

J. MACELHERAN.

METHOD OF PREPARING STEREOTYPE PLATES.

No. 20,081.

Patented Apr. 27, 1858.

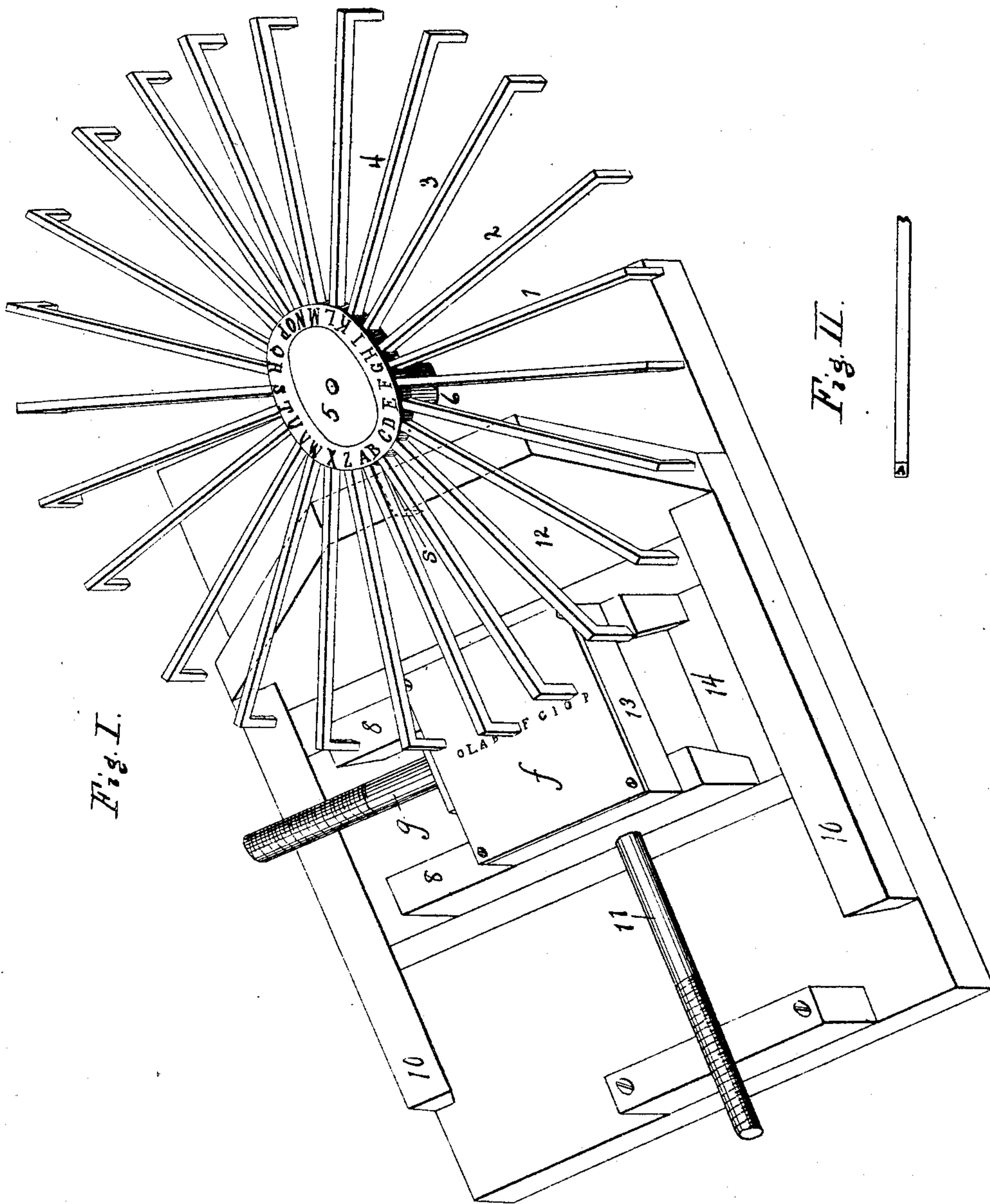


Fig. II.

UNITED STATES PATENT OFFICE.

JNO. McELHERAN, OF BROOKLYN, NEW YORK.

METHOD OF PREPARING STEREOTYPE-PLATES.

Specification forming part of Letters Patent No. 20,081, dated April 27, 1858.

To all whom it may concern:

Be it known that I, JOHN McELHERAN, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Preparing Typographic Printing-Surfaces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a machine which embodies the principle of my invention, and Fig. 2 a detail view.

This invention relates to a new process of preparing typographic printing-surfaces, whereby the setting and distributing types, as heretofore in use in printing, is effectually superseded.

The nature of this invention consists in using letter-dies for the purpose of impressing them into the surface of a plate, the plate, or the material with which the plate is covered, being softer than the material of which the dies are made, and the arrangement being such that the letters will all be sunk to a uniform depth in order that a cast or electrotype may be taken of said plate, for the purpose of printing therefrom on a letter-press. The plate, as already stated, may either be of a material as hard or harder than the dies, and covered with a softer material—as, for instance, beeswax—and the dies be sunk into and through the wax to the surface of the plate, or the plate may be of a softer material than the dies—the former of zinc, for instance, while the latter may be made of steel—and the device for pressing down the dies be such that each die will penetrate a uniform distance into the plate. For certain species of work the letters may be engraved in also, or sunk in the dies, so that the impression in the soft material with which the plate is covered will produce a counterpart of each letter, which is raised or *in relief* with regard to the plate. In this case a plaster cast is to be taken previous to the stereotyping or electrotyping. The accompanying drawings represent one of the numerous devices which may be employed to embody the principle of this invention.

The letter dies are arranged on the outer ends of a series of arms or spokes, 1 2 3 4, as seen in Fig. 2, which represents a bottom view of the outer portion of one of these arms. These arms may either be slightly elastic and fastened to a central disk, 5, from which they

radiate, or they may be jointed to said disk and held up by means of springs. The arms with the disk revolve upon a central pivot, 6.

The plate 7, upon which the letters are to be impressed, is arranged upon a block, 13, which is liable to be moved laterally by means of a screw-rod, 9, between the ways 8 8, the proper distance between each two successive letters. The ways 8 8 are attached to a block, 14, which can be moved by means of a screw-rod, 11, between the ways 10 10, for the purpose of moving the plate longitudinally the proper distance between each two successive lines of letters.

The arms carrying the letter-dies that are required to be impressed upon the plate for the purpose of forming the words and sentences of the text are successively brought over the slots in the upright saddle-piece 12, and then pressed downward so as to make the impression into the plate. This may be done either by hand or by pedal action, or by any other suitable mechanical device. The width of the slots corresponds to the width of the arms 1 2 3, and its depth is such that when the arm touches the bottom of the slot the letter-die has just penetrated the proper distance into the plate or the coating of the plate. After one letter has thus been impressed upon the plate the plate is moved laterally the proper distance between two successive letters, and another arm, with its corresponding letter-die, is brought over the slot and is pressed downward. When a line has been completed the plate is moved longitudinally the requisite distance between two lines of letters by means of the screw-rod 11, and the operation of stamping the letters upon the plate is thus continued.

The lateral motions of the plate may be performed in various ways. In the annexed drawings the device shown consists in a screw, 9, to which one or more revolutions or part of a revolution is imparted. It may also be effected automatically by means of suitable devices. (Not represented in the accompanying drawings.)

The spoke-disk may be so arranged that it can be removed and replaced by another with but little loss of time, using one disk for each set of letters. Such a set may be composed of capitals, small letters, stops, Italics, &c.

The advantages of this invention are rapidity of action and great saving of time and labor in comparison to the usual method of setting

and distributing type, which labor is here altogether done away with. Finally, the plates may be used over and over again after each composition has been stereotyped or electrotyped.

Having now fully described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

The method herein described of producing a plate of fixed metallic types for printing from by stamping letter-dies in succession to each other into a plate made of or coated with such a substance as will readily take and pre-

serve their impressions and allow a stereotype or electrotype to be made thereof, either directly or by means of an intermediate plaster cast, whereby the ordinary process of setting and distributing the types is dispensed with, and but one set of types is used, substantially as set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

Witnesses: JOHN McELHERAN.
A. POLLAK,
JOHN S. HOLLINGSHEAD.