

A. T. HAGEN & D. M. COOPER.

DAMPENING MACHINE.

APPLICATION FILED APR. 27, 1903.

969,688.

Patented Sept. 6, 1910.

3 SHEETS—SHEET 1.

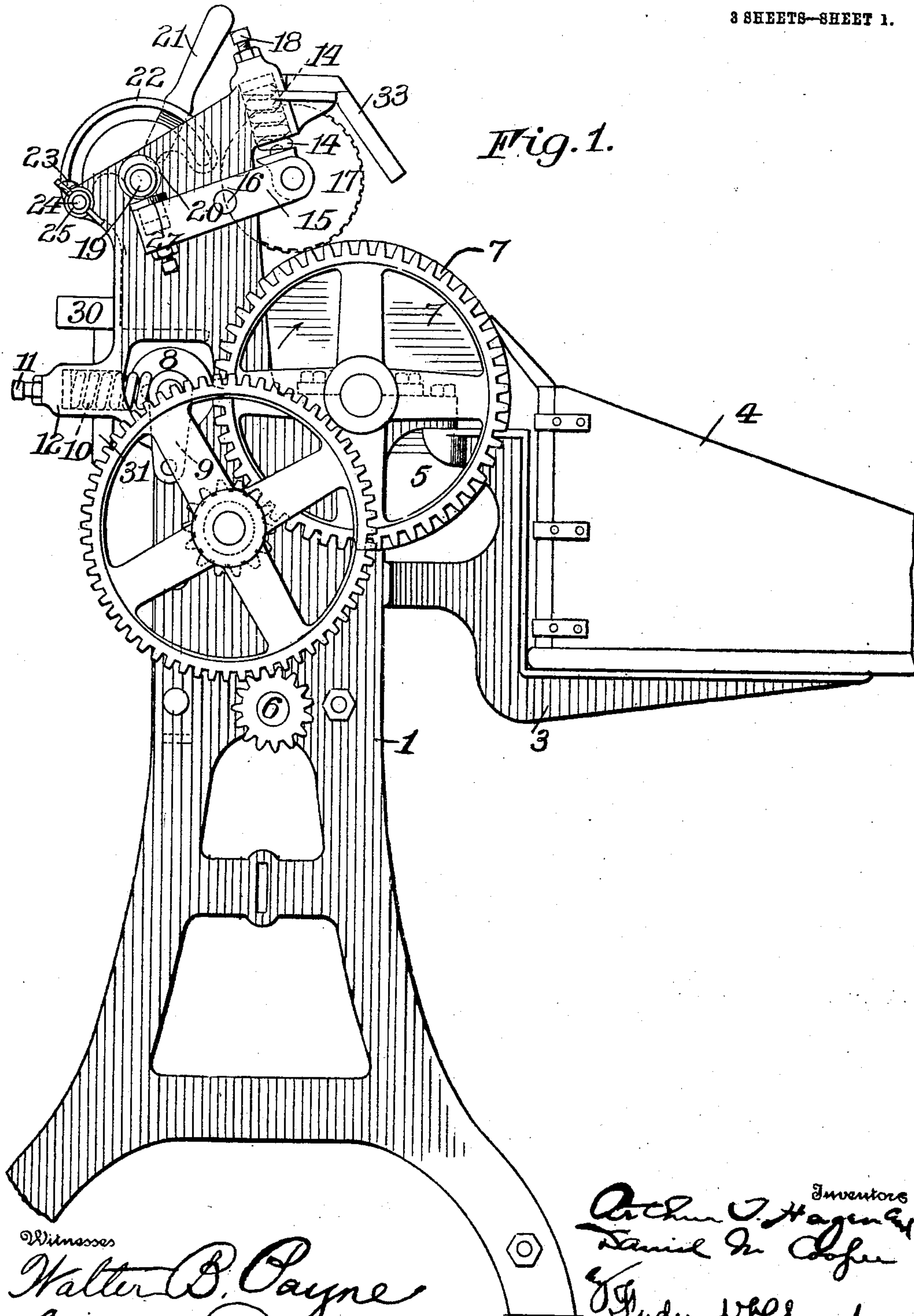


Fig. 1.

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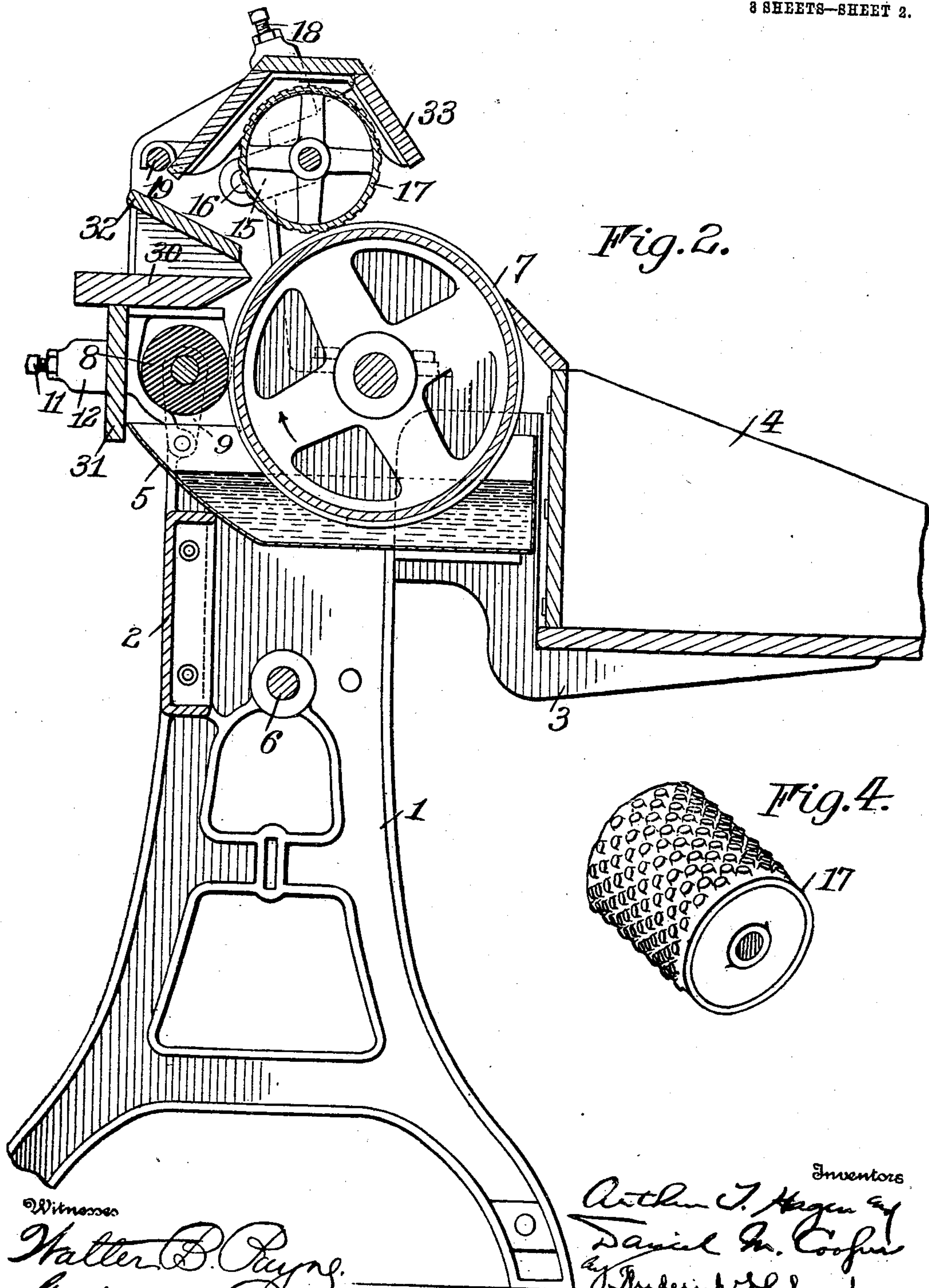
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8 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

ARTHUR T. HAGEN AND DANIEL M. COOPER, OF ROCHESTER, NEW YORK, ASSIGNORS,  
BY MESNE ASSIGNMENTS, TO AMERICAN LAUNDRY MACHINERY COMPANY, OF  
CINCINNATI, OHIO, A CORPORATION OF OHIO.

## DAMPENING-MACHINE.

969,688.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed April 27, 1903. Serial No. 154,416.

*To all whom it may concern:*

Be it known that we, ARTHUR T. HAGEN and DANIEL M. COOPER, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Dampening-Machines; and we 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.

Our present invention has for its object to provide an improved machine for use in laundries and particularly for dampening collars and cuffs and similar articles requiring a certain amount of moisture before being ironed; and it consists in certain improvements and combinations of parts, all as will be hereinafter fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1, is a side elevation of the dampening machine embodying our improvements. Fig. 2, is a vertical sectional view on the line *a-a* of Fig. 3. Fig. 3, is a top plan view of the same. Fig. 4, is a detail perspective view of a modified form of pressing roll.

Similar reference numerals in the several figures indicate similar parts.

The main frame or support of the machine may be of the usual construction embodying sides or standards 1, connected by a cross brace 2 at the front of the frame, and on the latter side brackets 3 are mounted on which is supported a receptacle 4 and a water pan 5. A dampening cylinder 7, provided with the usual wrapping of absorbent or fibrous material, is journaled in the main frame and connected by intermediate gearing with the power shaft 6, also mounted in suitable bearings therein. A wringing roll 8, preferably of rubber, is rotatably mounted in rocking levers 9, pivoted to the side frames or standards 1 at one side of the cylinder and it is adapted to bear against the latter with a yielding pressure which may be adjusted by the set screws 11, acting through the springs 10 located in sockets 12 in the frame. By this construction the water carried from the pan 5 by the absorbent wrapping is expressed by the roll 8 to any desired degree, thereby

rendering the amount of moisture on the upper operative surface of the roll under absolute control.

Arranged above the wringing roll is a pressure roll 17 preferably of brass, bronze or similar material journaled in the outer ends of rock levers 15 pivoted to the frame at a point 16 intermediate their ends and normally operated into engagement with the cylinder 7 by spring mechanism similar to that described in connection with the wringing roll consisting of springs 14 and adjusting screws 18. The roll 17 is driven by contact with the cylinder 7 and serves to retain articles inserted between it and said cylinder in contact with the latter, and discharge said articles onto the receptacle 4.

Extending across the frame and journaled therein is a shaft 19 provided at its ends with cams 20 bearing upon plates 27 adjustably secured to the opposite ends of said levers. The cam shaft 19 is provided with a handle 21 whereby it may be rotated, and also attached to said handle is a rocking sector 22 adapted to be secured in any desired position, indicated by the pointer 23, by means of the thumb nut 25 and headed bolt 24 passing therethrough.

The pressure roll 17 is provided with an irregular surface formed by indenting portions thereof and providing it with fingers or projections, as shown in Fig. 4, which are arranged close enough in proximity to each other to engage the articles operated upon and to hold them in contact with the dampening cylinder with sufficient pressure to allow said articles to absorb the required amount of moisture. The preferred form of pressure roll which we have illustrated in the drawings has upon its surface longitudinally extending ribs 26 which, as the roll rotates in contact with the dampening cylinder, successively engage the surface thereof at separated points, the indentations upon the surface of the feed roll permit the liquid to pass freely between the rolls thus preventing the formation of a rib or ridge of water between their meeting edges, whether or not articles are being fed. It will be understood, however, that the pressure roll is susceptible of being constructed in different ways than those suggested and the invention comprehends, together with the other features of the machine, a pressing



roll so constructed that while it operates to hold articles in contact with the dampening cylinder to cause them to absorb moisture therefrom, it does not operate as a wringing roll to express the liquid.

At the forward side of the frame and arranged above the roll 8 is a feed table 30 from which depends an apron 31 protecting said roll and provided above the table is a guard 32. Also arranged over the roll 17 is a housing or guard 33, as shown in Fig. 2.

In the operation of our device, sufficient water is placed in the pan 5 to immerse the lower part of the dampening cylinder. The latter is then set in motion, rotating in the direction indicated by the arrow and the pressure on the wringing roll is adjusted to express surplus moisture, so that only the desired amount is carried by the absorbent covering. The pressure roll being also properly positioned in the manner described its periphery engages the dampening cylinder, or an article inserted between it and the cylinder, at separated points arranged in close enough proximity to hold said articles in contact with the wet surface, but without expressing or squeezing the moisture from the latter.

The arrangement of parts set forth enables an operator to supply goods to the dampening cylinder continuously, as they will always engage a surface provided with the requisite amount of moisture, and as no water is expressed by the roll 17, either when running free or when articles are being fed, said articles will be dampened uniformly.

By our invention each article receives the same degree of moisture throughout its length and the moisture expressed from the absorbent surface is not driven along said surface ahead of the pressure roll to form a ridge or rib of water. Where a smooth surface pressure roll is employed the excess of liquid in the absorbent surface in front of the pressure roll virtually forms the source of supply from which the moisture passes into the article being dampened, with the result that the pressure roll then acts as a wringer roll driving the excess of liquid to the rear end of the article, whereby said end becomes excessively dampened, if not saturated. A pressure roll constructed and operating in accordance with our invention, provided with spaced projections which engage separated points of the article, holds them in close contact with the absorbent surface while the intervening portions of the surface of the article are also held in engagement with said surface, but without direct pressure, so that the entire surface of the article passing beneath the roll receives moisture from the dampening surface. The indentations between the projections of the

pressure roll permit the moisture which may be displaced by the projections to be accommodated in the immediate vicinity of said points of displacement, so that there is no tendency to cause an excess of liquid to accumulate in front of and be driven ahead of the point of contact of the pressure roll and absorbent surface.

What we claim is:—

1. A dampening machine for starched articles comprising a controllable water supply and two cooperating traveling surfaces moving together continuously in the same direction, one of said surfaces being provided with unyielding spaced projections which press portions of the starched articles against the other surfaces to break down the starch, the spaces between the projections permitting the water to act on the articles.

2. In a dampening machine for starched articles, the combination with a traveling absorbent surface and a controllable water supply therefor, of a cooperating traveling surface engaging the absorbent surface, moving with the latter continuously in the same direction and having a face provided with unyielding spaced projections, said projections being adapted to engage an article successively at separated points, the projections compressing the said portions of the article into close engagement with the absorbent surface to break down the starch and the spaces between said projections permitting those portions of the article between the projections to contact with the absorbent surface without pressure and to be moistened by contact therewith.

3. In a dampening machine, the combination with a traveling absorbent surface and means for supplying liquid thereto, of a wringing device and a pressure roll cooperating with the absorbent surface and having an operating face provided with projections which engage the article at separated points, the spaces between the latter permitting the intermediate spaces of the articles to absorb moisture from the absorbent surface.

4. In a dampening device for laundry articles, the combination with a traveling absorbent surface and means for applying liquid thereto, of means for continuously applying a uniform pressure to said surface to express superfluous moisture therefrom and separate means successively engaging separated points on said surface for holding equidistantly spaced portions of the articles passing over said surface in close contact therewith and imparting moisture carried by the surface.

5. In a dampening device, the combination with a cylindrical absorbent surface, means for applying liquid thereto, of a wringing device for expelling superfluous moisture



therefrom and a presser roll engaging the absorbent surface and driven thereby, said roll having equidistantly spaced projections on its circumference for contacting with articles to successively press separated portions thereof into engagement with the absorbent surface, the depressions between the projections preventing the liquid displaced in the absorbent surface by the engagement of the pressing projections therewith from being driven in front of the presser roll.

6. In a dampening machine, the combination with a dampening cylinder having an absorbent surface, a liquid bath into which the cylinder dips, a pressing roll adjustably supported in proximity to said surface having an operating surface provided with indentations and projections between the latter which successively engage the dampening cylinder and articles interposed between it and the dampening cylinder for preventing the liquid in the absorbent surface from being driven along said surface in advance of the pressing roll and an adjustable spring pressed wringing roll engaging said dampening cylinder between the liquid bath and said pressing roll.

7. In a dampening machine in combination, an upper and a lower roll between which the article to be dampened is adapted to pass, the upper roll having a hard roughened periphery, and a source of water supply for one of the rollers.

8. In a dampening machine, in combination, a pair of dampening rolls, between which the article to be dampened is adapted to pass, the periphery of one of said rolls having a hard roughened surface, supports for said rolls and means to maintain the rolls out of contact with each other.

9. In a dampening machine, in combination, a pair of dampening rolls, between which the article to be dampened is adapted to pass, the periphery of one of said rolls having a hard roughened surface, supports for said rolls and means to adjust the position of said rolls with reference to each other.

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