

No. 614,069.

Patented Nov. 8, 1898.

L. WIMMER.
LOOPING MACHINE.

(Application filed Jan. 26, 1898.)

(No Model.)

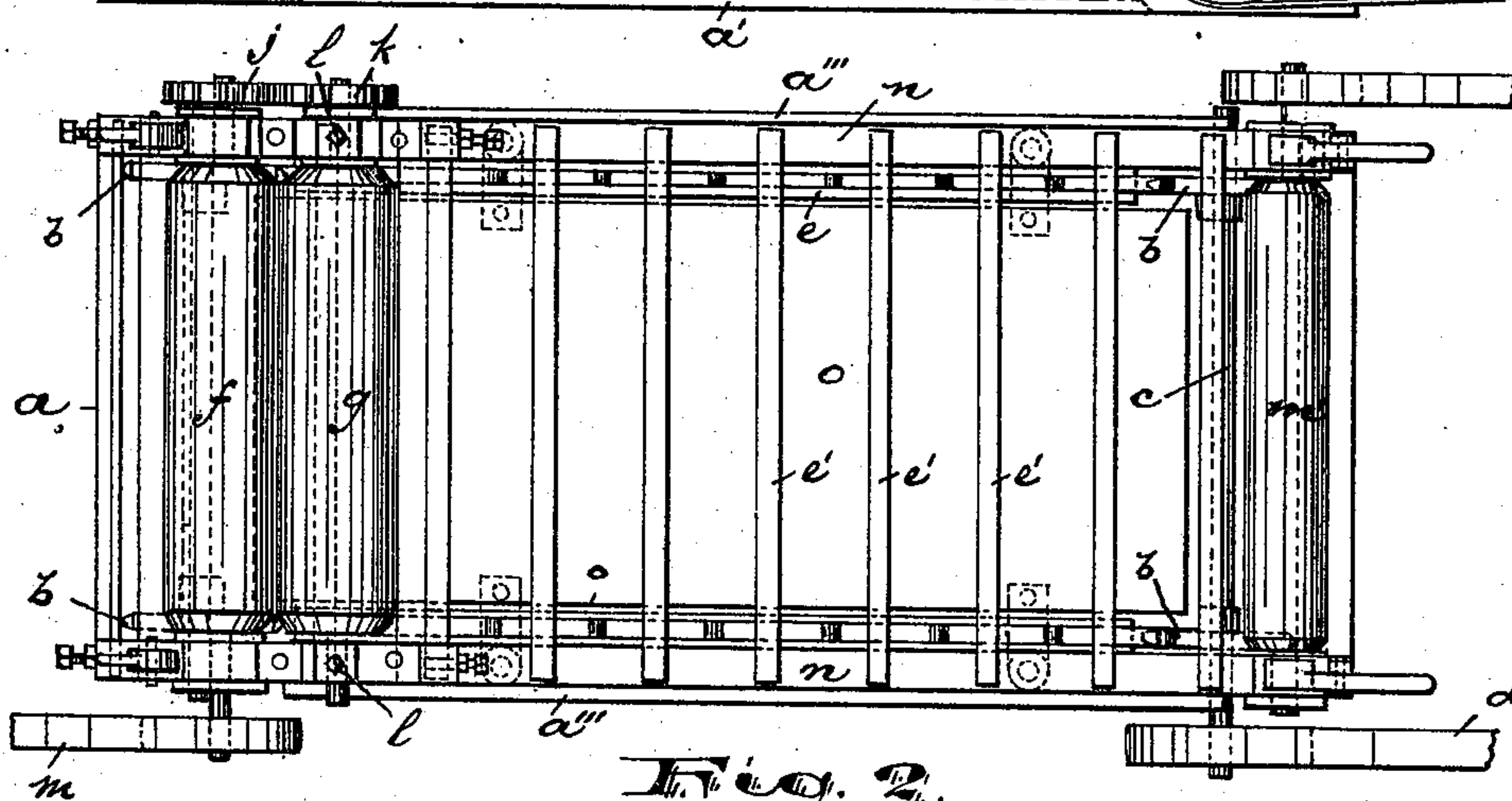
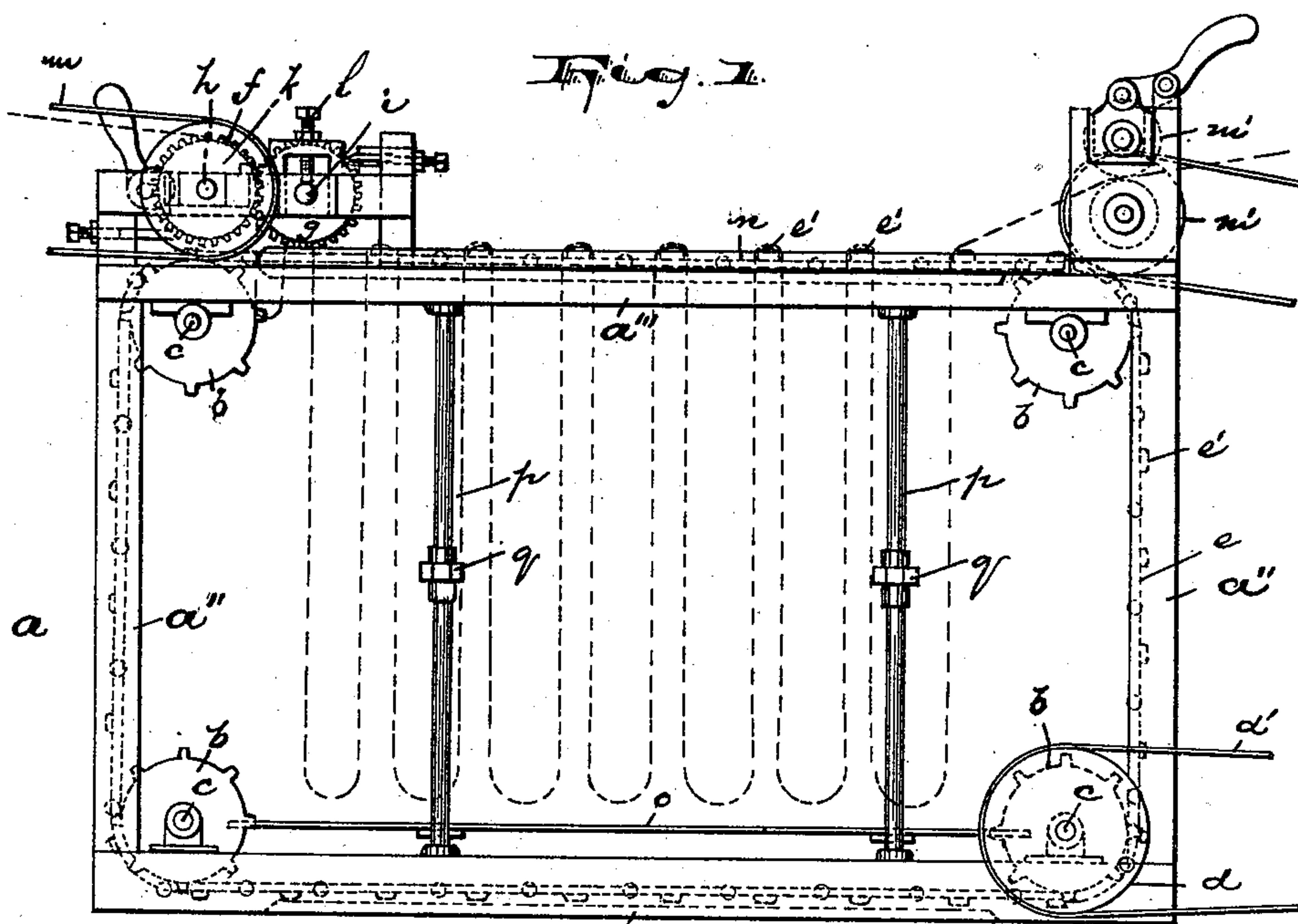


Fig. 3.

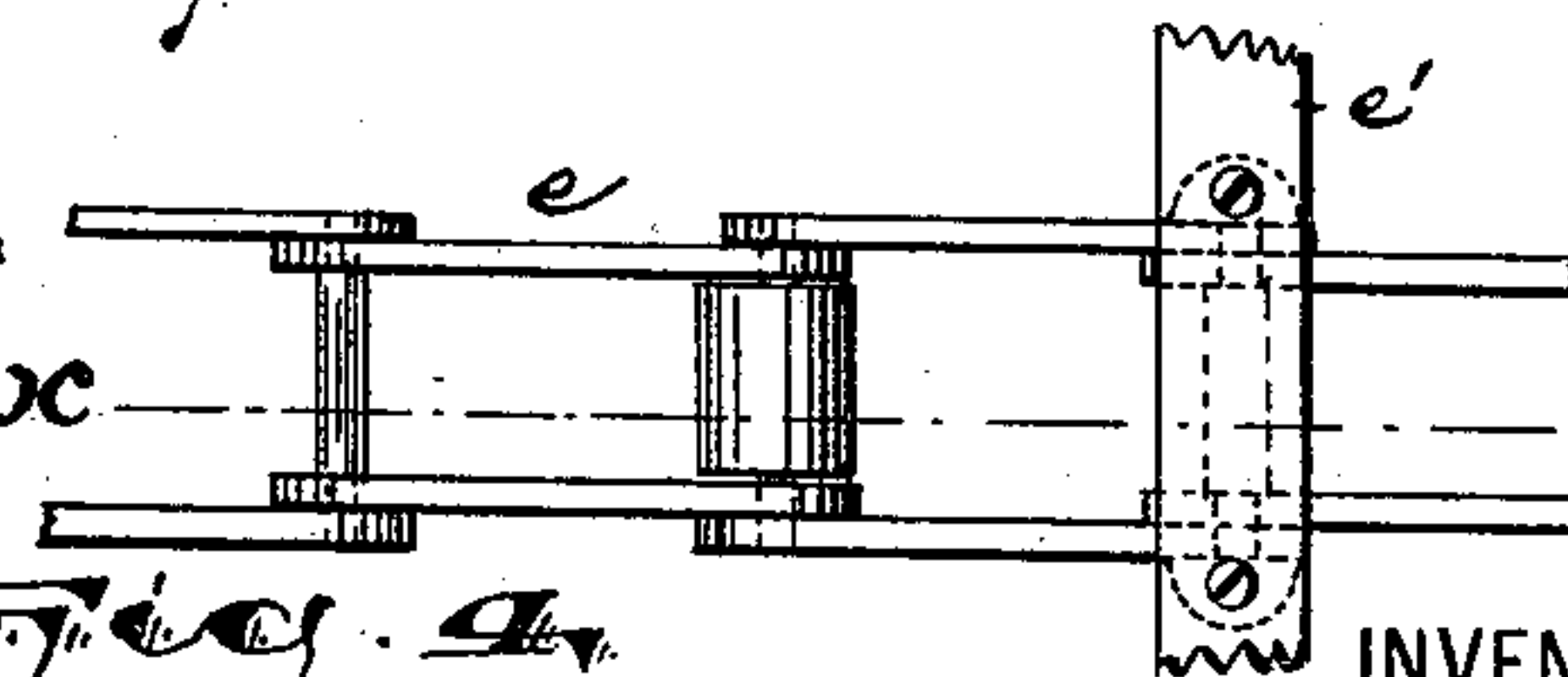


Fig. 4.

WITNESSES:

A. R. Housse.

Russell M. Everett.

Louis Wimmer,

BY

Drake & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

LOUIS WIMMER, OF ELIZABETH, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
GEORGE W. WILLIAMSON, OF SAME PLACE.

LOOPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 614,069, dated November 8, 1898.

Application filed January 26, 1898. Serial No. 667,975. (No model.)

To all whom it may concern:

Be it known that I, LOUIS WIMMER, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Looping-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of machines for drying oil-cloth, roofing-paper, calico, &c., represented by the device shown in my prior patent, dated October 26, 1897, No. 592,677.

The object of the present construction is particularly to dry cloth or paper of considerable flexibility, but lacking in the resilience common to dry or cold roofing-paper. It is understood that roofing-paper containing tar or pitch in its composition when cold possesses considerable stiffness; but when hot said paper lacks such stiffness to a great degree and is more flexible or "flabby" and is adapted to bend under pressure or quickly conform by gravity to parts brought in contact therewith. In my patent above mentioned I have shown a construction adapted more particularly for paper or like fabric possessing to a degree such stiffness; but in this present case the construction is especially intended for fabrics of less stiffness.

The invention consists in the looping-machine and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a side elevation of my looping-machine. Fig. 2 is a plan of the same. Fig. 4 is a detail plan of the chain, and Fig. 3 is a section of the same on line *x*.

In said drawings, *a* indicates a frame comprising bottom longitudinal strips or sills *a'*, uprights *a''*, and top plates or longitudinal

connecting-strips *a'''*, all properly fastened together and braced in any suitable manner as may be deemed necessary to meet varying conditions.

At the upper and lower corners of the frame or other suitable position therein are arranged pairs of sprocket-wheels *b b b b*, arranged on shafts *c*, the wheels of each pair being arranged at or near the opposite sides of said frame. On one of said shafts is also arranged a driving-pulley *d*, adapted to be drawn from any source of power by a belt *d'* or other means. Upon said sprocket-wheels, at opposite sides of the frame, are arranged endless chain belts *e e* of any suitable construction, with metal links which permit of little or no stretching. The chains are connected by wood slats or cross-bars *e' e' e'*, which are in practice arranged about a foot apart, more or less, and over which said slats or bars the paper or fabric is looped or draped. The sprocket-wheels are of equal size on opposite sides of the machine and are driven at uniform rates of speed, and thus the bars maintain a right-angular or perpendicular relation to the longitudinal plates and sills as they move forward.

Above the endless chains and bars or slats at the forward end of the machine on suitable bearings is a pair of feed-rollers *f g*, by which the paper is fed to the horizontally-moving slats or bars. Said rollers are arranged horizontally side by side, one back of the other, and between the same the paper is fed down to the slats, so that as said paper moves downward it is engaged by the horizontally-moving slats one after another, and because of the flexibility of the paper loops are formed over said slats, which are of greater or less depth or length of suspension in accordance with the speed at which the paper is fed or the slats driven, as will be understood. To secure a proper engagement of the bars or slats with the paper, the said feed-rolls are arranged longitudinally parallel with said bars or slats, or approximately so. The feed-rolls are arranged on shafts *h i*, having toothed gear-wheels to secure a uniform speed of the peripheries of the rolls in the same direction at the points of nearest approach, and a driving-pulley *k* for the

power-belt *m* or other power-transmitting means. The ends of the rolls are preferably beveled off, as indicated in Fig. 2, so that the edges of the paper when covered with pitch
 5 or the like will not adhere to said rolls and cause a separation of the plies or otherwise damage the paper. The upper horizontal series of bars or slats after passing back from the upper forward sprocket-wheels is brought
 10 into close adjacency to the second roll *g*, so that the paper is bent positively under the roll by each passing bar, and because of the rapid speed of the paper said paper is bent down over said bar to start a new loop when
 15 the bar passes back from the vertical line of passage between the feed-rolls. The roll *g* is preferably journaled in sliding boxes and is adjustable by means of adjusting-screws *l* in any suitable manner. At the rear end of the
 20 machine suitable withdrawal-rolls *m' m'* are provided to remove the dried or cooled paper.

In passing backward the slats are held in proper horizontal relation by rimways *n n*, which support the ends of said slats, and at the
 25 bottom a suitable guarding-plate *o* is provided to protect the lower ends of the loop from damage by the chain belts should said loops be long. A suitable eccentric or other device is provided to draw the roll *f* back
 30 from the roll *g* when first inserting the paper between. To prevent the upper longitudinal portions of the frame from sagging or to raise the same should they sag under the weight carried thereby, I prefer to employ sectional
 35 supporting-posts *p p* and turnbuckles *q*, arranged on the threaded ends thereof, adapted to raise said horizontal parts when necessary. As the endless chain moves around, impelled by the sprocket-wheels and motive devices,
 40 the bars or slats are brought one after another against the paper, as described, to form loops, and after the loops are formed they are carried backward slowly until said paper is sufficiently dry or hard enough to be with-
 45 drawn from the machine. After withdrawing the paper the empty bars are carried down beneath the series of loops and returned to the point of engagement with the "wet" or soft paper.

50 I am aware that various changes may be made in relation to the parts positively described, and I do not wish to be understood as limiting myself to the specific relation of parts shown. Furthermore, I do not wish to
 55 be understood, when referring to my prior patent, as intimating that the invention herein referred to was invented subsequent to said prior patent, or to making the invention shown therein.

60 Having thus described the invention, what I claim as new is—

1. In a looping-machine, the combination with a frame, and a pair of endless belts or

chains connected by a series of looping slats or bars, and means for operating said belts or
 65 chains and bars, of a pair of feed-rolls arranged above the upper horizontal portion of the series of connected slats or bars, approximately in the line of movement of said bars, to occasion a close approach of said bars suc-
 70 cessively to the periphery of one of said rolls and effect a contact of the web lying on said bar with said periphery, substantially as set forth.

2. In a looping-machine, the combination
 75 with a frame and a pair of endless chains, and sprocket-wheels for driving said chains, of bars or slats permanently fixed upon said chains at regular intervals, a pair of feed-rolls arranged above said slats adjacent to the up-
 80 per plane of movement thereof, and operating means, the feed-roll and slats coöperating to retard and bend the paper preparatory to the formation of loops, substantially as set forth.

3. In a looping-machine, the combination
 85 with a frame and a feed-roll, of a series of slats passing in a plane beneath said feed-roll and into close contiguity thereto to effect a contact of the web with said feed-roll and the
 90 formation of a new loop, and operating means, substantially as set forth.

4. In a looping-machine, the combination
 95 with a frame and feed-roll, of endless chains and sprocket-wheels arranged to return the chain and slats beneath the series of loops, slats arranged permanently in a series upon
 100 said chains, the said slats being arranged and adapted to move horizontally backward beneath said feed-roll and bend the paper be-
 105 neath said roll preliminary to forming a loop, and driving means, substantially as set forth.

5. In a looping-machine, the combination
 110 with a frame, horizontally-moving chains and slats, of feed-rolls arranged above the slats and adapted to direct the paper downward toward said slats, and means for adjusting
 115 one of said rolls with relation to said horizontally-moving slats, substantially as set forth.

6. In combination the frame, endless chains, connecting-slats and sprocket-wheels, feed-rolls arranged above said chains, means for adjusting said rolls with relation to one
 120 another and means for adjusting one of said feed-rolls with relation to the slats, driving means and means for drawing the paper from said slats, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of
 120 January, 1898.

LOUIS WIMMER.

Witnesses:

CHARLES H. PELL,
 C. B. PITNEY.