

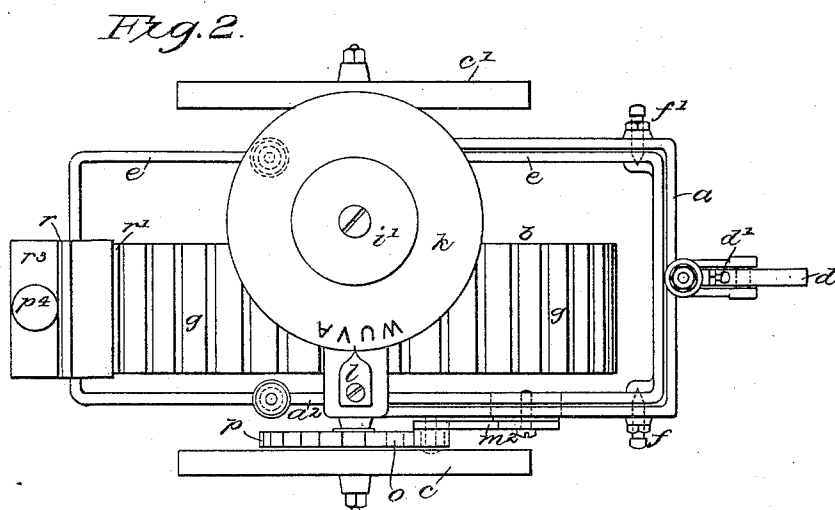
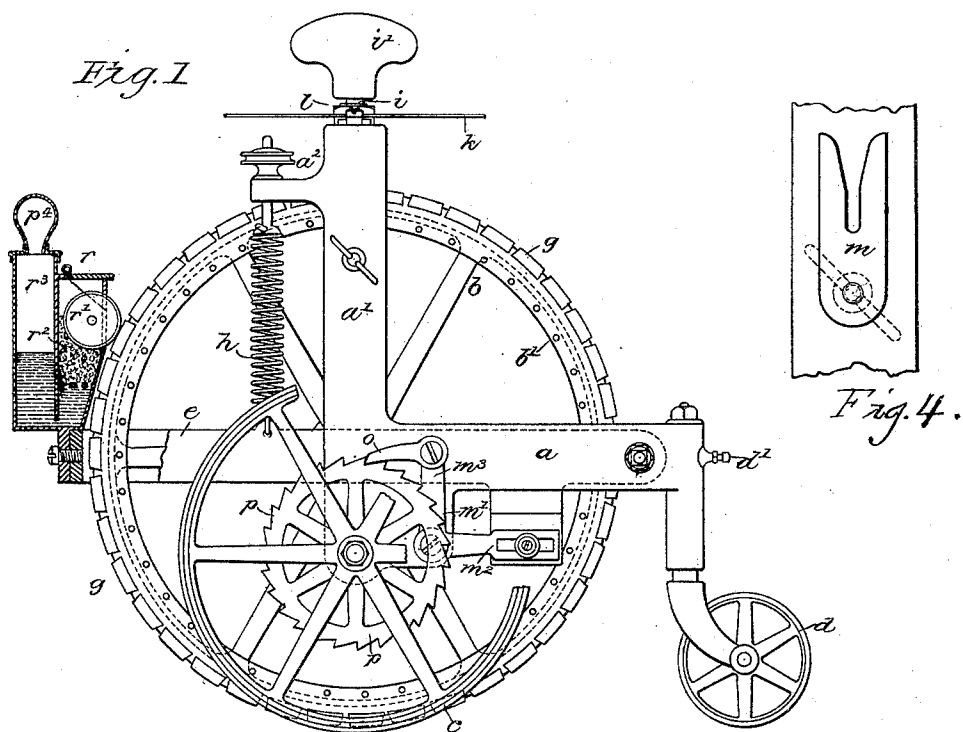
(No Model.)

2 Sheets—Sheet 1.

G. VINING.
PRINTING MACHINE.

No. 474,108.

Patented May 3, 1892.



WITNESSES

Wm. Musser.
W. B. Jenkins.

INVENTOR
George Vining.
by *Chas L. Burdett*
Attorney

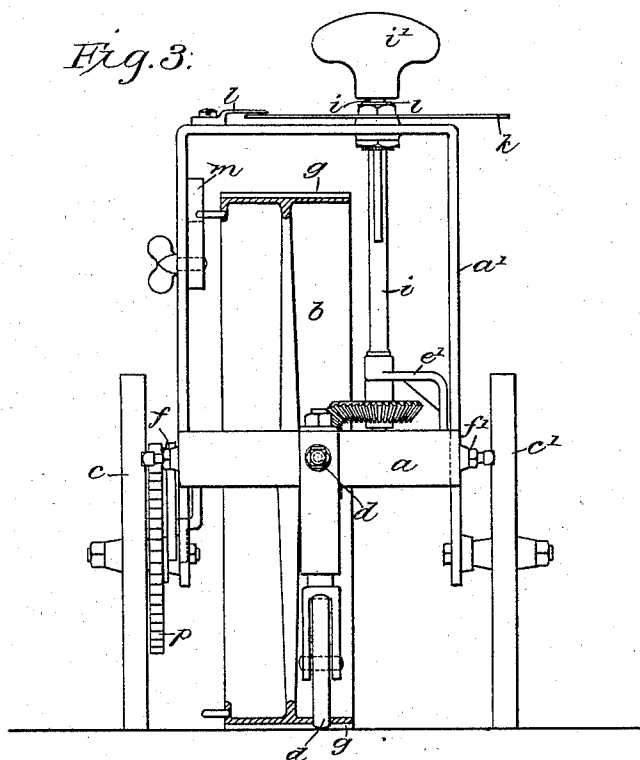
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UNITED STATES PATENT OFFICE.

GEORGE VINING, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THOMAS M. PARKER, OF SAME PLACE.

PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 474,108, dated May 3, 1892.

Application filed October 20, 1890. Serial No. 368,661. (No model.)

To all whom it may concern:

Be it known that I, GEORGE VINING, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Printing-Machines, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a device by means of which a plain surface may be marked with letters or any other series of characters that are to be printed from a type-wheel; and my invention consists in details of the several parts making up the device as a whole and in their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a view in side elevation of my improved marking-machine with parts cut away to show construction. Fig. 2 is a top plan view of the same. Fig. 3 is a view in rear elevation of the same. Fig. 4 is a detail face view of the guide-block on enlarged scale.

In the accompanying drawings the letter *a* denotes the main frame of the machine, that is of U shape in plan view and has an arched part *a'*, connecting the side parts about central from the marking-wheel *b*. The frame *a* is supported on the side wheels *c c'*, and a third wheel *d* is pivotally connected to the rear of the frame in such manner as to form a guide or steering wheel, a set-screw *d'*, located in a threaded socket in the pintle socket, serving as a means for setting the wheel at any desired angle, so that it will control the direction of forward movement of the frame when the latter is moved along on its supporting-wheels. Within the main frame *a* is a swinging frame *e*, connected to the main frame near the rear end by the pivots *f f'*, and the marking-wheel *b* is pivotally supported in this swinging frame *e*. The periphery of the marking-wheel has a number of dovetailed sockets in which the removable printing blocks or types *g* are secured. The swinging frame has a limited vertical movement and is held at the upper limit of its play by means of a spring *h*, that is connected to the inner portion or frame in front of the arched part *a'* at its lower end and to a bracket or pro-

jecting arm *a²* on the upright part of the main frame by means of a thumb-nut that fits upon the threaded part of a bolt secured to the spring and secured to the bracket and the thumb-nut. By means of this thumb-nut the degree of tension of the spring may be adjusted.

On a bracket-arm *e'*, projecting upward from the swinging frame, a socket is formed for a sliding shaft *i*, that bears on its upper end a handle *i'*, by means of which the shaft may be given a vertical sliding movement or may be rotated. To this shaft is secured an index-plate *k*, that bears the letters and characters conforming to those borne on the marking-wheel, and the relative position of these several characters is such that when the index *l* points to a given letter or character that letter or character is one that will be printed by the wheel if a downward pressure is exerted upon the handle while the index points to the said character. The lower end of the shaft bears a beveled gear-wheel that is in mesh with a gear-wheel fast to the shaft of the marking-wheel, so that by turning the handle the marking-wheel will be rotated. When it is desired to print any given character, a downward pressure upon the handle thrusts the swinging frame downward, bearing with it the marking-wheel. Pins *b'*, projecting laterally from the marking-wheel, engage a slotted guide-block *m*, that is fast to the said frame, and hold the wheel in proper position to imprint the character squarely upon the flat surface upon which the marking-wheel is placed.

As shown in the drawings, the marking-wheel is at about the lower limit of its play, one of the cutting-pins projecting through the side of the marking-wheel having entered the slot in the guide-block (see Fig. 3) and serving to hold the wheel in proper position to have the imprint of the lowermost type made upon the surface to be marked.

In order to provide for a forward feeding movement of the carriage after each downward movement of the marking-wheel for the purpose of printing a letter or character, the feed device *m* is employed. This consists of a bent lever *m'*, pivoted to the main frame, with one arm *m²* slotted and engaging a pin

fast to a downward projection from the swinging frame, while the upper arm m^3 of the bent lever supports the pawl o , the forward end of which engages the teeth on a ratchet-wheel p , that is secured to the shaft on which the side wheels of the frame are supported. The upward movement of the marking-wheel frame lifts the outer end of the bent lever and throws the upper end forward a distance sufficient to enable the pawl on the next downward movement to be retracted a distance sufficient to engage the next tooth of the ratchet-wheel.

On the front of the main frame there is supported the inking device r . This consists of an inking-wheel r' , supported in a box, with its periphery in contact with the type on the marking-machine and in rubbing contact with a porous wiper r^2 , the bottom of the roller-box being perforated and communicating by a narrow slot with the closed ink-receptacle r^3 , the screw-cap of which is provided with an elastic bulb p^4 , by the compression of which ink is forced from the ink-well into the porous wiper that is in contact with the periphery of the inking-wheel. The rotation of the main wheel causes the type to rotate the inking-wheel in such manner as to transfer the ink to the several type, and thus provide means for marking.

The type are made removable, so that a given type spelling out words or sentences may be arranged on the periphery of the wheel, and these sentences may be by a single forward movement of the wheel while the handle i' is held down by the operator printed upon the surface upon which the marking-wheel rolls, the guide-block being thrown out of position by unclamping it and turning it out of the path of the pins that project from the sides of the marking-wheel.

I claim as my invention—

1. In combination with a wheeled frame, a swinging frame suspended therein, a marking-wheel with its periphery provided with dove-

tailed slots, pivoted in said frame, the removable type with beveled edges fitting the dovetailed slots, whereby the type are securely held in place, the spring extending between the two frames and operating normally to hold the periphery of the marking-wheel out of contact with the surface until the frame is placed, and the sliding plunger by means of which the swinging frame and the marking-wheel are depressed, all substantially as described.

2. In combination with a wheeled frame, a swinging frame suspended therein, a marking-wheel provided with dovetailed slots, pivoted in said frame, the removable type fitting said dovetailed slots, the spring extending between the two frames and operating normally to hold the periphery of the marking-wheel out of contact with the surface on which the frame moves, the bent lever pivoted to the main frame, having one end slotted and engaging a pin on the swinging frame and the other end bearing a swinging pawl in engagement with a ratchet-wheel secured to the side wheels, the ratchet-wheel, and the sliding plunger, by means of which the swinging frame and the marking-wheel are depressed, all substantially as described.

3. An inking device for a marking-machine, consisting of an inking-wheel supported with its periphery adapted to engage the type of the marking-machine, the porous wiper engaging the periphery of the inking-wheel, the perforated roller-box supporting the porous wiper, the closed ink-receptacle communicating by the narrow slot with the roller-box, and the screw-cap provided with an elastic bulb, whereby ink is forced from the ink-well into the porous wiper, all substantially as described.

GEORGE VINING.

Witnesses:

CHAS. L. BURDETT,
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