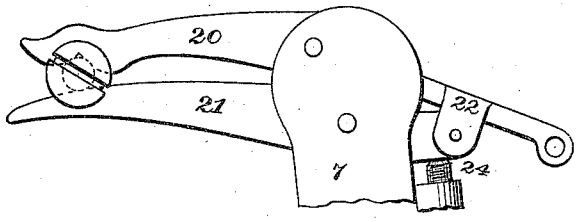
(No Model.) 3 Sheets—Sheet 1.

A. S. COOK.

SCREW MACHINE.

No. 319,564. Patented June 9, 1885.

Fig. 3



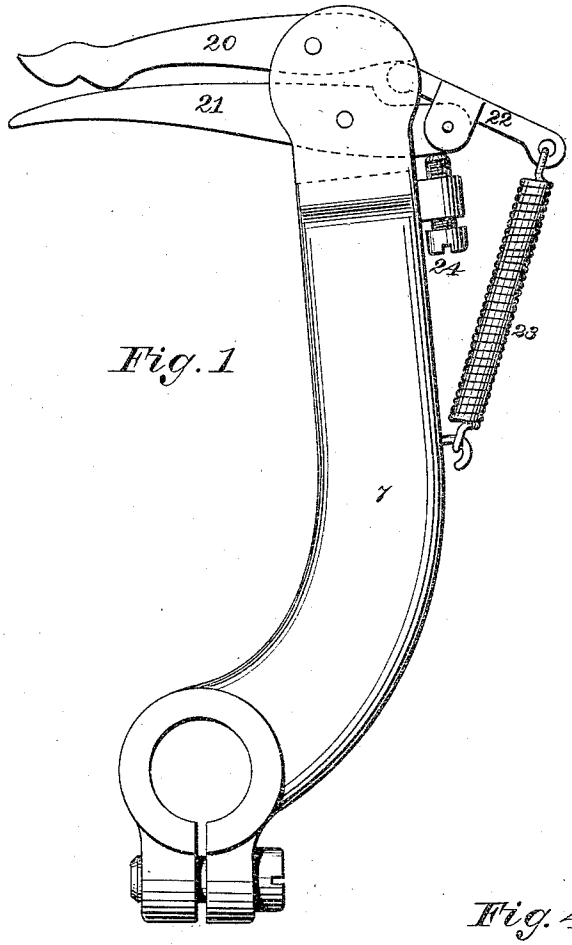


Fig. 1

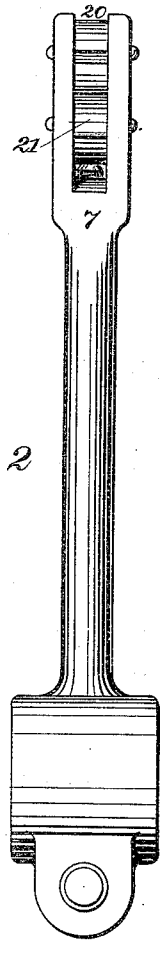
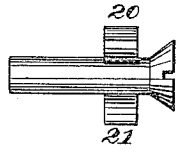


Fig. 2

Fig. 4



Witnesses:
Frank H. Pierpont
C. E. Buckland.

Inventor:
Asa S. Cook
by Albert H. Walker his Atty

N. PETERS. Photo-Lithographer, Washington, D. C.

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A. S. COOK.

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Fig. 5

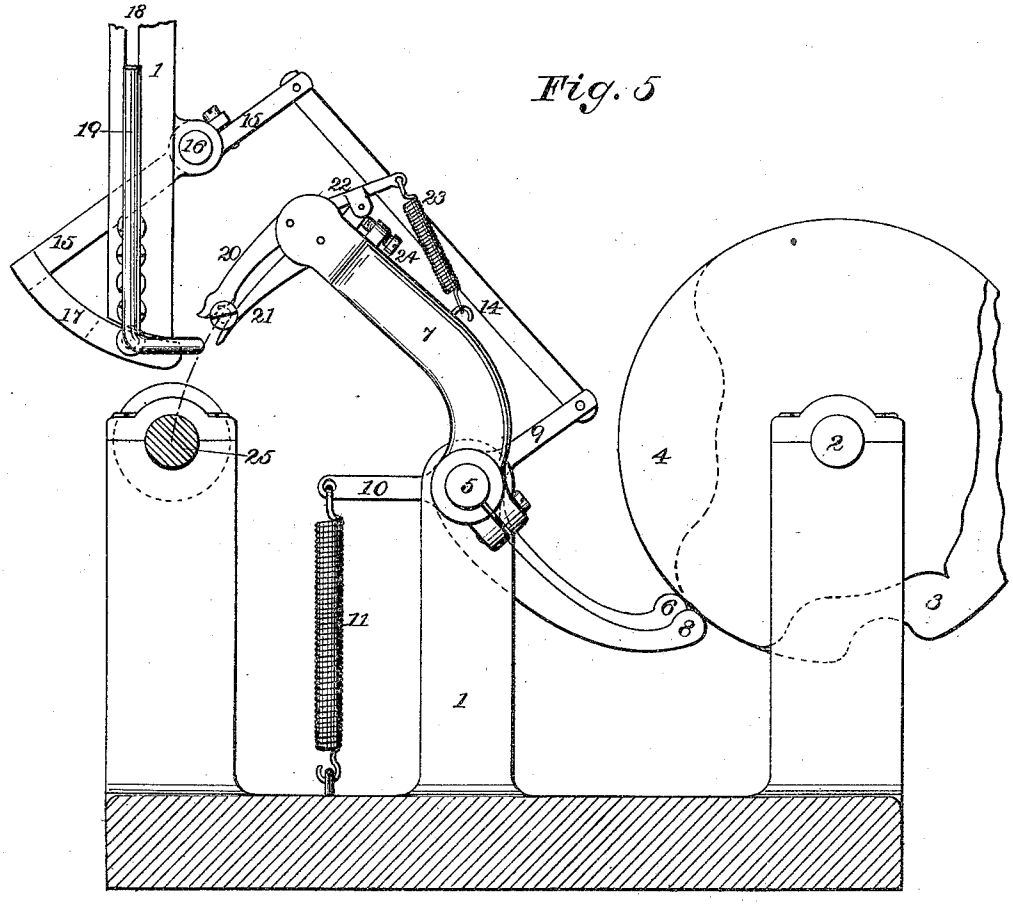
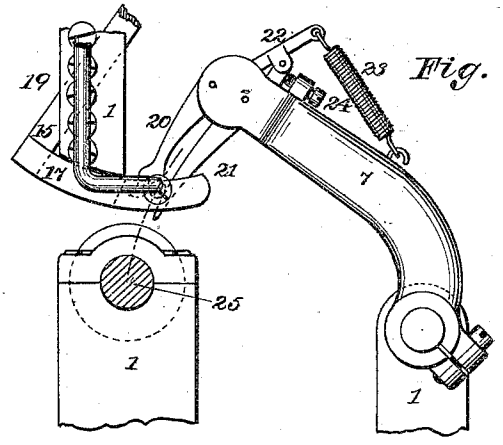


Fig. 7



Witnesses:
Frank H. Pierpont
C. E. Buckland.

Inventor:
Asa S. Cook
by Albert H. Walker, his Atty

N. PETERS. Photo-Lithographer, Washington, D. C.

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A. S. COOK.

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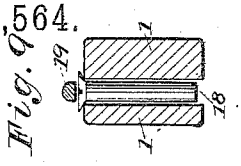


Fig. 9

Fig. 6

Fig. 8

Witnesses:
Frank H. Pierpont
C. E. Buckland.

Inventor:
Alonzo S. Cook
by Albert H. Walker, his Atty

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ASA S. COOK, OF HARTFORD, CONNECTICUT.

SCREW-MACHINE.

SPECIFICATION forming part of Letters Patent No. 319,564, dated June 9, 1885.

Application filed March 14, 1885. (No model.)

To all whom it may concern:

Be it known that I, ASA S. COOK, of Hartford, Connecticut, have invented a new and useful Improvement in Screw-Machines, of which the following description and claims constitute the specification, and which is illustrated by the accompanying three sheets of drawings.

This invention relates to the pair of fingers which pass the screw-blanks, one by one, to the chuck which holds them while the thread is being cut thereon.

Figure 1 of the drawings is a side view of the fingers and the parts connected therewith. Fig. 2 is a front view of the same, looking from the left of Fig. 1. Fig. 3 is a side view of the upper part of what is shown in Fig. 1, but with a screw-blank clasped between the fingers. Fig. 4 is a view of the left-hand end of the fingers with a screw-blank between them. Fig. 5 is a view of the left-hand end of what is shown in Fig. 6; and Fig. 6 is a front view of those parts of a screw-machine which include the spindle which holds and revolves the screw-blanks while the thread is being cut thereon, and those parts which supply screw-blanks to that spindle one after another. Fig. 7 is a view of parts of what is shown in Fig. 5, but showing them in a different position. Fig. 8 is a perspective view of the working end of the bifurcated and grooved arm 17, the shank of which projects at right angles from the working end of the lever 15 and is integral with that lever. Fig. 9 is a cross-section of that part of the frame 1 which contains the screw-blank channel on the line *a a* of Fig. 6.

The frame of the machine is represented by the numeral 1. The shaft 2 receives continuous rotary motion from the source of power. The cams 3 and 4 are keyed to the shaft 2. The shaft 5 oscillates in its bearings in the frame 1 and carries the arms 6 and 7. The arms 8, 9, and 10 are integral at their junction and oscillate on a bearing on the shaft 5. The extremity of the arm 10 is connected with the frame 1 by the coiled spring 11. An arm, 12, projects from the shaft 5 back of the arm 10, as shown in Fig. 6, and it is connected with the frame 1 by the coiled spring 13. The rod 14 connects the arm 9 with the lever 15, which lever has the shaft 16 for its fulcrum, and is provided with the bifurcated and grooved arm 17, integral therewith. The upper part of the frame 1 (shown in Fig. 6) is provided with a screw-blank channel, 18, which channel is guarded by the wire or strip 19, which strip protects and confines the heads of the screw-blanks during their descent in the channel, as shown in Figs. 6 and 9. The fingers 20 and 21 are pivoted to the arm 7, while the lever 22 is pivoted to the finger 21, so that one end is pressed upward against the shorter end of the finger 20, while the other end is strained downward by the coiled spring 23, attached to the arm 7. The set-screw 24 passes through a bracket projecting from the arm 7, and supports the shorter end of the finger 21. The spindle 25 rotates and also reciprocates in bearings in the frame 1, carrying a chuck, 26, on its working end, which chuck takes the screw-blanks from the fingers 20 and 21 and holds them while the thread is being cut thereon by machinery not shown in these drawings.

The mode of operation of this invention is as follows: The spring 11 holds the extremity of the arm 8 in contact with the periphery of the cam 4, and that cam so operates upon that arm, and through it upon the arm 9, rod 14, lever 15, and arm 17, as that once for each revolution of the cam the arm 17 advances from the position shown in Fig. 5 to that shown in Fig. 7, carrying with it the screw-blank that has dropped into its groove from the channel 18, and remaining long enough to permit the fingers 20 and 21 to seize that screw-blank, as shown in Fig. 7, and as that the arm 17 thereupon retires from the position shown in Fig. 7 to that shown in Fig. 5, where it receives in its groove the next screw-blank in the channel 18. The spring 13 holds the extremity of the arm 6 in contact with the periphery of the cam 3, and that cam so operates upon that arm, and through it upon the shaft 5, the arm 7, and the fingers 20 and 21, as that, when the arm 17 is in the position shown in Fig. 7, the fingers advance from the position shown in Fig. 5 to that shown in Fig. 7 and clasp the presented screw-blank between them, and then retire to the position shown in Fig. 5, and as that, when the arm 17 is in the position shown in Fig. 5, the fingers advance far enough below the position

shown in Fig. 7 to carry the axis of the clasped screw-blank in line with the axis of the spindle 25. While the fingers are held in the latter position the chuck 26 seizes the presented screw-blank by its head, and then the cam 3 causes the fingers to retire to the position shown in Fig. 5. As they retire they are opened, against the resistance of the spring 23, far enough to permit the chuck to withdraw the screw-blank therefrom.

I claim as my invention—

1. The combination of the pivoted fingers 20 and 21 with the lever 22 and the spring 23, substantially as described.

2. The combination of the arm 7, the fingers 20 and 21, the lever 22, the spring 23, and the adjustable set-screw 24, substantially as described.

ASA S. COOK.

Witnesses:
ALBERT H. WALKER,
WILLARD EDDY.