

No. 611,795.

Patented Oct. 4, 1898.

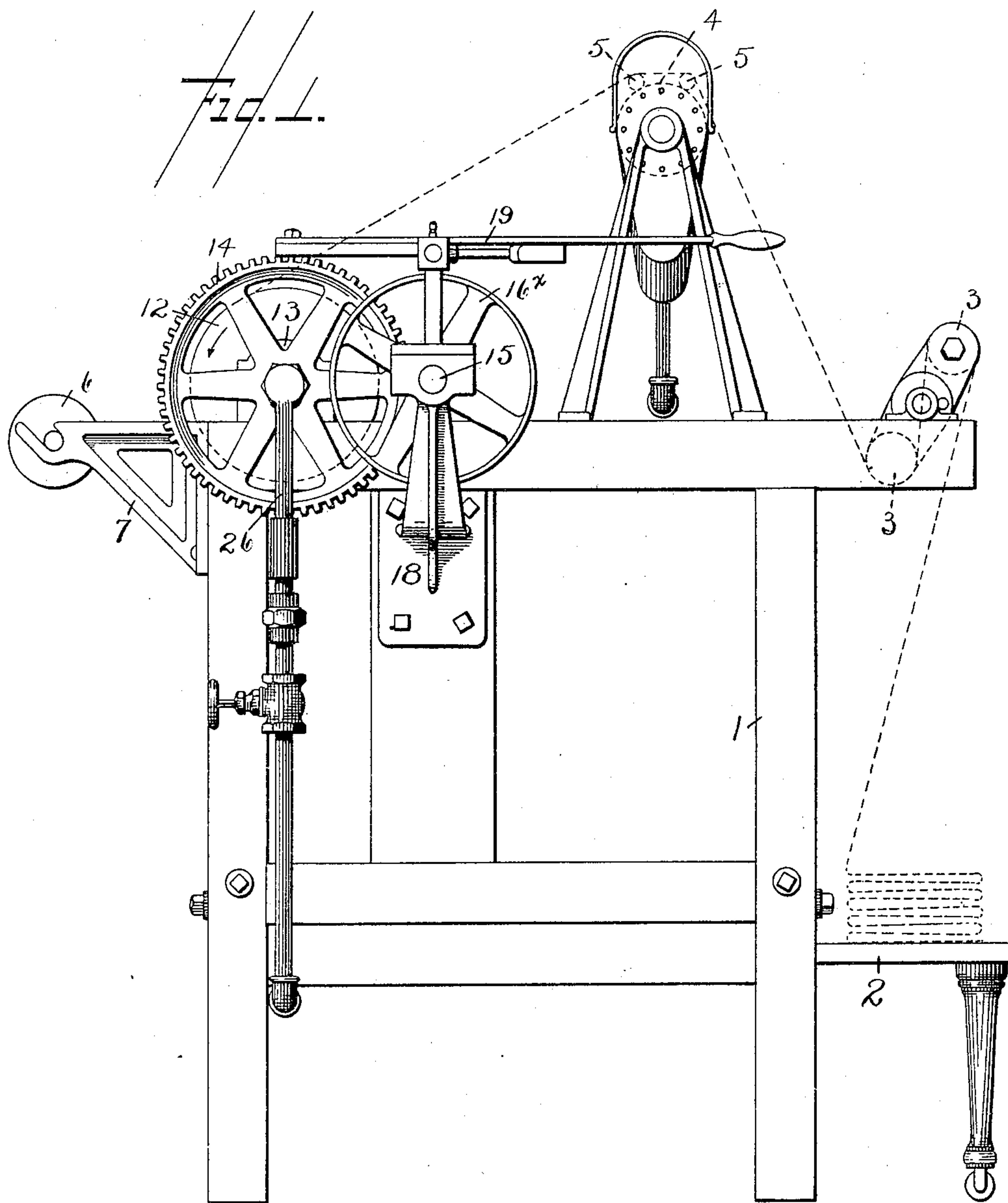
G. ROTHHOLZ.

MACHINE FOR SPONGING AND SHRINKING CLOTH.

(Application filed Jan. 29, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

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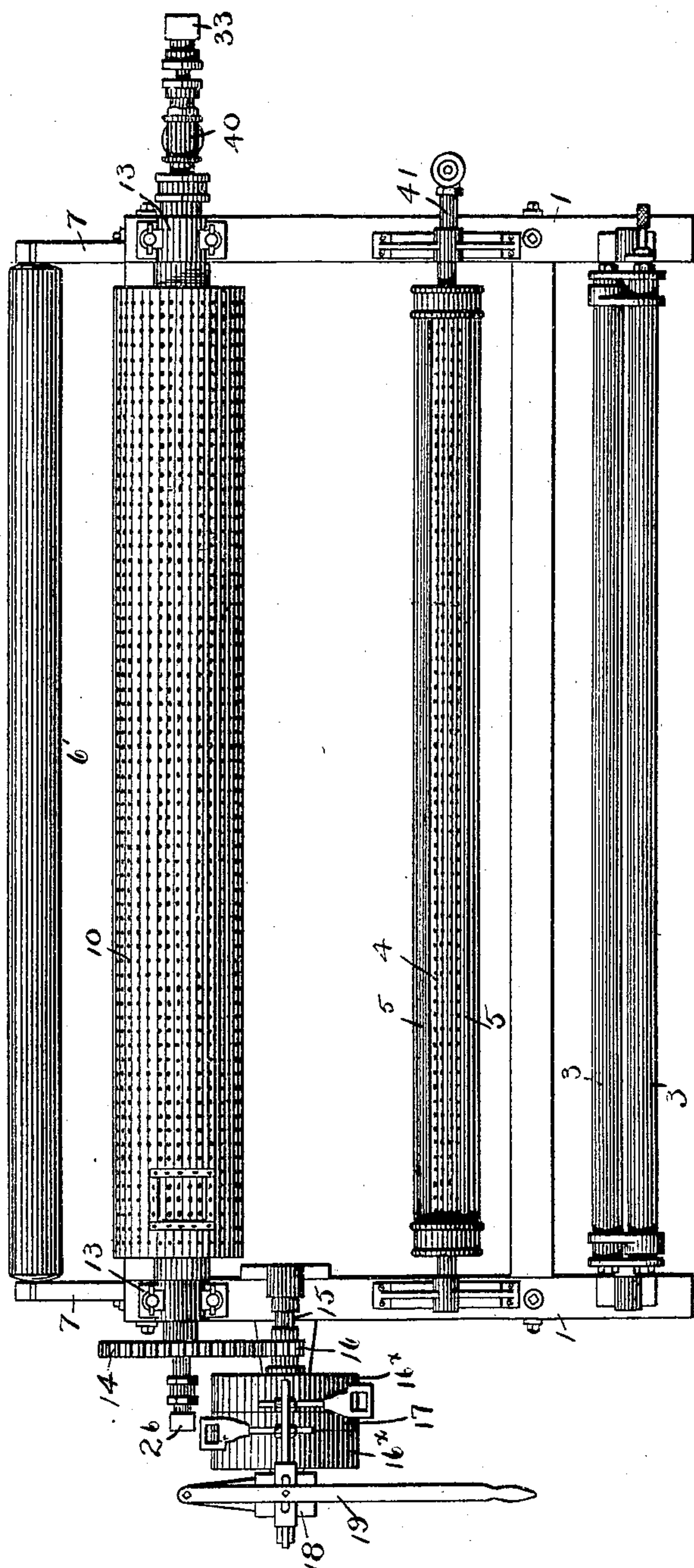
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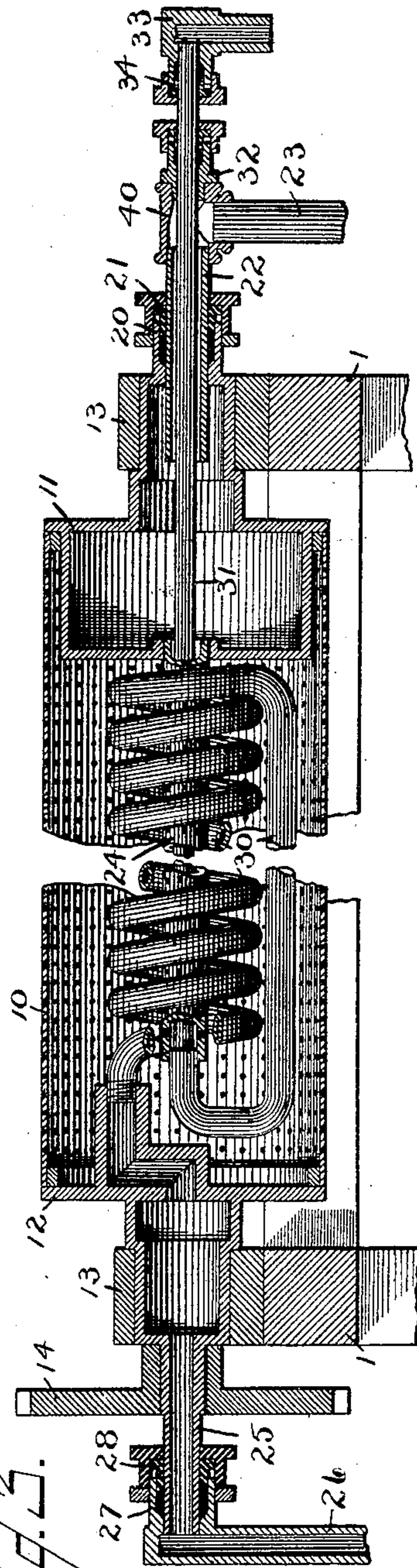
(No Model.)

2 Sheets—Sheet 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

GUSTAVE ROTHHOLZ, OF ROCHESTER, NEW YORK.

MACHINE FOR SPONGING AND SHRINKING CLOTH.

SPECIFICATION forming part of Letters Patent No. 611,795, dated October 4, 1898.

Application filed January 29, 1898. Serial No. 668,428. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE ROTHHOLZ, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Machines for Sponging and Shrinking Cloth; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to that class of machines for sponging and shrinking cloth such as shown in my prior patent, No. 511,216, dated December 19, 1893, and has for its objects to improve their construction and operation, whereby the cloth on the cylinder will be dried, and the roller being more thoroughly heated at both ends the dampening of the covering-felt and the cloth and cylinder by condensed steam will be effectually prevented; and to these ends it consists in certain improvements, all as will be hereinafter fully described and the novel features pointed out in the claims at the end of this specification.

In the drawings, Figure 1 is a side elevation of a machine embodying my improvements; Fig. 2, a plan view of the same, and Fig. 3 a longitudinal sectional view of the steaming and drying cylinder.

Similar reference-numerals indicate similar parts.

The main frame of the machine (indicated by 1) may be of the ordinary or any suitable construction, embodying the bench or table 2 for the goods to be sponged and shrunk and having above said bench guide or tension rollers 3 3 and on top a stationary steaming-trunk having the perforated top 4, the rods 5 at the sides thereof, and the steam-supply pipe 41 at the end. At the end of the main frame is the winding-roller 6, loosely journaled in brackets 7, and between this and the trunk is arranged the perforated steaming and drying cylinder containing my present improvements. This cylinder is composed of an extension shell 10, of perforated sheet metal, secured to the hollow or chambered heads 11 and 12, each having journals operating in the bearings 13 13 on the main frame, the journal of the head 12 having the driving-wheel 14 (preferably a gear) secured

thereto for causing the rotation of the roller from the driving-shaft 15 through gear 16 thereon. The driving-shaft is provided with the belt-pulleys 16^x and 17, and the standard 18, in which the shaft is mounted, has pivoted upon it a belt-shifter 19, as in Figs. 1 and 2. The head 11 of the cylinder, and which extends some distance within it, is provided at its outer end with a stuffing-box 20 and gland 21, through which passes a stationary steam-pipe 22, attached to a T-coupling 40, connected by a pipe 23 with a suitable steam-supply. Arranged within the cylinder and connected with the inner side of the head is a perforated steam-pipe 24, adapted to discharge the steam entering the hollow head 11 from pipe 23 into the interior of the cylinder, from whence it passes through the perforations outward through the felt and the cloth wound on the cylinder. The outer side of the head 12, at the opposite end of the cylinder, has the outwardly-extending tubular extension 25, entering the end of a stationary supply-pipe 26, a tight joint between the pipes being formed by a suitable stuffing-box 27 and gland 28. Arranged within the cylinder is a steam heating and drying pipe 30, connected at one end with the inner head 12, then coiled around the central pipe 24 toward the opposite end of the cylinder, then extending back toward the head 12 and secured to the end of the pipe 24, an extension 31 of said pipe 30 (smaller than the pipe 24) passing longitudinally through the pipe 24, pipe 22, and a gland 32 on the T-coupling on the pipe 23, and enters the end of an exhaust-pipe 33, in which latter it turns, a steam-tight joint being formed by a stuffing-box 34, as shown in Fig. 3.

From the above the operation will be readily understood. The perforated cylinder having been covered with several thicknesses of felt or similar material the cloth to be sponged or shrunk is placed upon the table 2 at the rear of the machine and the free end is extended around the tension-rollers 3 3 over the steaming-trunk and wound around the felt-covered cylinder, and motion being transmitted to the latter from the belt-pulley the cloth is steamed and then wound on the cylinder in the usual manner. Steam having been previously admitted to the pipes 23 and

26 passes into the hollow cylinder through the perforations in the pipe 24 and out through the covering and the cloth wound on the cylinder, and the steam, entering the pipe 26, passes through the coil within the cylinder and superheating the steam discharged from pipe 24 and keeping the cylinder very hot and preventing its chilling and condensing the steam thereon or within the felt. The cloth is thus heated and shrunk while tightly rolled on the cylinder and is afterward rolled from the latter on the winding or receiving roller 6 and removed for subsequent treatment.

The construction herein shown, in which the heads or steam-chambers at both ends of the perforated cylinder are connected with the live-steam supply, is a marked improvement over the construction shown in my prior patent, as both ends of the cylinder are well heated and there is no liability of one end becoming cold and condensing the steam thereon or in the felt, which would dampen the cloth and materially interfere with the proper operation of the apparatus.

I claim as my invention—

1. In a sponging-machine, the combination with the revoluble perforated cylinder having the hollow heads or steam-chambers at opposite ends mounted in bearings and each head connected directly with a steam-supply, of a perforated pipe connected to one hollow head and extending lengthwise of and within the cylinder, an imperforate coiled pipe connected with the other head and extending lengthwise of and within the cylinder and having an extended imperforate portion passing through the opposite head and discharging outside of the cylinder, substantially as described.

2. In a sponging-machine, the combination with the revoluble perforated cylinder having the hollow heads or steam-chambers at opposite ends mounted in bearings, a perforated steam-pipe connected with one of said heads and extending longitudinally of and within the cylinder, and a stationary steam-supply pipe 22 discharging into said head, of an im-

perforate coiled pipe within the cylinder connected to the head opposite the one last mentioned and having an extension passing through the opposite head and also through the pipe 22 and discharging outside of the latter, and a stationary steam-supply pipe connected with the head to which the coiled pipe is connected, substantially as described.

3. In a cloth-sponging machine, the combination with the frame, the tension-rollers 3, 3 the steaming-trunk having the perforated top and the rods 5, of the revoluble cylinder having the hollow heads at opposite ends, the perforated steam-pipe 24 within the cylinder connected to one of the heads, the steam-supply pipe 22 entering said head, the imperforate pipe 30 within the cylinder connected to the other head, and extending through the pipes 24 and 22 and discharging outside of the latter, and a steam-supply pipe connected to the head with which the pipe 30 communicates, substantially as described.

4. In a sponging-machine, the combination with the revoluble perforated cylinder, having the hollow heads at opposite ends mounted in bearings, and one of said heads projecting within the cylinder forming a steam-drum therein, a perforated steam-pipe connected with the inner side of the drum and extending longitudinally of and within the cylinder, and a stationary steam-supply pipe 22 discharging into said head and drum, of an imperforate coiled pipe within the cylinder connected to the inner side of the head opposite the one last mentioned, and having an extension passing through the opposite head and also through the pipe 22 and discharging outside of the latter, and a stationary steam-supply pipe connected with the outer side of the head to which the coiled pipe is connected, substantially as described.

GUSTAVE ROTHOLZ.

Witnesses:

F. F. CHURCH,
G. A. RODA.