

947,696.

M. A. GORDON.  
MACHINE FOR DRYING CLOTH.  
APPLICATION FILED MAR. 15, 1909.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.

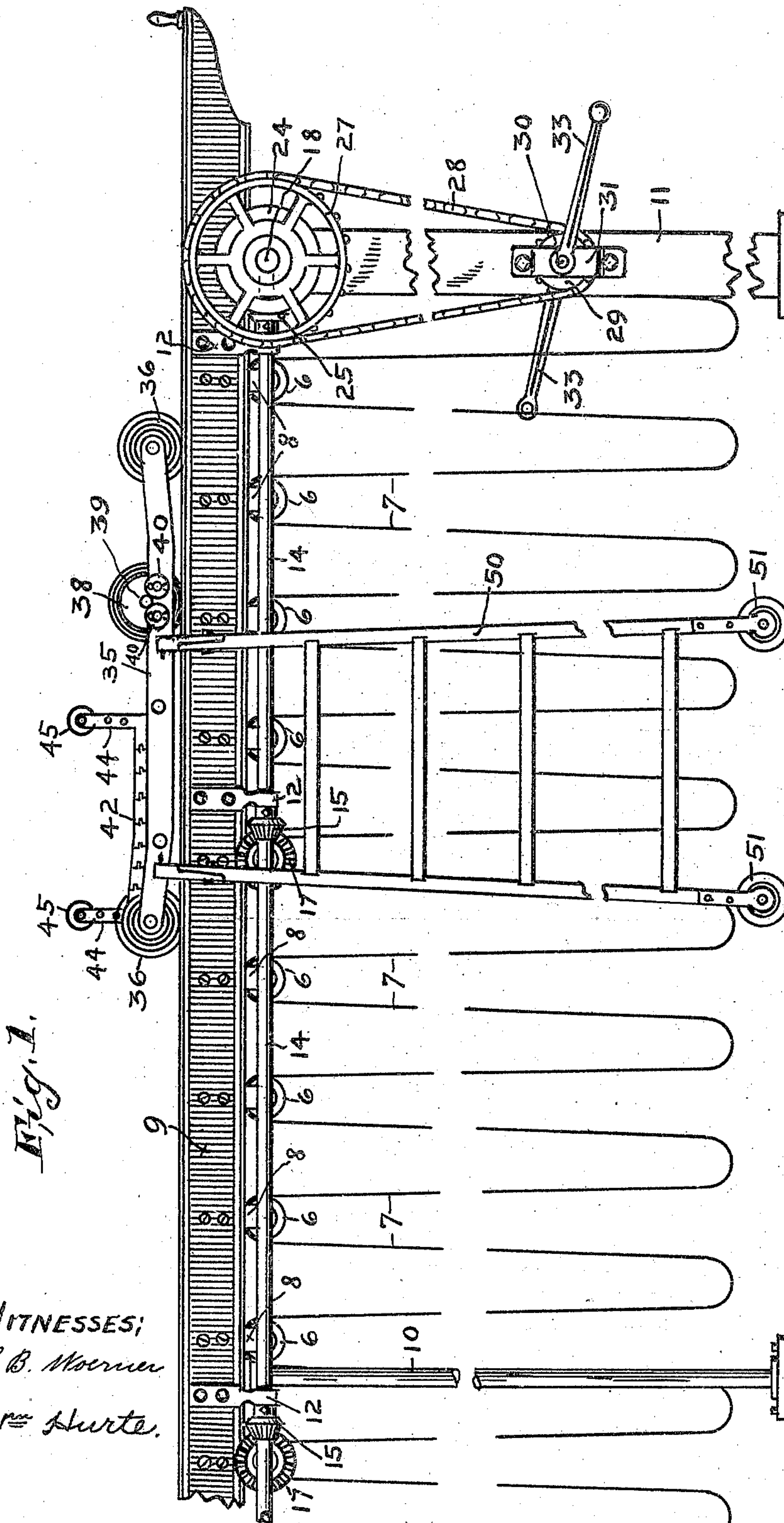


Fig. 1.

WITNESSES;  
L. B. Moorman  
Wm. Hurte.

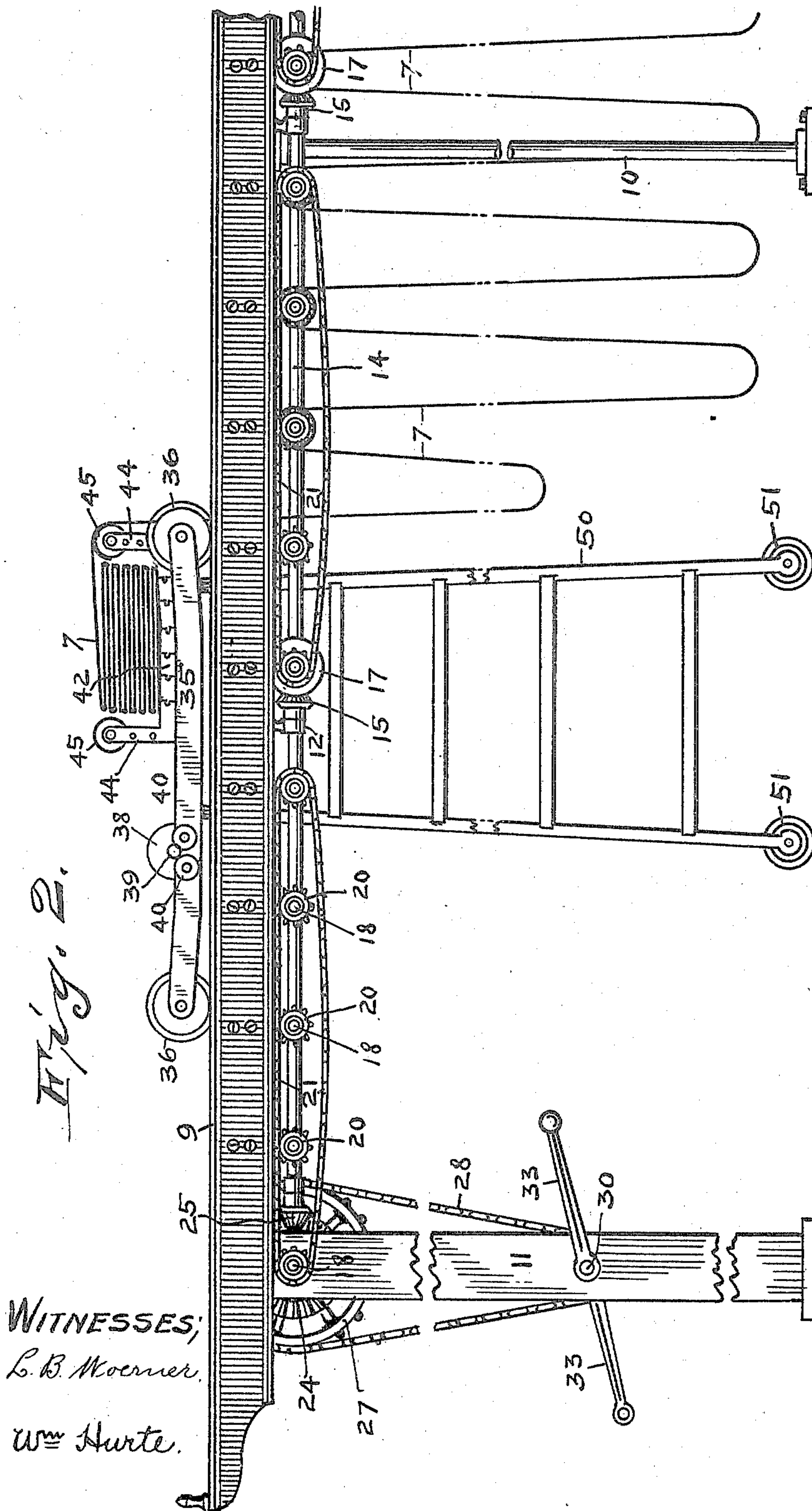
INVENTOR,  
Martin A.  
Gordon,  
By  
Minturn & Horner  
Attys.

947,696.

M. A. GORDON.  
MACHINE FOR DRYING CLOTH.  
APPLICATION FILED MAR. 15, 1909.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 2.



WITNESSES;  
L. B. Moerner.  
Wm Hurte.

INVENTOR,  
Martin A.  
Gordon,  
By  
Minturn Warner  
Attys.



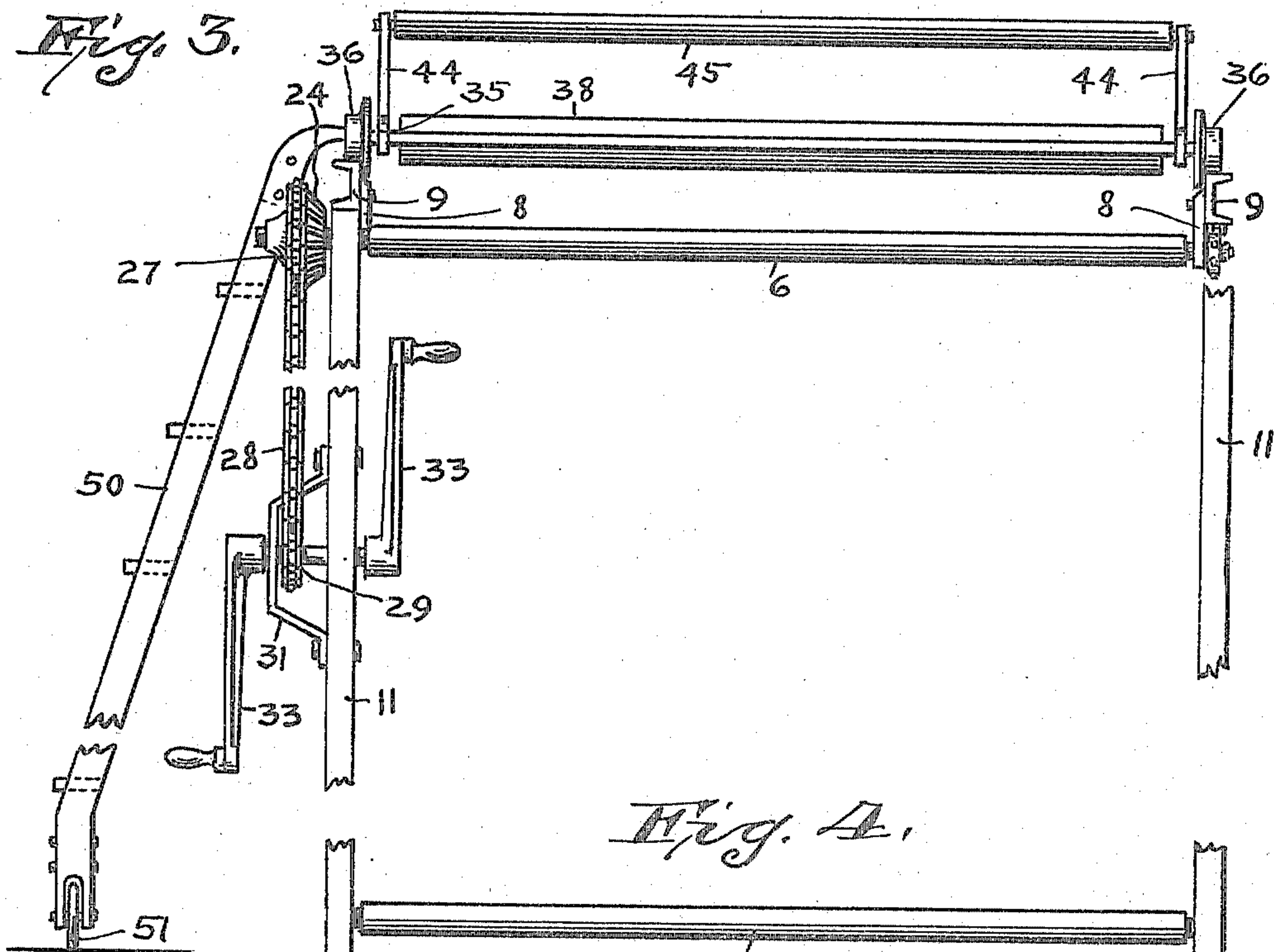
947,696.

M. A. GORDON.  
MACHINE FOR DRYING CLOTH.  
APPLICATION FILED MAR. 15, 1909.

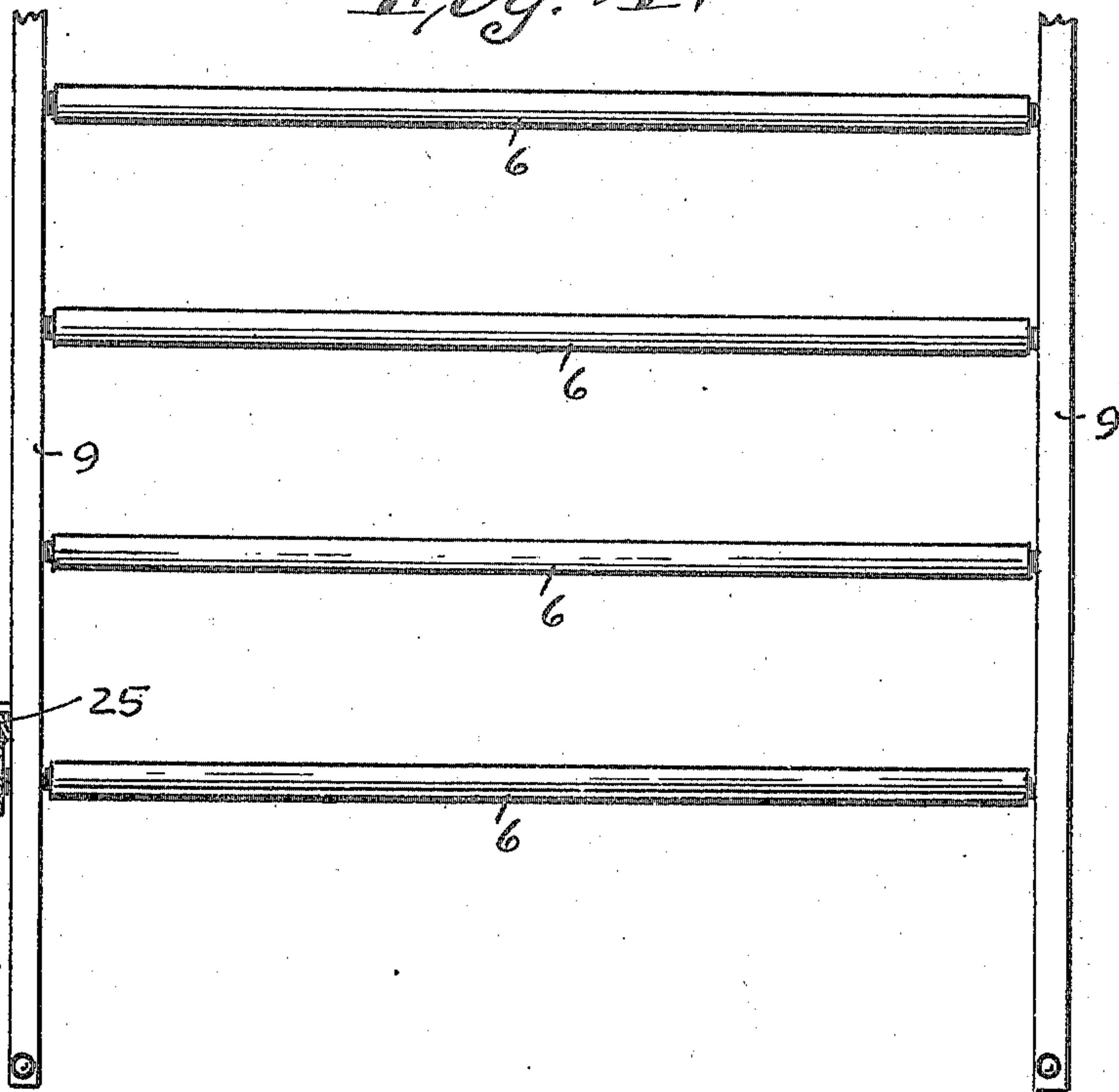
Patented Jan. 25, 1910.

3 SHEETS—SHEET 3.

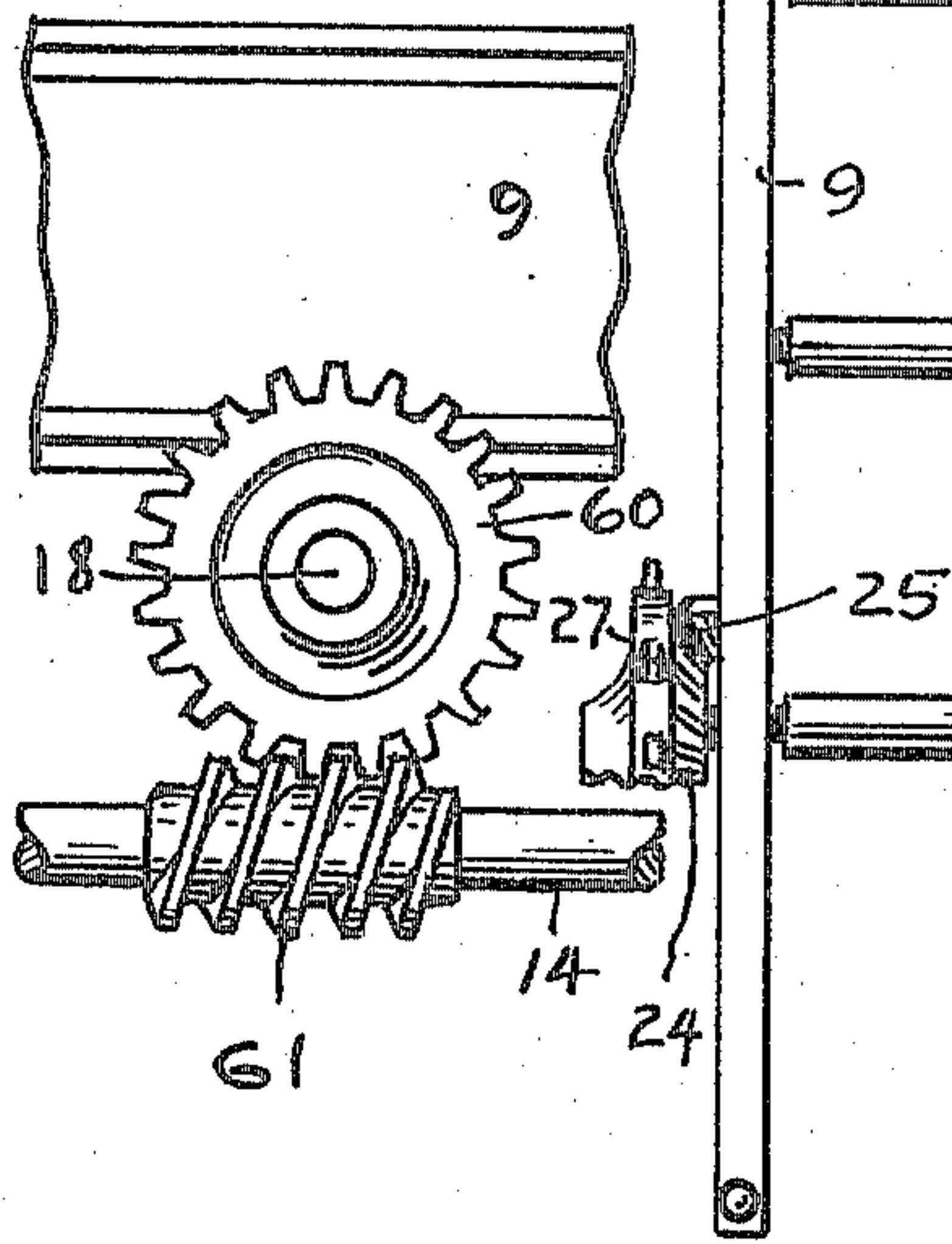
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES;  
L. B. Moerner.  
Wm Hurte.

INVENTOR;  
Martin A. Gordon,  
By Minturn Woerner,  
Attys.



# UNITED STATES PATENT OFFICE.

MARTIN A. GORDON, OF INDIANAPOLIS, INDIANA.

MACHINE FOR DRYING CLOTH.

947,696.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed March 15, 1909. Serial No. 483,564.

*To all whom it may concern:*

Be it known that I, MARTIN A. GORDON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Machines for Drying Cloth, of which the following is a specification.

This invention relates to improvements in racks for the suspension of cloth and drying same after it has been sponged in cold water for the purpose of shrinking it, and the object of the invention is to provide means for shifting the lines of suspension of the goods while drying to cause it to shrink evenly.

The invention contemplates the hanging of the cloth in folds from and between a series of rollers and the providing of means for simultaneously rotating said rollers an equal number of revolutions to change the position of the cloth thereon. This is important because the water in the wet and suspended material will accumulate by gravity at the bottom of each fold leaving the upper portions of the cloth less moist. As the shrinkage is in proportion to the saturation with water it is obvious that the cloth should be moved frequently while drying so that all portions of it may be subjected to the same degree of moisture.

I am aware that cloth after being sponged has been suspended in folds from rollers, but so far as I am aware the change in position of the cloth has been made by hand by manually grasping an edge of the wet fold and pulling it to the desired new position. This operation is unsatisfactory because one edge is pulled with greater force than the other causing unevenness in the folds and resulting in the uneven shrinkage of the cloth.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in front side elevation of my invention showing all of the rollers in use to support folds of cloth. Fig. 2 is a like view showing the opposite or rear side of the machine illustrated in Fig. 1. Fig. 3 is a detail in end elevation of that part of the machine shown in Figs. 1 and 2. Fig. 4 is a detail in top plan view of the same end of the machine, and Fig 5 is a detail in side elevation of a modified mechanism for transmitting rotary motion to the rollers from which the cloth is suspended.

Like characters of reference indicate like parts throughout the several views of the drawings.

6 are a series of rollers which support the cloth 7. The cloth 7 passes over the top of rollers 6 and is suspended in folds as shown in Figs. 1 and 2 between each pair of rollers. The rollers 6 are suspended by hangers 8 from a pair of horizontal beams 9, here shown as channel bars which are supported from the floor by posts 10 and 11. Where it is more convenient to do so, the beams 9 may be suspended from the ceiling of the room in which the machine is located, the desired purpose being to secure the beams at the necessary elevation, in any secure and substantial manner. Supported from the front beam 9 by means of hangers 12 is a shaft 14. Mounted on the shaft 14 are the pinions 15 which mesh with bevel wheels 17 mounted on certain of the shafts 18 carrying the rollers 6.

Mounted on the opposite or rear ends of the shafts 18 are sprocket wheels 20, and 21 are chain belts which pass over the sprocket wheels 20 making driving engagement therewith. The wheels 20 are in such relation or proximity to the under flange of the channel bar forming the adjacent beam 9, that the disengagement or slipping of the belt 21 on the sprocket wheels 20 is made impossible. It will be noted in Fig. 2 that the sprocket wheels 20 are belted up in a series of five of said wheels to each belt, and that one of the sprocket wheels of the series is on a shaft 18 having bevel wheel 17 whereby said shaft is positively driven. By this means the entire number of rollers in the machine are simultaneously and equally rotated. The number of rollers will depend upon the desired capacity of the machine. I have here shown but a fragment of a machine which will be extended to any desired number of rollers by duplicating the mechanism here illustrated.

Mounted on the first or end shaft 18 of the machine is a bevel wheel 24 which drives the pinion 25 on shaft 14, and also mounted on the same shaft with the bevel wheel 24 is a sprocket wheel 27 which is connected by chain belt 28 with a sprocket wheel 29 on shaft 30. The shaft 30 is supported by the post 11 and bracket 31 bolted to said post, and it is provided at each of its ends with a hand-crank 33 by means of which the shaft 30 will be rotated. The rotation of



shaft 30 will rotate the sprocket wheel 27 and through its shaft 18 and bevel wheel 24 and pinion 25, the shaft 14 will be rotated and from thence the movement will be transmitted to each one of the rollers 6. The two parallel channel bars or beams 9 constitute a track for a carriage 35. The carriage 35 has the flanged wheels 36 which travel upon said beams 9. This carriage is used in hanging the sponged and wet cloth in folds from the rollers 6. Sometimes the wet cloth comes to the drying machine in a round roll, and at other times it comes in a folded condition such as is illustrated in Fig. 2 and the carriage 35 is adapted to handle said cloth in either rolled or folded condition. When in rolls the cloth is rolled upon a spool 38 having shaft-ends or trunnions 39 which are deposited between and upon friction rollers 40 supported by the frame of the carriage. The spool is free to be lifted out for removal and is as readily replaced. A platform 42 is provided on the carriage to receive the cloth when it comes to the machine in a folded condition, and at each end of this platform 42 is a standard 44 bearing at its upper end a roller 45. The cloth from the folded pile is drawn over the roller 45, at whichever end of the platform the cloth is being discharged to form the folds that are to be suspended between the rollers 6 of the machine below. The double set of rollers 45 enables the carriage 35 to travel in either direction in discharging its load of wet cloth.

As the beams 9 are located at a distance above the floor too great for convenient reach without assistance, I provide a ladder 50 which is attached to the carriage 35 and has rollers 51 to contact with the floor.

The operation of my invention is as follows: I prefer for the sake of convenience to begin loading the machine at the end most remote from the post 11 where the machine is cranked, and I therefore run the carriage 35 down to the far end of the machine. The sponged and wet cloth to be dried is carried up the ladder 50 and deposited on the carriage in proper place, depending on whether it is in a rolled or folded condition. The cloth is then drawn off the carriage and over the last roller 6 until its end is at the desired height above the floor of the room. Then the cloth is drawn off the carriage in a fold between the last two rollers and this fold is made the same depth between its supporting rollers as the length of cloth suspended outside of the last roller. The carriage is then moved forward if necessary and a new fold is formed of the wet cloth from the carriage between the second and third rollers, and this operation is continued until all of the cloth on the carriage has been thus treated. Another bolt of cloth, sponged and wet in like manner, is deposited upon the carriage and its end is drawn off of the

carriage and is pinned to the last end of the preceding bolt and thereupon the second bolt of cloth is folded between the rollers 6 of the machine in the manner described for the first bolt, and this operation is repeated until the machine is full or until all of the cloth to be dried has been thus hung up. Attendants will be in charge whose duty it will be every half hour or so to shift the position of the cloth folds by properly turning the cranks 33. Two cranks are shown because, in very long racks considerable power is required to turn the rollers and two men are frequently required to do this work making it necessary to provide the double crank but these need not both be used if they are not required.

This machine affords means for readily moving all of the rollers an equal distance at the same time and makes it possible to shift the wet cloth in a manner to cause it to dry and shrink in an even and uniform manner.

In the modification shown in Fig. 5, the shafts 18 carrying the rollers for the suspension of the cloth are provided with toothed worm wheels 60 which are actuated by the engagement therewith of worms 61 mounted on the shaft 14. The shaft 14 is rotated in the same manner as heretofore described, the mechanism of this modification differing in the substitution of the worm gear for the chain gear.

Having thus fully described my invention, what I claim as new and wish to secure by Letters Patent of the United States, is—

1. In a machine for drying cloth, a pair of horizontal beams, means for supporting the beams in an elevated position, a plurality of horizontal rollers supported by said beams, sprocket wheels on the rollers under one of said beams in close relation thereto, a link-belt connecting groups of said wheels said belt passing between the adjacent beam and wheels and being retained on the wheels by said beam, and means for imparting a travel to the belt.

2. In a machine for drying cloth, a pair of horizontal beams, means for supporting the beams in an elevated position, a plurality of horizontal rollers supported by said beams over which rollers the cloth is hung in folds, a truck mounted on wheels said wheels having flanges and said wheels traveling on said horizontal beams, said truck being for the conveyance to the horizontal rollers of the cloth, sprocket wheels on said rollers under one of said beams in close relation thereto, a link-belt connecting groups of said wheels said belt passing between the adjacent beam and wheels and being retained on the wheels by said beam, and means for imparting a travel to said belt.

3. In a machine for drying cloth, a series of horizontal rollers over which the cloth is hung in folds, a revoluble shaft extending



from end to end of said series transversely of said rollers means for connecting the transverse rollers together in a plurality of groups and means for simultaneously and  
5 equally rotating all of said groups from said shaft.

4. In a machine for drying cloth, a series of parallel horizontal rollers over which cloth is hung in folds, means for drivingly  
10 connecting said rollers in groups, a shaft extending transversely of said rollers the entire length of said series, means for drivingly connecting this shaft with one of the

shafts of each of said groups, a shaft having hand cranks and means for transmitting 15 motion of rotation from said crank shaft to said first mentioned shaft.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this, 10th day of March, A. D. one thousand 20 nine hundred and nine.

MARTIN A. GORDON. [L. s.]

Witnesses:

F. W. WOERNER,  
L. B. WOERNER.