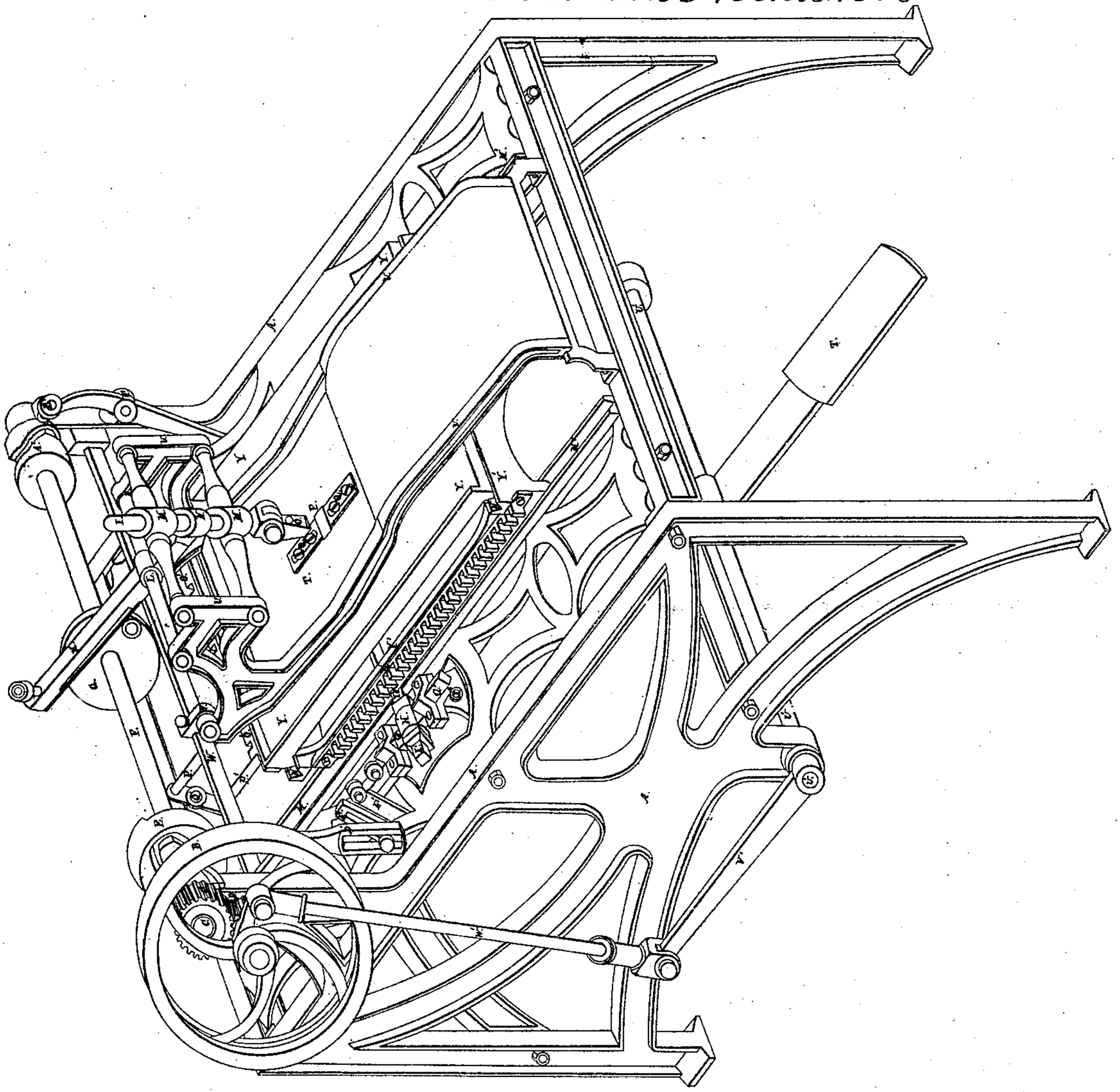
J. Spencer.

Addressing Mach.

No. 22136. Patented Nov. 23. 1858



Witnesses.

W. Walloughby
D. Ruth

Inventor.

J. Spencer

UNITED STATES PATENT OFFICE.

JAMES SPENCER, OF TORONTO, CANADA.

MACHINE FOR PRINTING NAMES OR DIRECTIONS ON PACKAGES, &c.

Specification forming part of Letters Patent No. **22,136**, dated November 23, 1858.

To all whom it may concern:

Be it known that I, JAMES SPENCER, of the city of Toronto and Province of Canada, have invented a new and useful machine for printing or marking words, names, or figures on papers, parcels, books, pages, tickets, and other articles requiring to be marked, printed, stamped, or addressed; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification.

The annexed drawing is a perspective view of the machine.

A is the frame; B, a fly-wheel to which the pinion D is attached, gearing with the wheel C on the driving-shaft F, which runs in suitable bearings and upon which are keyed the cams E G A′, the first of which E has a groove in the face, in which a roller attached to the upper end of the lever D′ works freely. The lower end of D′ works on a pin made fast by a nut in the link E′, which is keyed on a rocking shaft with the short lever F′ and works in journals under the top plate of the frame. The upper end of F′ is connected by joints and straps with the slide-bar G′, which slides freely in its bearings.

I′ is the hand or pawl, which also slides freely in its bearing H′, formed in and at right angles to G′, and operates upon the rack L′, which, being bolted to the carriage Y′, causes it to move, when operated upon by E F′ E′ D′ G′ I′, in a longitudinal direction along the grooves M′, in which it slides. The hand I′ is furnished with a spiral spring inclosed in the center of the box H′, which also forms its bearings, the tendency of which spring is to keep the hand pressed in the tooth of the rack. It also has a pin passing down through the bottom of H′, which is attached to a small rocking shaft J, running at right angles to it and connecting, with a lever and suitable rods, (not seen in the drawing) with the projection that may be seen at the back of cam E, which when in contact with the lever draws the hand out of the tooth and allows it to pass back over one or more teeth, as may be required, without moving the carriage. The lever then falls off and the hand is in the rack before the throw in the grooved cam E acts upon D′. It will therefore be seen that when E acts upon D′, I′ being in L′, the carriage is thrown forward another space, and so on alternately to the end of its motion in one direction, when a stop on the carriage strikes the lever that works I′, throwing it on a different portion of the cam, which acts at the opposite time, causing the hand to remain in the tooth on the backward throw, from which it had drawn on the forward throw, and thereby causing the carriage to move in the opposite direction, which is acted upon in the same way when it has reached the other end of the distance which it runs, and so on until the entire form has been passed over it, the bed Y being simultaneously operated by the cam A, lever B′ C′, and rod passing under the top plate of the frame and connecting with the lower one of two rods, which are arranged parallel to each other and work on pins, which pass through the centers of the stretchers, which hold their ends, said pins being screwed into the frame.

In the center of the back of the carriage Y′ a stud is screwed, upon which a double-ended lever (not seen in the drawing) is suspended and works freely. It is provided with a fork in its lower end, which clips the top rod, on which it slides back and forth with the carriage. In the upper end of said lever is fitted a hand and spiral spring, which operates in the rack O′, which is bolted to the end of bed Y, exactly the same as I′ does upon L′, but is drawn out of the tooth by a short lever attached to it for that purpose, which is operated by striking stops on the frame when the carriage has run its full length in either direction and which lets it go as soon as the hand is out of the tooth. At the same time the lever B′ is thrown into the cam A′ by stops on that side of the carriage which draws the lever on the end of Y′ (not seen in the drawing) over to the next tooth in O′, into which its hand falls by pressure of spiral spring. The cam A′ has now performed its full throw in that direction, and by the peculiar form of the groove cut in its periphery it throws the lever back the same distance in the opposite direction, the hand of which, still remaining in the rack O′, moves the bed Y in its transverse grooves the width of one column. The cam A′ has now run the full length of its groove, the stop at the end of which throws B′ out of gear, where it remains until

the end of the next column, when it is again acted upon, as shown, and so on successively.

U is the frame of the frisket, the upper part of which is held together by the horizontal bars M, through the bosses in the center of which the vertical shaft of platen *i* slides freely. *i* has a joint on its lower end, which is used to throw the impression off the type when it is required to run the machine without printing.

H is a lever jointed to I at N, which has its fulcrum at L, and is operated by the cam G. It is furnished with a web-spring S on its under side, which accommodates itself to the various thicknesses of paper or other matter to be printed.

T is the tympan, on which is screwed sliding plates Q for the purpose of opening or closing the aperture P to allow one or more lines of type to be brought under the platen at each impression.

W is a bar fixed in the frame, to which the frisket U is attached on joints at V, which are so constructed that the frisket may be placed in any position to suit the type, and can also be turned back to rest upon the shaft F when it is required to change the forms on the bed.

The frame U is carried to the front of the machine, thereby forming a rest for the arm of the person working it.

The power is applied to the machine by the foot-treadle T, which, by means of the lever V′ and rod W′, gives motion to the wheels B C D and shaft F. The machine can also be driven by a band on the fly-wheel, driven by steam or other power.

The types are arranged in columns of the measure required to contain the name, number, or address to be printed. The lines are separated by spaces of the size of the type used, so as to allow but one name, number, or address to be printed at each impression. The columns are also separated in the same manner. The columns read alternately down and up. The type thus arranged, the form is placed upon the bed and inked and the first name or number in the column at the left side of the form is brought under the aperture in the tympan. The machine thus adjusted is set in motion by the power applied to the fly-wheel. Each revolution of the driving-shaft causes the carriage to move the distance required to bring each name in the column successively under the aperture in the tympan, and the matter to be printed is placed under the platen, which presses it upon the type and gives the desired impression. When the carriage has run down the first column, the motion is reversed, as above described, and at the same time the hand which works upon the rack attached to the end of the bed falls back the distance between the grooves and moves the bed in a lateral direction from right to left, so as to bring the second column in the line of the aperture in the tympan, and so on, traversing each column until all the names, numbers, or addresses in the form are printed. The form is then replaced by another similarly arranged, and the machine is similarly adjusted and the operation repeated. When the number, name, or address consists of more than one line, the carriage is made to move the distance of two teeth or more of the rack by causing the hand to fall into every other groove or tooth by the adjustment of the levers which connect the hand with the grooved cam E.

The machine can also be provided with an apparatus for removing the matter after receiving the impression, and also for bringing it under the platen when the highest speed is required.

What I claim as my invention, and desire to secure by Letters Patent, is—

The application of common type, arranged in a form upon a plane bed, to the printing of successive names, numbers, or addresses, one at a time, upon papers, pages, books, tickets, or other articles requiring to be printed, marked, or addressed, and the construction of the machinery, as above described, or any similar combination of the machinery for producing the same motions, causing the bed to traverse so as to bring all the names, numbers, or addresses in the form successively under the aperture in the tympan and causing the matter placed under the platen to receive the desired impression.

Toronto, October 23, 1858.

JAS. SPENCER.

Witnesses:

ROBERT H. SAVAGE,

MATTHEW WILLOUGHBY.