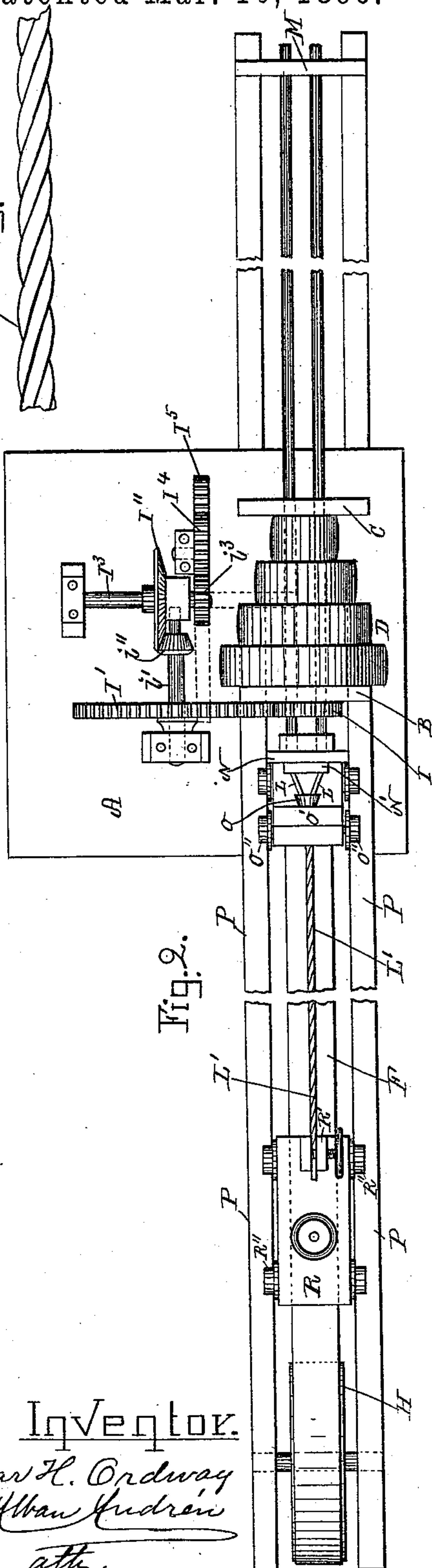
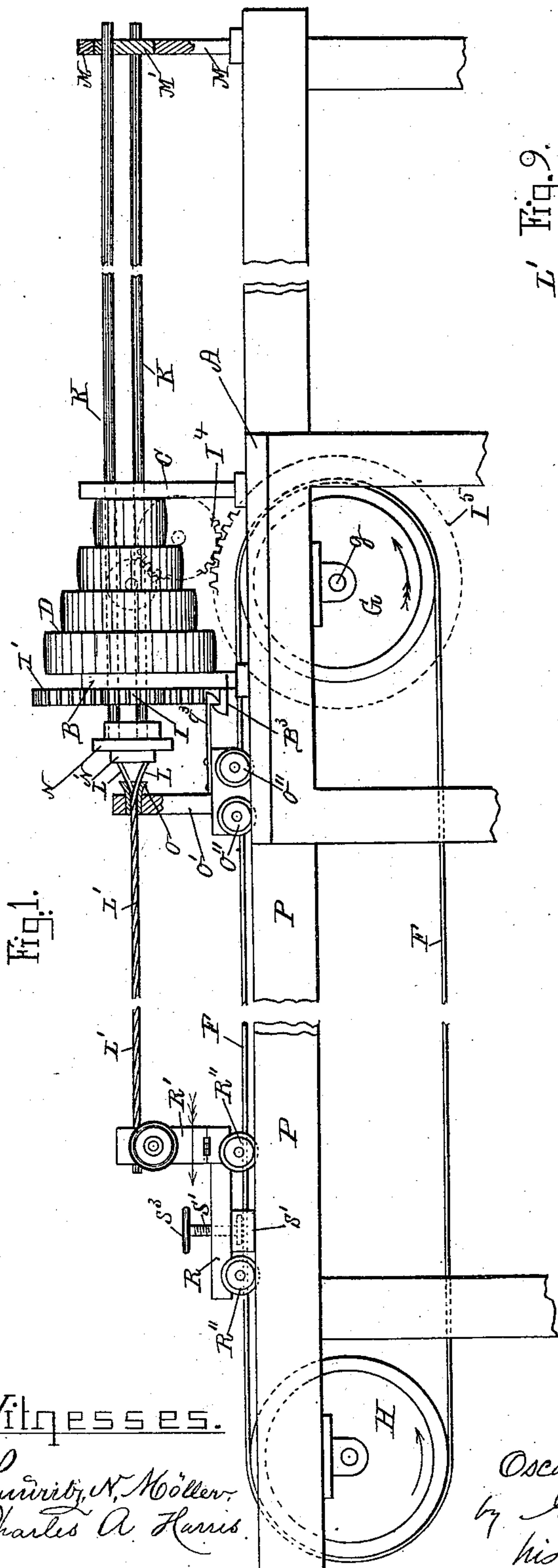


O. H. ORDWAY.
WOOD OR RATTAN TWISTING MACHINE.

No. 556,203.

Patented Mar. 10, 1896.



Witnesses.

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UNITED STATES PATENT OFFICE.

OSCAR H. ORDWAY, OF SOUTH FRAMINGHAM, MASSACHUSETTS.

WOOD OR RATTAN TWISTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 556,203, dated March 10, 1896.

Application filed June 25, 1895. Serial No. 553,942. (No model.)

To all whom it may concern:

Be it known that I, OSCAR H. ORDWAY, a citizen of the United States, and a resident of South Framingham, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Wood or Rattan Twisting Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to an improved machine for twisting wood and rattan strips or rods, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a side elevation of the improved machine, partly shown in section. Fig. 2 represents a top plan view of the said machine. Fig. 3 represents a detail central longitudinal section of the twisting mechanism which forms a part of the machine. Fig. 4 represents an end view seen from X in Fig. 3. Fig. 5 represents a top plan view of the longitudinally-movable vise and drawing device. Fig. 6 represents a vertical section on the line 6 6 shown in Fig. 5. Fig. 7 represents an end elevation of Fig. 6. Fig. 8 represents an end view of the rotary twister-die, and Fig. 9 represents a side elevation of the product of the machine.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, A represents a base-plate or table-top supported on legs at a suitable and convenient distance above the floor in the room or building in which the machine is located. To said plate or table A are secured the bearings B C, in which are journaled respectively the tube-carrying disks B' C', to which is firmly secured cone-pulley D, as shown. The said pulley and its disks are set in a rotary motion preferably by means of belt-power applied to said pulley in any suitable manner.

F is an endless-belt carrier, as shown in Figs. 1 and 3, and it is carried on pulleys G H, the former of which is set in a positive rotary motion by intermediate connecting mechanism from the pulley D, as shown in the drawings, Figs. 1, 2 and 3. Any such intermediate connecting mechanism may be employed, and I have in the said Figs. 1, 2

and 3 shown for this purpose a pinion I, attached to one end of the pulley D, which pinion intermeshes with a gear I' secured to a shaft *i'*, to which is attached a bevel-pinion *i''* that intermeshes with a bevel-gear I'', secured to a shaft I³, to which is also secured a pinion *i*³ in gear with the toothed wheel I⁵ by means of the intermediate gear I⁴. The gear I⁵ is secured to the shaft *g* of the pulley G, and it will thus be seen that a desired positive rotary motion is imparted to the pulley G from the pulley D, by which arrangement the endless belt F is caused to travel at a proper speed in direction of arrows shown on the pulleys G H in Figs. 1 and 3. The said intermediate connecting mechanism may, however, be varied without departing from the essence of my invention.

K K K are guide-tubes for the wood or rattan strips or reeds L L L, as shown. Said tubes pass through the pulley D and through perforations in the rotary disks B' C', and are secured to the latter preferably by means of set-screws B'' C'', as shown in Figs. 3 and 4.

The pulley D and the longitudinal perforations or guide-tubes K therein constitute a rotary twister-head for the material to be twisted.

The tubes K K K may be of any suitable length, according to the length of rattan or wooden strips or reed that are to be twisted, and their rear ends secured to a perforated disk M' journaled in a bearing M, as shown in Figs. 1 and 2. The said bearing M and its perforated disk M' are constructed in a like manner to that described relative to the bearings B C and their respective rotary perforated disks B' C'.

To the forward ends of the tubes K K K is secured a clutch or hub N, outside of which is secured the perforated twister-die N' having perforations *n n n*, each of which is about large enough to allow the passage through it of one of the strips or reeds L, as shown in Figs. 1, 2, 3, and 8.

A short distance in front of the rotary twister-die N' is located a tubular trumpet-mouthed reed-guide O, preferably secured to a carrier O' mounted on wheels O'' O'' and adapted to be normally held stationary during the twisting operation, and I have for such purpose shown a hook O³ on said carrier

O', adapted to be interlocked with a stationary hooked projection B³, as shown in Figs. 1 and 3.

The carrier O' is adapted to slide or roll, when released, on tracks P P. (Shown in Figs. 1, 2, and 3.) On said tracks P P is movable the drawing-carriage R, which is provided with a clamping-vise R' of any suitable construction, between the jaws of which the ends of the wood or rattan strands or reeds L L L are firmly secured, as shown in Figs. 1, 2, 5, 6, and 7. Said carriage is preferably mounted on wheels R'' R'', adapted to roll on the tracks or rails P P, as shown.

During the drawing and twisting operation the carriage R is secured to the endless belt F in any suitable manner, and I have for this purpose shown a bail or L-shaped frame S, secured to said carriage R, and an adjustable clamping-screw S' screwed through the said carriage and provided with a clamping-head S'' in its lower end, between which and the bail S the belt F is clamped by the turning of a crank or hand wheel S³ whenever it is desired to secure said carriage R to the traveling belt F, as fully shown in detail in Figs. 5, 6, and 7.

L' in Figs. 1, 2, 3 and 9 represents the product of the machine.

The operation of this my improved twisting-machine is as follows: Before starting the machine the guide-carrier O' is released and moved a proper distance toward the left, and the previously damp or moistened strands L to be twisted together are passed into the tubes K through the perforations *n* in the die-plate N' nearly their whole length, after which the ends of the strands are passed through the guide-tube O, and the carrier O' secured firmly in position, as shown in Fig. 3. The released carriage R is then moved up to the guide-carrier O', and the ends of the strands L are clamped in the vise R', as shown. The carriage R is then secured to the belt F by means of the clamping-screw S', as shown in Fig. 6, after which the pulley is set in motion, causing the tubes K and their strands located therein to be rotated around a common axis at the same time as the carriage R is caused to move with the belt F in a direction away from the guide-carrier O', thus causing the strands to be twisted together, as shown in Fig. 9. When the whole length of the strands has thus been twisted, the machine is stopped either by hand or by any well-known belt-

shipper device, the vise R' is opened and the twisted product L' removed, after which the carriage R is detached from the belt F, and the operation repeated with another set of strands of wood, reed or rattan, and so on.

The article thus quickly and cheaply produced is very useful in the art of making rattan or reed furniture as well as for any other similar purposes.

Two or more strands may be twisted together in my improved machine, as may be desired.

Having thus fully described the nature, construction, and operation of my improved machine, what I wish to secure by Letters Patent and claim is—

1. In a wood or rattan twisting machine, in combination a rotary twister-head having a series of longitudinal perforations or guide-pipes therein, a stationary guide-tube and a longitudinally-movable drawing and clamping device, and an endless-belt-feeding device adapted to be connected to said drawing and clamping device, substantially as and for the purpose set forth.

2. In a wood or rattan twisting device in combination a rotary twister-head having a series of longitudinal perforations or guide-pipes therein, a perforated twister-die secured to said pipes, a guide-tube normally held stationary relative to said twister-die and adapted to be longitudinally adjustable in relation to it, an endless carrying-belt and intermediate connecting mechanism between it and the rotary twister-head and a longitudinally-movable drawing and clamping device adapted to be secured to said endless carrying-belt, substantially as and for the purpose set forth.

3. In a wood or rattan twisting machine, the combination with a rotary twister-head, and a rotary twister-die, of a normally-stationary guide adjustable to and from the twister-die, a drawing device adapted to clamp the twisted material, and mechanism for actuating the said twister-head and drawing device, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of June, A. D. 1895.

OSCAR H. ORDWAY.

Witnesses:

ALBAN ANDRÉN,
ALBERT H. ORDWAY.