

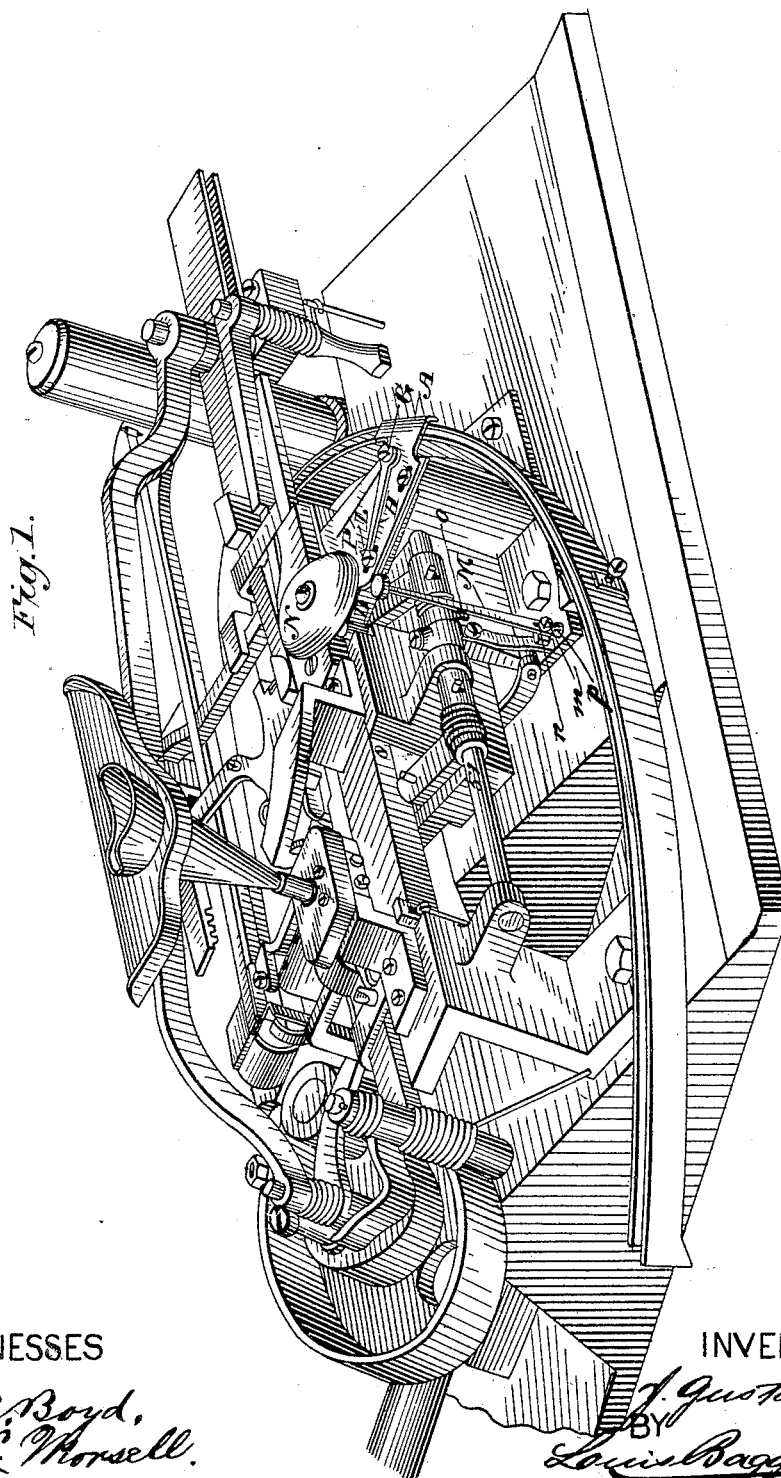
(No Model.)

2 Sheets—Sheet 1.

J. GUSTAFSON.  
MACHINE FOR SETTING TYPE.

No. 419,119.

Patented Jan. 7, 1890.



WITNESSES  
*W. S. Boyd,*  
*A. L. Morsell.*

INVENTOR  
*J. Gustafson,*  
BY *Louis Rapper Co.*  
ATTORNEYS

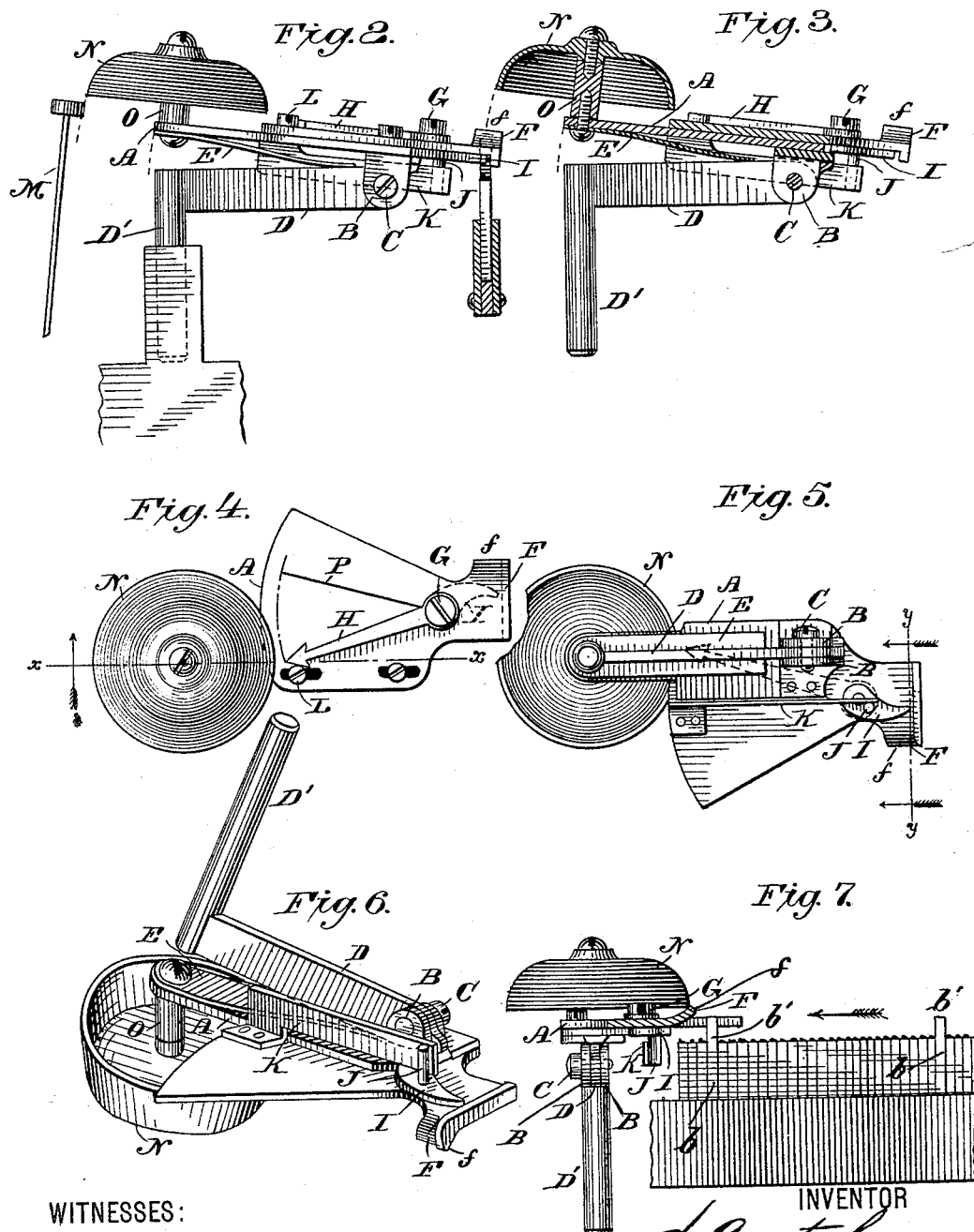
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A. L. Morrell.

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Louis Baggett Co.  
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# UNITED STATES PATENT OFFICE.

JOHN GUSTAFSON, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE LAGERMAN TYPOTHETER COMPANY, OF SAME PLACE.

## MACHINE FOR SETTING TYPE.

SPECIFICATION forming part of Letters Patent No. 419,119, dated January 7, 1890.

Application filed January 30, 1888. Serial No. 262,314. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN GUSTAFSON, a subject of the King of Sweden, residing in the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Setting Type; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to machines for composing or "setting" type of that particular class which are adapted to be attached to and used in combination with a printer's case of the ordinary and well-known construction; and it consists in certain improvements upon the type-setting machine for which Letters Patent of the United States No. 362,751 were issued to Alexander Lagerman on the 10th day of May, 1887.

These improvements relate to that part of the so-called "Lagerman" machine which is intended to give notice to the compositor when the line is "full" and it is time to start a new line of type by dropping a "break" into the hopper. In the aforesaid Lagerman machine the compositor is notified of the proper moment to make use of a break by a weight sliding in a groove or gutter on one side of the copy-holder, said weight being suspended from a cord which is connected to and forms a part of the operating mechanism.

The object of my present invention is to provide improved means whereby the compositor may be informed of the proper time when he should stop or break the line, and I effect this by means of a gong or bell, which is operated automatically by the moving column of type, and this gong or bell operates in connection with a visual indicator in such a manner that the compositor will be promptly notified of the proper moment when he should stop or break his line, not only by sight, but also and at the same time by his sense of hearing.

Referring to the accompanying two sheets of drawings, Figure 1 is a perspective view of the so-called "Lagerman" machine as improved by me in this respect. Fig. 2 is a side elevation of the sounding and indicating mechanism which constitutes my present improvement, and also showing a line of type and breaks. Fig. 3 is a longitudinal sectional view of the same on a vertical plane indicated by the broken line *xx* in Fig. 4. Fig. 4 is a top or plan view of the visual indicator and its bell attachment. Fig. 5 is a plan view of the under side of the same. Fig. 6 is an inverted perspective view of the indicator attachment; and Fig. 7 is a transverse sectional view of the attachment on the broken line denoted by letters *yy* in Fig. 5, and also showing a line of type and breaks in elevation.

Like letters and figures of reference denote corresponding parts in the several figures.

Referring to the drawings hereto attached, the letter A denotes a plate having projecting from its under side two lugs B B, through which a pin or screw C is inserted. This pin or screw passes transversely through an arm or extension D, fastened to some suitable part of the frame of the machine by a post D', and affixed to the under side of plate A near its free end is a spring E, bearing against the fixed arm D in such a manner that the tension of the spring will operate to lift or raise the free or outer end of plate A above its support D. Plate A extends rearwardly beyond its fulcrum C and is provided with a tail-piece F, having an upwardly curved lip *f*, pointing in the direction from which the type is fed from the gutter, conveying the same to the galley, Fig. 7.

Upon the top or upper face of plate A is pivoted on a pin or screw G an indicator H, pointing toward a graduated scale and connected rigidly by its pivot G to a cam I on the under side of plate A, having a downwardly-projecting stud J, which bears against one side of a spring K, suitably fastened to the under side of the plate. This spring operates, by pressing against the downwardly-projecting stud J, to force the free end of the

hand or indicator H against a stud or stop-screw L when the device is at rest.

Attached to some suitable part of the frame of the machine is a hammer M, which is kept constantly moving during the operation of the machine by any suitable mechanism deriving motion from the working parts, but is so arranged that its head will fall below the bell or gong N, which is fixed upon a pillar O, fastened to and projecting upwardly from plate A. While the machine is at work the hammer is, as we have seen, kept constantly vibrating or oscillating; but inasmuch as its upper end or head passes below the bell or gong N this will not be sounded. When, however, during the operation of the machine one of the raised breaks or spaces passes underneath the curved tail-piece F *f* of the plate, the upwardly-projecting part *b'* of the break *b* will, by striking against and passing under the tail-piece F *f*, cause plate A to rock or tilt on its fulcrum-pin C in such a manner as to depress or lower that part of said plate upon which the bell is attached, and thereby bring the bell in line with the vibrating hammer-head. The hammer, by now striking the bell, gives timely warning to the compositor that he is within about three ems of the end of his line, and as the break *b* progresses with the column of type in the type-gutter its projecting upper end *b'*, by ultimately striking against the cam I, causes this to move, thereby moving with it the indicator H.

Upon the face of plate A is marked a line P, so located in relation to cam I and its hand H that when the end of the line has been fully reached the free end of the hand or indicator will align with this mark or line, thereby indicating to the compositor that he has reached the end of his line and that it is time to start on a new line.

From the foregoing description of the operation of my device it will be seen that the compositor is notified in two different ways of the proper time when he is to break the line—viz., first by the sound of the bell, and again by watching the movement of the hand or indicator. As the bell sounds all he has to do is to glance at the indicator-plate, which is so located as to be readily observed, and by watching the motion of the hand or indicator he will be promptly informed of the exact moment when he has reached the end of

his line. After the raised break has passed transversely under the tail-piece of the plate from one side to the other the spring E will operate to again immediately raise the free end of said plate, and with it the bell will be again elevated to its normal position, so as to be out of reach of the vibrating hammer. I do not confine myself to any particular construction of this vibrating hammer, or to any particular means for operating it; but on Fig. 1 of the drawings I have shown one method of doing this, which is very simple. The lower end of the hammer stem or shank M (which is made of spring-steel or some other elastic material) is attached adjustably by means of a small screw *m*, inserted through a slot *n*, to a short stud or post *p*, fixed in the bed of the machine. Upon the rock-shaft is fastened a stud or projection *o*, which, as shaft 51 rocks in its bearings, will strike the hammer-stem, and thus vibrate the same continuously while the machine is in operation; but other means or mechanism may be employed for the same purpose without deviating from the spirit of my invention.

Having thus described my improvements, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the hinged plate having a rearwardly-extending tail-piece adapted to engage a raised break or space in the advancing column of type, the bell or gong, and the continuously-vibrating hammer, substantially as and for the purpose set forth.

2. The combination of the plate arm or support, the hinged plate, the spring working between said plate and its support, and the bell, substantially as and for the purpose set forth.

3. The combination of the hinged plate, the movable hand or indicator, the pivot stud or pin, the cam adapted to engage a raised break or space in the advancing column of type, and the spring bearing with its free end against a pin projecting downwardly from the cam, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN GUSTAFSON.

Witnesses:

LOUIS BAGGER,  
FRANKLIN H. SMITH.