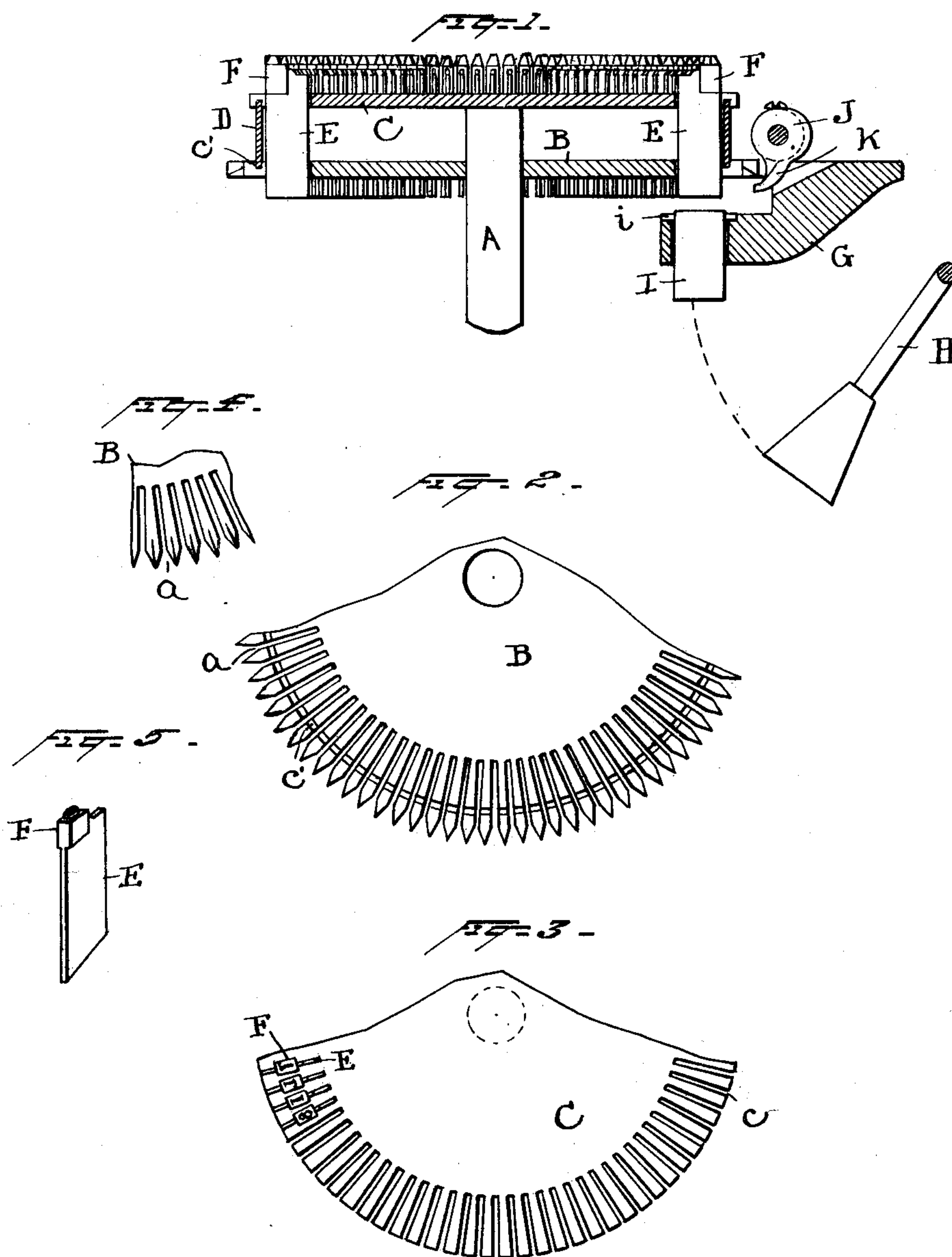


(No Model.)

A. B. DICK.
TYPE WRITING MACHINE.

No. 549,632.

Patented Nov. 12, 1895.



Witnesses
Ivorius A. Clark.
W. B. Pyle

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UNITED STATES PATENT OFFICE.

ALBERT B. DICK, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE A. B. DICK COMPANY, OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 549,632, dated November 12, 1895.

Application filed August 30, 1893. Serial No. 484,356. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. DICK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Type-Writer Wheels, of which the following is a specification.

The object of my invention is a type-writer wheel simple and economical in construction and so arranged as to permit the renewal of the printing characters easily, readily, and cheaply.

My invention consists in the devices and combination of devices hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a sectional elevation of a type-wheel embodying my invention. Fig. 2 is a bottom plan of a portion of the lower plate of the wheel. Fig. 3 is a top plan of a portion of the upper plate of the wheel. Fig. 4 is a bottom plan of a few of the teeth of the lower plate, showing the bottom bevel thereof. Fig. 5 is a perspective view of one of the removable type.

It will be understood that the operative portions of the machine are not shown, it being sufficient for the purpose of this specification to show simply the type-wheel and the portions which directly affect it.

A represents the shaft supporting and carrying the type-wheel. This shaft may be operated in any suitable manner.

B represents the lower plate of the type-wheel, which, as shown, is formed with a series of teeth sufficient to provide a space *a* for each type. These teeth are beveled vertically, as shown in Fig. 2, and, as shown in Fig. 4, are beveled toward the bottom also.

C represents the upper plate, which is provided with a number of slots corresponding to the slots *a* between the teeth, said slots being lettered *c*. As shown, these slots are arranged radially from the center of the wheel, and when the wheel is in operating position said slots will be vertical or at right angles to the horizontal plane of the wheel. Each of these slots is designed to carry a printing character. The upper surface of the plate B at its outer edge is provided with a groove *c'*

and the under surface of the plate C is provided with a similar groove. A band of metal D is slipped into these grooves, and thus the two plates B and C are secured together, said band being united by any suitable means. It will be apparent that this construction is simple and efficient.

The printing characters are carried by thin strips of metal E, which enter slots *c* in the plate C and pass downward into and extend below the slots *a* in the plate B. Said plates carry the character F, which, as shown in the perspective view, Fig. 5, is so enlarged as to form a shoulder at each side of the plate, and upon these shoulders the said plate is supported and prevented from dropping through the slots in the plates B and C, it being understood that the said plate E is dropped loosely therein and is freely removable therefrom. It is obvious that these printing characters may be cast in one piece or an ordinary character may be secured to a thin plate or spindle in any suitable manner.

G, Fig. 1, represents the frame of the machine; H, a hammer operated by any suitable mechanism; I, a movable anvil loosely supported in a slot in a projection from the frame of the machine and prevented from dropping out of its slot by the pin *i*, and J is a rock-shaft carrying a projecting finger K, designed to enter from beneath upward between the teeth on the plate B.

The operation of the device is as follows: It being understood that the printing characters are brought around by any suitable mechanism through the revolution of the type-wheel to about the printing position by one movement, the printing movement then follows and the shaft of the hammer H and the rock-shaft J are simultaneously moved. The finger K, entering between the teeth on the wheel B, will bring the printing character into alignment, this movement being exact and accurate owing to the entrance of the finger from beneath between the beveled edges of the teeth. The hammer then strikes the movable anvil I, and that anvil is projected upward against the printing character F and the latter is forced upward toward the platen. Upon releasing the printing mechanism the

hammer and rock-shaft will return to their original position, as will also the anvil and type.

Thus it will be seen that by the arrangement of parts herein described a type-wheel simple in construction and operation is provided.

I claim—

1. The combination, in a type-wheel, of an upper and lower portion, each provided with a series of slots, one for each character, and an alignment finger, the slots in said lower portion being beveled at the sides to receive said finger from beneath, substantially as set forth.

2. The combination of a type-wheel, comprising the lower plate B, and the upper plate C, connected together and revoluble in a horizontal plane, a plurality of type-bearing plates or spindles vertically mounted in said plates B and C, a printing character carried by the upper end of each of said type-bearing plates or spindles, a plurality of teeth extending en-

tirely around the periphery of the lower plate B, an alignment finger adapted to engage between said teeth and lock the type-wheel and a hammer adapted to elevate one of said type-bearing plates or spindles when the type-wheel is locked, substantially as described.

3. The combination in a rotating type wheel provided with radial slots to receive printing characters supported therein by gravity, of printing characters provided with an enlarged printing head and a spindle adapted to enter said slots, substantially as set forth.

4. The combination in a type wheel of an upper and lower plate provided with radial slots, means for securing said plates together, and printing characters loosely carried in said slots, substantially as set forth.

This specification signed and witnessed this 26th day of August, 1893.

ALBERT B. DICK.

Witnesses:

EUGENE CONRAN,
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