

No. 797,910.

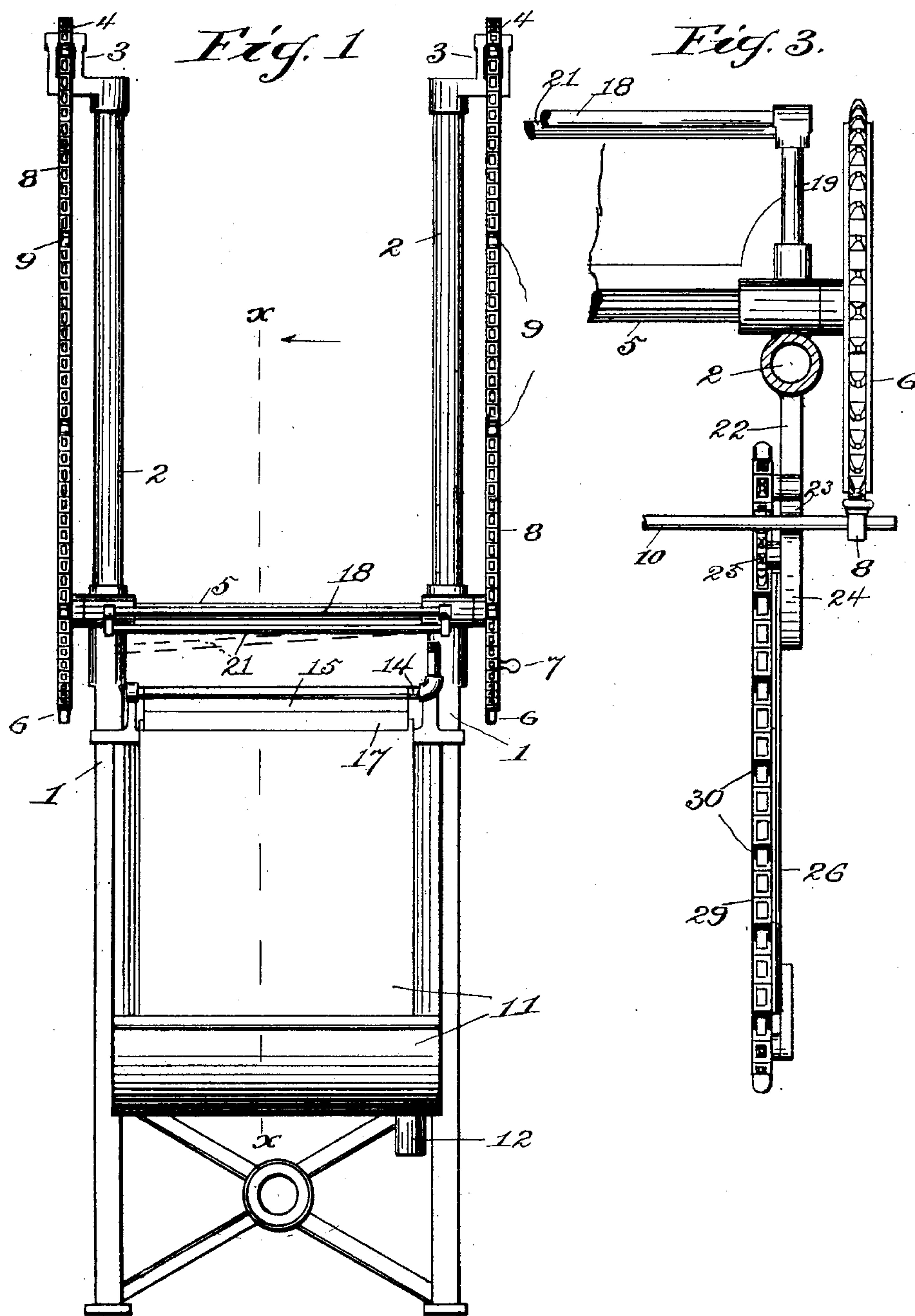
PATENTED AUG. 22, 1905.

C. F. PEASE.


PRINT WASHING AND DRYING MACHINE.

APPLICATION FILED MAR. 11, 1905.

2 SHEETS--SHEET 1.



WITNESSES:
L. E. Money.
W. F. Crossman.

INVENTOR.
Charles F. Pease.
BY 
ATTORNEY.

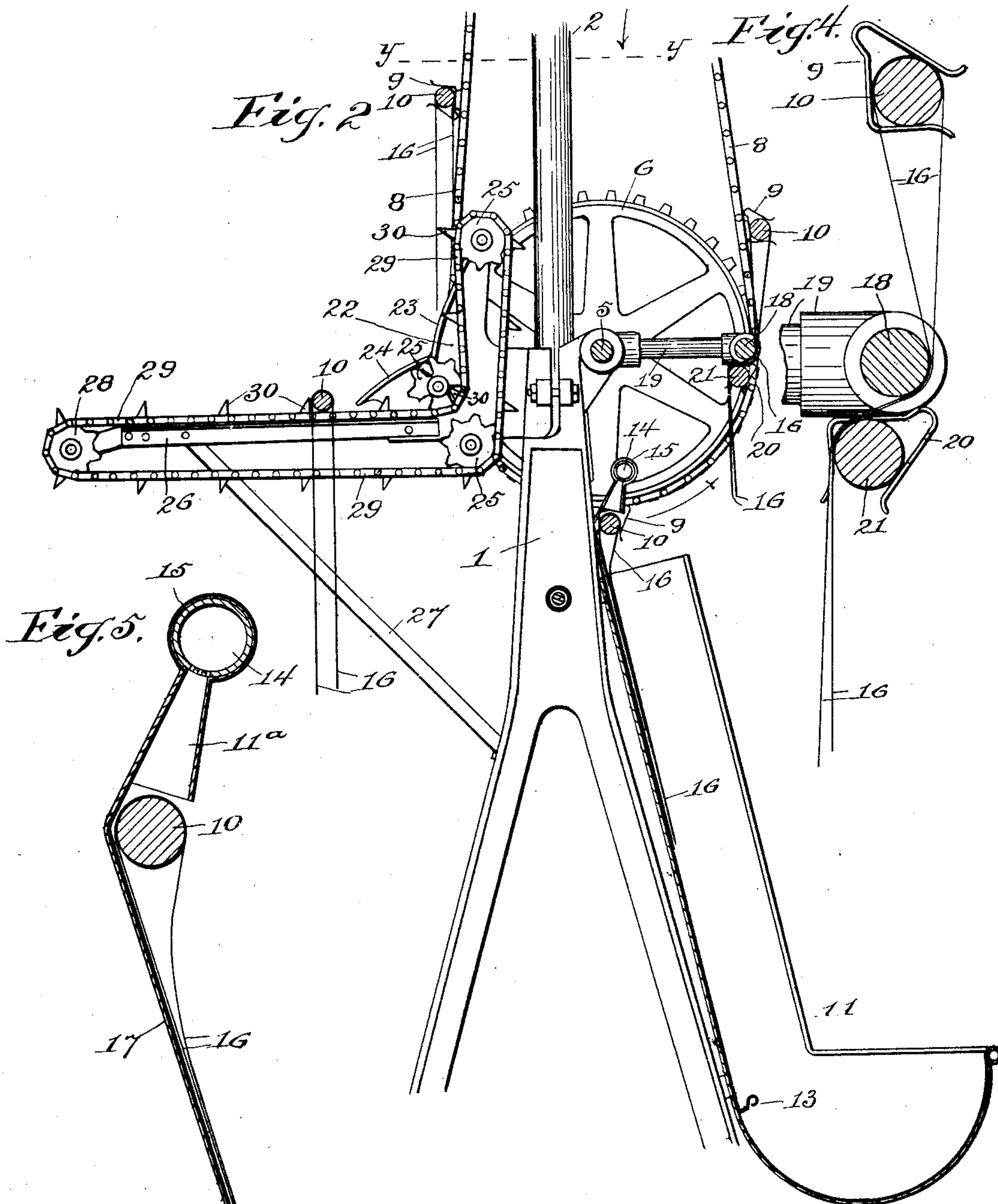
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BY *C. F. Pease*
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UNITED STATES PATENT OFFICE.

CHARLES F. PEASE, OF COLUMBUS, OHIO.

PRINT WASHING AND DRYING MACHINE.

No. 797,910.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed March 11, 1905. Serial No. 249,610.

To all whom it may concern:

Be it known that I, CHARLES F. PEASE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Print Washing and Drying Machines, of which the following is a specification.

This invention relates to the development of blue-prints, and pertains especially to a machine for washing and drying blue-prints, photographic prints, and the like.

The object of the invention is to provide a machine having a liquid spray and a series of traveling rods for holding prints during the washing, dripping, and drying thereof, whereby the prints have not to be removed from the rods until after they are dry.

A further object of the invention is to provide a machine having a liquid spray, with traveling means to suspend a print under the spray for washing it, said means adapted to carry the print from the spray for dripping and drying without removing it.

A still further object of the invention is to provide in a print washing and drying machine a series of rods carried by traveling chains for temporarily holding prints under the washing liquid and over a washing-tray, so that they may be carried to and from the liquid in succession for dripping and drying without removal from the rods.

A still further object of the invention is to provide a print washing and drying machine having traveling chains carrying rods for holding prints during washing and dripping, with a device through which the prints are carried by the chain for removing surplus liquid or water therefrom and with a device for automatically dislodging or stripping the rods from the chain with the prints thereon, said dislodging device adapted to suspend the rods separately with the prints depending therefrom for drying.

In the accompanying drawings, forming part of this application, Figure 1 is a front view of the machine with the hanger-rods removed. Fig. 2 is an enlarged section on the line *xx*, Fig. 1, showing prints hung in various positions from the rods. Fig. 3 is a sectional view of one end of the frame, taken on the line *yy*, Fig. 2, showing the stripper or dislodging device in plan. Fig. 4 is a detail cross-section of the wiping device and one of the hanger-rods, showing a blue-print in course of wiping. Fig. 5 is a detail cross-

section of the spray-pipe and a hanger-rod holding a blue-print, showing a hood hung from the pipe and having an apron depending from the hood.

The same numeral references denote the same parts throughout the several views of the drawings.

The end frames 1 have a vertical standard or post 2, the top of which is provided with L-shaped journals 3 for the sprocket-wheels 4. A shaft 5 extends from one of said frames to the other and is provided with sprocket-wheels 6, having a suitable handle 7 for turning the wheels and imparting motion to a pair of traveling chains 8. The chains 8 are provided at intervals throughout with spring-holders 9, which hold hanger-rods 10 so that the ends thereof project beyond the chains 8, that the rods may be dislodged from the chains by a stripper hereinafter to be fully described. The frames 1 support a tray 11, having a drain-pipe 12, and one or more ribs 13, forming a rest for short blue-prints or photographic prints during the washing thereof. Over the top end of the tray is located a spray-pipe 14, incased by a hood 15, having a depending water-chute 11^a under which the hanger-rods are positioned by the movement of the chains 8, so as to bring the prints 16, which are folded over the rods, centrally under the water-chute. The hood is provided with an apron 17, adapted to depend within the tray and direct water from the chute into the tray. Water from the chute is divided by the rod under the chute so that a portion of the water descends in front of the rod and the other portion descends in the rear of the rod, thereby washing the drawing-face or front of the print without having the water direct against the back or between the two folds of the print. Folding a print over a roller not only suspends the print for washing and permits it to be further treated thereafter without removing the print from the rod, but affords means for hanging prints for washing and drying of various lengths and particularly long sheets.

In the treatment of blue-prints after washing it is desirable to dry them as quickly as possible without handling, and in order to remove surplus water therefrom before they are hung for drying they are drawn through a wiper device consisting of a rod 18, fixed at each end in the frame-arms 19, which have a spring-holder 20 attached thereunder for holding a removable wiper-rod 21. These rods

are non-revoluble and have a highly-polished or glazed surface to prevent injuring the prints as they are drawn therethrough for wiping or removing surplus water. The holders 20 permit one end of the rod 21 to be dropped, as shown by dotted lines in Fig. 1 of the drawings, sufficient for the insertion of the wet print without removing the latter from its rod.

The stripper device consists of a bracket 22, extending rearwardly from the top of the end frames 1 and having convexed edges 23 and 24, which are engaged by the ends of the hanger-rods to strip or dislodge the latter from the chains 8. Each bracket 22 is provided with sprocket-wheels 25 and arms 26, braced from the frames 1 by a bar 27 and having sprocket-wheels 28. A sprocket-chain 29 is carried by each set of the wheels 25 and 28 and is provided with prongs 30, which project into the path of the hanger-rods so that the latter engage said prongs and move the chains 29 ahead prior to the stripping of the rods from the chains 8. The upper of the two middle sprocket-wheels has peripheral openings between its teeth or may be otherwise arranged to permit the passage of the chain-prongs over it.

In the process of washing, dripping, and drying a blue-print in the machine the print is hung centrally over a hanger-rod, so as to hang folded therefrom. The rod is placed centrally under the water-chute, where it is washed. The chains 8 are moved in the direction indicated by the arrow in Fig. 2 until the hanger-rod is just above the upper wiping-rod. The removable wiping-rod is then taken from its holders and placed on the front of the hanging blue-print or on the side toward the operator. It is replaced into the holders with the wet blue-print between the wiping-rods, so that the print lies partially around one of the wiping-rods in one direction and partially around the other wiping-rod in the opposite direction. The chains 8 are then moved in the same direction, which draws the print through between these wiping-rods and rubs or wipes off the surplus water. A continued movement of said chains caused by pulling the next print through the wiper will carry said hanger-rod and its print up over the top of the machine, and finally with the wiping of further prints it will be carried down to the rear of the machine, where it engages a pair of chain-prongs 30 and moves the prongs ahead until the rod, with the print hanging therefrom, comes in contact with the bracket edges 23 and 24, which strip or dislodge the rod with its print from the main chains of the machine and the chain-prongs. Then the rod falls by way of the said bracket edges onto the arms 26 and against another of the chain-prongs 30, where the print is suspended for final drying.

It will be understood that during the travel

of the prints from the wiper to the stripper they are afforded an opportunity to thoroughly drip and when delivered onto the arms they are separated by the chain-prongs and allowed to dry as they are moved along to the end of the arms, whence they are removed.

It is obvious that in some instances the washing-tray may be dispensed with and the chute-apron utilized alone.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for treating blue-prints, the combination with a pair of disconnected traveling chains, and hanger-rods carried by the chains, of a spray-pipe, and the spring-holders attached to the chain for holding the rods with a print thereon under said pipe.

2. In a machine having a suitable liquid-supply for washing blue-prints, the combination, with a pair of disconnected traveling chains, and the hanger-rods carried by the chains, of the wiper-rods between which the print is drawn by the movement of the chains.

3. In a machine for treating blue-prints, the combination, with a pair of disconnected traveling chains, and the hanger-rods detachably carried by the chains, of a pair of sprocket-chains having prongs adapted to be engaged by the rods to move the latter chains, and the sprocket-wheels for the several chains.

4. In a machine for treating blue-prints, the combination, with a pair of disconnected traveling chains, and the hanger-rods detachably carried by the chains, of the stripper-brackets adapted to be engaged by the rods to dislodge the latter from said chains, and the sprocket-chains adapted to be operated by the rods before such dislodgment.

5. In a machine for treating blue-prints, the combination, with a pair of disconnected traveling chains, and the hanger-rods detachably carried by the chains, of the sprocket-chains having prongs adapted to be engaged by the rods to move the pronged chains, the stripper-brackets adapted to be engaged by the rods to dislodge the latter, and the sprocket-wheels carrying the several chains.

6. In a blue-print washing, dripping and drying machine, the combination, with a pair of sprocket-chains having spring-holders, and the hanger-rods carried by the holders, of a pair of sprocket-chains having prongs adapted to be engaged by the rods to move the pronged-chains, the stripper-brackets to dislodge the rods from the holders, and suitable sprocket-wheels for each pair of chains.

7. In a blue-print washing, dripping and drying machine, the combination, with a suitable frame having sprocket-wheels, the stripper having a series of sprocket-wheels, and the hanger-rods, of a pair of disconnected sprocket-chains, holders on the chains to carry the rods, and a pair of disconnected sprocket-chains having prongs or projections adapted

to be engaged by the rods to operate the latter chains.

8. The combination, with a pair of chains having rod-holders, means to drive the chains in unison, and the rods held by the holders, of the stripper adapted to be engaged by the rods to dislodge them, a series of sprocket-wheels carried by the stripper, arms projecting from the stripper and provided with sprocket-wheels, and a pair of sprocket-chains carried by the stripper and having prongs adapted to be engaged by the rods before and after such dislodgment.

9. In a blue-print washing-machine the combination, with a pair of sprocket-chains having holders, and the hanger-rods adapted to suspend a print from the chains, of a pair of wiper-rods interposed between the chains and adapted to permit the print to be drawn between them by the movement of the chains, and means to drive the chains in unison.

10. The combination, with the spray-pipe, of a hood incasing the pipe, a water-chute projecting from the hood, and an apron depending from the chute.

11. In a blue-print washer, the combination, with a pair of traveling chains, and the hanger-rods carried by the chains, of a stationary wiping-rod, and a rod positioned ad-

jacent the wiping-rod to permit the chains to draw a print between the wiping-rods for removal of surplus water from the print.

12. In a blue-print-washing machine, the combination, with a pair of traveling chains or belts, and suitable hanger-rods carried by the chains, of a stationary wiping-rod, a holder fixed adjacent to the wiping-rod, and a rod carried by the holder and adapted to permit the insertion of a print between the wiping-rods so as to be drawn from these rods by the movement of the said chains.

13. In a print-washing machine, the combination, with a pair of traveling chains, and the hanger-rods adapted to have a blue-print folded thereover, of the stripper-brackets to dislodge the rods and having arms, sprocket-wheels on the arms, a series of sprocket-wheels on the brackets, and a pair of sprocket-chains carried by said wheels and having prongs adapted to be engaged by the hanger-rods to operate these chains.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CHARLES F. PEASE.

Witnesses:

J. M. HENDERSON,
ROWENA KEELEY.