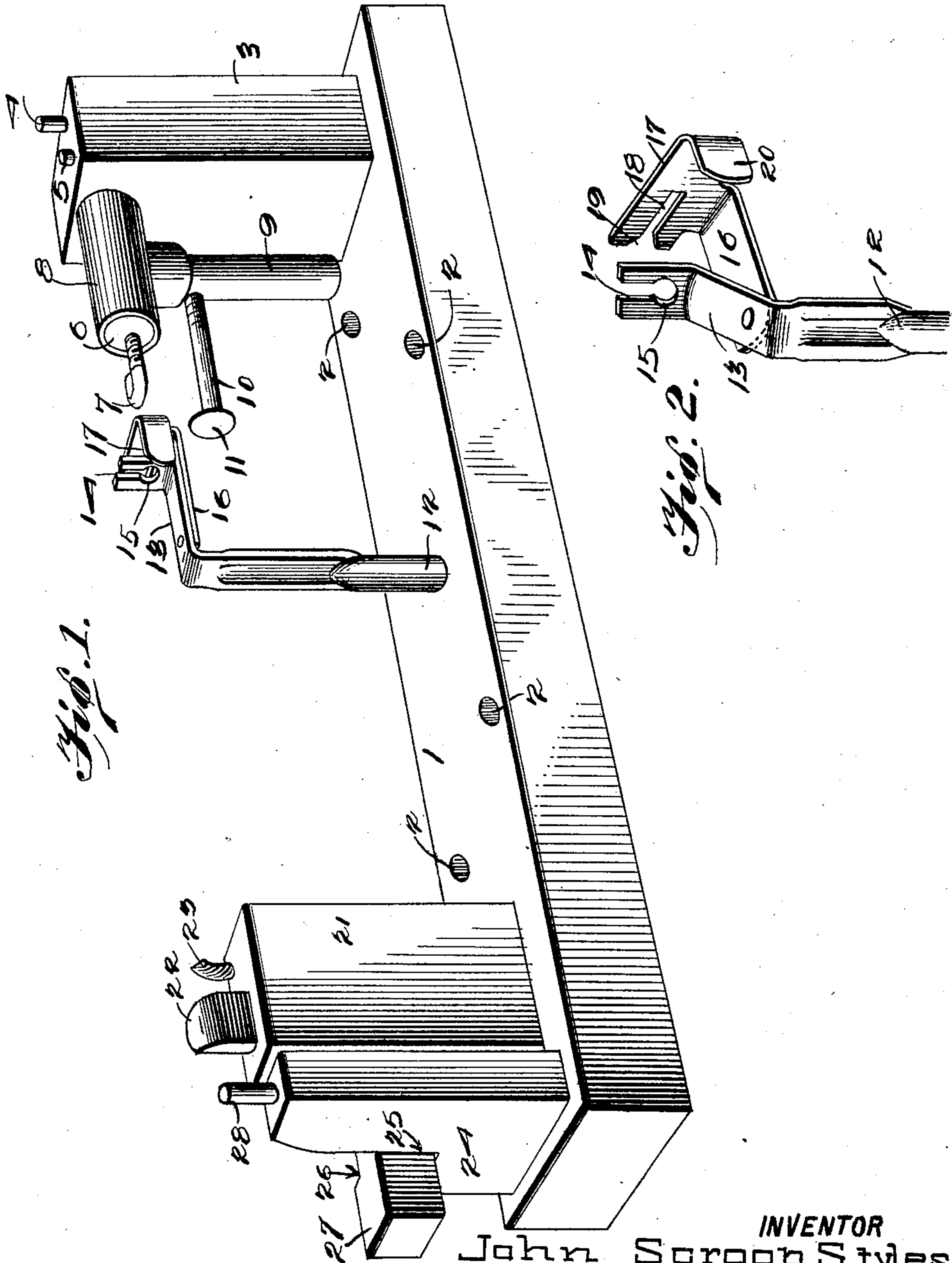


J. S. STYLES.
MACHINE FOR MAKING PINLESS CLOTHES LINES.
APPLICATION FILED NOV. 17, 1910.

999,131.

Patented July 25, 1911.

2 SHEETS-SHEET 1.



WITNESSES:

Irv. L. McBethman.
H. Joseph Doyle.

INVENTOR
John Seroop Styles

BY
E. C. Vrooman,
his ATTORNEY.

MACHINE FOR MAKING PINLESS CLOTHES LINES.

APPLICATION FILED NOV. 17, 1910.

999,131.

Patented July 25, 1911.

2 SHEETS--SHEET 2.



WITNESSES:

Dr. L. M. Cathran
H. J. Goodenough

John ^{INVENTOR} Scroop Styles

BY
E. E. Crooman,
his ATTORNEY.

UNITED STATES PATENT OFFICE.

JOHN SCROOP STYLES, OF ASHEVILLE, NORTH CAROLINA.

MACHINE FOR MAKING PINLESS CLOTHES-LINES.

999,131.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed November 17, 1910. Serial No. 592,888.

To all whom it may concern:

Be it known that I, JOHN SCROOP STYLES, a citizen of the United States, residing at Asheville, in the county of Buncombe and State of North Carolina, have invented certain new and useful Improvements in Machines for Making Pinless Clothes-Lines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to wire bending and twisting machines, and the principal object of the same is to provide a machine of the character stated capable of quickly and economically producing sections or links of pinless clothes lines from single lengths of wire or similar resilient material.

In carrying out the objects of the invention generally stated above it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings, wherein:—

Figure 1 is a perspective view of the improved wire working machine. Fig. 2 is a detail perspective view of a work-holder and guide therefor. Fig. 3 is a top plan view of the machine, dotted lines being used to indicate a partially finished line section on the machine. Fig. 4 is a detail perspective view of the loop and eye engaging means at one end of the machine. Fig. 5 is a similar view of the removable member of the engaging means shown in Fig. 4.

Referring to the accompanying drawings by numerals, it will be seen that the improved wire working machine comprises a flat base 1 provided with openings 2 for the reception of suitable fasteners for rigidly but detachably fastening the base to a bench, table or other support. At one end, the base is provided with a vertically arranged post 3 the flat upper end of which is provided with holding pins 4 and 5. The upper portion of the front surface of post 3 is provided with a laterally projecting stud 6 from the free end of which a hook 7 projects. A sleeve 8 is rotatable on the lug 6 and is provided with a handle 9. A wire-twisting arm 10 projects from handle 9, its free end extending well beyond the free end of hook 7 and being provided with a head 11. At an intermediate point, the base 1 is provided with a standard 12 the upper por-

tion of which is bent at right angles, as indicated at 13, and projects toward the hook 7 and has its free end arranged vertically to provide a work-holder in which a slot 14 having a base recess 15 is formed. A plate 16 is pivotally fastened to the under side of angular end portion 13 of standard 12 and is provided with an upstanding head 17 in which a slot 18 is provided that has a flaring entrance 19. The other end of said head is provided with an angular hand-grip 20 by means of which the plate 16 can be swung so that the slot 18 in the head 17 will engage the work in slot 14 of the work holder to retain said work in said slot.

A post 21 is rigidly fastened to the base 1 at the end opposite post 3, the upper end of said post 21 being provided with an enlarged and preferably rounded loop engaging lug 22 and a smaller guiding lug 23. A removable post 24 is loose on base 1 and is provided with a keeper slot 25 that is engaged by the notched end 26 of a latch 27 pivotally connected to post 21 to normally retain post 24 in close contact with the rear surface of post 21. The upper end of post 24 is provided with an eye engaging lug 28.

The machine described in the foregoing is especially adapted for use in manufacturing the sections of pinless clothes lines which form the subject-matter of an application for Letters-Patent executed by me of an even date herewith, one section of the line being shown by broken lines in Fig. 3 as it appears when partly completed.

The sections of the clothes lines are formed of single lengths of wire that are doubled and the loop ends thereof have an eye and a tapering loop manually formed in them while engaged over the lugs 4 and 5, and an eye is manually formed in one of the end portions of the wires by twisting the same over said lug 4. The eye and the loop in the end of the section is then engaged over lug 28 of post 24 and lug 22 of post 21, respectively, the lug 23, of post 21 serving as a guide, the body resting in the slot 14 of the work-holder of standard 12 and held therein by the head 17 of plate 16, and the eye in one end portion of one of the strands engaged with hook 7. When in this position, it will be seen that by rotating sleeve 8, twisting arm 10 will coil the free end of the wire that is provided with the eye about the body thereof, after which the end of the other strand can be oppositely coiled about

said body by rotating the sleeve 8 in an opposite direction, which also loosely twists the two strands together so that the end loop in the section will be resilient and thereby tightly clamp articles which have been forced therein.

The end post 24 being held to the base 1 by means of the latch 27, it will be seen that by releasing said post, a finished line section can be readily removed from the machine.

The sections of the line have eyes at their ends so that said sections can be flexibly connected. When one section is finished, or partly finished, the length of wire for the next section is passed through one of the end eyes of said section and then acted on by the described machine to shape the same. This operation is continued until the desired number of sections are finished.

What I claim as my invention is:—

1. A machine for making pinless clothes lines comprising a base, a post at one end thereof, eye and loop forming lugs carried by the upper end of said post, a stud projecting laterally from said post, a hook carried by said stud, a sleeve rotatable on said stud and provided with a handle, a twisting arm projecting from said handle, a work holder carried by said base, means for locking work to said holder, a holding post at the opposite end of said base, a loop engaging and a guiding lug carried by the upper end thereof, a removable post, means for locking the same to the holding post, and an eye-engaging lug carried by the removable post.

2. A wire working machine comprising a base, wire coiling and twisting means at one end thereof, means at the other end for engaging one end portion of the work, a work holder carried by said base in spaced relation to said twisting and coiling and end holding means, and means pivotally connected to said holder for locking work to said holder.

3. A wire working machine comprising a base, twisting and coiling means carried thereby, a standard carried by said base and provided with a work holder, a plate pivotally connected to said work holder and provided with a slotted head for engaging work in said holder, and means carried by said base for engaging one end of said work.

4. A wire working machine comprising a base, means carried thereby for bodily twisting work and coiling the ends thereof, means carried by the base for holding the work, a plate for locking work to said holding means, and means carried by said base for engaging one end of the work.

5. A wire working machine comprising a base, a post carried thereby, eye and loop forming means at the upper end thereof, twisting and coiling means carried by said post, a work holder carried by said base, a plate pivotally connected to said holder and having an angular end for locking work to said holder and means carried by said base for engaging one end portion of the work.

6. A wire working machine comprising a base, twisting and coiling means at one end thereof, a stationary post at the opposite end of said base and provided with work engaging and guiding means, a latch pivotally connected to said post, a removable post provided with a keeper slot for the reception of said latch to lock said removable post to said stationary post, work-engaging means carried by the removable post, and a work holder carried by said base.

7. A machine for making pinless clothes lines comprising a base, a post carried thereby, eye and loop forming lugs carried by the top thereof, a stud projecting laterally from said post, an eye engaging hook projecting from said stud, a sleeve rotatable on said stud and provided with a handle, a twisting and coiling arm projecting from said handle, a work holder carried by said base, and work engaging means carried by said base.

8. A machine of the character described comprising a base, twisting and coiling means at one end thereof, a stationary post at the other end and provided with work engaging and guiding means, a removable post provided with work engaging means, means for locking the movable post to the stationary post, and work holding means carried by said base.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN SCROOP STYLES.

Witnesses:

CHAS. N. MALONE,
S. K. DAVIDSON.