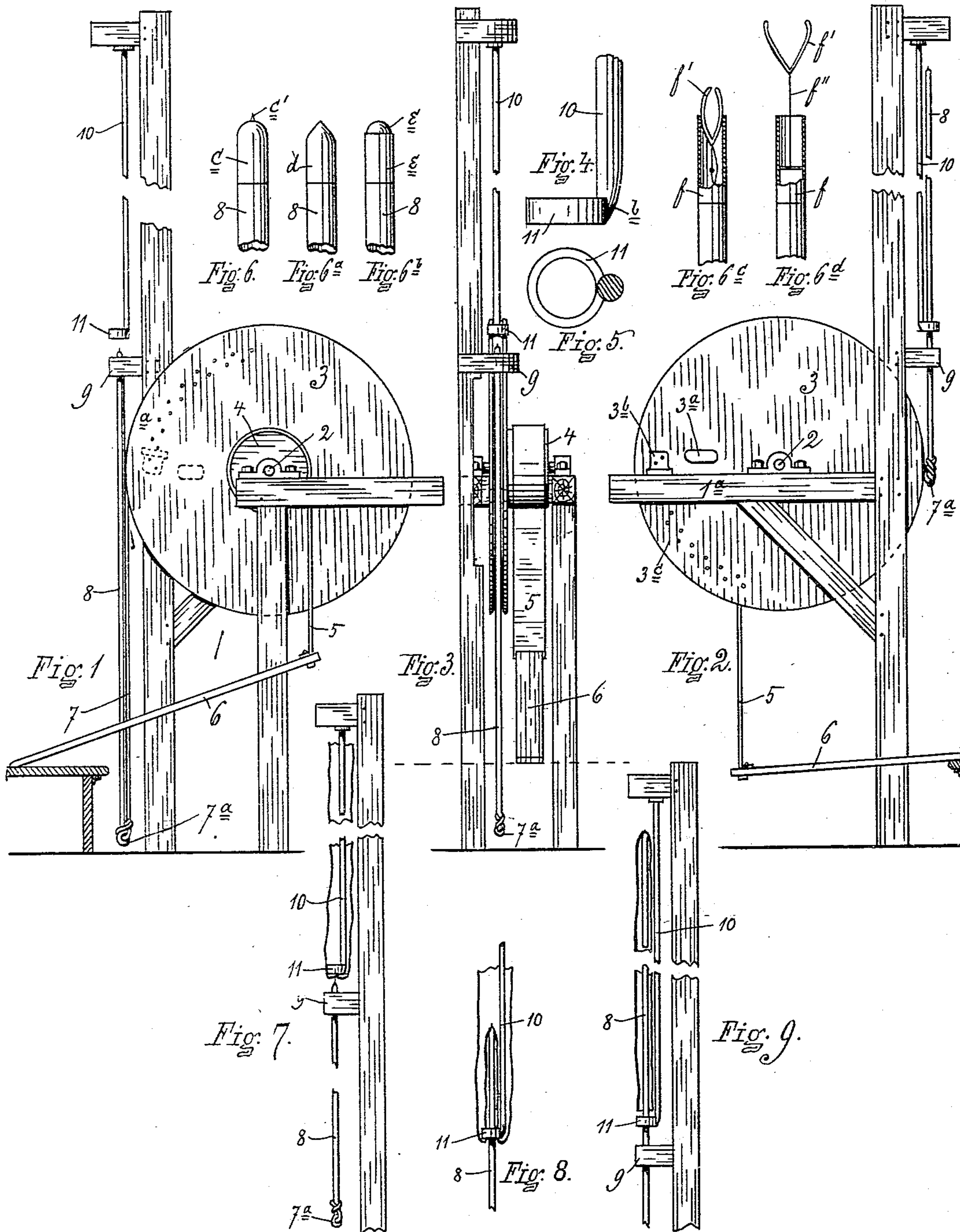


(No Model.)

J. F. KEATING.
MACHINE FOR TURNING NECKTIES.

No. 555,170.

Patented Feb. 25, 1896.



WITNESSES.

Rich. A. George.
Dwight H. Catgrove.

INVENTOR.

JEREMIAH F. KEATING.

BY Risley, Robinson & Love

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JEREMIAH F. KEATING, OF UTICA, NEW YORK, ASSIGNOR OF ONE-THIRD
TO DAVID L. DAVIES, OF SAME PLACE.

MACHINE FOR TURNING NECKTIES.

SPECIFICATION forming part of Letters Patent No. 555,170, dated February 25, 1896.

Application filed December 5, 1894. Serial No. 530,890. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH F. KEATING, of Utica, in the county of Oneida and State of New York, have invented certain new and
5 useful Improvements in Machines for Turning Neckties, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to a machine for turning neckties in the process of their manufacture, and the machine is equally adapted for
15 a similar use with other lines of manufacture.

In the drawings which accompany and form a part of this specification, and in which similar letters and figures of reference refer to
20 corresponding parts in the several views, Figure 1 shows a side elevation of my machine. Fig. 2 shows the opposite side from that shown in Fig. 1. Fig. 3 is a front edge view. Fig.
25 4 shows details of a ring or eye in connection with a portion of the arm on which it is supported. Fig. 5 shows a plan view of the ring and a cross-section of the arm shown in Fig. 4. Figs. 6, 6^a, 6^b, 6^c, and 6^d show various
30 kinds of points or attachments for the thrust-arm of the machine. Fig. 7 shows the first part of the operation in turning a necktie. Fig. 8 shows a necktie partially turned. Fig. 9 shows the necktie completely turned before
35 being removed from the machine.

Referring to the drawings in a more particular description of the device, 1 indicates the frame, which consists substantially of a tall upright and a framework for supporting
40 the bearing or journal 2 of the wheel 3. Secured on the side of the wheel 3 is a pulley 4, to which is attached a strap 5, connected with the treadle 6. The periphery of the wheel 3 is grooved and receives the cord or
45 other suitable flexible connection 7, one end being secured in the groove at a point at about *a*, Fig. 1. The end of the connection or cord 7 is attached at 7^a to the lower end of the thrust or turning arm 8. This arm is
50 adapted to run in contact with the periphery of the wheel 3, as shown in Fig. 1, which acts

as a guide therefor, and also runs through the guide 9 on the arm. Supported over the upper end of the thrust-arm 8, by means of a downwardly-extending arm 10, from the up-
5 per portion of the frame, is the ring or eye 11. The supporting-rod 10 engages the ring or eye 11 on one side, as clearly appears from Figs. 4 and 5 at *b*, and the corners are carefully
60 smoothed or rounded. The relative arrangement of the thrust-rod 8 and turning-eye 11 is such that the rod is entirely withdrawn from the eye and is operated into and through the eye from the outer side. There may be
65 provided for the end of the thrust-arm 8 a series of detachable tips, as shown in Figs. 6, 6^a, &c., depending somewhat on the class of work on which the machine is to be operated. The tip *c* (shown in Fig. 6) consists of a
70 rounded head having a tack-like point *c'*. The tip *d* (shown in Fig. 6^a) has a stubby conical point. The tip *e* (shown in Fig. 6^b) has a semicircular rubber or elastic point *e'*. The tip *f* (shown in Figs. 6^c and 6^d) is tubular and open at its upper end and adapted to re-
75 ceive the spring-clamp *f'*, which is connected with the tip by a connection *f''*, and is adapted to either be wedged in the upper end of the tip, as shown in Fig. 6^c, or drawn after it by the connection *f''*, as shown in Fig. 6^d.
80

On the wheel 3 is provided a fixed stop 3^a adapted to strike on the frame-bar 1^a and limit the movement of the wheel when the thrust-arm 8 is in the position shown in Fig. 3, which may be called the "starting position."
85 There is also provided on the wheel 3 an adjustable stop 3^b, adjustable by removing the screws by which the stop 3 is secured on the side of the wheel and replacing them in any of the series of holes indicated at 3^c
90 in Fig. 2. In the construction as illustrated the machine is adjusted to give the greatest amount of movement to the thrust-arm 8; but in turning neckties of various lengths the machine may be readily adjusted to corre-
95 spond with the length of the material being operated upon.

The operation of the device is substantially as follows: With the machine in the position shown in Fig. 1 the attendant or operator
100 takes a necktie, which is inside out as it comes from the machine, where it has been sewed in

the process of manufacture and which is in the shape of a cloth tube, and slips it over the ring or eye 11 and up the arm 10. The lower end is then engaged with the tip of the thrust-arm 8, when, by the operator depressing the treadle 6, the arm 8 is caused to move from the position shown in Fig. 1 to that shown in Fig. 2, or a certain part of this movement. In this movement the cloth tube-like piece is forced through the ring or eye 11, and as it is forced through the outer portion slides down the rod 10, and finally all passes through the eye 11, where it is supported on the projected end of the thrust-arm 8, as shown in Fig. 9, and the operator takes hold of it, and by relieving the pressure on the treadle 6 the thrust-arm falls back to its normal position by reason of its own weight, leaving the turned necktie in the hand of the operator and the machine in position to operate upon another necktie placed over the eye 11 and rod 10.

The tips shown in Figs. 6, 6^a and 6^b will be found useful with neckties of slightly-varying construction and material. In using the form of construction of tip shown in Figs. 6^c and 6^d the attendant inserts the spring-finger *f'* in the lower end of the tubular necktie which is to be turned, and then places them both in the end of the tip, as shown in Fig. 6^c, where the end of the tip is gripped between the spring-arms and the walls of the tip. The tie is then turned by the movement of the machine, as before described, and when the thrust-arm 8 reaches the upper portion of its movement the attendant disengages the spring or clamp arms *f'* and holds the tie by its upper end, while the arm 8 is retracted and the spring-arms *f* are drawn through the necktie by the connection *f''*, spreading it out and extending it in the shape of a flat tube as it passes through the same in the descent of the thrust-arm 8. The end of the necktie may likewise be secured by gripping between the ends of the spring-fingers *f'*.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a suspended turning-eye mounted on a supporting-rod attached to one side thereof and extending at right angles to the plane of the ring, a thrust-rod operating into and through the eye from the outside and means for operating the thrust-rod, substantially as set forth.

2. The combination of an eye mounted on the end of a suspending-arm and attached by the side to the arm, a thrust-rod operating into and through the eye from the outside, a guide for the thrust-rod adjacent to the eye,

and means for operating the thrust-rod, substantially as set forth.

3. In a necktie-turning machine, the combination of a turning eye or ring mounted on a supporting-arm, a turning-rod adapted to operate through the eye or ring from the outside and to be entirely withdrawn therefrom and having a tip adapted to engage the end of the tie, and means for operating the thrust-rod, substantially as set forth.

4. In a machine for turning neckties, the combination of a turning-eye attached by its side and located at right angles to a pendent supporting-rod, a thrust-rod constructed and arranged to pass through the turning-eye from the under side and be entirely withdrawn therefrom, a guide for the thrust-rod located adjacent to but removed from the turning-eye, and means for reciprocating the thrust-rod, substantially as set forth.

5. The combination of a turning-eye mounted on a supporting-arm, a thrust-rod adapted to operate through the eye a guide for the thrust-rod adjacent to the eye, a wheel, a connection between the lower end of the thrust-rod and the wheel, and stops for limiting the movement of the wheel, substantially as set forth.

6. The combination in a turning-machine, of a turning-eye, a supporting-rod attached to one side of the eye and extending therefrom at substantially right angles to the plane of the eye, and a thrust-rod arranged to operate through the eye from the outside and be entirely withdrawn from it and means for holding and guiding the thrust-rod, substantially as set forth.

7. In a machine for turning neckties, the combination of a turning-ring attached by its side to and projecting at right angles from a pendent supporting-rod, a thrust-rod constructed and arranged to pass through the turning-eye from the under side and being of considerable less diameter than the aperture of the ring, and provided with a blunt tip having a point, a guide for the thrust-rod located adjacent to but removed from the turning-ring, a groove-face wheel, a flexible connection between the lower end of the thrust-rod and the wheel and stops for limiting the movement of the wheel, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

JEREMIAH F. KEATING.

Witnesses:

E. WILLARD JONES,
PETER P. SMITH.