C. J. EVERETT & J. V. McADAM.

WRINGER.

APPLICATION FILED OCT. 10, 1912.

1,181,752. Patented May 2, 1916.

Fig. 1.

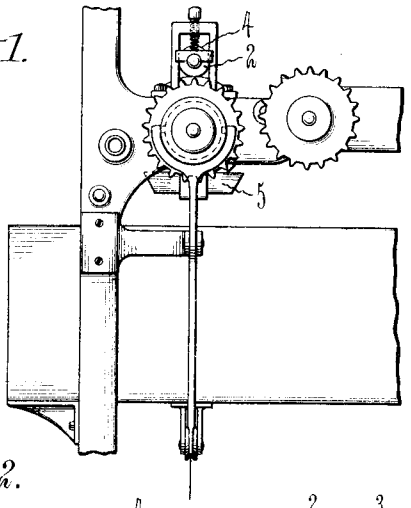


Fig. 2.

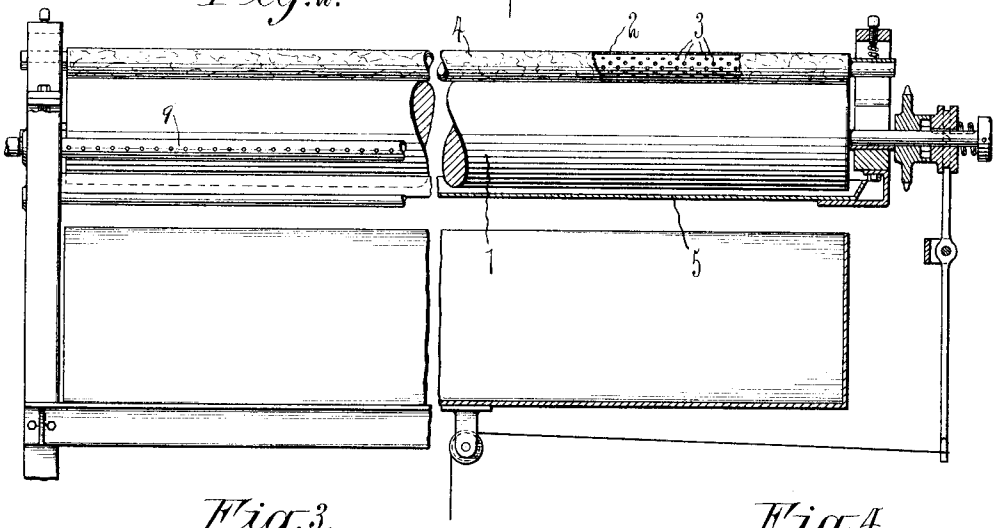


Fig. 3.

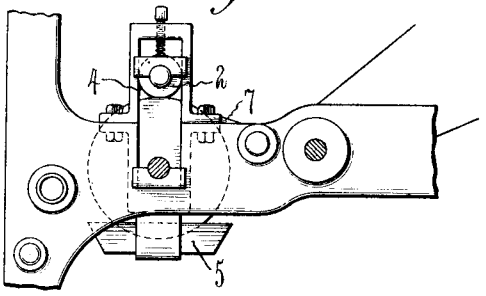
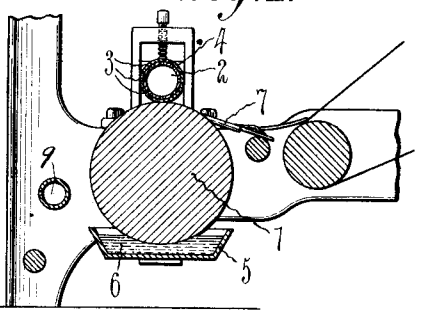


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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WRINGER.

1,181,752. Specification of Letters Patent. Patented May 2, 1916.

Application filed October 10, 1912. Serial No. 725,050.

To all whom it may concern:

Be it known that we, CHARLES J. EVERETT and JOHN V. McADAM, citizens of the United States, and residents of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Wringers, of which the following is a specification.

This invention relates to an improvement in wringers and has for its object generally to provide a wringer of novel construction which will thoroughly and rapidly press the moisture from a wet sheet.

The wringer comprises coacting rolls, one having an unyielding non-absorbent surface and the other having a yielding porous, preferably absorbent surface.

In actual practice we have found that when two rubber wringing rolls were employed for taking the moisture off photographic sheets, it has been necessary to stop the wringer after the advance edge of the sheet has passed between the rolls and strip the sheet off with the finger-nail as the use of the ordinary stripping fingers was not practical because of the softness of the rolls and the liability of the stripping fingers cutting grooves in the rubber and thus ruining the rolls. We also found that even though the rubber rolls were absolutely true, the sheet would be wrinkled as it passed between the rolls due probably to the lessening of the radius of each roll by the compression of the rolls at the point of greatest pressure and the sticking of the sheet to the surface of the roll before the point of greatest pressure, thereby causing the sheet to travel on a circle of the initial radius of the roll and thus faster than at the line of pressure. This would cause the sheet to pile up at the line of pressure. We also found that the rubber rolls did not compress uniformly, due to the unequal elasticity of the rubber or to the difference of pressure, making it practically impossible to pass a sheet of any great length through the rolls without wrinkles being formed in the sheet. To obviate these obstacles, we tried a true non-compressible roll so that when the sheet was placed thereon all points in the sheet would travel at the same speed so that if the sheet was fed straight onto the roll, it would pass properly through the line of pressure. We then found that by making one of the rolls with a metal surface and the other roll with a yielding surface, other than rubber, the sheet would stick to the metal roll rather than to the yielding roll. Where two metal surfaced rolls are used stripping fingers would have to be used on each roll and a very exact adjustment given to the rolls to give a uniform pressure on the sheet so that one edge of the sheet would not be subjected to greater pressure than the other edge. This presents mechanical difficulties extremely hard to overcome, and requires great accuracy in the mechanism to keep the rollers parallel at all points. We found finally that with the use of a smooth metal surface roll and a felt surfaced roll, the sheets would be not only squeezed almost dry but even if a wrinkle should start on account of the sheet not being perfectly flat and true, as is frequently the case, the wrinkle can be localized by readjusting the sheet on the metal surfaced roll as it is being fed, with the hands, thus making the wrinkle vanish instead of increasing.

With the wringer as last above described, we have been able to feed very long and wide sheets therethrough without showing any wrinkles and we believe that this has never been done heretofore.

A practical embodiment of our invention is represented in the accompanying drawings, in which—

Figure 1 represents the wringer in side elevation mounted in a suitable framework, Fig. 2 is a view of the same partly in front elevation and partly in section, Fig. 3 is a detail side view on an enlarged scale, and Fig. 4 is a detail section on the same scale as Fig. 3.

The wringer comprises a pair of coacting rolls 1 and 2, the roll 1 having an unyielding non-absorbent surface and the roll 2 having a yielding porous, preferably absorbent surface. The roll 1 may be a smooth surfaced metal roll. The roll 2 is shown as being hollow and provided with perforations 3 through its walls. This roll is provided with a covering 4 of some yielding porous, preferably absorbent material, such as felt. Means are provided for applying liquid to the surface of the roll 1 as a lubrication, so that the sheets applied thereto will not stick to the roll, when first applied, and also to allow it to be slid freely upon the roll to a proper position thereon, which means is herein shown as a pan 5, containing a liquid 6 into which the bottom of the

roll 1 projects. A water pipe 9 is arranged to direct jets of water against the face of the sheet before it reaches the wringer, for the purpose of washing the face of the sheet.

Means are provided for stripping the sheets from the roll 1 after they have passed between the rolls 1 and 2, which means are herein shown as stripping fingers 7 engaging the periphery of the roll 1.

The wringer is especially well adapted for use in connection with the treatment of photographic sheets but we do not wish to limit ourselves to such a use as we contemplate the use of the wringer wherever possible.

What we claim is:—

1. A wringer comprising a roll having a non-absorbent surface, a coacting roll having an absorbent surface, and means for applying liquid to the surface of the first named roll as a lubricant therefor.

2. A wringer comprising a roll having a non-absorbent surface, a coacting roll having an absorbent surface, means for applying liquid to the surface of the first named roll as a lubricant therefor and a stripping means for said roll.

In testimony, that we claim the foregoing as our invention, we have signed our names in presence of two witnesses, this twenty-seventh day of September 1912.

CHARLES J. EVERETT.
JOHN V. McADAM.

Witnesses:
F. GEORGE BARRY,
C. S. SUNDGREN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."