

(No Model.)

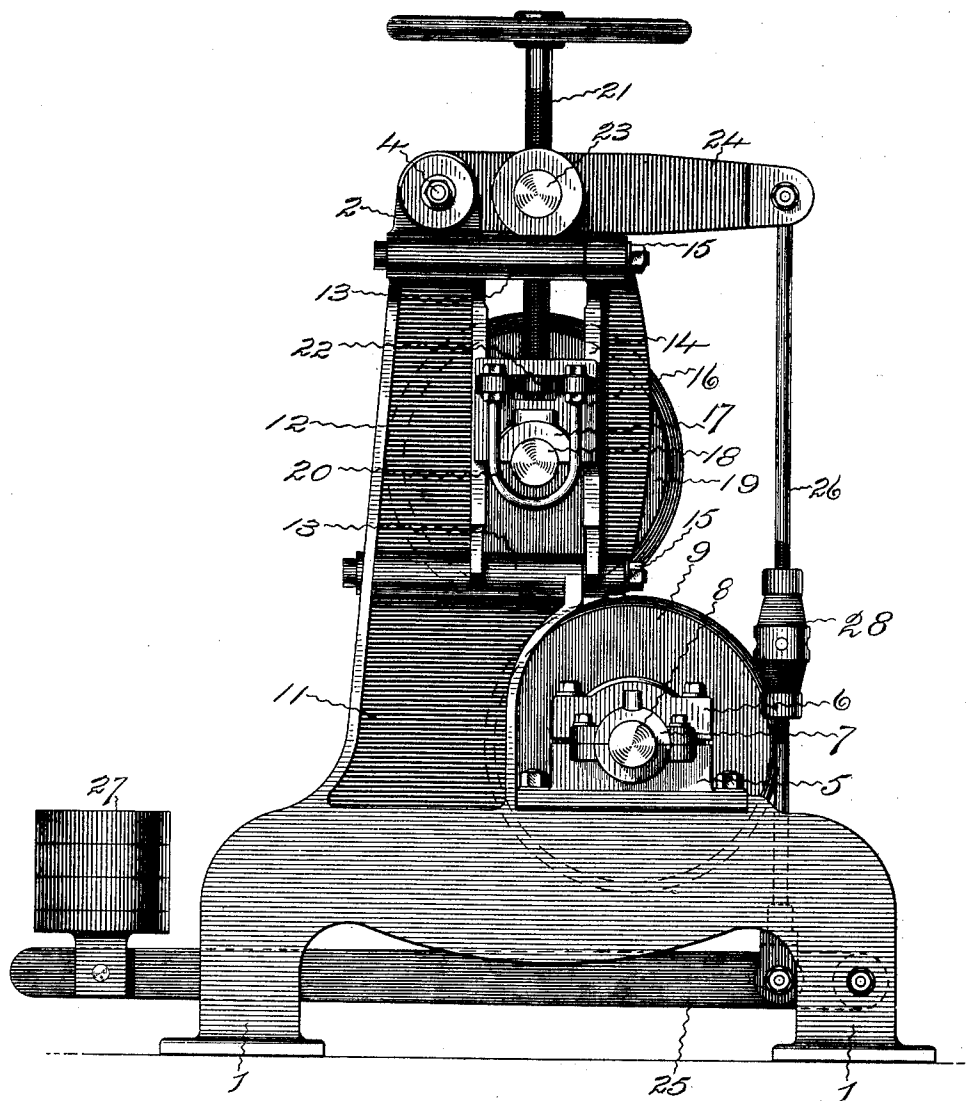
E. A. RUSDEN.
MANGLE.

2 Sheets—Sheet 1.

No. 586,868.

Patented July 20, 1897.

Fig. 1



Witnesses:

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(No Model.)

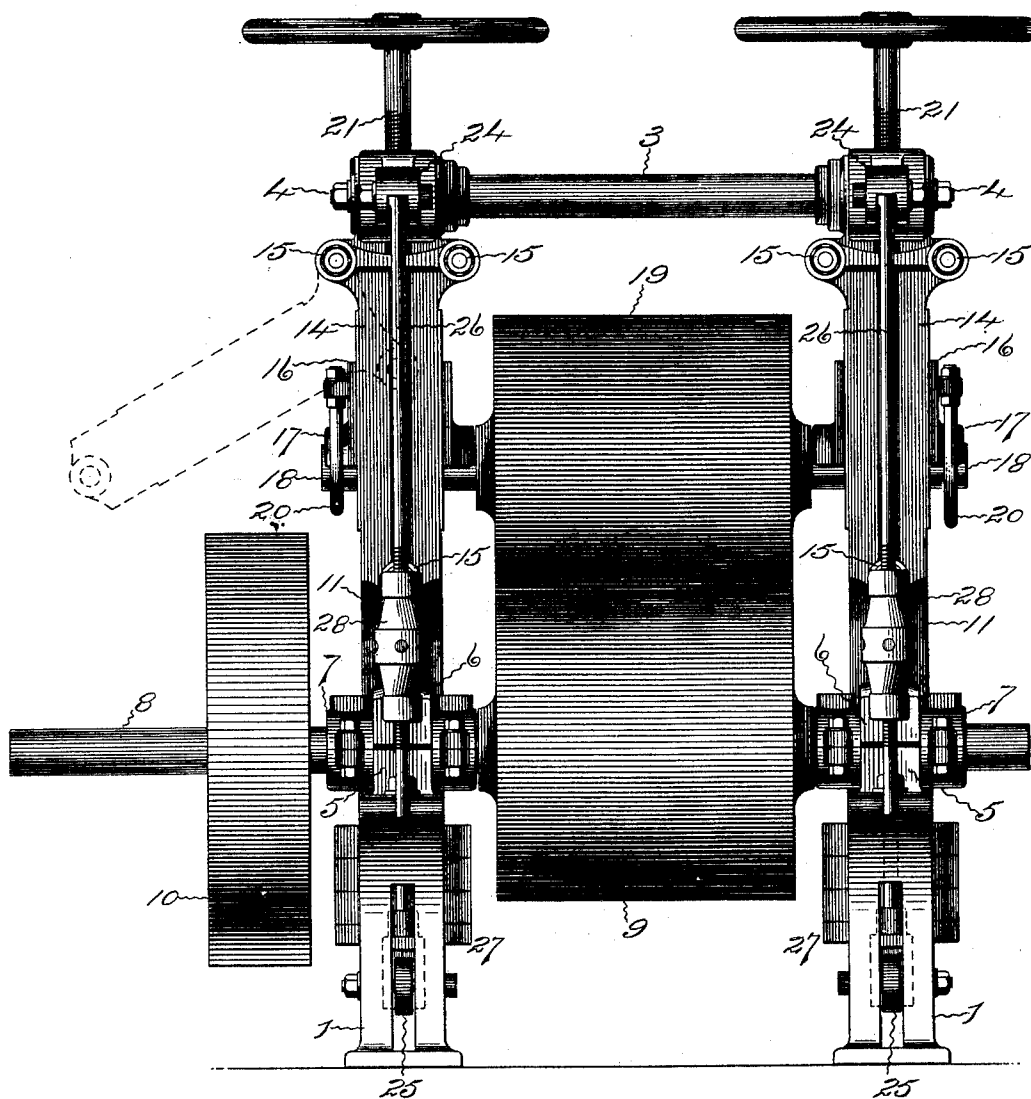
2 Sheets—Sheet 2.

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Fig. 2



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UNITED STATES PATENT OFFICE.

ETHELBERT A. RUSDEN, OF HARTFORD, CONNECTICUT.

MANGLE.

SPECIFICATION forming part of Letters Patent No. 586,868, dated July 20, 1897.

Application filed October 5, 1896. Serial No. 607,839. (No model.)

To all whom it may concern:

Be it known that I, ETHELBERT A. RUSDEN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Mangles, of which the following is a specification.

The invention relates to those mangles that are used in woolen, cotton, and similar mills in connection with the operations of bleaching, dyeing, and washing for mangling or squeezing the textile fabrics either in the rope form or open width that have been subjected to the actions of liquids utilized in the different steps of the processes employed in giving the finish and color to the fabrics.

The object of the invention is to so construct machines of this class that the cost of building will be cheapened without lessening the efficiency, that the making of repairs will be simplified, that the wear of the operating parts may be easily taken up, that the labor of handling the rolls will be reduced, and that the rolls may be put up and taken down each without interfering with the other conveniently, without tackle, in a room with a comparatively low ceiling.

To this end the invention resides in a mangle having an upright frame with supporting-bearings for a plural number of superimposed rolls, the frame being so constructed and the bearings so arranged that the rolls can be removed from the same side of the frame and that either of the rolls can be removed separately without interfering with or freeing the bearings or supporting part of the other, as more particularly hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a front view of a mangle embodying the invention. Fig. 2 is a side view of the same.

The frame shown in the views consists of a pair of metallic uprights that have legs 1 at the lower ends, which are secured to the floor of the room in which the frame is erected or to any other suitable base, and have heads 2 at the upper ends, which are secured together by a tube 3 and a bolt 4, that passes through the tube and the heads and is provided on its ends with suitable fastening-nuts.

On shoulders formed on one side of the

bodies of the uprights are located pillow-blocks 5, between which and the caps 6 are the universal bearing-blocks 7, that hold the journals of the shaft 8. When the caps are unbolted and removed, the shaft and the roll 9 can be freely lifted from the frame. This shaft, besides the roll, bears a driving-pulley 10, and it may have a common form of friction-clutch, if desired, for connecting the pulley with the shaft.

The bodies 11, that are preferably cast integral with the legs, have necks 12, that extend upward on one side of the vertical center of the frame, as shown in Fig. 1, and projecting sidewise at the top and bottom of these necks are hubs 13. There are preferably two of these hubs at the top and one at the bottom of the neck parts of each of the uprights. Secured to these hub parts 13 on the side of each of the uprights are the plates 14. These plates are preferably secured in place at the top by two bolts and at the bottom by one bolt, which pass through the hubs 13 that project from the uprights and are held by nuts 15. When these plates are bolted in position, a closed rectangular guideway is formed in each upright; but when the plates are removed these guideways are both open on the same side.

In the guideways are loosely located the blocks 16, which support the bearings 17. These bearings are preferably only for the upper part of the journal 18 of the roll 19. Adjustably held by nuts to ears projecting from the faces of these blocks are yokes 20, that pass beneath the journal 18 of the roll 19.

The inner edges of the neck parts of the frame are machined off and the inner edges of the plates that are bolted to the sides are also machined off to form smooth ways for guiding the bearing supporting-blocks 16. These blocks are held vertically adjustable in the guideways by screws 21. The lower ends of the screws pass into sockets in the blocks and are provided with collars 22, while the upper ends of the screws are provided with hand-wheels. The screws pass through circular nuts 23, loosely held in perforations in the levers 24. Turning the screws in one direction raises the bearing-blocks and turning the screws in the opposite direction lowers the bearing-blocks.

The levers 24 are at one end pivoted to the heads of the uprights and at the other ends are connected with levers 25 by the connecting-rods 26, and the levers 25 are at one end pivoted to the legs of the uprights and at the other ends bear weights 27. The rods 26 are provided with adjustable joints 28, so that their lengths can be easily regulated.

After the uprights of the frame are set in position the lower roll, which may be of wood, metal, rubber, or composition, or any combination of these, is placed in position and its bearings secured to the shoulders provided by the bolts mentioned. The upper roll can then be lifted above the lower or rolled on a plank above the lower and the side plates secured in place so that the journal ends extend between the guideways. The bearings for the upper-roll journals can then be lowered by the screws and the yokes attached, so that when the screws are turned in one direction the upper roll is forced against the lower roll by the weights through the medium of the lever system shown, and when the screws are turned in the other direction the upper roll may be lifted away from the lower roll by the yokes.

If it is desired to remove the lower roll, the bearing-holding bolts are removed and the roll lifted out at the side and taken to any convenient place without disturbing the bearings of the upper roll or any part that in any way supports the bearings of the upper roll. If desired to remove the upper roll, two of the bolts that secure each of the plates can be removed and the others loosened and the plates swung aside on the bolts that remain as pivots. The yokes can then be removed and the upper bearings raised by means of the screws, which will leave the upper roll free to be taken out from the side of the frame without disturbing the bearings of the lower roll or any part which supports the bearings of the lower roll.

Of course there may be any desired number of rolls superimposed one upon the other in this manner.

When the fabric is passing between the rolls, particularly when in the rope form, the upper roll jumps up and down more or less, according to the thickness of the material passing at the moment, and this causes considerable wear on the guideways and bearing-blocks. When these have been worn, the plates can be removed from the sides of the uprights and the inner faces of the hubs either filed, ground, planed, or milled off, as convenient, so that when the plates are again set

in position the guiding-faces will closely fit the walls of the bearing-blocks. By having this part of the frame made in this manner it can be machined more easily, cheaply, and accurately than when made in one piece.

With this construction a mangle is produced which is efficient in operation and which can be placed in any ordinary room with a ceiling of common height, for the rolls can be removed from the side and do not have to be lifted over the top of the frame. This obviates the necessity of providing a tackle for lifting the rolls and also the taking down of a part of the top of the frame. Both of the rolls can be removed from the same side, thus permitting the machine to be located near the wall of the room, and each roll can be removed without disturbing the bearings of the other or the supporting part of the bearings of the other. This construction simplifies the building of the machines and provides a ready means for taking up the wear, as well as a saving in labor in setting and removing the rolls, for the lower rolls can be quickly taken out without disturbing the frame or the upper rolls, and the upper rolls can be quickly removed without disturbing the lower rolls by simply removing the yokes, unfastening the bolts, and swinging aside the plates.

I claim as my invention—

1. A mangle consisting of a frame having uprights with shoulders on one side near the bottom and guides on one side near the top, plates with guides removably secured to the sides of the uprights opposite the stationary guides, stationary bearings supported by the shoulders below, vertically-movable bearings supported by the guides of the uprights and plates above, and journals supporting rolls held by the bearings, substantially as specified.

2. A mangle consisting of a frame having uprights with shoulders on one side near the bottom and guides on one side near the top, plates with guides connected with the sides of the uprights opposite the stationary guides and adapted to be oscillated outward therefrom, stationary bearings supported by the shoulders below, vertically-movable bearings supported by the guides of the uprights and plates above, and journals supporting rolls held by the bearings, substantially as specified.

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