes of work, shall be especially adapted to making the sleeve-seams in rubber garments, and which, in addition to joining the two main edges of rubber fabric, shall at the same time apply a binding or covering strip for the seam, the edges of which shall be neatly and evenly turned under, and at the same time firmly secured in place upon the seam by heat and pressure alone without the use of naphtha or cement, and without special preparation of either edge of the fabric or of the covering-strip.

With these ends in view I have devised the simple and novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to designate the several parts of the machine.

Figure 1 is a side elevation of the machine complete, a portion of the lower arm or horn being broken away to show the heated roller and the steam-connections; and Fig. 2 is an end elevation of the machine, a garment-sleeve being shown in section on the lower arm. Fig. 3 is a view of the two pieces of rubber cloth and covering-strip joined.

1 denotes the bed of the machine, which may be supported by legs or in any suitable manner; and 2, a standard projecting upward from the bed, which supports the upper and lower arms or horns, (designated, respectively, as 3 and 4.)

5 denotes a heated roller journaled at the outer end of the lower arm, an opening being provided in the top of the arm, through which a small portion of the periphery of the roller projects. Steam is admitted to this roller to heat it in any suitable manner. I have shown a pipe, 6, for the purpose of admitting steam to said roller, and an exhaust-pipe, 7, into which the steam passes from the opposite side of the roller.

8 denotes the upper or cold roller, which is journaled in adjustable bearings 9 at the outer end of the upper arm. It will of course be understood that the pressure of the upper roller upon the goods is necessarily heavy at all times, that this pressure should be capable of being regulated, and also that the roller should be capable of being readily raised or lowered in putting in and taking out pieces of work. This raising and lowering of the roller may be accomplished in any ordinary manner. I have shown a pressure screw, 10, for this purpose, which engages a corresponding thread (not shown) in bracket 11, and is provided with a head, 12, which turns freely in the bearing, so that the latter will be raised or lowered by turning the screw.

Motion is imparted to both of the rollers in any suitable manner—as by worms, by shafts with bevel-gears, or by trains of gears, as shown—one ordinary well-known manner of communicating motion being all that it is deemed necessary to illustrate in the drawings. These trains of gears are journaled in the arms, motion being imparted to both trains through a pinion, 13, on a driving-shaft, 14, and an intermediate gear, 15, which meshes with both trains. Motion is imparted to the driving-shaft in any suitable manner. In the present instance I have shown a sprocket-wheel, 16, and chain 17 for this purpose.

18 denotes the binding or covering strip, which is prepared in any suitable manner, preferably by slitting a sheet of gum and winding in a roll, as shown, the roll being mounted on a spindle, 19, upon any convenient part of the machine.

20 denotes a guide, over which the strip passes; and 21, a folder, by which the edges of the strip are turned inward before it is pressed

on the seam. The folder is carried by a bracket, 22, which is attached to any convenient portion of the machine.

23 is an adjustable shoe, which holds the two edges of fabric firmly together as they pass between the rollers. I have shown this shoe as carried by the bearing of the upper roller and adjusted by a set-screw, 24.

I do not, of course, desire to limit myself to the special details of construction shown, as it is obvious that they may be greatly varied without departing from the spirit of my invention. Upon certain grades of goods, especially if the surfaces are uneven, I shall use an elastic upper or cold roller. As it is preferable that the upper piece of fabric and the binding or covering strip should not be heated sufficiently to soften the gum, water may be passed through the upper roller in order to keep it cold. This, however, is such an obvious mechanical expedient that it is not deemed necessary to illustrate it in the drawings. In practice I ordinarily use a solid upper roller. In my former patent, No. 338,069, referred to, the machine is shown and described as provided with a heated table, and the invention is so claimed. I have found, however, in practice that for many kinds of work the heated table is wholly unnecessary.

Therefore, having thus described my invention, I claim—

1. The improved method of joining pieces of rubber cloth, which consists in placing the edge of the upper piece over the edge of the lower piece, folding under the edges of a covering-strip, and laying it over the lapped edges, and finally mechanically pressing said strip and the lapped edges together, heat being applied from below only.

2. Arm 4 and a heated roller carried thereby, in combination with a folder, substantially as described, and an adjustable cold upper roller carried by another arm, whereby edges of fabric and a covering strip may be pressed together.

3. Arm 4, roller 5, carried thereby, and steam and exhaust pipes connected with said roller, in combination with a folder, a cold roller, 8, and means—for example, a screw—whereby the bearings of said roller may be adjusted.

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

THEODORE HAWLEY.

Witnesses:

W. W. HARRAL,
DANIEL MOLONEY.