

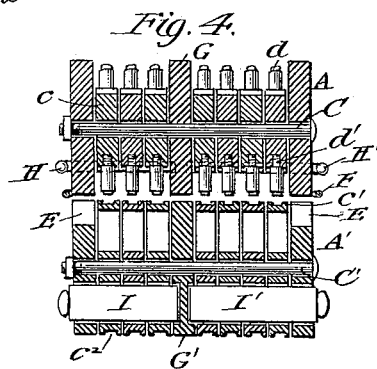
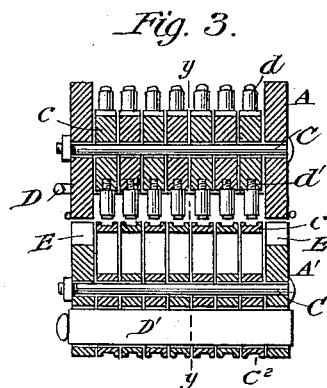
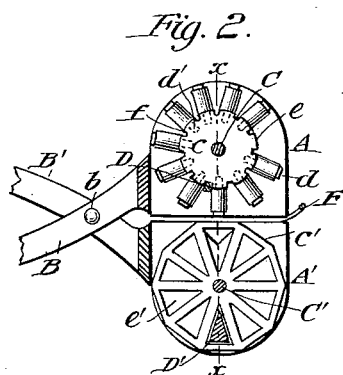
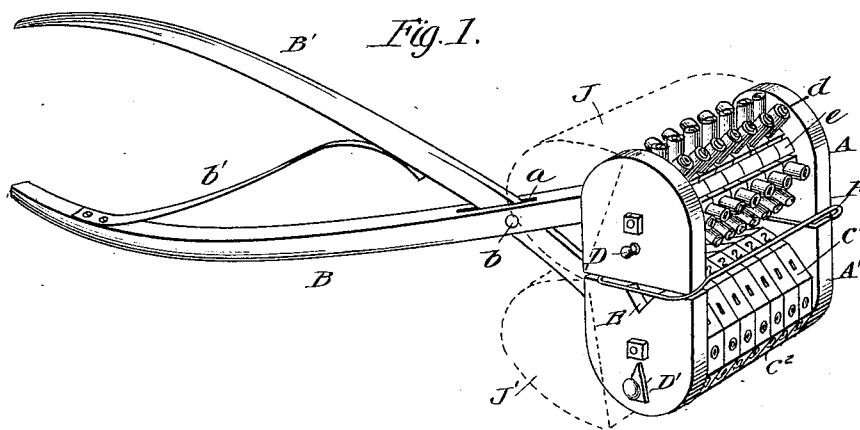
(No Model.)

W. YATES.

HAND PUNCH.

No. 385,897.

Patented July 10, 1888.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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HAND-PUNCH.

SPECIFICATION forming part of Letters Patent No. 385,897, dated July 10, 1888.

Application filed November 25, 1887. Serial No. 256,112. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM YATES, of the city, county, and State of New York, have invented an Improvement in Hand-Punches, of which the following is a full, clear, and exact description.

My invention relates to hand-punches, and has for its object the construction of a simple and effective implement of this character, more particularly adapted for use in canceling, numbering, dating, or otherwise marking railway-tickets, but capable of various other applications, whereby letters, figures, characters, or symbols may be cut and punched out of paper, pasteboard, or thin sheets of other material; and various combinations of the same may be arranged for operation to the exclusion of others, thus enabling dating, canceling, numbering, and marking to be readily and interchangeably performed by the same implement.

The invention consists in the construction and arrangement of parts and details and combinations of the same, hereinafter particularly described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in the several views.

Figure 1 is a perspective view of a hand-punch constructed in accordance with my invention. Fig. 2 is a vertical cross-sectional view of the same taken on the line *yy* in Fig. 3, with parts shown broken away. Fig. 3 is a vertical longitudinal sectional view taken on the line *xx* in Fig. 2, and Fig. 4 is a vertical longitudinal sectional view of a modified construction.

The hand-punch consists of two members, A A', each of substantially half-ellipsoidal form, having integral therewith handles B B', the former being preferably slotted, as at *a*, to receive the latter, said handles being pivoted together by a rivet, *b*, and normally held apart by a spring, *b'*, as shown in Fig. 1 of the drawings. The sides of the members of the punch are centrally apertured to receive spindles C C', each of which has a head at one end and is threaded at its opposite end to receive a clamping-nut, whereby, if desired, the disks hereinafter described may be readily removed at any time.

Upon the spindle C are fitted a series of revoluble disks, *c*, preferably seven in number, provided with shoulders, preferably ten in number, having threaded sockets *d'*, to receive the reduced threaded ends of a series of radial arms, each carrying a male die, *d*, in the shape of a letter, figure, or other symbol or character, a space, *e*, being left between the terminals of the series of arms on each disk, for a purpose hereinafter explained. At either side of said socketed shoulders is provided a notch or recess, *f*, to receive a shouldered pin, D, passed through suitable apertures in the sides of the member A, whereby the disks are prevented from revolving on their spindle. As shown, said pin is located below the spindle C; but it may be above or at one or the other side thereof, as preferred, so that it will engage the notches in said disks.

Upon the spindle C' are fitted a series of revoluble disks, *c'*, equivalent in number to the disks *c*, having in their periphery, which is preferably polygonal in contour, a series of female dies, *c''*, equivalent in number to the male dies *d*, the reverse of the letters, figures, or other symbols or characters of said male dies, and said disks *c'* have therein a series of triangular openings, *e'*, to receive a similarly-shaped shouldered pin, D', passed through suitable openings in the sides of the member A', whereby said disks are also prevented from revolving on their spindle. As shown, said pin is located below the spindle C'; but it may be at either side thereof, so that it enters the openings in said disks. In the sides of the member A' are provided openings E, for the discharge of the cuttings produced by the contact of the dies upon the material introduced between them.

If preferred, a wire, F, bent to produce two right angles, and having its ends secured to either one of the handles of the punch or to its members, and extending across the front of the punch at about the point of junction of said members, as shown in Fig. 1 of the drawings, may be employed to guide the material to be operated upon to and between the dies.

In the modified construction illustrated in Fig. 4 of the drawings the disks *c c'* are shown arranged on their respective spindles in two sets, three disks in one set and four in the

other, separated by partitions G G', respectively of the same form as the members A A', and integral, respectively, with them or with the handles B B'. The disks c are prevented from revolving on their spindle by two pins, H H', similar to the pin D, passed in opposite directions through the sides of the member A and the notches in said disks into sockets in the partition G, and the disks c' are prevented from revolving on their spindle by two triangular pins, I I', similar to the pin D', passed in opposite directions through the sides of the member A' and the openings in said disks into sockets in the partition G'. Said pins may have any location in relation to the spindles which will allow them to engage the notches and openings in said disks. Openings E are provided in the sides of the member A', and the punch is also provided with a guide, F, as illustrated in Figs. 1, 2, and 3 of the drawings.

Referring to the construction illustrated in Figs. 1, 2, and 3 of the drawings, the punch is applied to use as follows: The pin is withdrawn from the upper disks, which are then revolved so as to bring one or more of the desired male dies to the lowermost position, (best shown in Fig. 2,) the disks whose dies are not desired being revolved so as to bring the space e thereon directly over the opposing lower die, and the locking-pin is then replaced. The triangular pin is withdrawn from the lower disks, which are then revolved so as to bring the requisite female dies thereon in proper position to receive the selected male dies, and said pin being returned to place, the material to be operated upon is passed over the guide or otherwise directed between the dies, and is punctured as often as desired by the compression of the members of the punch. The relative arrangement of the dies, or a new selection and combination of the same, is made in similar manner to that above described, male dies having thereon letters, figures, or other symbols or characters being interchangeably applied to the upper disks, as desired, the lower disks employed having corresponding female dies, and being arranged and combined in similar manner to receive said male dies.

The modified construction illustrated in Fig. 4 of the drawings is particularly intended for use as a dating-punch, the seven dies carried by the disks being quite sufficient for that purpose, the disks and their dies being manipulated and applied in a manner in all respects similar to that above described, except that one or both of the locking pins may be withdrawn to allow of adjusting either set of disks, as circumstances may require.

It is obvious that the male dies may be integral with their disks without departing from the principle of my invention; but the provision of the threaded sockets in said disks

and forming the dies with a reduced threaded end adapted to said sockets enables any of the various-faced male dies herein specified to be readily applied at pleasure to the disks without removing the latter from their spindles.

By my invention I am enabled to cut out of the applied material the month, day of the week or month, the year, time of day, initials of names, names of persons and places, symbols denoting names and places, regular or irregular progressions of numbers, as desired, with but slight expenditure of time and labor, and where figures alone are used the combination of the seven disks, each carrying ten figures, gives to the punch an almost illimitable capacity for numbering purposes.

If preferred, a sheet-metal cap or cover in two parts, J J', (shown in dotted lines in Fig. 1 of the drawings,) hinged, respectively, to the members A A' at their rear or to their handles and adapted to fit snugly over said members, may be employed to protect the dies from dust, and also to enable the punch to be carried in one's pocket, if desired.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A hand-punch consisting of two opposing pivoted members, transverse spindles in said members, the one carrying revoluble disks provided on their periphery with radial arms having male dies thereon, and the other carrying revoluble disks having series of triangular openings in their sides and female dies in their periphery, and pins entering said members and engaging said disks, substantially as shown and described.

2. A hand-punch consisting of two opposing pivoted members, partitions integral therewith intervening the sides of said members, spindles passing through said sides and partitions, series of disks revoluble on said spindles, having male and female dies, respectively, thereon, said series of disks being unequally divided by said partitions, and pins passing through the sides of said members and engaging said disks and partitions, substantially as shown and described.

3. In a hand-punch, the combination, with two opposing pivoted members, each having a partition intervening their sides and detachable spindles passing through said sides and partitions, of series of disks revoluble on said spindles, unequally divided by said partitions, and having male and female dies, respectively, on their periphery, and means for locking said disks upon their spindles, substantially as shown and described.

WILLIAM YATES.

Witnesses:

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DUNCAN S. WYLIE.