

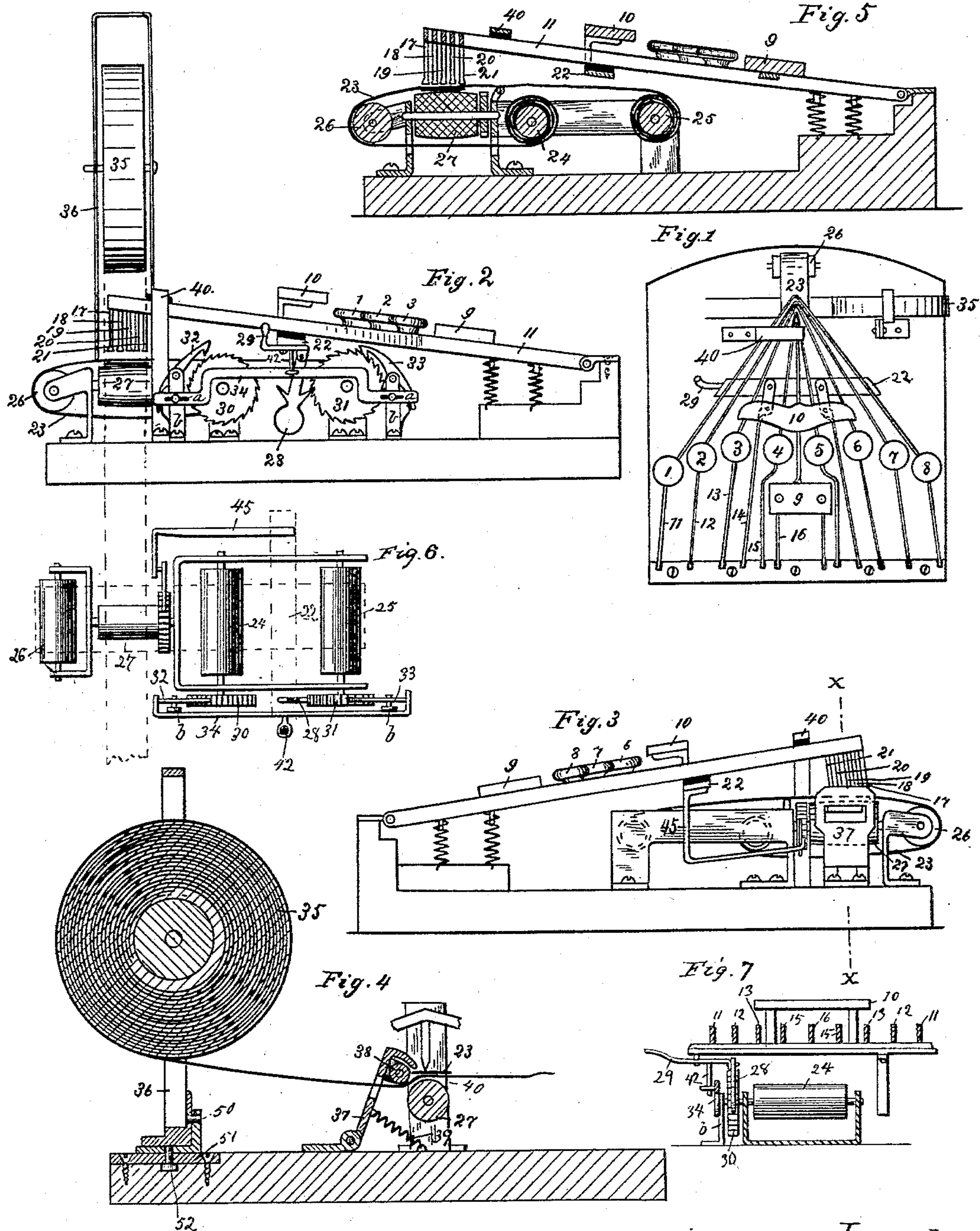
(No Model.)

2 Sheets—Sheet 1.

C. A. DAMON.
STENOGRAPHIC MACHINE.

No. 399,247.

Patented Mar. 12, 1889.



Attest:
John Schuman.
[Signature]

Inventor:
Charles A. Damon.
by *[Signature]*
Thos. L. Sprague

(No Model.)

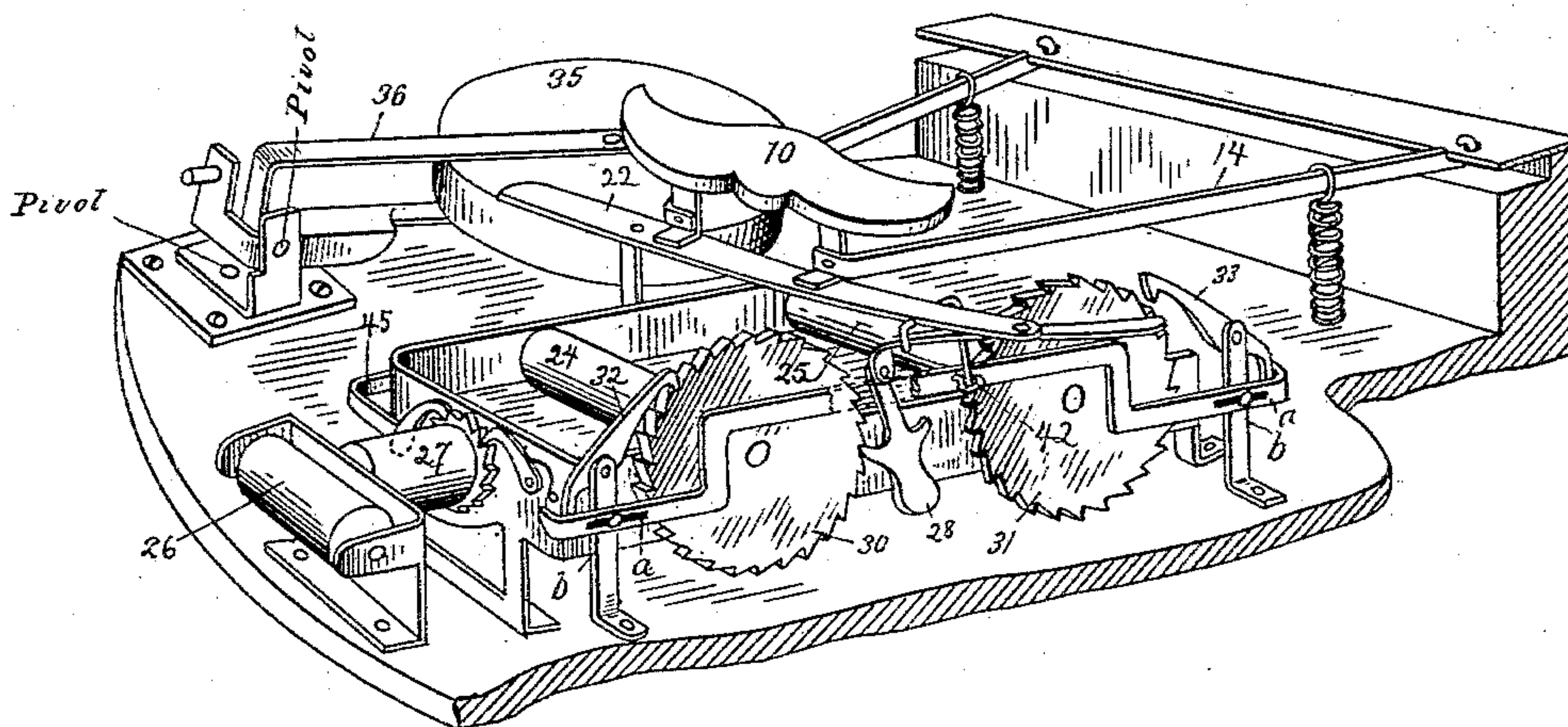
2 Sheets—Sheet 2.

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Fig. 8.



Witnesses:

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Att'y.

UNITED STATES PATENT OFFICE.

CHARLIE A. DAMON, OF FENTON, MICHIGAN.

STENOGRAPHIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 399,247, dated March 12, 1889.

Application filed April 22, 1886. Serial No. 199,773. (No model.)

To all whom it may concern:

Be it known that I, CHARLIE A. DAMON, of Fenton, in the county of Genesee and State of Michigan, have invented new and useful
5 Improvements in Stenographic Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in stenographic machines.

The invention consists in the peculiar construction, arrangement, and combination of
15 certain parts, all as hereinafter described, and pointed out in the claims.

Figure 1 is a plan showing the arrangement of the key-levers. Figs. 2 and 3 are side elevations of the opposite sides. Fig. 4 is a vertical cross-section on the line $x x$, Fig. 3. Fig.
20 5 is a vertical central section. Fig. 6 is a plan, on a larger scale, of the ribbon-feed. Fig. 7 is a cross-section showing an end elevation of the ribbon-feed, and Fig. 8 is a perspective
25 view of part of the machine with the paper-carrier folded down.

In the accompanying drawings, which form a part of this specification, a series of keys marked 1 to 10 are arranged in suitable proximity to each other, to be rapidly actuated
30 by the fingers of the operator, the keys 1 to 4 being conveniently arranged for the fingers of the left hand, the keys 5 to 8 for the fingers of the right hand, the inner key, 9, for the common use of the two thumbs, and the key
35 10, placed in front of the finger-keys and on a little higher level, is for the common use of middle and fore finger of each hand. The key-levers marked 11 to 16, to which these keys
40 are secured, are arranged in a plane preferably slightly inclined from front to rear. They are hinged at the rear ends, so as to be capable of moving in a vertical plane, and are sufficiently far apart to prevent interference
45 with each other and with the different keys. The levers are connected in pairs, each pair forming a single frame, as shown, so that the keys for one hand operate the same lever-frame as the corresponding keys for the other
50 hand.

The forward ends of the lever-frames 11 12 13 15 16 approach each other closely, and

each has secured to its under side the independent markers 17 to 21, arranged in a line from front to rear. The lever-frame 14 carries at the front end a cross-bar, 22, which
55 passes underneath the other lever-frames, so that in depressing any of these frames the lever-frame 14 is also depressed. The key secured upon this lever-frame is called the
60 "spacing-key," as it actuates a spacing device instead of a marker. All of the lever-frames have suitable springs placed underneath them, so arranged as to oppose their
65 tension to the action of the fingers in depressing the levers, and to prevent upward displacement by the action of these springs a suitable yoke or stop, 40, is secured over the top of the levers.

Underneath the markers and in the direction from front to rear is placed an inked ribbon, 23, the opposite ends of which are arranged to wind in opposite directions upon the feed-rollers 24 25. The ink-ribbon passes around the loose roller 26 and over the paper-feed roller 27. Each of the ribbon-feed rolls
75 24 and 25 has a ratchet-wheel, 30 31, respectively secured upon one end, between which is placed the reversible gravity feed-pawl 28, suspended from the end of the reversing-lever
80 29, which latter is secured, accessibly to the operator, to the under side of the cross-bar 22 of the spacing-lever frame. The ratchet-wheels have spring-clicks 32 33, one for each wheel, connected to a sliding bar, 34, which
85 is formed with a slot, a , at each end engaging a pin on the standard b , and is engaged by the reversing-lever by means of the pin 42, all so arranged that in one position of the reversing-lever 29 the feed-pawl 28 engages
90 with the ratchet-wheel 31, and the click 33 engages with the same wheel while the click 32 is out of engagement. By turning the reversing-lever 29 into its alternative position the feed-pawl engages with the ratchet-wheel
95 30, while the clicks are correspondingly reversed. By the action of the key-levers on the cross-bar 22 the ink-ribbon is thus gradually wound upon one and unwound from the other one of the two feed-rolls 25 26. The
100 operator at suitable intervals reverses the feed to cause the ribbon to wind and unwind in the opposite direction. The paper is wound on a roll, 35, detachably secured within the

standard 36, which latter is placed in convenient relation to the feed-roll 27. In the path of the paper is placed the hinged frame 37, which has an aperture near its upper end for the paper to pass through, and also carries the loose pressure-roll 38, pressing down upon the face of the paper-feed roll by the tension of the spring 39, connected to the hinged frame. The feed of the paper is accomplished by an arm, 45, connected at one end to the cross-bar of the spacing-frame and carrying at the other end a feed-pawl which actuates a little ratchet-wheel secured upon the shaft of the paper-feed roll, all so arranged that at every depression of one of the keys the pawl will feed the paper a specific distance.

The standard which carries the paper-roll is pivoted at 50 to a foot, which latter is preferably swiveled to the bed-plate 51 by the pivot-pin 52, all so arranged that the standard may, by tipping and turning it, be shoved underneath the lever-frames for more convenient transportation.

As this machine is specifically intended for stenographic use, it is evident that such improvements as are designed to increase the speed are of the greatest value. One important point is that the paper strip receives the impress on top, and in sight of the operator, which saves the writer much valuable time—as, for instance, in ascertaining, as is occasionally required, the last word or words of a written sentence; further, the keys and levers have the natural incline conducive to fast writing and printing; further, the machine can be made very compact on account

of the kind of levers used, which, with equal effect, are shorter than levers of so-called “first degree.” The arrangement of the reversible ribbon-feed is very simple, keeps the ink from drying, and thus permits long-continued use. The swiveling of the paper-roll standard to permit folding under the levers also helps to make the machine compact.

I am aware of the English Patent No. 295 of 1864, and make no claim to the construction shown therein as forming part of my invention.

What I claim as my invention is—

1. In a stenographic machine, substantially as described, the combination, with a bed-plate, of the operating keys and levers arranged in a plane above the bed-plate and slightly inclined to the rear, an ink-ribbon feed and a paper-feed arranged in the space between the bed-plate and the forward ends of the key-levers, and the paper-carriage having a swiveled standard to permit folding underneath the keys, all substantially as described.

2. In a stenographic machine, substantially as described, the combination, with the spacing-key, its lever and cross-bar, of a reversible ink-feed actuated thereby, and consisting of the feed-rollers 24 25, loose roller 26, ratchet-wheels 30 31, reversible gravity-pawl 28, reversing-lever 29, and spring-clicks 32 33, connected to and operated by the reversing-lever, all substantially as described.

CHARLIE A. DAMON.

Witnesses:

A. U. WOOD,
ALFRED GANSON.