

(No Model.)

A. W. CUMMINGS.

MACHINE FOR SQUEEZING THE STARCH OUT OF COLLARS.

No. 509,512.

Patented Nov. 28, 1893.

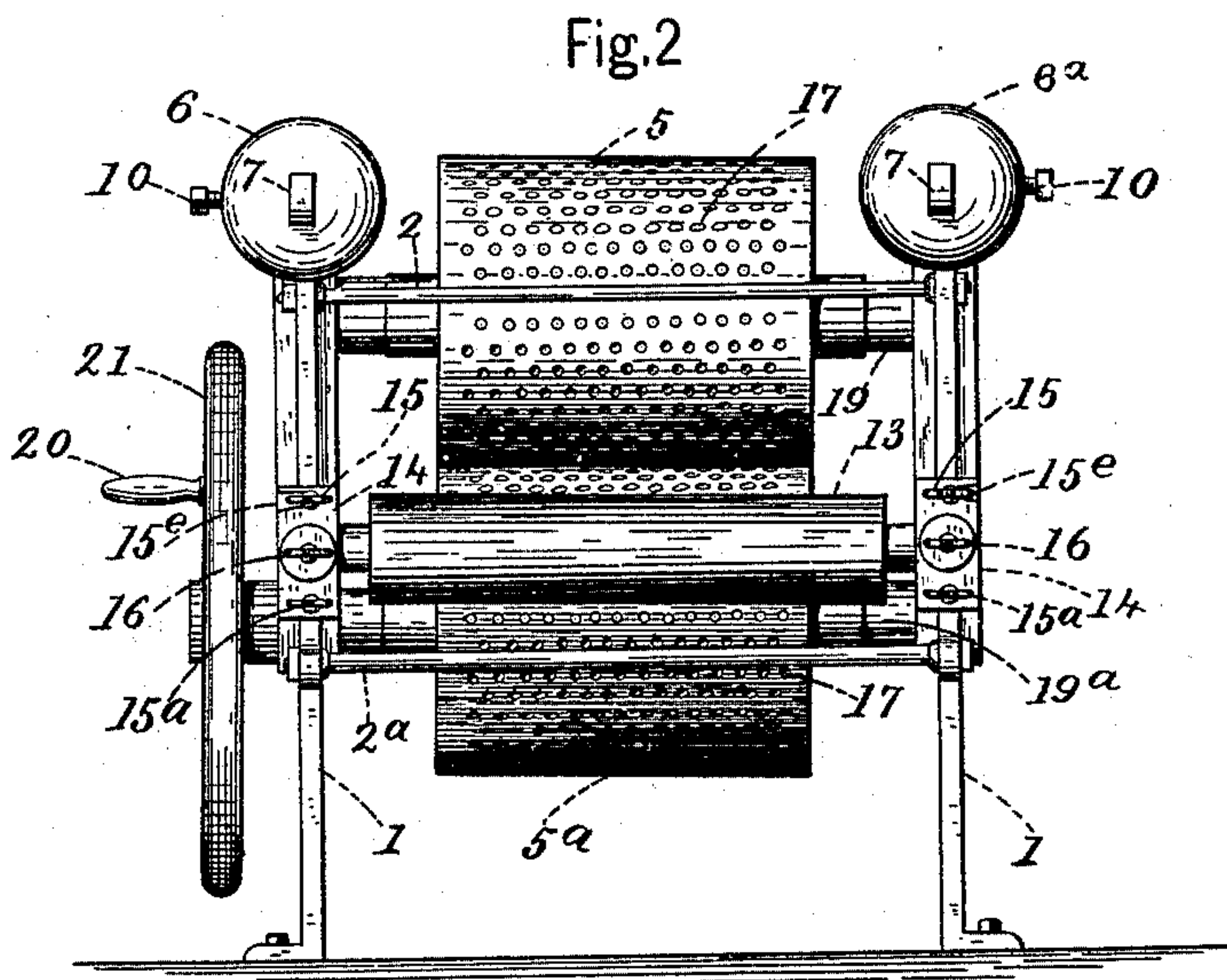
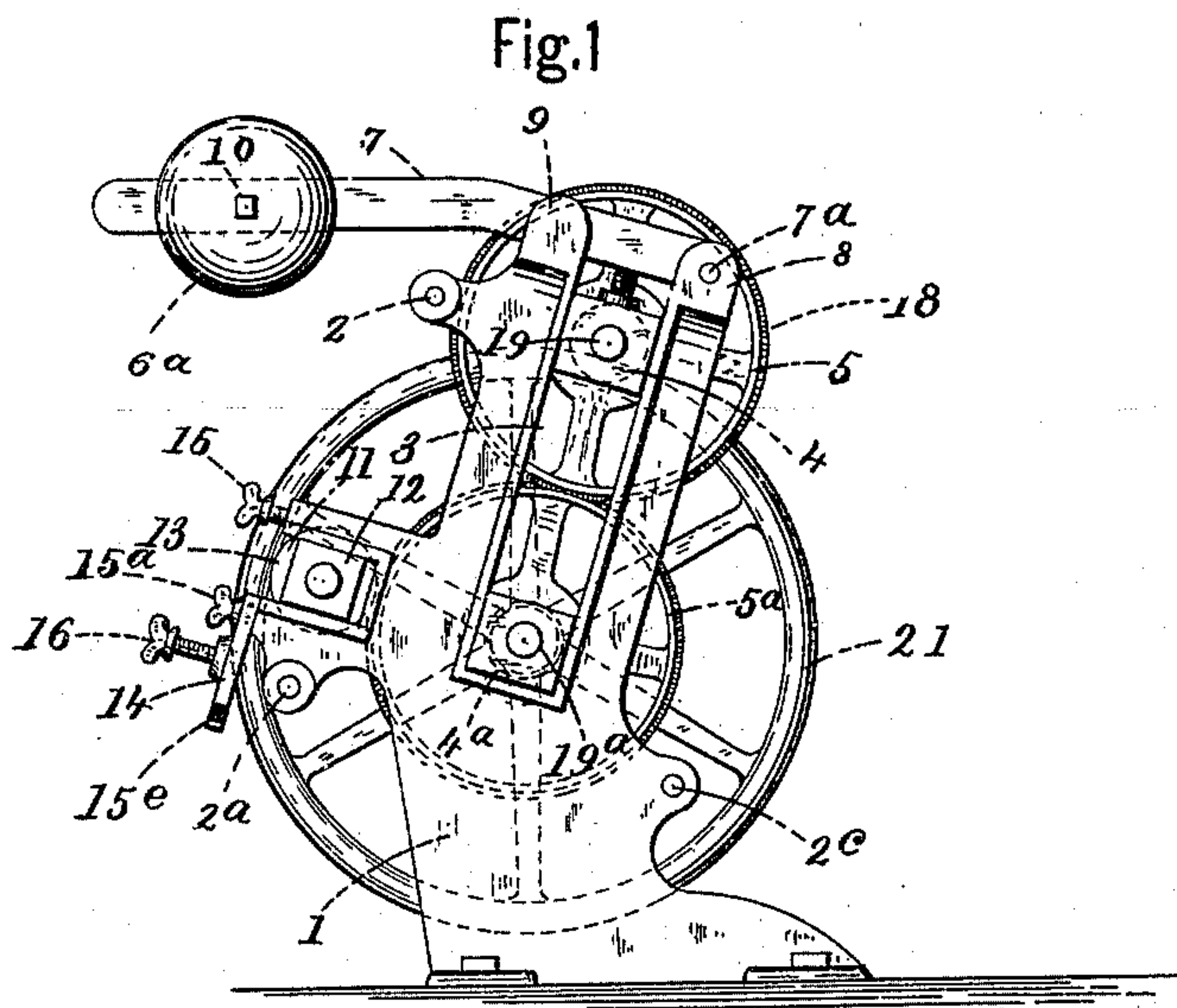
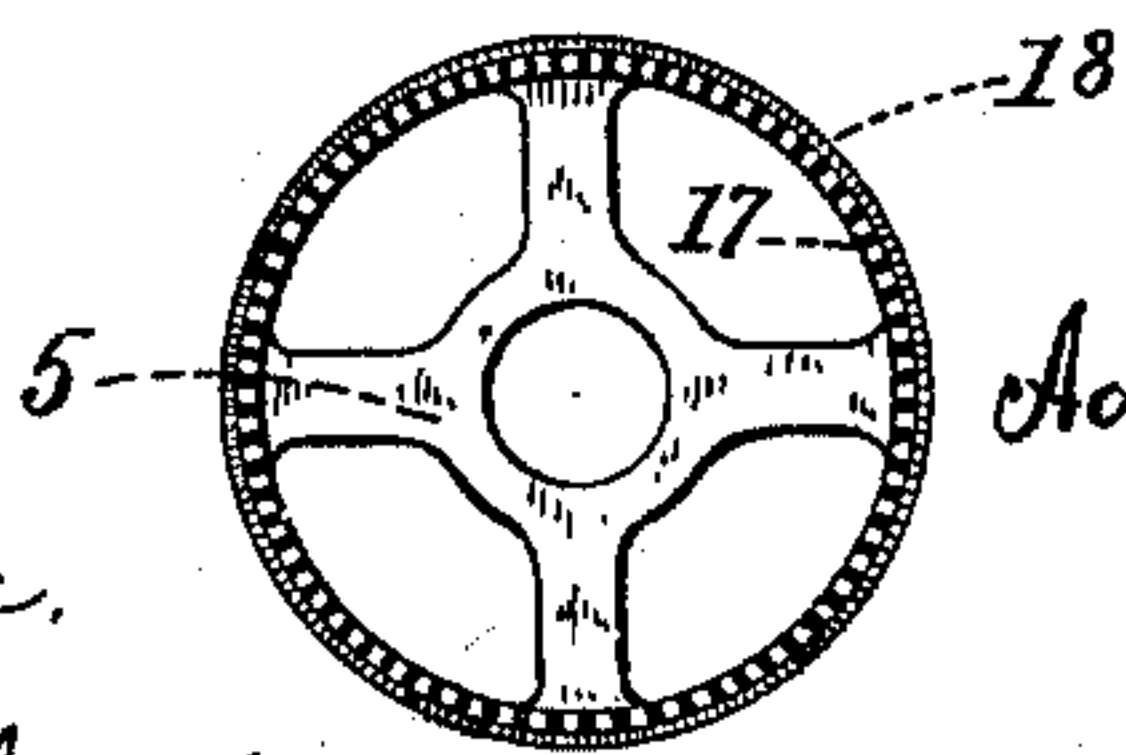


Fig. 3



Witnesses.

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UNITED STATES PATENT OFFICE.

ADELBERT W. CUMMINGS, OF DUNKIRK, NEW YORK.

MACHINE FOR SQUEEZING THE STARCH OUT OF COLLARS.

SPECIFICATION forming part of Letters Patent No. 509,512, dated November 28, 1893.

Application filed March 18, 1893. Serial No. 466,567. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT W. CUMMINGS, a citizen of the United States, residing in Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Machines for Squeezing the Starch out of Collars, of which the following is a specification.

My invention relates to an improved machine for simultaneously smoothing and wringing or squeezing the starch out of collars and cuffs after being dipped in the starch, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the machine complete. Fig. 2 is a front elevation, the cloth which is connected with the rollers when in operative condition being omitted. Fig. 3 represents a cross section through one of the perforated wringing or squeezing rollers.

The object of this invention is to provide the means whereby the starch is prevented from being forced between the several thicknesses composing a collar or cuff to the end of the same and then bursting it before finding a sufficiently free outlet:

Referring to the said drawings, the side frame pieces, 1, are both substantially alike and are held together at the front and back by binding rods 2, 2^a and 2^b.

In each side of the frame of the machine is a guideway, 3, slightly inclined from a vertical position, (but they may be arranged so as to be vertical if desired.) In these guideways are two boxes 4 and 4^a, in which are mounted two hollow perforated squeezing rollers, 5, and 5^a. To hold the squeezing rollers 5 and 5^a, in contact or toward each other with a uniform pressure, whether they are close together or separated by different thicknesses of material passing between them I employ two weights 6 and 6^a, each mounted adjustably on an arm, 7, pivoted by pins 7^a to the top of the machine frame. Opposite the ear or part, 8, (see Fig. 1,) at the top of the machine is another similar part and between them are pivoted the arms, 7, by the pins, 7^a, so that they may be moved on said pivots without moving laterally. There is also an-

other opening in the top at each side of the frame, which is made in the usual way, and acts as a guideway for the arms, 7, at the point 9, see Fig. 1.

The weights 6 and 6^a, being mounted on the arms, 7, so as to be movable along them, are easily adjustable and are secured when adjusted by the set screws 10. and it is apparent that the farther they are away from their pivots, 7^a, the greater they will force roller, 5, toward the roller 5^a, and the greater will be the pressure exerted when the machine is in operation. Some collars are composed of four or five thicknesses and others of two or three and the advantage of these weights is that all receive the same pressure. At each side of the front of the machine is another guide way, 11, in which is located a box, 12. In these two boxes is mounted an elastic roller, 13, made of india rubber, or other similar elastic material. The object of this roller, 13, is to provide the means for squeezing the surplus starch which accumulates on the lower wringing or squeezing roller out of the way so as to leave both rollers comparatively clean as the collars are fed in between them.

The boxes in which the rubber roller 13 is mounted are secured in place by caps, 14, (see Fig. 1,) held to the frame by thumb screws 15 and 15^a, the thumb screw 15^a, when loosened, acting as a pivot for the cap, 14, and the opposite end of the cap being cut at the side so as to form a hook 15^b, which catches over the thumb-screw, 15, in which position the thumb-screws 15 and 15^a, may be tightened so as to secure the caps rigidly in place. The roller, 13, is then adjusted to or from the lower squeezing or wringing roller 5^a, by the thumb screw, 16.

The squeezing or wringing rollers 5 and 5^a, are made hollow and are provided with a series of perforations 17, and over these perforations is secured one or more thicknesses of cloth, 18. A cheese cloth will answer a good purpose. Each of these rollers is provided with a shaft, 19 and 19^a, which is mounted so as to turn easily in the boxes 4 and 4^a.

It will be noticed that the rollers 5 and 5^a, are set so that one end is lower than the other. The object of this construction is to have the

rollers set on an incline so that the starch which is forced through the cloth, 18, and the perforations, 17, into the interior of the rollers, will run out at one end and be caught in
5 a suitable receptacle.

The advantage of the perforations in the rollers 5 and 5^a, is that they allow the starch to pass through the cloth and within the cylinder instead of being forced to one end of a
10 collar or cuff and bursting it.

The operation of the machine will be easily understood from the foregoing description and drawings. The collars and cuffs are fed into the machine or between the rollers 5 and
15 5^a, while they are being turned by the handle, 20, on the fly wheel, 21.

The rollers are not geared together because the friction between them is sufficient for the moving roller to turn the other.

20 In place of the weights 6 and 6^a, springs may be used in any well known way for holding the squeezing rollers in contact.

I claim as my invention—

1. In a machine for squeezing the starch out

of collars, the combination of two hollow per- 25
forated squeezing rollers mounted in boxes in a suitable holding frame so that one roller rests on the other, two pivoted weighted arms for holding the upper roller down in contact with the lower roller with a yielding force, a
30 covering of cloth over the perforations in the face of the squeezing rollers and a means for turning said rollers substantially as described.

2. In a machine for squeezing the starch out
of collars, the combination of two hollow per- 35
forated squeezing rollers mounted in boxes in a suitable holding frame, a means for holding said rollers together with a yielding force, a covering of cloth over the perforations in the
40 face of the squeezing rollers, an elastic roller mounted in boxes in the frame of the machine and made adjustable to or from one of the squeezing rollers, and a means for turning said rollers, substantially as described.

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Witnesses:

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