

No. 715,874.

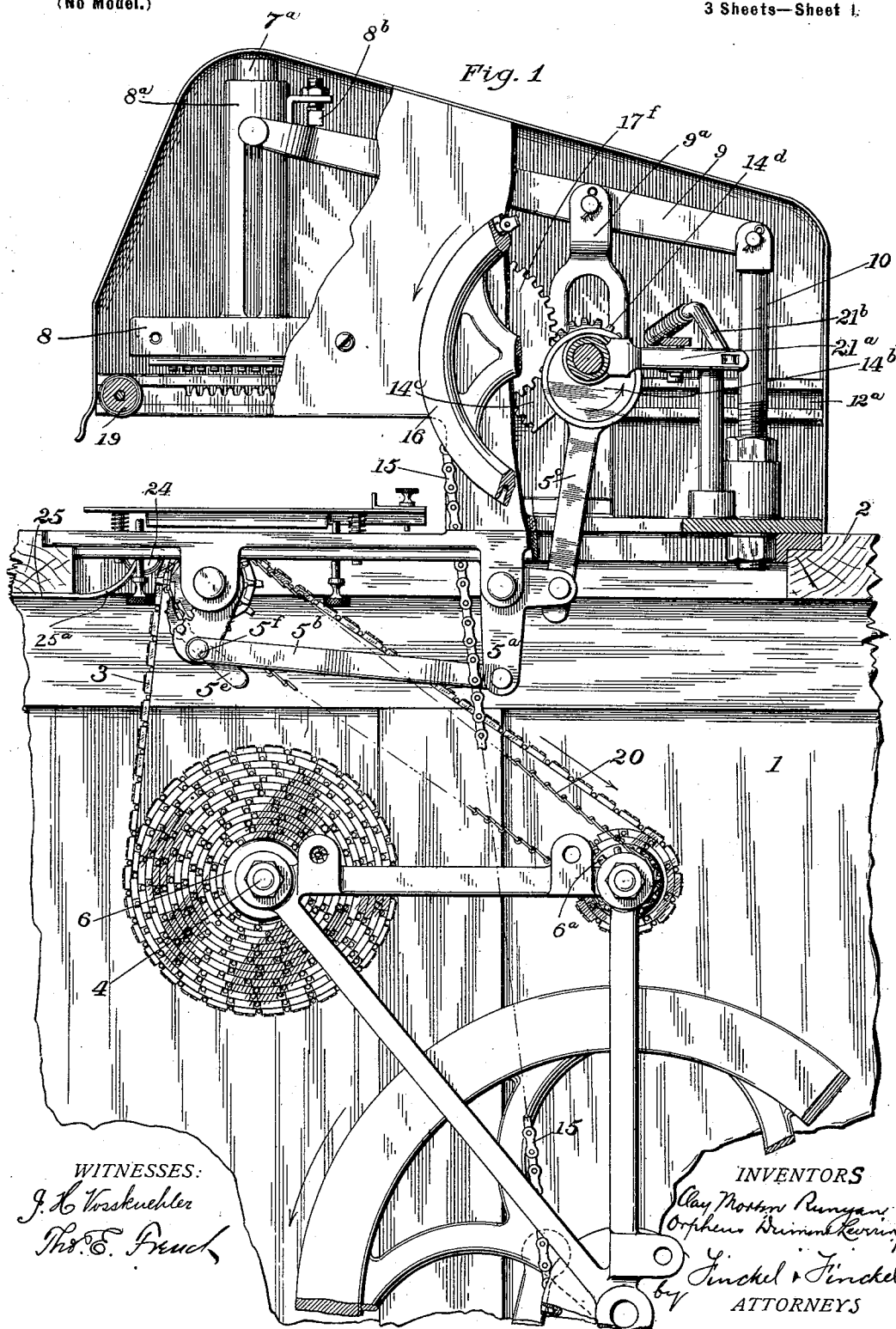
Patented Dec. 16, 1902.

C. M. RUNYAN & O. D. LEVERING.
COMBINED PRINTING AND ADDRESSING MACHINE.

(Application filed Mar. 18, 1902.)

(No Model.)

3 Sheets—Sheet 1.



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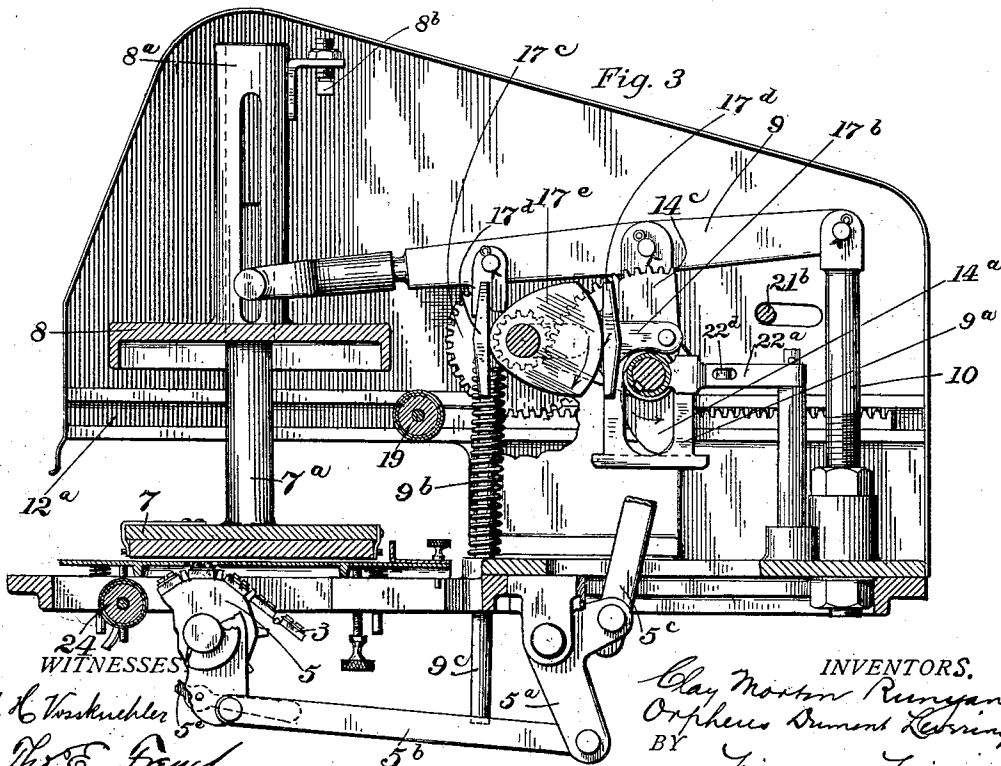
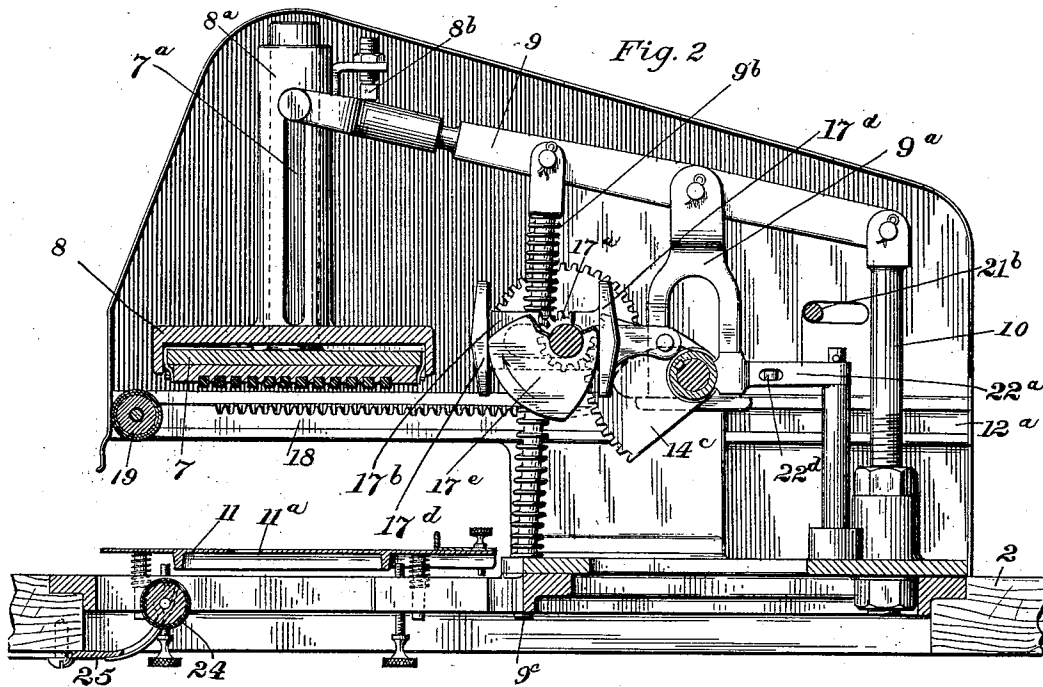
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3 Sheets—Sheet 2.



WITNESSES

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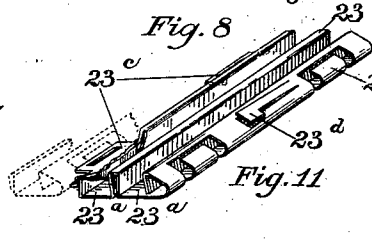
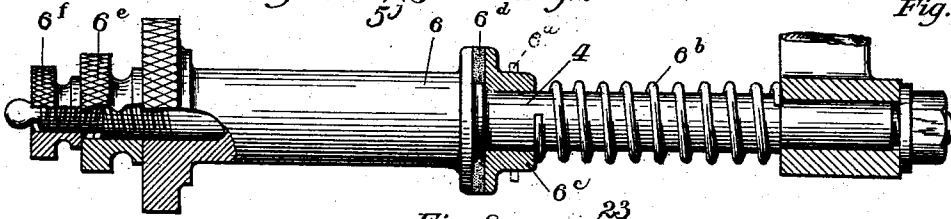
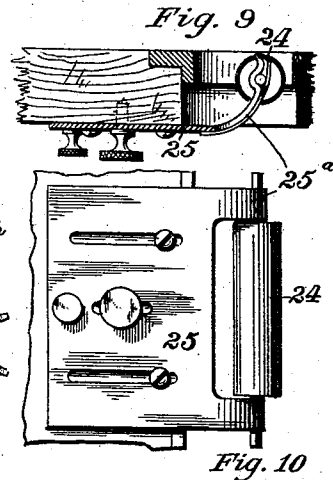
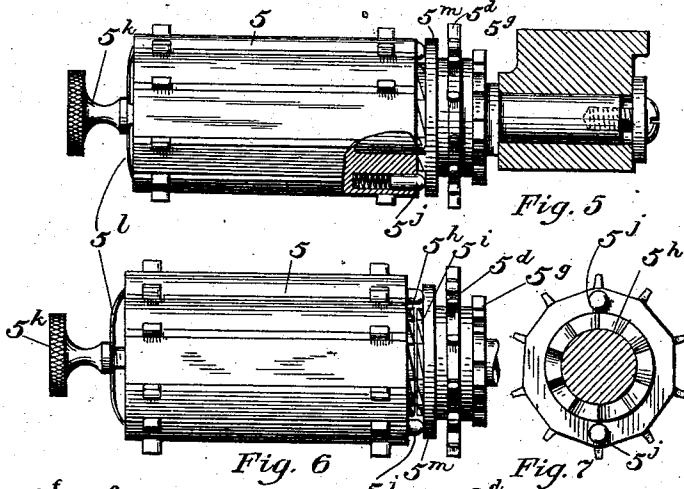
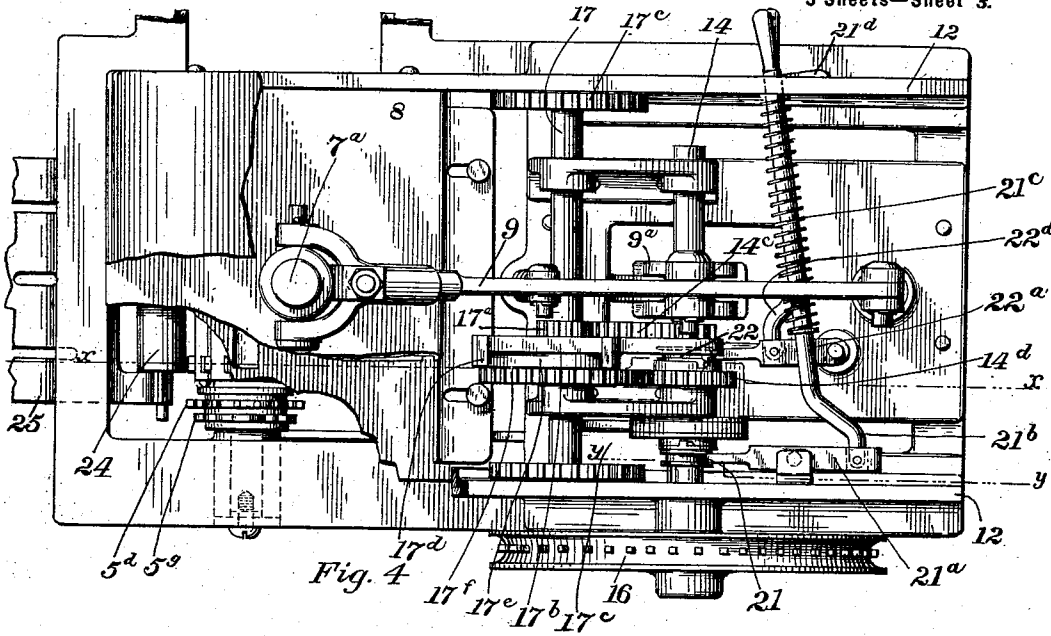
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C. M. RUNYAN & O. D. LEVERING.
COMBINED PRINTING AND ADDRESSING MACHINE.

(Application filed Mar. 18, 1902.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CLAY MORTON RUNYAN AND ORPHEUS DUMONT LEVERING, OF COLUMBUS,
OHIO; SAID LEVERING ASSIGNOR TO SAID RUNYAN.

COMBINED PRINTING AND ADDRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 715,874, dated December 16, 1902.

Application filed March 18, 1902. Serial No. 98,806. (No model.)

To all whom it may concern:

Be it known that we, CLAY MORTON RUNYAN and ORPHEUS DUMONT LEVERING, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in a Combined Printing and Addressing Machine; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to the kind of machine shown and described in the Letters Patent of the United States dated July 23, 1901, No. 679,193, issued to J. L. Sullivan.

The object of the present invention is to make improvements in the details of construction of such a machine.

A further object of the invention is to provide an improved type-holding link of which the chain bearing the forms for printing the addresses is made up.

The several features of novelty are pointed out in the claims appended hereto.

In the accompanying drawings, illustrating embodiments of the improvements, Figure 1 is a side elevation, some parts being broken out and some parts in section, the upper rear portion being taken on the line *y y*, Fig. 4. Fig. 2 is a vertical sectional view taken on a plane indicated by the line *xx*, Fig. 4, showing the message-printing form or chase up. Fig. 3 is a similar view showing the message-printing form or chase down. Fig. 4 is a plan view showing the hood or cover of the machine and other parts broken out to expose the operative mechanism. Fig. 5 is a view of the address-chain-feeding roller partly in section and clutched. Fig. 6 is a view of the same unclutched. Fig. 7 is a view of the right-hand end of the address-chain drum proper. Fig. 8 is a view of the address-chain-winding roller, partly in section, the full lines indicating the roller as employed in the front of the machine and the dotted lines indicating the sprockets added for use at the rear of the machine. Fig. 9 is an end and sectional view of the address-chain-inking roller and its supporting-bracket. Fig. 10 is a view of

the under side of the same. Fig. 11 is an oblique of my improved link.

In the views, 1 designates the legs or standard of the frame, upon which is a table 2, supporting the bed-plate and the several parts of the machine.

3 designates the address chain or belt, that can be composed of any suitable kind or number of links adapted to carry type formed or set up to print addresses. This belt is wound from a spool 6 on a shaft 4 in the front of the machine over a feed and supporting roller or drum 5 onto a spool similar to the spool 6 in the rear of the machine with a step-by-step motion, as hereinafter explained.

7 designates the holder or chase of the message or main printing form. This has a stem 7^a, that works vertically in a stationary socket portion 8^a of a cross-piece 8. The stem 7^a is engaged by the forward end of a lever 9, that is pivoted at its rear end to (in the present instance) an adjustable standard or post 10. To prevent noise, the socket portion 8^a is provided with an adjustable cushion 8^b to take the impact of the lever 9 and to regulate the action of the inking-roller on the type in the form 7.

11 designates a spring-supported platen upon the upper side of which the card or slip to be printed is placed. The platen shown is made with a narrow opening 11^a, through which the type of an addressing-link below protrudes when the platen is depressed to imprint the address on the lower side of the card.

The frame above the table includes parallelly-arranged side pieces or walls 12. Journalled in suitable standards between the side walls is the main operating-shaft 14, driven by a chain belt 15, passing over a large sprocket-wheel 16, fast on the outer end of said shaft 14. The shaft 14 has secured to it a cam 14^a for operating a yoke 9^a, that depends from the lever 9, and an eccentric 14^b for operating the address-chain-supporting drum or roller 5, through suitable connections shown to comprise an eccentric-strap rod 5^c, bell-crank lever 5^a, and link 5^b. Journalled in suitable standards between the side walls 12 is a second shaft 17, lying parallel to

the shaft 14, that has secured to it a pinion 17^a, to be engaged intermittently by a sector-gear 14^c, loose on the shaft 14. There is pivoted to the sector-gear 14^c a slotted yoke 17^b, that rides or reciprocates on the shaft 17 and has cross-heads 17^d, that are alternately wiped by a cam 17^e, attached to the side of a gear-wheel 17^f, loose on the shaft 17. The gear-wheel 17^f and the cam 17^e thereon are driven by a pinion 14^d on the shaft 14. The outer ends of the shaft 17 are provided with gear-wheels 17^c 17^e, affixed thereto, that engage rack-bars 18 18, sliding in grooves 12^a in the inner sides of the walls 12. The forward end of the rack-bars 18 carry between them an inking-roller 19. The lever 9, and with it, of course, the message-printing-type holder, are held normally up by means of a spring 9^b on a rod 9^c, that passes through the bed of the top frame, the spring being compressed between the rod 9^c and the bed.

The parts are shown to be so formed and arranged with respect to each other that when the cam 14^a is not depressing the yoke 9^a the sector-gear 14^c shall on its downstroke turn the pinion 17^a and move the inking-roller 19 forward under and beyond the type-form in the holder 7, where it is held until the message-printing device has descended under the action of the cam 14^a and made an impression, and when the message-printing device has risen the inking-roller is withdrawn by the upstroke of the sector-gear 14^c to its original position.

The address-chain is fed from a spool 6 in the front of the machine over the supporting drum or roller 5 onto a spool in the rear of the machine similar to the spool 6 by means of a sprocket-chain 20, engaging sprockets 5^d on the drum and sprocket 6^a (see Fig. 8) on a slipping hub or clutch 6^c, held by a spring 6^b against the spool. There can be interposed between the clutch 6^c and the spool a washer 6^d, of leather or other suitable material, adapted to afford the necessary friction and yet allow either the spool or clutch to slip to compensate for differences in the speed of the fed chain and the clutch 6^c. The degree of friction between the clutch and the spool is regulated by means of a nut 6^e, butting against the opposite end of the spool and turning on a thread of one hand on the shaft 4, and this nut can be locked by a nut 6^f, turning on a thread of the opposite hand on that shaft. The address-chain is fed by means of a gravity-pawl 5^e, pivoted in a hanger 5^f, that is actuated by a rod 5^b, the pawl engaging a ratchet 5^g on the drum. The drum for supporting the address-chain is composed of two parts mounted on the same shaft—to wit, the drum proper and a clutching part—the facing ends of the two parts being provided with clutching-teeth 5^h and 5ⁱ, respectively. On the outer end of the shaft is a set-screw 5^k, and between the set-screw and the drum is a spring 5^l, tending, when the screw 5^k is turned up, to inter-

lock the teeth 5^h and 5ⁱ. The drum is furnished at its opposite end with spring-actuated pins 5^j, that press against a projecting flat-faced rim 5^m on the clutching part and tend to liberate the teeth 5^h and 5ⁱ when the set-screw 5^k is turned out, thus permitting the drum proper to be turned independently of the clutching part. The purpose of this construction is to permit the rewinding of the address-chain back onto the spool 6 in the front of the machine.

Sometimes it may be desirable that a message or other matter be printed without addressing the card or slip. In such circumstances it will be undesirable to encumber the work by operating the address-chain. Therefore we mount the eccentric 14^b loosely on the shaft 14 and place on the shaft adjacent thereto a clutch 21, sliding longitudinally thereon, but rotating therewith. The clutch 21 is engaged by one end of a lever 21^a, and to the other end of said lever is attached a rod 21^b, having a spring 21^c, tending to hold the clutch normally engaged with the eccentric. The end of the lever protrudes through the opposite side of the machine and is adapted, when moved laterally over a cam-face 21^d, to engage and disengage the clutch from the eccentric. When addresses are not to be printed, an unslotted platen is substituted for that shown.

The type of the address-chain are inked by means of a small roller 24, journaled in flexible arms 25^a of a bracket-plate 25, adjustably secured to the top of the machine in such a position that the type will impinge the roller just before they are brought into position to print.

Sometimes it may be desired to print addresses without printing a message, and in this event it will be unnecessary and undesirable to encumber the work with the operation of the inking-roller 19. To render inactive the operative mechanism of the inking-roller, we provide the shaft 14, adjacent the pinion 14^d, with a sliding clutch 22, like the clutch 21, adapted to engage and release the pinion 14^d. The clutch 22 is engaged by one end of a lever 22^a and to which is also attached a rod 22^d, protruding through the side of the machine and adapted to be manipulated like the rod 21^b.

The improved address-printing link that we prefer to use in our machine is shown in Fig. 11, and it consists of a single piece of sheet metal cut and bent to form an intermediate "leading-rib" 23, type-holding channels 23^a, curved tongues 23^b on one edge, and eyes 23^c on the other, so that such links can be hinged to another by hooking the tongues 23^b of one onto the eyes 23^c of the other; but in the present instance we provide the upper outer wall of the link between the tongues 23^b with an upwardly-projecting spring-tongue 23^d, located to engage the opposing wall to prevent the accidental separation of the links by a rocking or hinge-like move-

ment only thereof. When it is desired to separate the links, the tongue 23^d can be depressed to permit the removal of the eyes from the tongues by a hinge-like movement only of the links. Of course more than one rib 23 and more than two channels 23^a can be made in the link, or the rib 23 can be omitted.

Because of the form and location of the tongue 23^b, eyes 23^c, and the spring-locking tongue 23^d it is unnecessary to cut away a recess in the side of the link to receive said spring-tongue 23^d, and the links can be connected and separated by a simple hinge-like movement, and because the tongue 23^d is on the upper side of the link it is more accessible for manipulation than if located elsewhere.

What we claim, and desire to secure by Letters Patent, is—

1. In a combined printing and addressing machine, the combination with a type-holder, and inking-roller therefor, rack-bars carrying said roller, a shaft having toothed wheels engaging said rack-bars, a pinion fixed on said shaft, a gear-wheel having a cam attached to the side thereof loose on said shaft, a driving-shaft, a toothed sector loose on said driving-shaft engaging the pinion on the first-named shaft, a yoke attached to said sector-gear and engaged by the cam on the first-mentioned shaft, and a pinion on the driving-shaft to engage the gear bearing the cam.

2. In a combined printing and addressing machine, the combination with a type-holder, an inking-roller therefor, rack-bars carrying said roller, a shaft having toothed wheels engaging said rack-bars, a pinion fixed on said shaft, a cam attached to the side of a gear-wheel loose on said shaft, a driving-shaft, a toothed sector loose on said driving-shaft engaging the pinion of the first-mentioned shaft, a yoke attached to said sector-gear and engaged by the cam on the first-mentioned shaft, a pinion loose on the driving-shaft to engage the gear of the cam of the first-mentioned shaft, and a clutching device to engage and disengage the said loose pinion with the driving-shaft.

3. In a machine of the kind described, an address-chain-supporting drum, a driving-shaft, an eccentric loose on said shaft, means between the drum and eccentric for turning the drum with a step-by-step movement when the eccentric is revolved, a clutch for engaging and disengaging the eccentric with said driving-shaft and a spring-actuated handle protruding through the side of the machine for operating said clutch, substantially as described.

4. In a combined printing and addressing machine, the combination with a message-

printing type-holder, an inking-roller therefor, rack-bars carrying said roller, a shaft having toothed wheels engaging said rack-bars, a pinion fixed on said shaft, a cam attached to the side of a gear-wheel loose on said shaft, a driving-shaft, a toothed sector loose on said driving-shaft engaging the pinion of the first-named shaft, a yoke attached to said sector-gear and engaged by the cam on the first-named shaft, a pinion loose on the driving-shaft to engage the gear of the cam on the first-named shaft, a clutching device to engage and disengage the said loose pinion with the driving-shaft, an address-chain-supporting drum, an eccentric loose on the driving-shaft, means between the drum and the eccentric for turning the drum with a step-by-step movement when the eccentric is revolved, and a clutch for engaging and disengaging the eccentric with the driving-shaft, substantially as described.

5. In a machine of the kind described, an address-chain-supporting drum, a shaft for the same, a driving-clutch for said drum, means for bringing the drum into engagement with said clutch, and means for automatically separating said drum and clutch when the means for bringing the drum into engagement with the clutch is released, substantially as described.

6. In a machine of the kind described, the combination of a primary idler-spool to contain the addressing-chain, a supporting-drum for said chain comprising a shaft, a driving-clutch for said drum, means for bringing the drum into engagement with said clutch, means for automatically separating said drum and clutch when the means for bringing the drum into engagement with the clutch is released, a spool onto which the chain is wound as it comes from said supporting-drum, means for feeding said last-named spool from said drum, and tension devices for said spools, substantially as described.

7. In a type-holding link, means thereon for connecting the same to similar links consisting of curved tongues 23^b on one edge, and eyes 23^c on the opposite edge, and a yielding stop 23^d on the upper side of the link to engage the outer unrecessed wall of the adjoining link to prevent accidental separation of the links when connected, substantially as described.

In testimony whereof we affix our signatures in presence of the same two witnesses.

CLAY MORTON RUNYAN.
ORPHEUS DUMONT LEVERING.

Witnesses:

MERRILL U. RICKETTS,
GEORGE M. FINCKEL.