

No. 630,566.

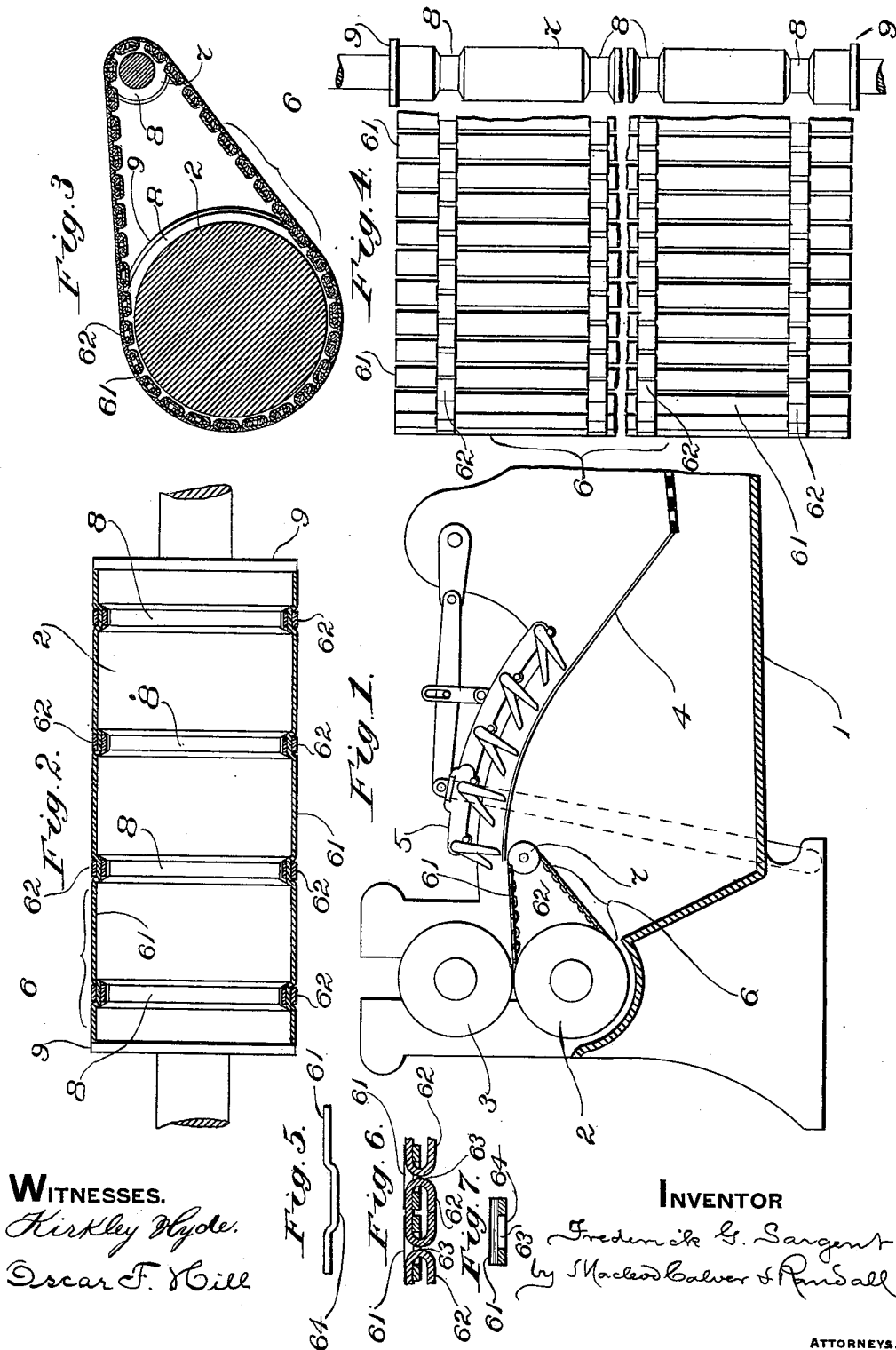
Patented Aug. 8, 1899.

F. G. SARGENT.
WOOL WASHER.

(Application filed Feb. 25, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES.

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INVENTOR

Fredrick S. Sargent
by Macken Balver & Randall

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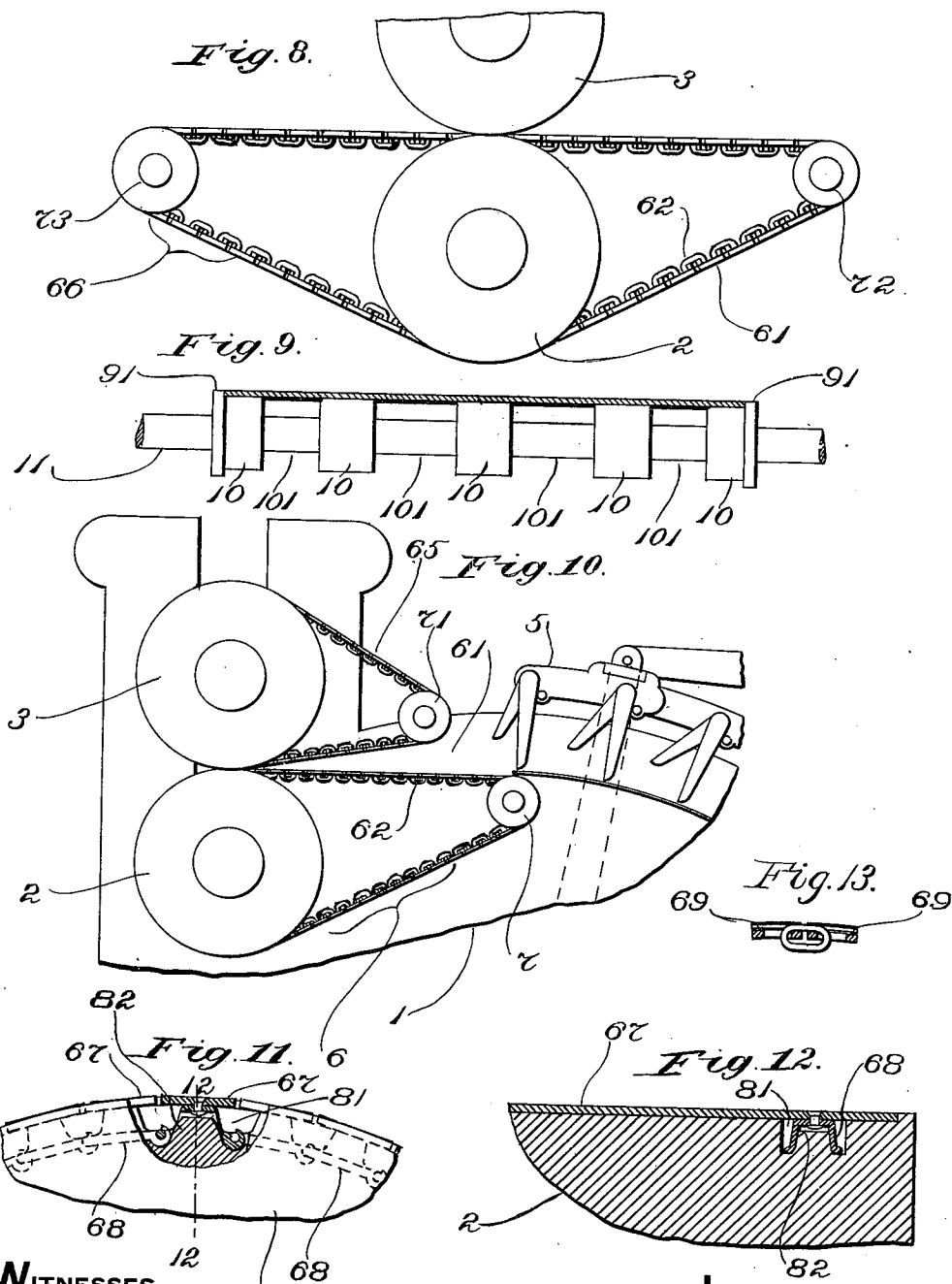
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UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT, OF GRANITEVILLE, MASSACHUSETTS.

WOOL-WASHER.

SPECIFICATION forming part of Letters Patent No. 630,566, dated August 8, 1899.

Application filed February 25, 1898. Serial No. 671,683. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK GRANDISON SARGENT, a citizen of the United States, residing at Graniteville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Wool-Washers, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 of the said drawings shows in longitudinal section part of a wool-washing machine having my invention applied thereto. Fig. 2 is a view showing in elevation the bottom press-roller of Fig. 1 and showing in transverse section the conducting-apron passing around such press-roller. Fig. 3 is a view showing the conducting-apron and the rollers around which it passes, all in section on a plane at right angles to the plane of section in Fig. 2. Fig. 4 is a plan view on an enlarged scale, showing portions of the said conducting-apron and of the guide-roller around which it passes, the lower press-roller being omitted. Fig. 5 shows in edge view a portion of one of the slats of which the conducting-apron is formed. Fig. 6 is a view showing in cross-section two of the said slats and also the links which are applied thereto. Fig. 7 is a view in cross-section of one of the slats. Fig. 8 is a view showing in side elevation a pair of press-rollers and a conducting-apron embodying my invention, the said apron being extended on the delivery side of the said rollers, so as to enable it to serve as a doffer-apron. Fig. 9 is a partly-sectional elevation representing a modification. Fig. 10 is a view similar to Fig. 1, but showing aprons applied to both of the press-rollers. Fig. 11 is a detail view, partly broken away, showing portion of a press-roller and also portion of an apron in which the slats are connected by a sprocket-chain. Fig. 12 is a view in section on the plane that is indicated by the dotted line 12 12 in Fig. 11. Fig. 13 is a sectional view illustrating slats which are curved in cross-section.

My invention consists in an apron or belt, of improved character and construction, which is intended for use in connection with a press-roller or the like, more especially in connection with the press-rollers of wool-washing machines for conducting materials into the

bite or nip of the press-rollers and also in some cases carrying them away from such rollers. On very greasy and short wools there always have been difficulty and trouble in getting the same into the bite or nip of the press-rollers, but practical experience with the present invention has demonstrated that such difficulty and trouble are obviated by the latter.

The invention will be described first with reference to the accompanying drawings, in which latter I have represented the best embodiments thereof which I have yet contrived, after which the distinguishing characteristics of the invention will be pointed out distinctly and clearly defined in the claims at the close of this specification.

1 in the drawings designates a portion of the tub or tank of a wool-washing machine.

2 designates the lower press-roller, and 3 the upper press-roller, the said pair of press-rollers 2 3 being located at the delivery end of the tub or tank 1.

4 designates the table, which is located within the tub or tank adjacent to the said pair of press-rollers, and 5 designates the usual carrier, it serving to move the wool or other material under treatment up the incline of said table in advancing it toward the press-rollers. The carrier 5 and its supporting and actuating mechanism are or may be of any approved construction—as, for example, in Letters Patent No. 175,258, granted March 28, 1876, or No. 250,758, granted December 13, 1881.

6 designates a conveyer or conductor-apron passing around the lower press-roller 2 and also around a guide-roll 7, located adjacent the upper end of the table 4, the upper portion of the said apron extending in approximately a horizontal plane from the said upper end of the table 4 to the bite or nip of the press-rollers 2 3. The wool which is carried up the table 4 by the carrier 5 is deposited on the apron 6, the latter being driven by the bottom press-roller 2, and by the movement of the said apron the wool is carried into the bite or nip of the press-rollers. In accordance with my present invention I form the apron 6 of metal, it being composed of a series of metallic slats having their length disposed crosswise of the apron, the said slats being joined together by means of metallic loops

or links. The slats are designated 61 61, while the loops or links are designated 62. The edges of the slats are placed in close proximity to one another, and in practice I have attained good results by making each slat one-eighth of an inch thick and five-eighths of an inch wide, although these exact proportions are not material and may be departed from. The loops or links 62 are made of flat strips of metal cut to proper length and bent into the elongated or elliptical shape which is shown in the drawings, more particularly in Fig. 6. To permit of the application of the said loops or links to the slats, slots are punched through the latter, as at 63 63, at suitable places in the length of the slats. The portions of the slats to which the loops or links are applied are bent downwardly, as at 64, so that the upper surfaces of the loops or links 62 shall lie flush or level with the upper surface of the slats, thereby giving the apron a smooth and unbroken flat upper surface coacting with the surface of the upper press-roller 3. There may be as many lines of the loops or links 62 extending lengthwise of the apron as may be found desirable in practice. Figs. 2 and 4 show four lines thereof, one line being near side edge of the apron and the two others being located intermediately. For the reception of the links or loops 62 and of the depressed portions 64 of the slats the lower press-roller 2 and the guide-roller 7 are formed with circumferential grooves 8 8, as shown most clearly in Figs. 2, 3, and 4. Raised flanges 9 9, equaling in height the thickness of the slats, may, if desired, be provided at the ends of the lower press-roller 2 and the guide-roller. The grooves 8 8 and the raised flanges 9 9, when the latter are provided, serve to secure movement of the apron 6 in proper line by preventing lateral deviation of the said apron. If desired, a second apron, as 65, of the construction which has been described may be employed in addition to the apron 6, as in Fig. 10, the said apron 65 being passed around a second guide-roller 71, located at a sufficient height above the upper part of the apron 6 to afford opportunity for the entrance of the wool between the proximate faces of the two aprons 6 and 65. Fig. 8 shows an arrangement in which the apron, (therein designated 66,) in addition to passing around the bottom press-roller 2 and a guide-roller (therein designated 72) located on the feeding side of the press-rollers 2 and 3, is continued on the discharging side of the said press-rollers, so as to enable the apron to serve for doffing purposes. In Fig. 8 the one apron serves both for conveying the wool from the table 4 and carrier 5 to the press-rollers 2 and 3 and for doffing the wool—that is to say, carrying the wool away from the press-rollers.

In lieu of grooving the lower press-roller and the guide-rollers, as in Figs. 2, 3, and 4, separate pulleys, as 10 10, Fig. 9, may be mounted upon a shaft, as 11, at distances apart from one another on the said shaft. The

said pulleys will be of the required diameter according as they are used in place of the press-roller 2 or of one of the guide-rolls. Raised flanges 91 91 on the end pulleys 10 10 of the series serve the same purpose as the raised flanges 9 9 of Figs. 2, 3, and 4.

It is intended that the loops or links 62 shall fit loosely in the grooves 8 8 or in the spaces 101 intervening between the pulleys 10 10 in Fig. 9 and that in each case the apron shall be driven by the contact of the press-roller with the flat surface of the slat.

In some cases I contemplate fastening the slats to the links of endless chains, as in Figs. 11 and 12, in which figures the slats are designated 67, and the links of such a chain, the same being shown chiefly in dotted lines, are designated 68 68. Each of the said chains fits within a groove (designated 81) formed around the press-roller 2. In Figs. 11 and 12 I have illustrated how the apron may be driven by means of teeth, as 82, formed in the bottom of the said grooves 81 and taking into the openings of the links of the chains 68. A characteristic of my invention is the fact that the loops, links, or endless chains, by which the slats are connected together into the form of an endless apron, lie in grooves in the rollers or rolls around which the apron passes or in the equivalent spaces 101 101 of Fig. 9, while the slats intermedate the lines of connections lie on the faces of the rollers or of the pulleys 10 10, so as to sustain the pressure of the top press-roller against the apron.

I contemplate in some cases forming the slats curved in cross-section, as indicated at 69 in Fig. 13, so that their under surfaces shall fit the periphery of the press-roller around which they pass.

I claim as my invention—

1. The combination with a pair of press-rollers, of the improved apron passing between said rollers and composed of metallic slats having slots therethrough and the depressed portions at and adjacent to the said slots, and the loops or links passed through the said slots to join the slats together, the said loops or links fitting within the said depressed portions with their upper surfaces adapted to lie flush with the upper surfaces of the slats to produce a smooth and unbroken flat upper surface to coact with the surface of the opposing press-roller, substantially as described.

2. The combination of a pair of press-rollers, one thereof having annular grooves around the same, of the apron passing between said rollers and composed of slats having slots therethrough and also having depressed portions at and adjacent to the said slots, and the loops or links passed through the said slots and joining the slats together, the said loops or links fitting within the said depressed portions with their upper surfaces adapted to lie flush with the upper surfaces of the slats to produce a smooth and unbroken flat surface to coact with the surface of

the opposing press-roller and the depressed portions of the slats fitting within the grooves of the roller, substantially as described.

5 3. The combination with a pair of press-rollers, and guide-rollers located on opposite sides of the lower press-roller, of an endless apron inclosing the lower press-roller and the said guide-rollers and serving to convey material to the press-rollers and also doff or convey away the said material on the discharge

side of said press-rollers, the said apron being composed of metallic slats and connections flexibly joining such slats, substantially as described.

In testimony whereof I affix my signature 15
in presence of two witnesses.

FREDERICK G. SARGENT.

Witnesses:

HEPHYIBAH SARGENT,

MARY H. SARGENT.