

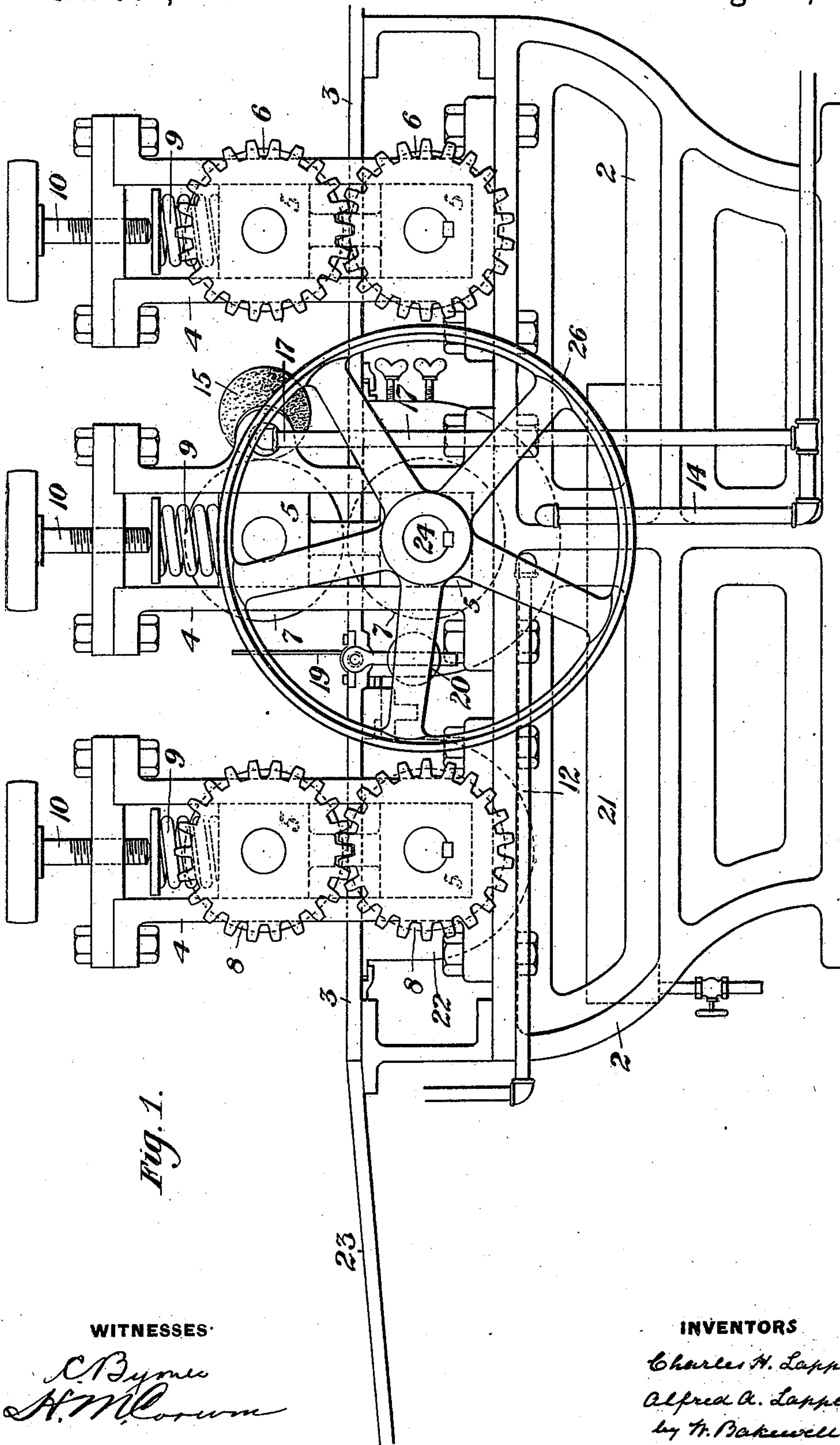
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4 Sheets—Sheet 1.

C. H. & A. A. LAPPE.  
MACHINE FOR COLORING LEATHER.

No. 504,224.

Patented Aug. 29, 1893.



WITNESSES

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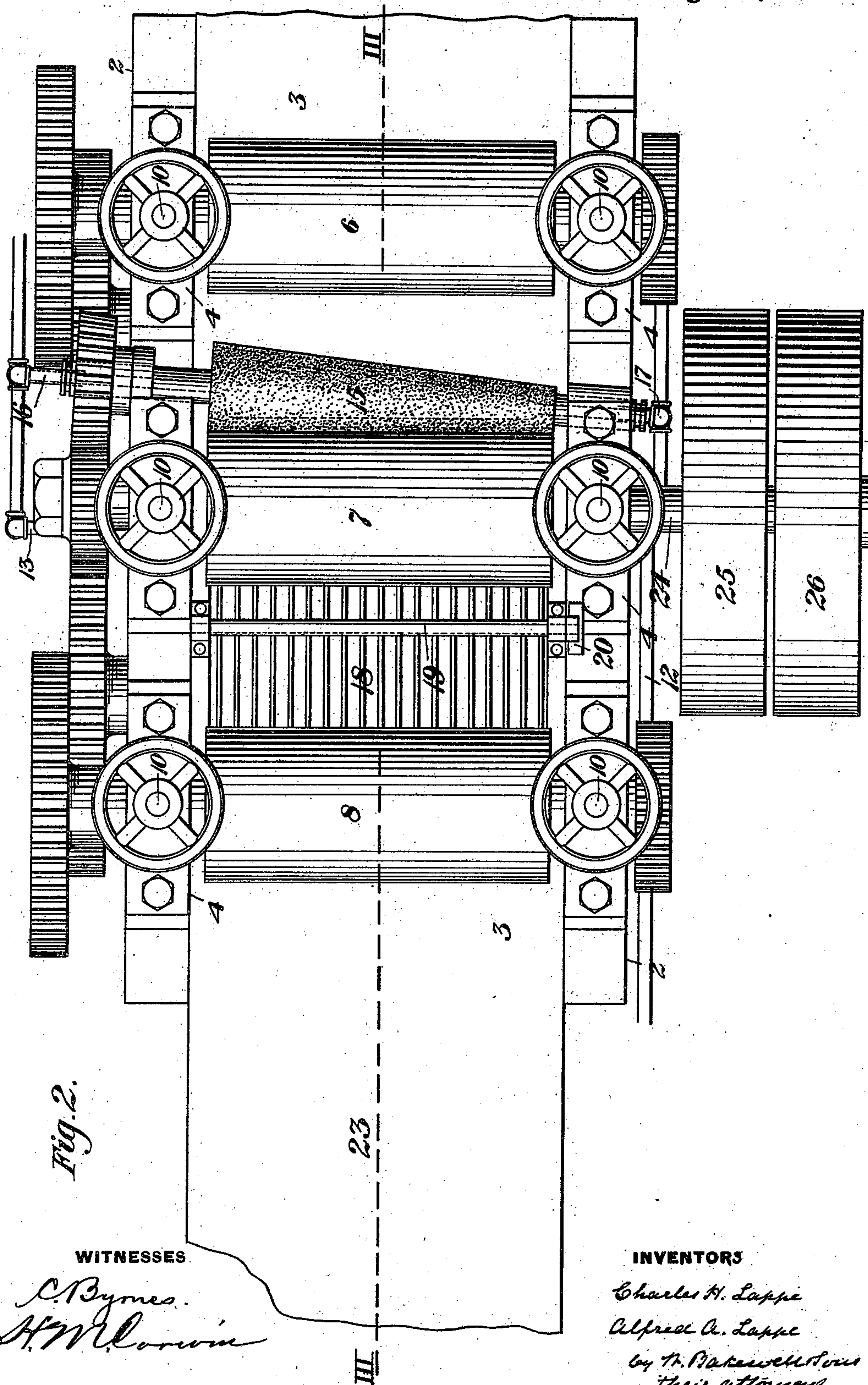
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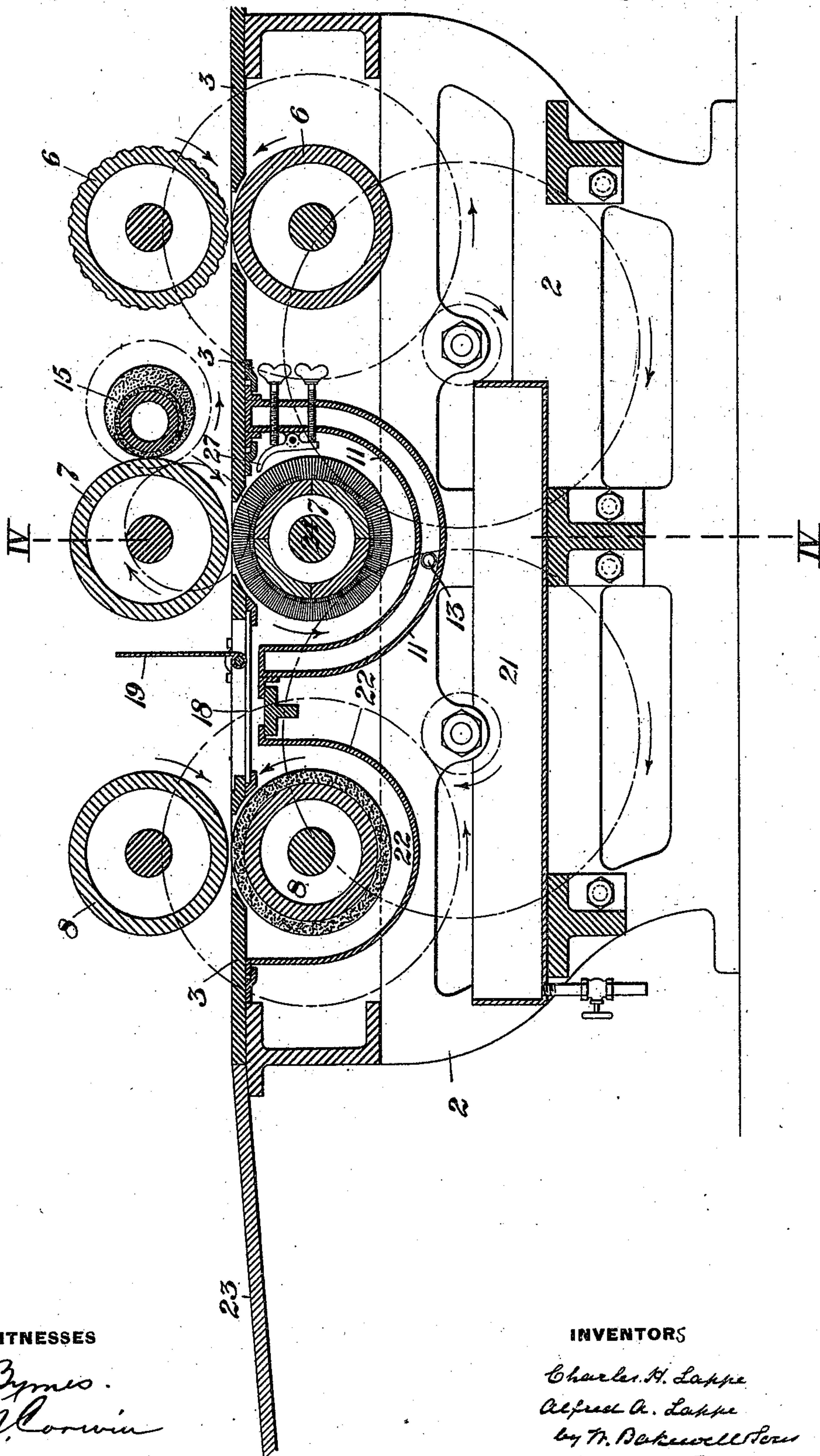
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Fig. 3.



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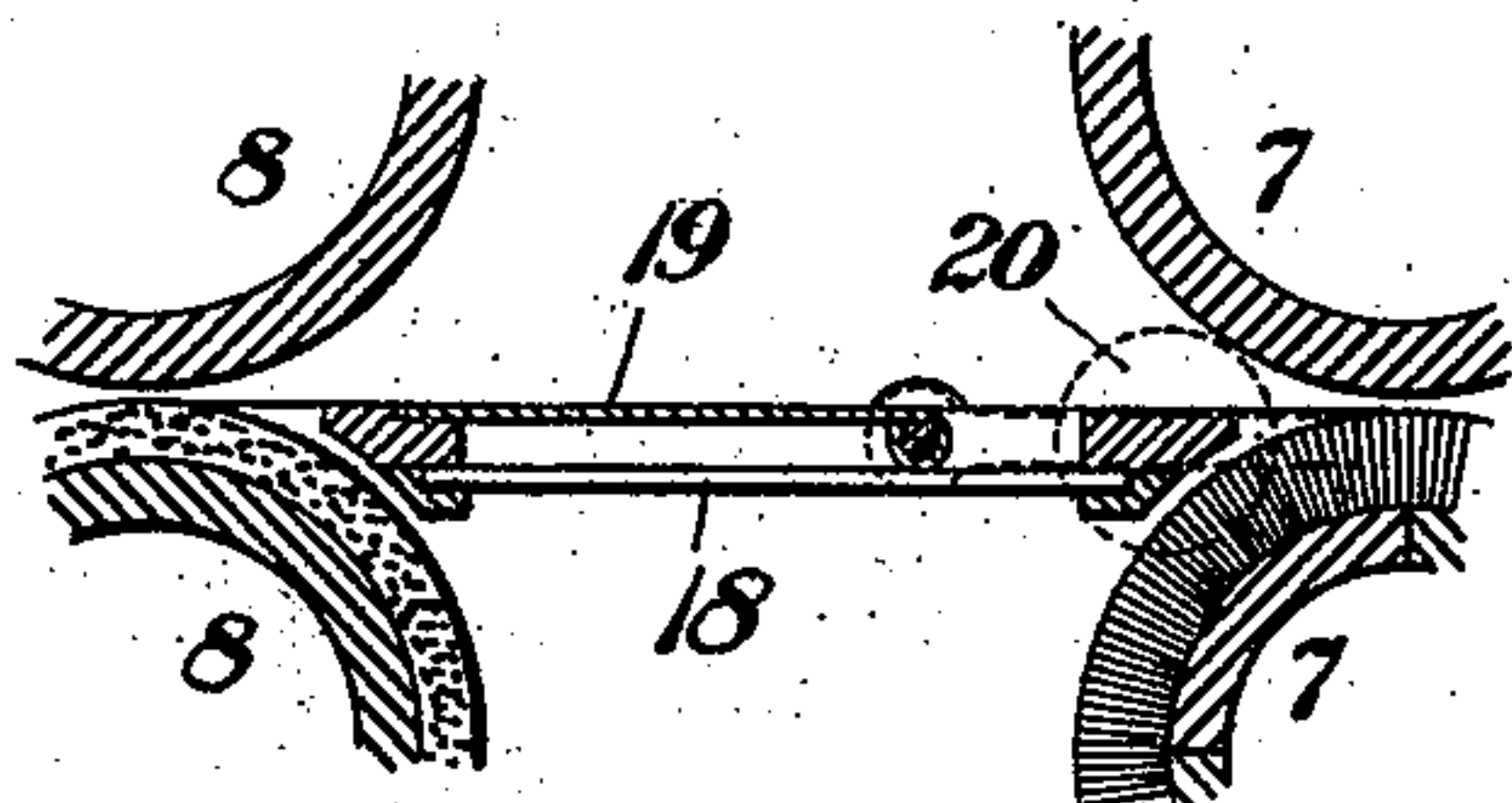
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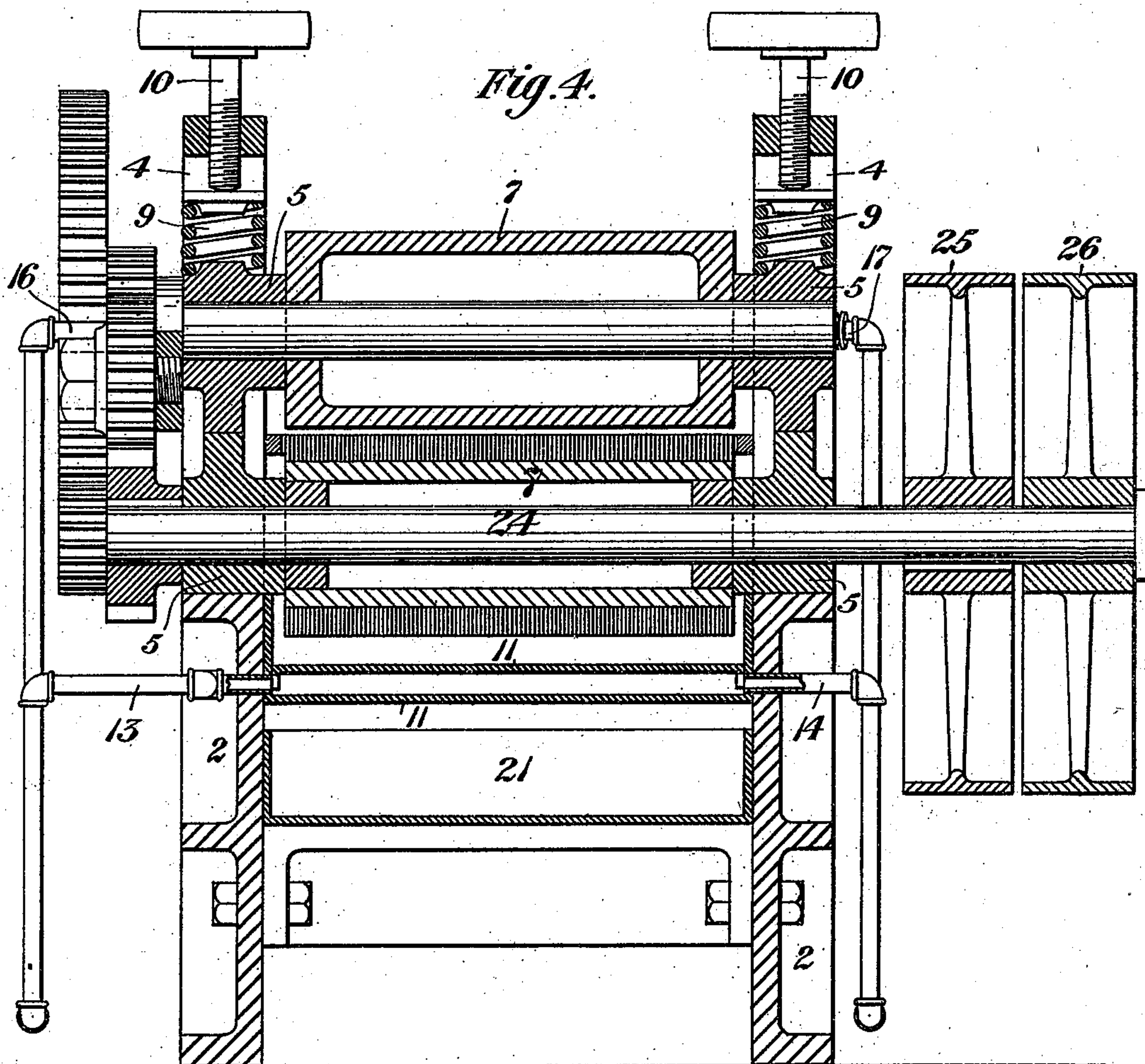
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*Fig. 5.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

CHARLES H. LAPPE AND ALFRED A. LAPPE, OF ALLEGHENY, PENNSYLVANIA.

## MACHINE FOR COLORING LEATHER.

SPECIFICATION forming part of Letters Patent No. 504,224, dated August 29, 1893.

Application filed February 23, 1893. Serial No. 463,306. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES H. LAPPE and ALFRED A. LAPPE, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Machines for Coloring Leather, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of our improved machine. Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal section on the line III—III of Fig. 2, and Fig. 4 is a cross-section on the line IV—IV of Fig. 3. Fig. 5 is a detail view showing the splash-board in depressed position.

Like symbols of reference indicate like parts in each of the views.

Our invention relates to the coloring of leather, and more especially to the blacking of hides after they have been tanned and split, and it consists in the improved machine therefor, as hereinafter more fully described and set forth in the claims.

In the drawings, 2, 2, indicate the side frames of the machine upon which is supported the table 3. Within the vertical guides 4, secured to the frame-work, are carried the bearing-blocks 5 of three sets of rolls, numbered respectively 6 6, 7 7 and 8 8. Against the upper blocks of each set press coiled springs 9, whose tension is regulated by means of set-screws 10. The table is suitably slotted to receive the lower rolls, which are substantially flush with its upper surface, and around the lower roll 7 is secured a jacketed reservoir 11 into which leads a supply-pipe 12. This pipe leads from an elevated reservoir 40 containing a mordant or sigg composed of log-wood, soda and water. Steam is admitted to the jacket by a pipe 13, and from the other end of the jacket a pipe 14 leads the waste steam to the sewer. The roll 7 is covered with material forming a brush, and rotating in the bath of heated sigg, spreads a thin, even coating of the same upon the grain or hair-side of the tanned hide.

To remove the surplus liquid from the brush-roller, we provide a scraper 27, which

projects from the side of the reservoir and may be made adjustable back and forth to regulate its pressure upon the roll.

The rollers 6, 6, are simply feed-rollers, and the upper one is preferably corrugated as shown, while the upper roller 7 is a plain metal one, contact with which rotates the wiping-roll 15, which is covered with felt or similar substance, and heated by a steam pipe 16 leading to a cavity in its interior, a waste pipe 17 being provided at its other end. The function of this wiping-roll is to remove any liquid which may spread upon the upper roll 7 by the brush roller, on account of the uneven contour of the hide which does not entirely cover this roll. The heat quickly dries the liquid wiped off on the roll 15, and its conical shape allows any surplus to run down to the end of the roll and drip off.

In the rear of the set of rollers 7, the table is provided with a sieve-portion 18, over which is pivoted a splash-board 19, a light counter-weight 20 being arranged to normally hold this board in vertical position and prevent the brush 7 from throwing the liquid "sigg" upon the rollers 8 and the table. When the hide passes through the rolls 7, it strikes the splash-board and pushes the same down into a horizontal position, and any surplus liquid upon the hide drips down through the sieve into a suitable receptacle 21 beneath. The lower roll 8 is covered with a felt or brush material and revolves in a reservoir 22 containing the blacking or other coloring material, while the upper roll is plain surfaced. The hide having passed the splash-board, is covered with the color upon the same side to which the mordant was applied, and then passes to the inclined portion 23 of the table, which may be supplied with an endless conveyer if desired. The end rollers 6 6 and 8 8 are geared together, and the main shaft 24, to which power is applied by the fast and loose pulleys 25 and 26, is geared with the various rolls to rotate them as indicated by dotted lines in Fig. 3, this gearing not being specifically described as our invention does not lie therein.

The action of the device is obvious. The hides being split and turned over with the grain side down, are fed to the rollers 6 6.



These rollers feed them to the rolls 7 7, where a coating of mordant is applied to the hide, and the surplus applied to the upper roll is removed by the wiper. The hide then passes  
5 over the sieve to the rollers 8 8, and there the color being applied to the hide emerges with an even regular coating of color thereon.

The advantages of our machine will be apparent to those skilled in the art. All hand  
10 work is done away with, and a machine which requires the attendance only of one or two men will do the work which heretofore required over twelve men, while the hides are more evenly and uniformly colored.

15 It is evident that the particular material covering the lower rolls 7 and 8 may be varied, and by the term "spreading surface" in the claims we intend to cover any material capable of taking up and spreading the liquid.

20 The arrangement of the rolls and reservoirs may be changed, and many other changes may be made in the form and arrangement of the parts, since we consider ourselves to be the first to devise a practical machine for the  
25 application of liquids to hides.

We claim—

1. In a machine for coloring leather, the combination of a spreading or color roller adapted to apply a liquid preparation to one  
30 side of the leather, a platen or roller situate above the color roller, devices for feeding the leather between the color roller and the platen roller, means for feeding a liquid preparation to the color roller, and a wiping roller in contact with the platen roller and adapted to re-  
35 move any coloring matter that may be acci-

dentally applied to the platen-roller; substantially as described.

2. In a machine for coloring leather, the combination of a spreading or color roller, a  
40 platen roller, means for feeding a liquid preparation to the spreading roller, a wiping roller, and means for heating the same, substantially as described.

3. In a machine for coloring leather, the  
45 combination with the roller for applying a mordant, of a second pair of rollers, one of which is arranged to apply a coloring material to the leather, and a splash-board between the sets of rollers; substantially as de-  
50 scribed.

4. In a machine for coloring leather, the combination with the rollers for applying a mordant, of a second pair of rollers, one of which is arranged to apply a coloring mate-  
55 rial to the leather, and a perforated plate between the sets of rollers; substantially as described.

5. In a machine for coloring leather, the combination of feed rollers, rollers arranged  
60 to apply a mordant, rollers arranged to apply a coloring material to the same side of the leather, and a pivoted splash-board between the mordant and coloring rollers; substantially as described.  
65

In testimony whereof we have hereunto set our hands.

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ALFRED A. LAPPE.

Witnesses:

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H. M. CORWIN.