

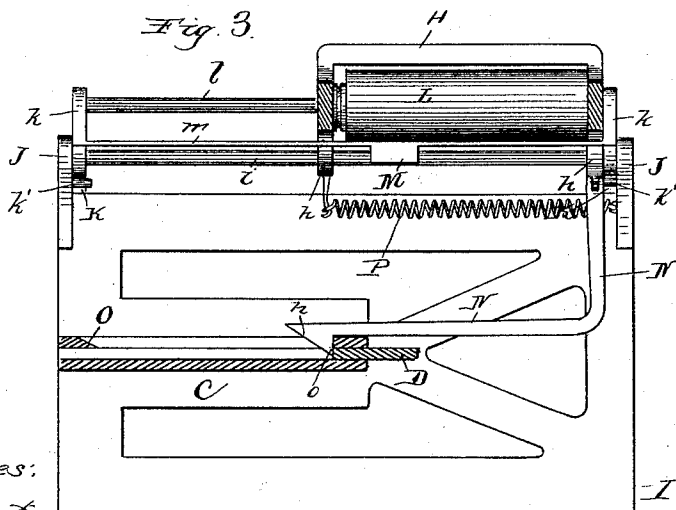
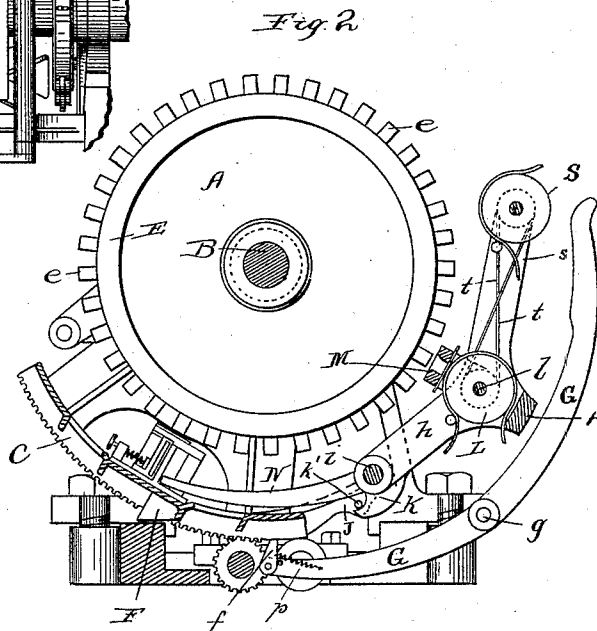
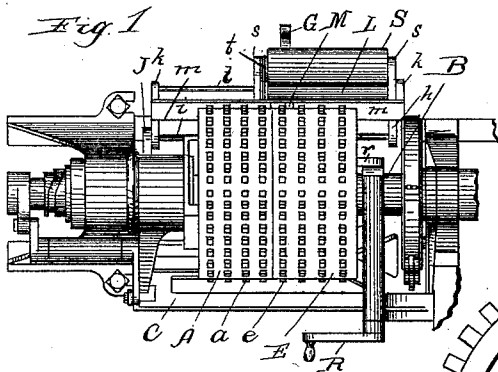
(No Model.)

C. SEARS.

TYPE WRITING ATTACHMENT FOR MATRIX MAKING MACHINES.

No. 475,807.

Patented May 31, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES SEARS, OF SOUTH EVANSTON, ILLINOIS.

TYPE-WRITING ATTACHMENT FOR MATRIX-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 475,807, dated May 31, 1892.

Application filed August 28, 1890. Serial No. 363,310. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SEARS, a citizen of the United States, residing in South Evanston, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Type-Writing Attachments for Matrix-Making Machines, of which the following is a specification.

This invention relates to certain improvements in the matrix-making machines shown in my applications, Serial No. 297,592, filed January 25, 1889, and Serial No. 359,208, filed July 18, 1890. The invention concerns the type-writing attachment used with said matrix-machines; and it consists more especially in the particular manner of applying a type-writing attachment to the machine shown in said application, Serial No. 359,208.

The nature of the invention will be fully understood from the following description, when considered in connection with the accompanying drawings, in which—

Figure 1 is a plan of that portion of the machine embodying the type-writer attachment. Fig. 2 is a transverse vertical section considerably enlarged from Fig. 1, and Fig. 3 is a detail sectional view showing the connection between the type-writer-paper carrier and the matrix.

In said drawings, A represents the die-wheel of the matrix-machine carrying a number of fonts *a* of type-dies arranged in rows running around its periphery. This wheel is carried upon a shaft B, which may be continuously rotated.

C is the matrix-carrying frame, which is intermittently locked to and carried with the type-wheel through a portion of its revolution in the manner set forth in my said application, Serial No. 359,208. D represents a matrix-block in position in said carrier.

The devices for locking the matrix-frame to the die-wheel, the devices for feeding the matrix between the impressions, and the devices for impressing the types *a* upon the matrix are not here described and are only partially illustrated, as they are fully set forth in my said application, Serial No. 359,208.

At E is a type-writer wheel, which wheel may be made in one piece with the die-wheel A, if desired. It is like the die-wheel also, in that it carries a corresponding series of fonts of type *e*. These type are, however,

stationary upon the wheel and are so located thereon as that they may make their impressions at a different point in their revolution.

The matrix-frame C carries a cam F, which with each actuation of the matrix-frame comes in contact with a pawl *f*, borne upon a rocking lever G, stationarily pivoted at *g*, and by such contact with said pawl depresses the lower end of said lever and causes the upper end thereof to come in contact with a bar H, forming part of the paper-carrying frame of the type-writer attachment. This bar H connects the arms *h*, which are pivotally supported upon the pivot *i*, having bearings in brackets J, extending upwardly from the matrix-carrier. The paper-carrying frame is sustained in operative position by the projections K upon arms *k* and pins *k'* upon brackets J, said arms *k* being pivoted upon said pivot *i* and extending upward, so as to receive the ends of the shaft *l* of the paper-carrying cylinder L. In front of the paper-cylinder is a funnel M, adapted to receive the projecting type *e* and guide them directly to the paper. The funnel M is supported upon a cross-plate *m*, borne upon the arms *k*.

It will be seen from the construction thus far described that when the matrix-carrier moves with the type-wheel during a portion of the latter's revolution and in a direction toward the right of Fig. 2 the cam F will actuate the lever G and cause its upper end to impinge upon the bar H, which at the time of such actuation will be in position opposite the upper end of the lever. This forces the paper-cylinder L against the type-wheel E, and also causes one of the type *e* to enter the funnel M and make an impression upon the paper carried by cylinder L. The paper-cylinder and its frame is fed along with the making of each impression by a very simple connection to the matrix, sliding in this movement on the pivotal rod *i* and shaft *l*. This connection consists of a bent lever N, which may be in one piece with one of the arms *h* and which is provided at its free end with a cam-surface *n* and with a lateral projection *o*, adapted to engage with the front edge of the matrix, so as to be carried by the matrix as the latter is fed. When the angling or cam surface *n* reaches the angling side O of the matrix-box or slideway, the lever N will be forced out of engagement with the matrix

so as to free the paper-cylinder and its frame and allow them to return to their starting position under the impulse of the spring P. Of course it will be understood that this contact between the point *n* of the lever and the cam O will take place upon the completion of a line of printing-matter upon the matrix. The return movement of the matrix-carrier causes the pawl *f*, which is pivoted to said lever G, to yield to said return movement and it is returned to its normal position by the spring *p*. The wheel E may be adjusted to bring different fonts of type into operation by means of the crank R and a pitman *r*, mounted upon the shaft of said crank and connected to the hub of the wheel. Of course it is desirable that this adjustment should be common to both the die-wheel and the type-writer wheel.

20 If the operator desires to revise his work as it proceeds, he can readily do so by inspecting the type-written paper carried by cylinder L, and this can be done as often as desired by swinging the matrix-frame into position to bring the type-writer paper into view, or the cylinder of the type-writer can be located where it can be seen without moving the matrix-carrier. I prefer to mount upon the type-writer a copy-holder, and this copy-holder may consist of a roller S and be sustained in prolongations *s* of arms *h*. A belt *t* may extend from the paper-cylinder L to this copy-holding roller, so that the latter will be actuated in unison with the paper roll, and this actuation may be in the same direction or reversed, as desired. A copy-holder such as that described, carried by the type-writer, will act as a guide to the operator and enable him to know exactly when he will reach the end of a line and to compose upon the matrix in such manner as to avoid necessity for justification.

I claim—

1. In a matrix-machine, a swinging matrix-holder and a paper-carrying attachment, in combination with a type-writer wheel and a die-wheel to which the matrix-carrier is intermittently locked, substantially as set forth.

2. In a matrix-machine, a continuously-rotated die-wheel, a swinging matrix-carrier movable with said wheel, a paper-holder mounted on said matrix-carrier, and a type-writer wheel rotating with said die-wheel, all combined and operating substantially as set forth.

3. A rotating die-wheel, means for actuating the dies carried by said wheel, a matrix-carrier adapted to move with said die-wheel during the making of the impression, the type-writer wheel moving with said type-wheel, and paper-carrying devices supported from said matrix-carrier, all combined and operating substantially as set forth.

4. The combination, with a matrix-machine having a continuously-rotating die-wheel and a swinging matrix-carrier moving with said die-wheel during the making of the impres-

sion, of a type-writer attachment, the type-wheel of said attachment moving in unison with said die-wheel, and the paper-carrier thereof in unison with said matrix-carrier, substantially in the manner set forth.

5. In a matrix-making machine, a type-writer attachment, a paper-carrying device, and means for imprinting on the paper carried thereby, combined with a copy-holder secured to said paper-carrying device, substantially as and for the purpose specified.

6. The combination, in a matrix-machine, of a rotating die-wheel, a type-wheel moving in unison therewith, and a swinging matrix-carrier adapted to move in fixed relation to said die-wheel during a part of the latter's revolution with a paper-carrying device mounted on said matrix-carrier and movable toward and from the type-wheel and a copy-holder secured to said paper-carrying device, substantially as set forth.

7. The combination, in a matrix-machine, of the swinging matrix-carrier, the paper-holding devices mounted upon said carrier, and a lever connecting said paper-holding devices with the matrix, so that the paper and matrix will be fed in unison, substantially as set forth.

8. The combination, in a matrix-machine, of the swinging matrix-carrier, the paper-holding devices mounted upon said carrier, and a lever connecting said paper-holding devices with the matrix, so that the paper and matrix will be fed in unison, said lever having the inclined face *n*, and said matrix-carrier having a cam O, adapted to throw out said lever, substantially as set forth.

9. The combination of a revolving type-wheel, a swinging frame moving in fixed relation to said type-wheel during a part of the latter's revolution, a paper-carrying device carried by said swinging frame and movable toward and from said type-wheel, and mechanism whereby the said movement of the swinging frame actuates the paper-carrying device, substantially as set forth.

10. The combination of a rotating type-wheel, a swinging frame adapted to move in fixed relation to said wheel during a part of the latter's revolution, and a paper-carrying device pivoted to said swinging frame with a pivoted lever, as G, adapted to be rocked by the swinging frame, substantially as set forth.

11. The combination of a rotating type-wheel, a swinging frame adapted to move in fixed relation to said wheel during a part of the latter's revolution, and a paper-carrying device pivoted to said swinging frame with a cam-surface on the swinging frame and a pivoted lever adapted to be engaged by said cam-surface and to engage said paper-carrying device, substantially as set forth.

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