

M. Nelson. Sheet 1 of 2 Sheets.
Making Type Moulds.
Nº 65000. Patented May 21, 1867.

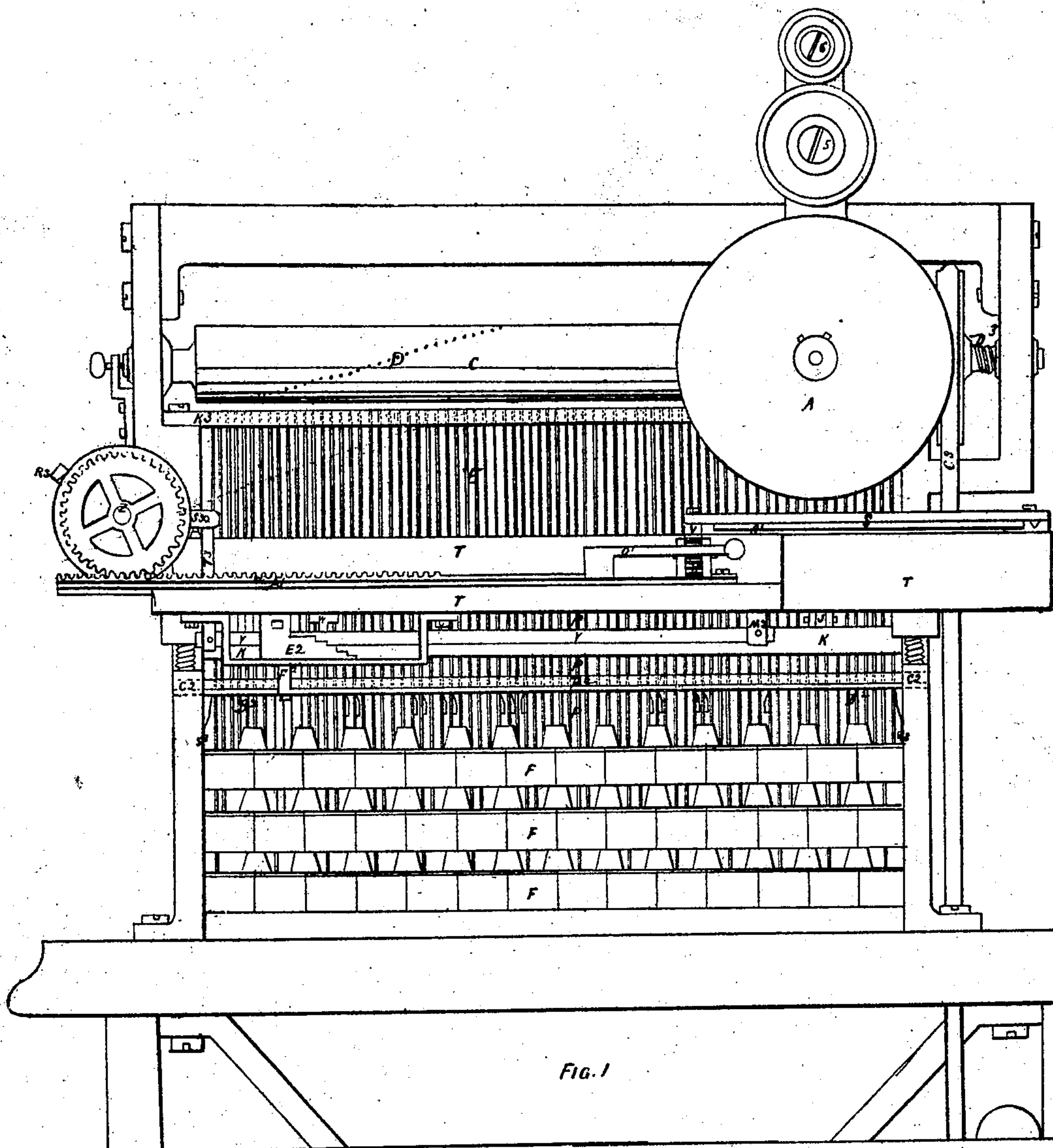


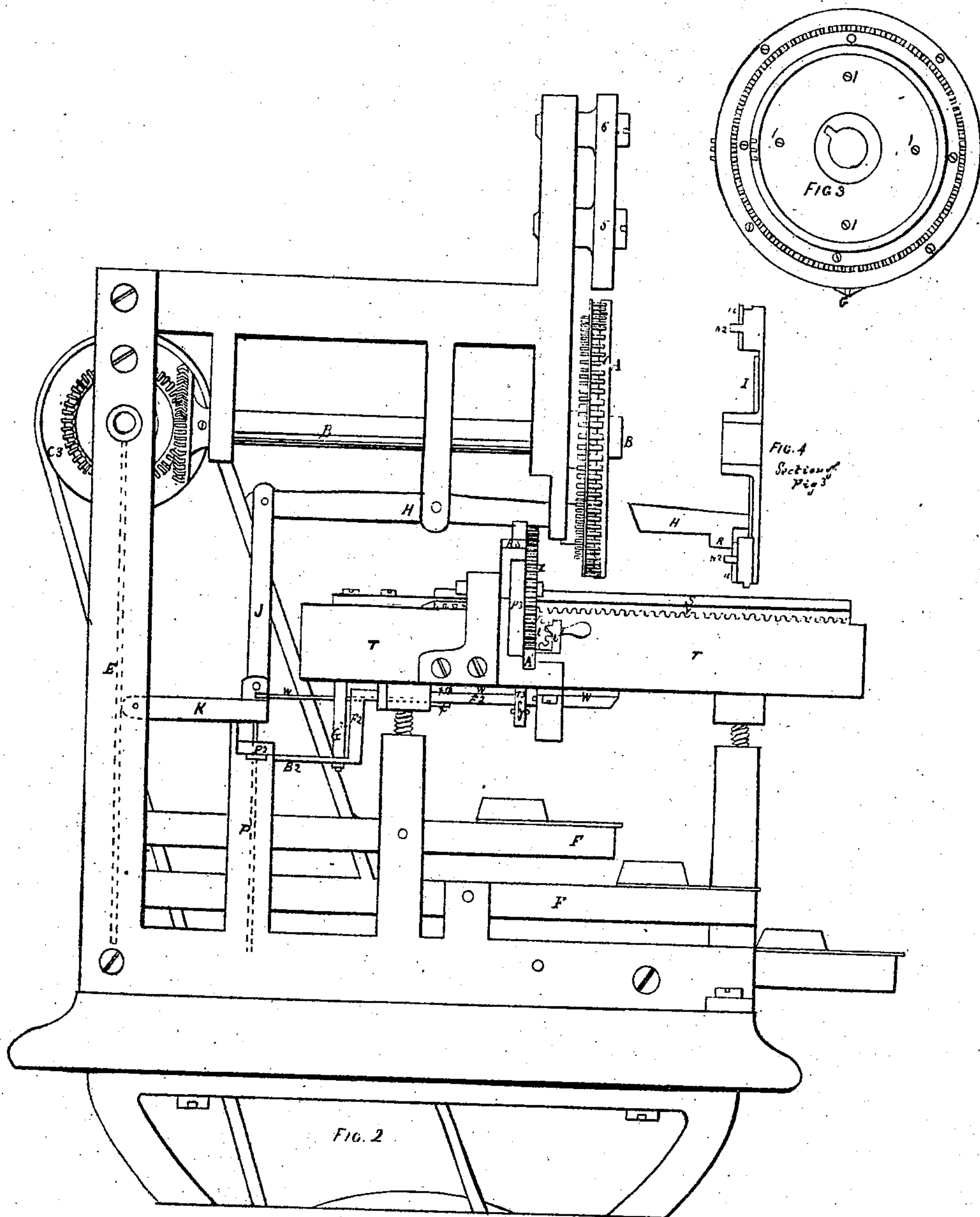
Fig. 1

With
Charles Smith
Geo. Walker

Inventor:

Mortimer Nelson

M. Nelson. Sheet 2. 2 Sheets
Making Type Moulds
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Witnesses:
Chas H Smith
Geo D Waeken

Inventor:
Mortimer Nelson

United States Patent Office.

MORTIMER NELSON, OF NEW YORK, N. Y.

Letters Patent No. 65,000, dated May 21, 1867.

MACHINE FOR MAKING TYPE-MOULDS.

The Schedule referred to in these Letters Patent and making part of the same

TO ALL WHOM IT MAY CONCERN:

Be it known that I, MORTIMER NELSON, of the city and State of New York, have invented, made, and applied to use a certain new and useful Mode of Producing Moulds for Stereotyping or Electrotyping; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a front elevation of my improved machine.

Figure 2 is a side view of the same.

Figure 3 is an elevation of the type-wheel; and

Figure 4 is a section of the same.

Similar letters of reference denote the same parts.

The object of my invention is to make a mould for stereotyping or electrotyping by the impression of types into a surface of soft material, such as clay or wax, said types being controlled by mechanism and presented and impressed successively in accordance with keys struck by the compositor. The surface of soft material is moved progressively and to the extent required for the reception of each particular type as impressed.

The first part of the machine I employ consists in the wheel carrying the types; the second part consists in means for rotating said type-wheel and stopping it by pressing on the required key so that the corresponding type is brought into position to be impressed; the third part consists in mechanism for moving the surface of soft material the necessary distance to receive the impress of the type and leave the necessary space between the impressions; the fourth part consists in mechanism for giving the impression of the type in the soft surface.

The type-wheel A is mounted on a shaft, B, in a suitable frame. The shaft B and type-wheel are continuously revolved, except when stopped, as hereafter shown. For this purpose I make use of a pulley, C¹, driven by a strap from any competent power. The pulley C¹ is upon the shaft of the stop-cylinder C and is kept thereto by the spring D¹, so that there is sufficient friction to rotate the cylinder C, shaft B, and type-wheel A, the shaft B being connected to the cylinder C by mitre gearing. The type-wheel A is formed with a series of grooves arranged radially around its projecting rim. These grooves are of a size adapted to the reception of the bodies of the types. The types themselves are placed in these grooves and may be moved outwards against the action of a contractile rubber spring, (shown at G,) which surrounds the type-wheel and acts near the outer ends of the letters to keep the inner ends of the types against a disk or ring, I. The types are held in their places by means of segmental or ring cap-plates 10, and projections are formed, as at N², between which the end R of the lever H descends when the impression is made of the particular type in the surface of soft material by the lever H being brought down, as hereafter described. When the type is impressed this projection R entering between the projections N² holds the type-wheel steady while the letter is being impressed, after which the contractile band again draws up the type. The depth of the impression of the type is determined by the lever H stopping upon the ring 10. In order to moisten the surface of the types, to prevent their sticking to the wax, if that is used for the impression, or to slightly oil the types, if used with a clay surface, I employ the rollers 5 and 6, covered with elastic material and moistened or oiled, the type-wheel running in contact with the roller 5. The types are formed with any desired letters, numbers, or characters. The letter or character is to stand in a definite position to one side of the body of the type, so that the impression may be made in the proper position in relation to the impressions previously made on the surface of soft material; and in cases where the type or letter end is wider than the body of the type said letter end is to project to one side of the body. In order to arrest the type-wheel I make use of a series of keys, F, acting at their inner ends upon the stop-wires in the range shown at E. These stop-wires, when raised, arrest the movements of the cylinder C and type-wheel A by entering a hole in the cylinder C, or by a projecting pin on said cylinder coming in contact with the end of the stop-wire E that may be raised. I have shown the holes or stop-pins D in a spiral range around the cylinder C, and I have shown three banks of keys F; there may, however, be more or less, and they may be arranged as most convenient. In all instances the types and keys are to be arranged in such a relation to each other that the type-wheel will be arrested with the letter or character centrally below the shaft B when the corresponding key F is depressed. The stop-wires E are supported at their upper ends in the bar K³, and the stop-wires E may move after the cylinder C is stopped by the holes or stop-pins being sufficiently long, the object of

this being to allow the keys F to give motion to the lever H after the type-wheel is stopped. To effect the movement of this lever H I employ the swinging frame K, acted upon by the wires P, that rise above the keys F and are guided in the bar P², there being a link, J, that connects the swinging frame K and lever H. The surface of soft material is formed by a layer of wax, clay, or other impressible substance, which, for convenience of handling, should be upon a sheet of metal or similar material. This is placed upon the bed S and held in position by any suitable clamps or guides. The bed S can be moved forward or backward as line after line is composed; and for this purpose I make use of the wheel U and spring-pawl U', acting to set and hold the bed S by the rack V, the bed S being moved by hand when the pawl U' is drawn back. The bed S slides transversely upon the bed S, supported upon the table T, that may be raised or lowered by screws so as to adjust the depth of impression. The rack A' extends from the bed S' to the gear-wheel Z, and adjacent thereto is a friction-wheel, P³, actuated a given distance each time one of the keys F is depressed so as to move the bed S and the surface of soft material the distance necessary for properly receiving the next type impressed. W is a lever upon a fulcrum, X, and its rear end is formed as a spring, that rests upon the swinging frame K. Y is a lever with its fulcrum at M², placed beneath the forward end of the lever W, and connected by the link T³ with the friction-pawl S³, that acts upon the wheel P³ to give motion to the same and to the wheel Z, rack A', and bed S when the frame K is raised by depressing either of the keys F. The end of the lever W projects as a blank key, so that the surface of soft metal can be moved for spacing the words or justifying even when the keys F are not acted on. If these parts only were employed the motion given to the bed S, each depression of the keys F, would be uniform, but as some types require wider spaces than others I so proportion the parts that the lever W, if unchecked in its motion, would move the bed S sufficient for the widest type, and I employ the spacer E², that is formed as a block with notches or steps, and is given a motion transversely of the lever W, so that the lever W is arrested at the proper point according to the space required for the particular letter by coming down upon the proper notch or portion of the spacer E². This spacer E² is actuated by a lever, F², on a fulcrum, C², and the back end of this lever F² is connected with a bar, B², that is placed below the bar P², and slides laterally beneath said bar P² in the end supports C². In order to give motion to this bar B², and through the lever F² to the spacer E², I employ the rods P and put on the side of said rods projections, as seen in fig. 1. The spacer E², in its usual position, stands so that a width of space adapted to the types most generally used will be the result of depressing the keys F that do not have any projection on the corresponding wires P; and hence, for narrow letters, the blocks on P are located so as to move the bar B² one way and for wider types the other way, to increase or decrease the motion allowed to the lever W, and, by consequence, the movement given to the bed S carrying the surface of soft material. The springs 8 act to keep the bar B² and spacer E² in its normal position. It will now be understood that on depressing one of the keys F the spacer E² is moved, if necessary. The lever W is then moved and places the bed S in the proper position for receiving the impress of a type. The wire E arrests the barrel C at the point to stop the correct letter, corresponding to the key struck, vertically below the axis B, and the further movement of the key F causes the impression of that type in the surface of soft material.

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

1. A wheel receiving, in radial grooves, movable types, in combination with a lever and with projections on said wheel substantially as set forth, whereby the lever that moves the type is also made to accurately adjust the wheel and hold it while the type is being impressed, as set forth.
2. I claim a vertical wheel carrying movable types placed radially, and constructed substantially in the manner specified.
3. I claim the barrel C, in combination with the type-wheel A and keys F, substantially as and for the purposes set forth.
4. I claim the feed-wheel Z, rack A, beds S' and S, constructed and operated in substantially the manner and for the purposes set forth.
5. I claim the spacing-block E² and its actuating mechanism, applied substantially in the manner and for the purposes set forth.
6. I claim the lever W in combination with the spacing-block E S and feeding mechanism, substantially as specified.
7. I claim a contractile band to draw the types back to place in the type-wheel, as set forth.

In witness whereof I have hereunto set my signature this twenty-third day of October, A. D. 1866

MORTIMER NELSON

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.