No. 837,281. PATENTED DEC. 4, 1906.

A. BRAY.

CLOTH SHRINKING DEVICE.

APPLICATION FILED JULY 10, 1906.

3 SHEETS—SHEET 1.

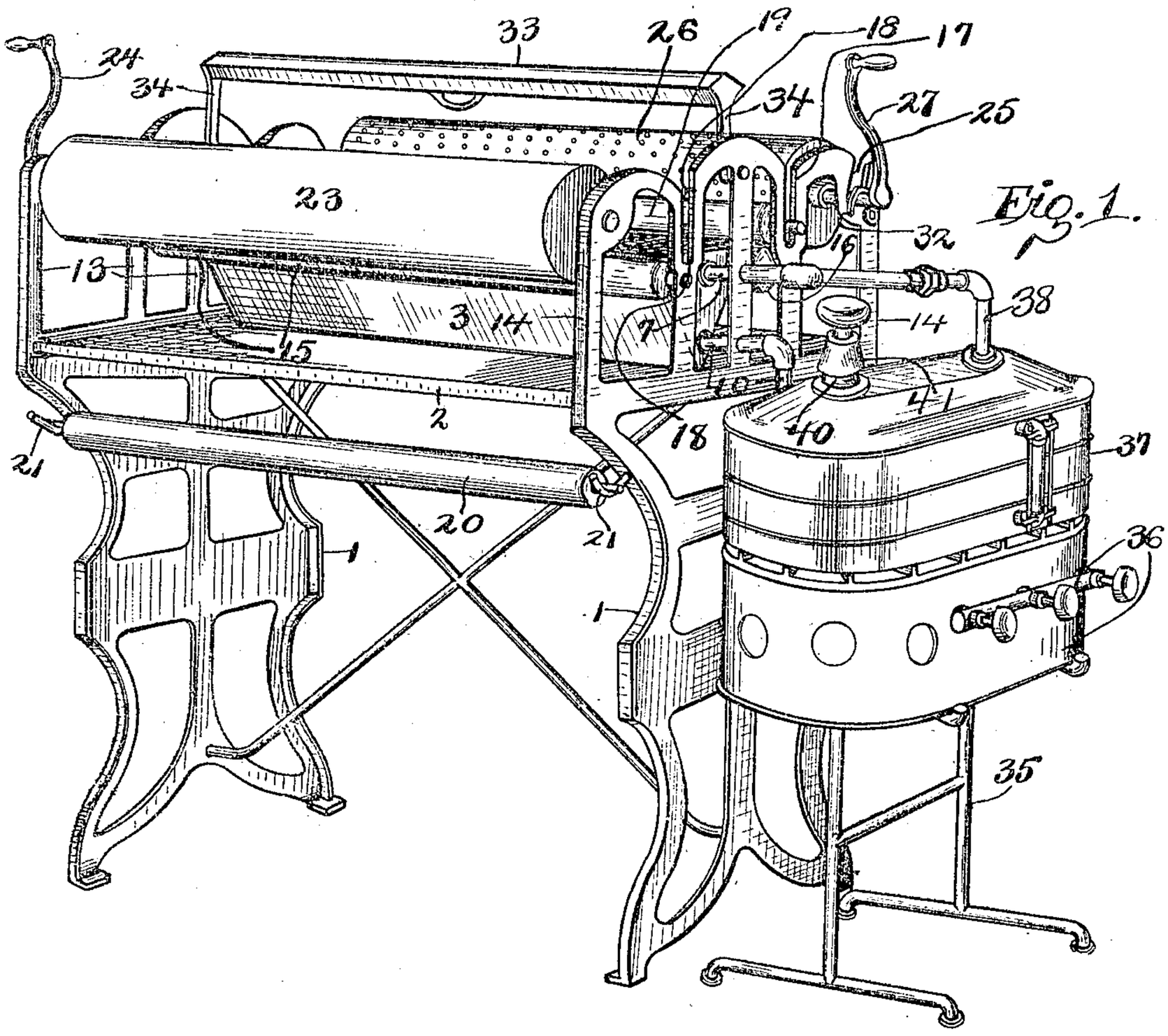

Fig. 1.

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3 SHEETS—SHEET 2.

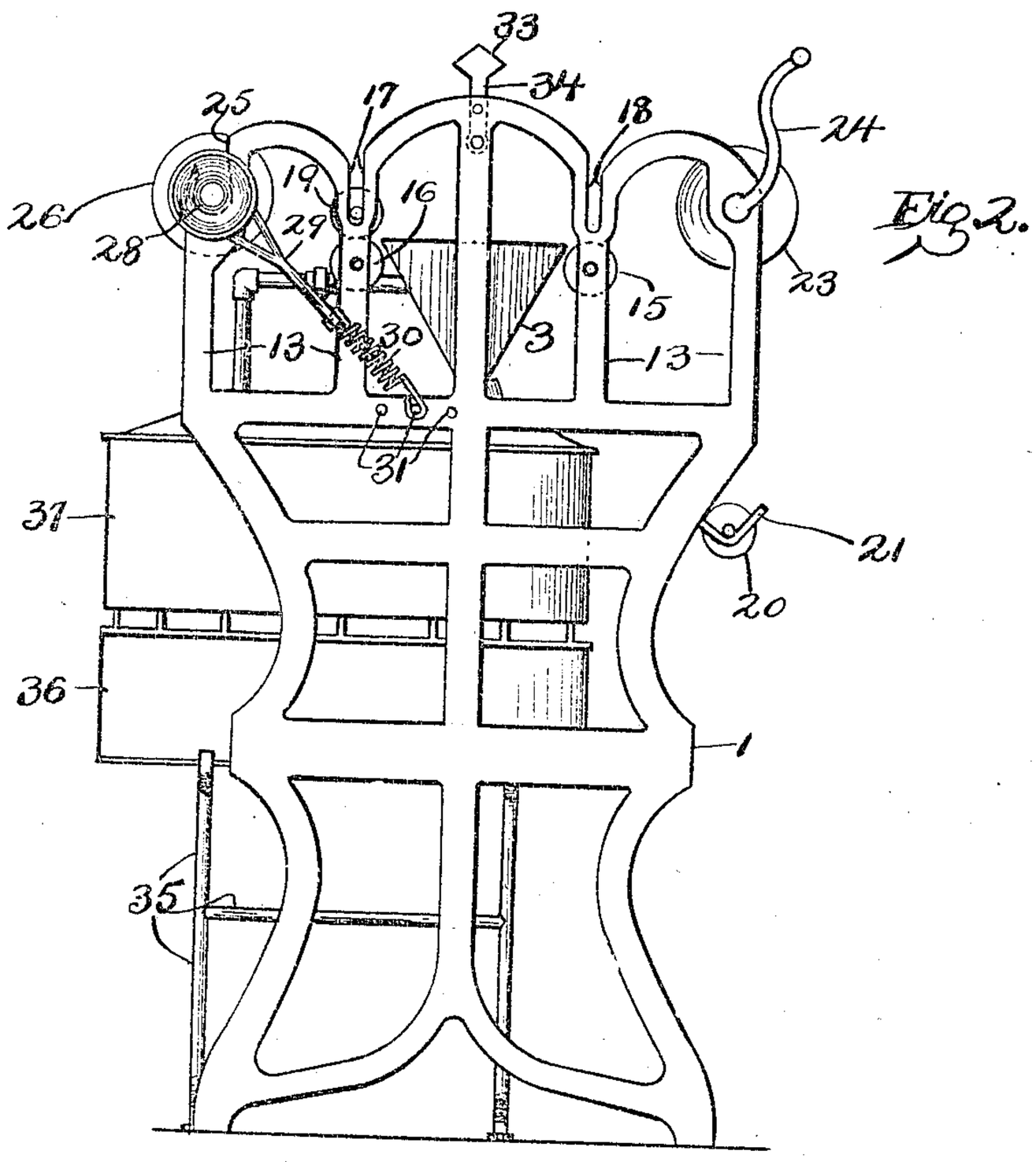

Fig. 2.

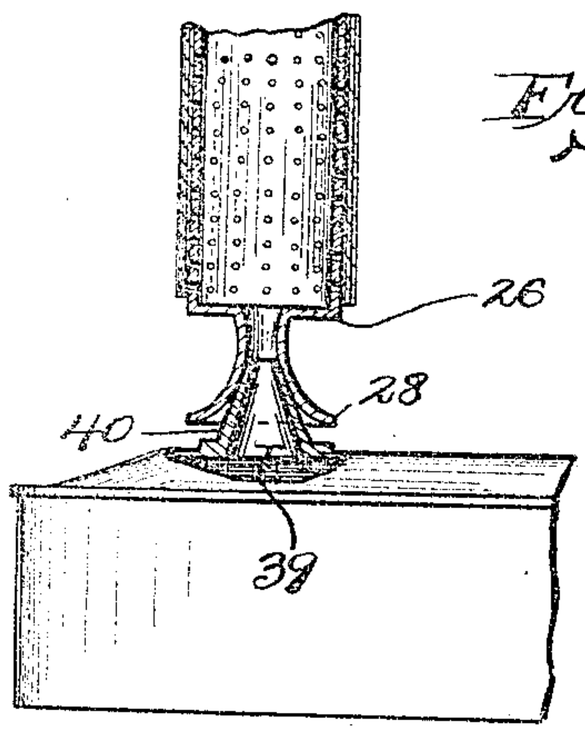

Fig. 3.

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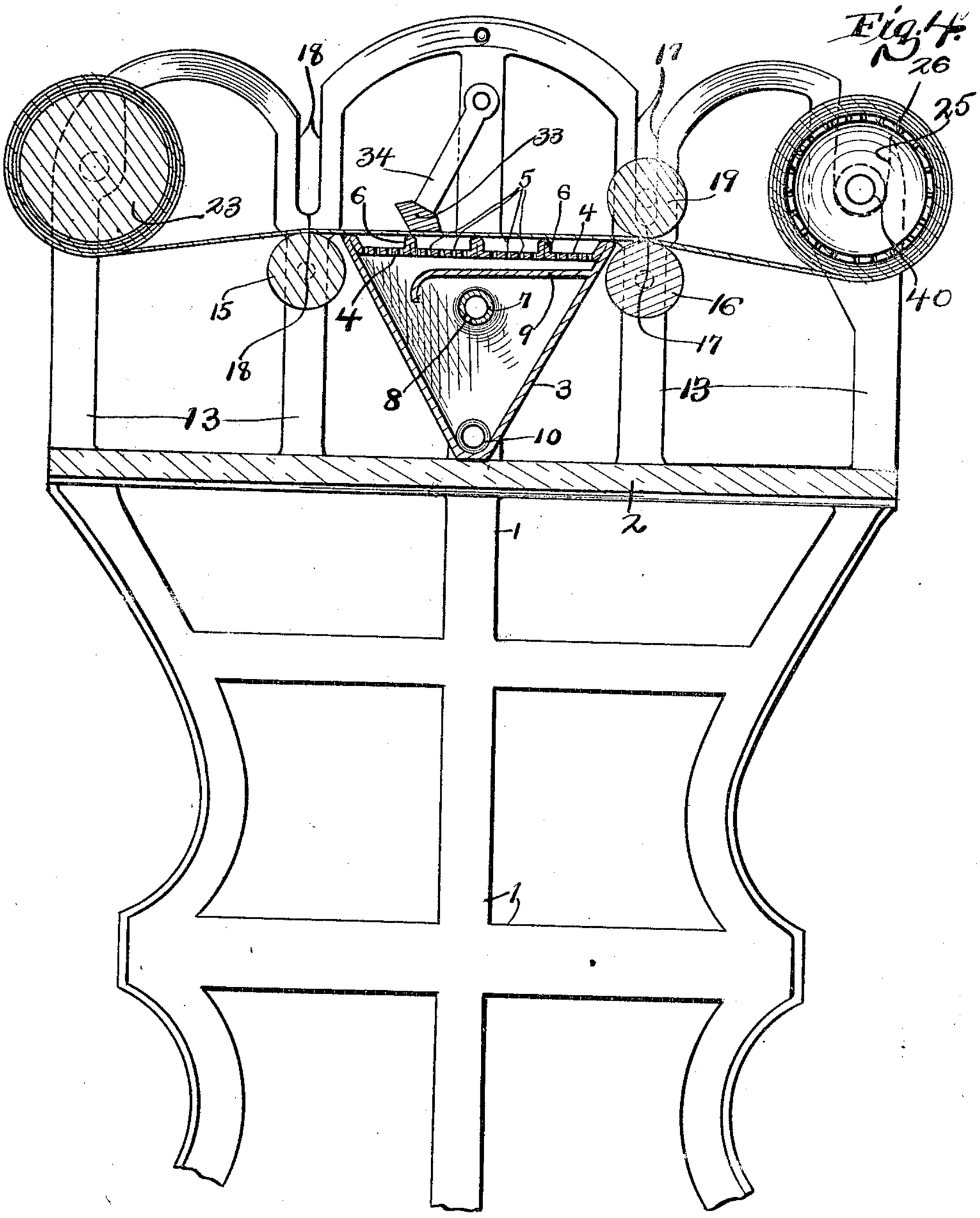
3 SHEETS—SHEET 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT BRAY, OF CLEVELAND, OHIO, ASSIGNOR TO SPOTLESS STEAM SPONGER COMPANY, OF CLEVELAND, OHIO.

CLOTH-SHRINKING DEVICE.

No. 837,281. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed July 10, 1905. Serial No. 269,061.

To all whom it may concern:

Be it known that I, ALBERT BRAY, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cloth-Shrinking Devices; and I 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 pertains to make and use the same.

This invention relates to a new and useful improvement in cloth-sponging machines.

The object of this invention is to provide a machine of this character which will thoroughly shrink the material and at the same time remove all wrinkles and creases therefrom.

My invention therefore consists in the features of construction and combination of parts, as shown in their preferred form in the drawings, described in the specification, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is an end elevation of same. Fig. 3 is a detail view, partly in section, of a portion of the boiler and steaming-cylinder with the cloth which is to be shrunk wound thereon. Fig. 4 is a central section of the machine with the lower part broken away and the cloth arranged in position to be sponged.

Again referring to the drawings, 1 represents a frame on which is mounted a table-top 2. The steaming-box 3 is triangular-shaped in cross-section, and the apex thereof is toward the table-top 2. The top 4 of the steaming-box 3 is provided with the usual perforations 5 for the passage of the steam. On the surface of the top 4 of the steaming-box are formed a series of ridges 6, which extend longitudinally thereof. The object of these ridges is to hold the cloth or material which is being steamed away from the surface of the steaming-box, so that the cloth will not come in contact with the water from the condensation of the steam on the surface of the steaming-box. Within the steaming-box is arranged a steam-pipe 7, which is provided with a series of perforations 8, arranged to direct the steam toward the bottom of the box. A plate 9 is secured at one side of the steam-box and extends above the steam-pipe 7 and serves to partially intercept the steam as it rises to the top of the steaming-box, and the excess of moisture in the steam condenses on the plate 9, and therefore the steam which passes out through the perforations in the top of the box is comparatively dry. In the bottom of the steam-box is arranged a drain-pipe 10. At each end of the table-top 2 are arranged standards 13 and 14, in which are rotatably mounted small rollers 15 and 16, respectively, one at each side of the steam-box, near the top thereof. In the respective standards above the rollers 15 and 16 are formed vertical grooves 17 and 18, which are arranged to receive the ends of rollers 19 and 20. The rollers 19 and 20 are made removable, so that they can be lifted out of the way when the cloth is being arranged on the machine, and as only one of the rollers is usually needed small brackets 21 are provided at the side of the frame for holding the roller not in use. The rollers 15 and 20 and 16 and 19 are what may be termed the "pairs" of pressing-rollers. In the standards 13 and 14 is journaled a wooden drum 23, which is provided with a crank-arm 24, by means of which it is turned, and on the opposite side of the steaming-box in open bearings 25, formed in the said standards 13 and 14, is rotatably mounted a steaming-drum comprising a perforated cylinder 26, closed at one end, where it is provided with a crank-arm 27. The other end of the cylinder 26 is provided with a funnel-shaped mouth 28. A strap 29 is arranged on the steaming-drum, preferably at the end near the mouth, and is connected with the frame of the machine by means of a coil-spring 30, the free end of which is arranged to engage with one of a series of pins 31. The strap and spring together constitute an adjustable tension device or brake, which prevents the drum from rotating too freely. The opposite end of the steam-drum is held in its bearing by means of a hook 32. A smoothing and pressing device is supported centrally over the steaming-box and comprises a rigid bar 33, which is hung from two arms 34, which are pivotally secured to the respective standards 13 and 14, and the said arms 34 are longer than the vertical distance

between their points of support and the top of the steaming-box, so that the bar 33 when in its operative position lies along the top of the steaming-box, near one edge thereof.

In Figs. 1 and 2 the pressing-bar 33 is shown in its inoperative position—that is, turned up so that the cloth can be spread out beneath it—and in Fig. 4 the pressing-bar 33 is shown in its operative position—that is, lying along the surface of the steaming-box. The bar 33 is provided with two faces arranged at an angle to each other, one of which rests on the cloth when the bar is in its operative position. Near one end of the frame 1 is arranged a stand 35, on which is mounted a burner 36. Above the burner is arranged a boiler 37, which is connected with the steam-box 3 by means of a pipe 38. In the top of the boiler is formed an opening 39, around which is arranged a nipple 40. A cap 41 is provided for the nipple.

The operation of the machine is as follows: After the cloth which is to be shrunk has been rolled upon the steaming-drum the cap is removed from the end of the nipple on the boiler and the mouth of the steaming-drum is placed over the nipple. The steam from the boiler passes into the steaming-drum and out through the perforations in the side thereof, and when the cloth has been thoroughly steamed the steaming-drum is removed from the boiler and placed in its bearings in the frame. The cloth is then stretched across the top of the steaming-box and between a pair of the pressing-rollers, and the end of the cloth is wrapped around the wooden drum 23. The pressing-bar is then let down so that it lies on the surface of the cloth. The wooden drum 23 is then rotated, so as to wind the cloth onto the wooden drum and off of the steaming-drum, and at the same time steam is admitted into the steaming-box, so that as the cloth travels over the steaming-box it is again steamed by the steam which rises through the perforations in the top of the box. The cloth can be wound back and forth from the wooden roller to the steaming-roller, carrying it back and forth across the steaming-box and between the pressing devices as many times as is desired, thereby thoroughly shrinking the cloth and removing all wrinkles and creases therefrom.

What I claim is—

1. In a cloth-shrinking machine, the combination of a frame, a steaming-box mounted on said frame, means for supplying steam to said steaming-box, means for supporting and drawing the cloth, to be shrunk, over said steaming-box and a cloth-smoothing device hinged above said steaming-box and arranged to rest on the surface of said cloth.

2. In a cloth-shrinking machine, the combination of a frame, a steaming-box mounted on said frame, means for supplying steam to said steaming-box, means for supporting and drawing the cloth to be shrunk across the surface of said steaming-box and a cloth-smoothing device comprising a rigid bar arranged to extend longitudinally of the top of said steaming-box and provided with two arms pivotally supported in the frame of the machine above the said steaming-box, substantially as described and for the purpose set forth.

3. In a cloth-shrinking machine, the combination of a frame, a steaming-box mounted on said frame, means for supplying steam to said steaming-box, means for supporting and drawing the cloth to be shrunk across the surface of said steaming-box and a cloth-smoothing device comprising a rigid bar arranged to extend longitudinally of the top of said steaming-box, said bar being provided with two faces arranged at an angle to each other and means for hinging said bar in said frame.

4. In a cloth-shrinking machine, the combination of a frame, a steaming-box arranged in said frame, means for supporting and drawing the cloth to be shrunk across the surface of said steaming-box, a cloth-smoothing device hinged above said steaming device and arranged to rest on the surface of said cloth, a burner supported in proximity to said steaming-box, a boiler arranged over said burner and a pipe directly connecting said boiler and said steaming-box, substantially as described.

In testimony whereof I sign the foregoing specification in the presence of two witnesses.

ALBERT BRAY.

Witnesses:
A. S. NEAL,
W. S. FOSTER.