No. 812,723. PATENTED FEB. 13, 1906.

J. D. CALDWELL & N. A. SORENSON.

CLOTHES MARKING APPARATUS.

APPLICATION FILED JUNE 27, 1904.

2 SHEETS—SHEET 1.

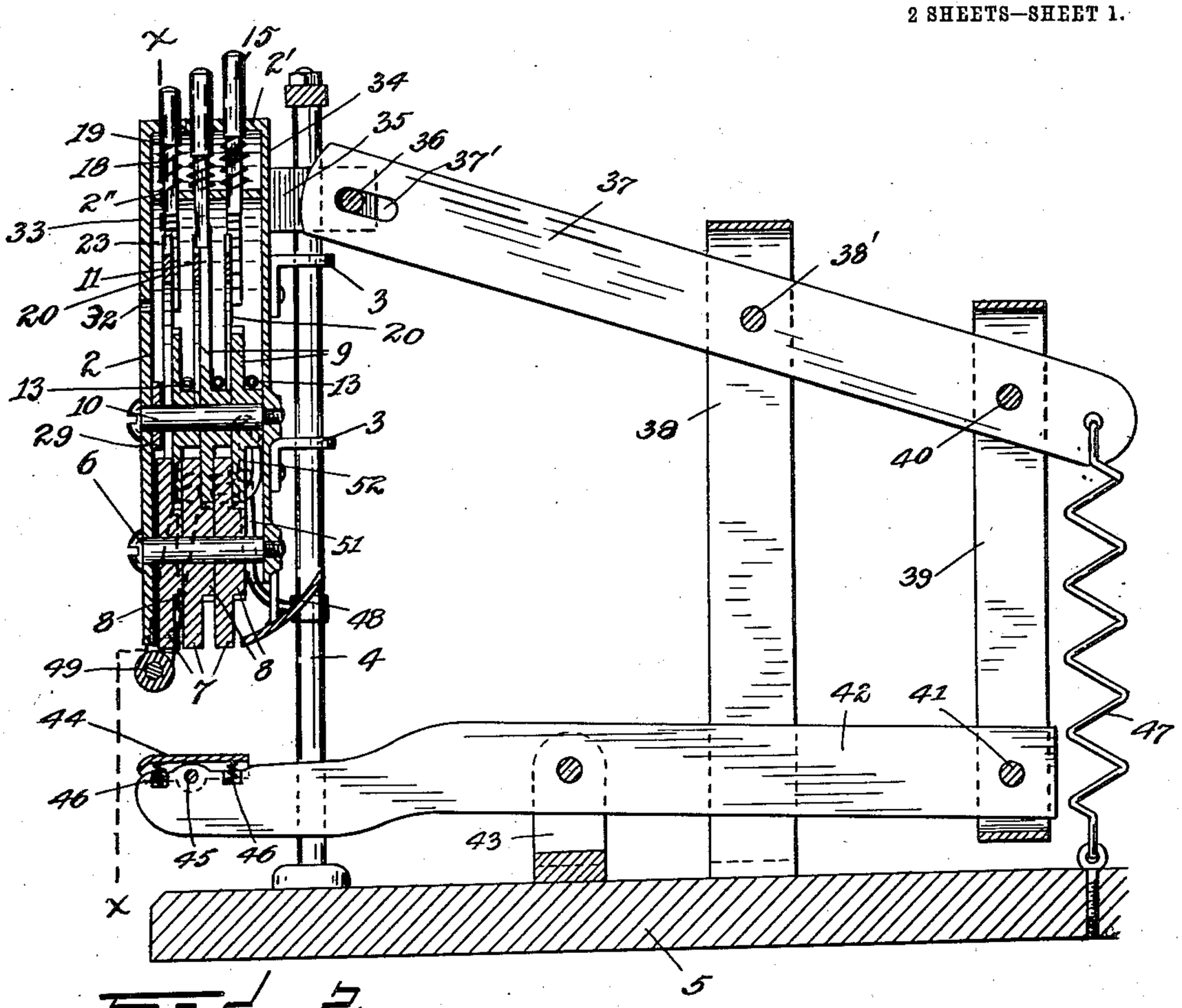

FIG. 2.

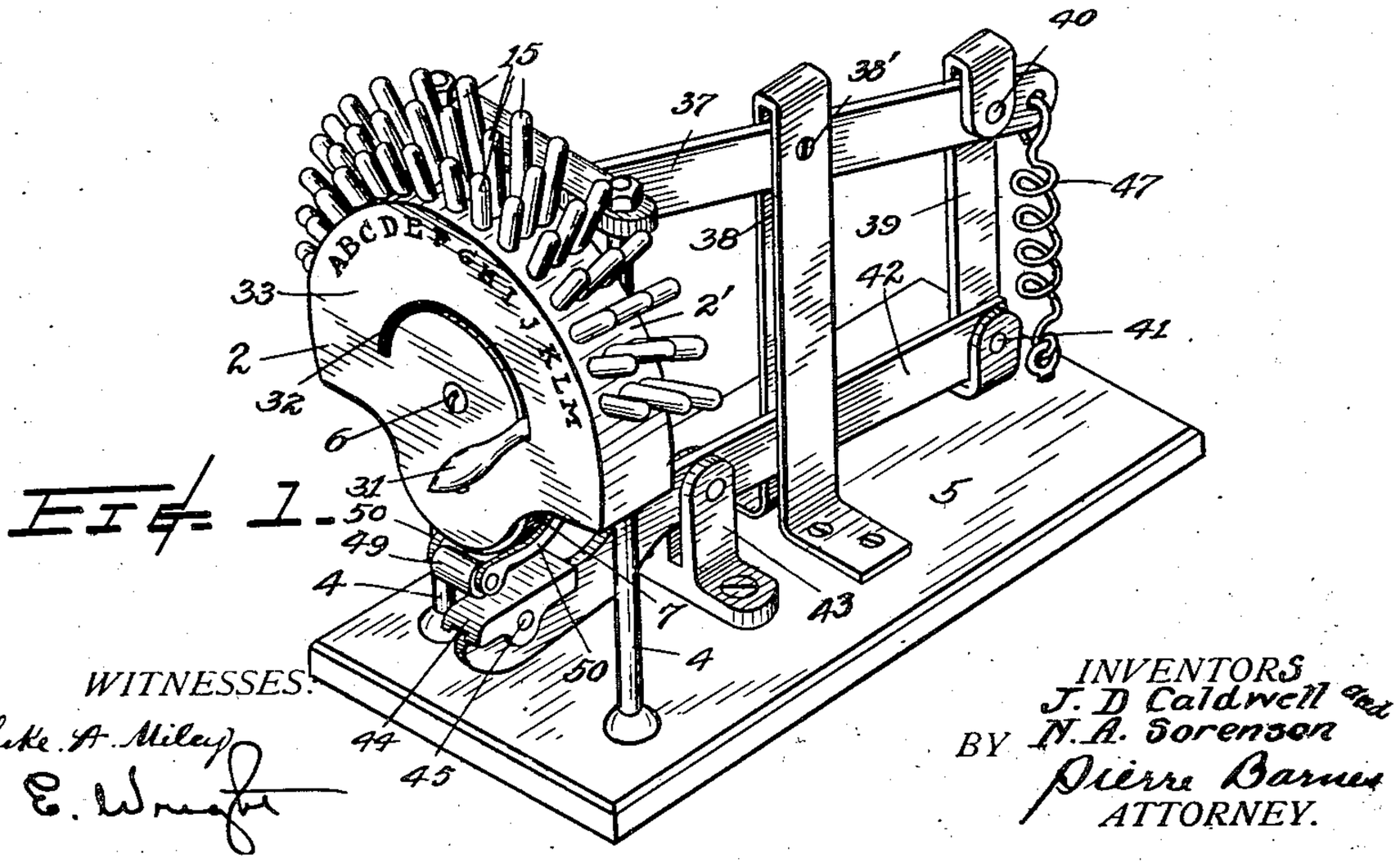

FIG. 1.

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2 SHEETS—SHEET 2.

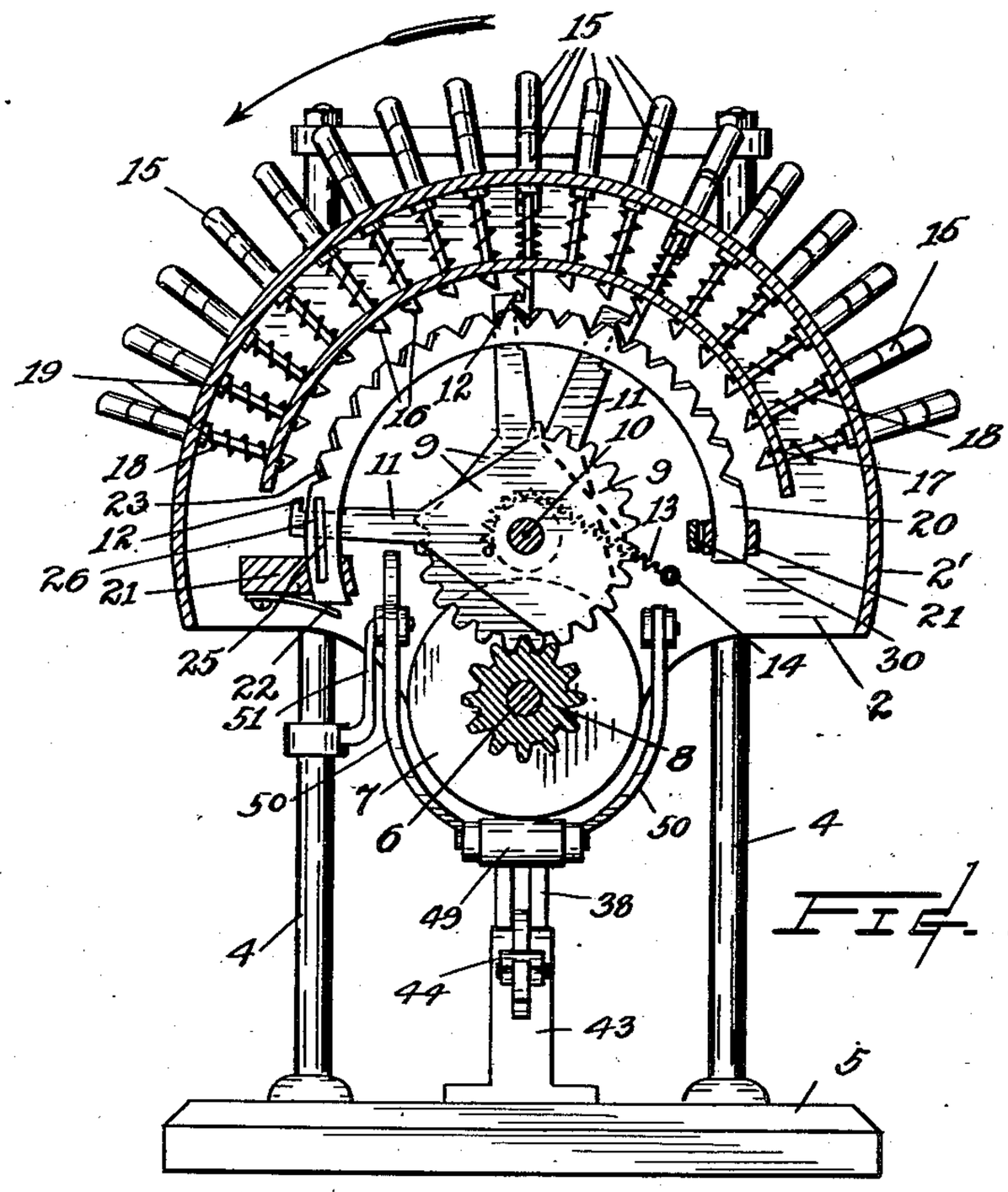

FIG. 3.

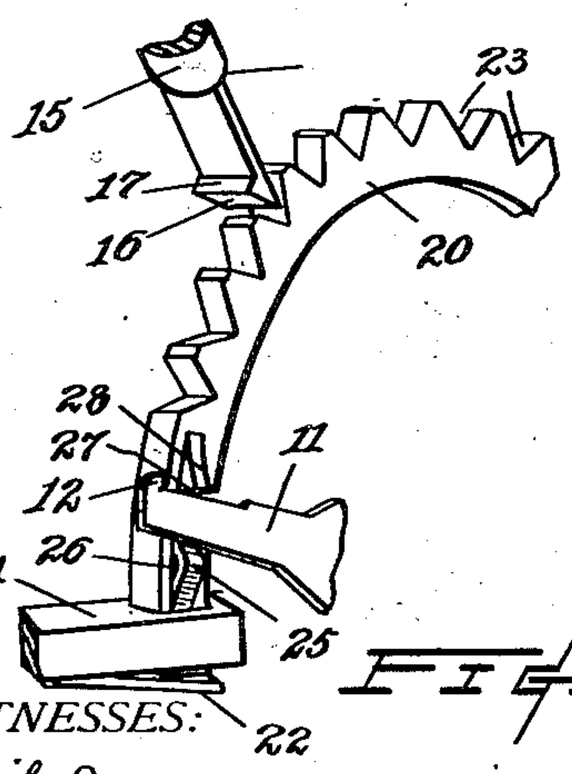

FIG. 4.

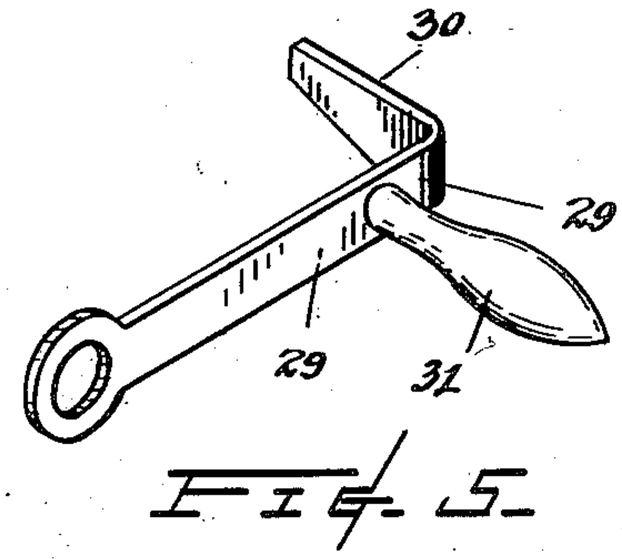

FIG. 5.

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UNITED STATES PATENT OFFICE.

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CLOTHES-MARKING APPARATUS.

No. 812,723. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed June 27, 1904. Serial No. 214,267.

To all whom it may concern:

Be it known that we, JOHN D. CALDWELL and NELS A. SORENSON, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Clothes-Marking Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to printing, and more particularly to apparatus for printing identification laundry-marks upon clothes.

The object of the invention is to provide a device whereby clothes or other articles may be expeditiously marked by means of interchangeable and predeterminately-set type characters.

In carrying out our invention we provide marking mechanism comprising a number of rotatable type-disks which may be adjusted to present individual type characters or combinations thereof into printing position above a platen operatively connected to the disks in such manner that when the platen is depressed it causes the disks to descend and imprint the set type upon the fabric placed across the platen.

In the accompanying drawings, Figure 1 is a perspective view of apparatus embodying our invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a vertical elevation, partly in section, taken on the line *x x* of Fig. 2. Figs. 4 and 5 are detail perspective views.

In the drawings, 2 represents a chambered head having at its rear apertured brackets 3, which are slidable on upright posts 4 of the frame-bed 5, whereby the head is caused to move vertically when motion is imparted to it. Rotatably mounted upon an arbor 6 interiorly of the head are disks 7, having affixed or provided upon their respective peripheries a plurality of type characters, such as numerals or alphabetic letters, and integral with each said disks is a toothed wheel 8. Segmental gears 9 are rotatably mounted upon an arbor 10 of the head and are respectively provided with teeth which mesh with those of wheels 8 and have preferably pitch radii equal to the pitch diameters of the wheels, so that an entire rotation of the latter and the disks may be effected by a partial rotation of the segments. Each said segment is provided with an arm 11, having a hook 12 in proximity to its outer end. The segments are severally connected by springs 13 to a fixed pin 14 of the head and acting to cause the segments to be drawn and turn on their arbor in the direction opposite that indicated by arrow in Fig. 3 and which direction for convenience will hereinafter be referred to as the "right."

Finger-keys 15 extend radially through the circular keyboard or wall 2′ of the head and are arranged in series or groups, one group for each type-disk and of corresponding number to the type characters. These characters may be represented or indexed either upon the keyboard or on the front of the head, as shown in Fig. 1. The ends of the keys which are within the head are made tapering or with faces 16 inclined from their respective axes and are provided adjacent thereto with offsets or hooks 17. Retractile springs 18 are positioned upon the various said keys and between a curved partition 2″ of the head and shoulders 19 on the keys for the purpose of normally holding the latter in their outer or inoperative positions. An arc-shaped member 20 is provided for each segmental gear and series of keys and are slidably seated in housings 21 and revoluble to a limited extent in both circular directions, but normally pressed toward the right end of their travel by the action of springs 22. Serrations 23 equal in number to the respective keys are formed in the convex edge of each said arc member. They are made of **V** shape or with inclined sides, as shown, and disposed that the left inclined side of each serration will be when the respective arc members are in their normal positions located so as to be contacted by the inclined face 16 of any depressed key of its particular group, so as to cause the member being acted upon to be moved toward the left. The arc members are each provided with means for retaining the segment-arms 11 at the extreme left-hand end of their travel and for individually releasing them when the proper member 20 is moved in that direction, as aforesaid, by the displacing action of a depressed key. Such means (see Fig. 4) comprise bow-shaped pieces 25, of spring metal, located in recesses 26, which extend from within the housings 21 to some distance outside along said mem-

bers and terminating thereat in hooks 27, having sloping extremities 28. When the members 20 are in their right-hand positions and the bowed portions of pieces 25 are without the housings, the hooked ends resiliently protrude outside of the recesses; but when the pieces 25 are carried into the housings by the movement of the arc members the projecting bowed portions are depressed to accommodate themselves to the sockets and swing the hooked end below the surfaces.

Loosely pivoted to arbor 10 and adjacent to the front wall of the head is an arm 29, provided with a rectangularly-bent portion forming a sweep or blade 30, extending across the transverse planes of the segments and adapted to engage the arms 11 thereof to move them into position to be engaged by the hooks 27. For this purpose arm 29 has a handle 31 projecting outwardly through a concentric slot 32 in the front head-wall 33. The back wall 34 has lugs or ears 35 to receive a pin 36 for pivotal connection with a lever 37 through slot 37′ of the latter. This lever is fulcrumed at 38 to an upright support 39 of the frame and is connected by a link 39 and pivots 40 41 to another lever 42, which is fulcrumed in a support 43 and extends forwardly beneath the machine-head. 44 is a saddle-like piece tiltably secured by a pin 45 to the lever 42 below the head and forms the platen upon which the goods to be marked are placed. Springs 46 may advantageously be placed under each end of the platen in order that it may accommodate itself to goods of varying or uneven thicknesses against the down pressure of the type-disks when printing.

An extensible spring, such as 47, is secured by its ends to the frame-bed and the vibrating-lever system to the rear of their fulcrums for normally elevating the head and likewise the platen. The lengths of arms of said levers are proportioned so that when motion is imparted the head will travel through greater space than does the platen, and thus when the fabric to be marked is pressed down upon the platen it forces the same to descend therewith against the action of spring 47, and through the medium of the connecting-levers the head also, which overtakes the platen, so to speak, and prints the set type characters on the fabric. Suitable inking devices are included in the invention and as illustrated consist of an ink-pad 48, fixedly attached to the head, an inking-roller 49, carried by swinging arms 50, hinged in and movable with the head, and the means to cause the roller to travel from and across the lowermost circumferential edges of the disks to ink the set type during the last part of the upward movement of the head and in a reverse direction during the first part of the head's downward travel. This reciprocating movement of the ink-roller may be accomplished by a rigid bent rod 51, fixedly secured to some stationary part of the frame, such as one of the posts 4, and which passes through a slot 52 of an offset provided on one of arms 50, so formed and arranged to impart the required movement both as to directions and intervals of time.

The manipulation of the apparatus in setting the desired type of the marking mechanism is as follows: The arms of the segmental gears are first moved to the extreme left hand by and with the swinging sweep-arm 29 in that direction, where they are caught and held by the spring-hooks there situated. The sweeping arm can then be moved back to its former position at the right, so as not to obstruct the free play of the arms 11. The keys corresponding to the desired characters are now pressed in, one for each series or segment, and as they severally engage with their respective arc members they displace the same and, as aforementioned, release the dependent arm 11. These arms being released are caused through action of springs to move toward the right until intercepted by the end of the pushed-in keys and which after being thus contacted are released of finger-pressure by the operator. The hooked ends of these keys when finger-pressure is removed are caught by the hooks of the arms 11, and in consequence are prevented from being moved outwardly by their respective springs to their distended positions and at the same time lock the arms, and thereby the type-disks. Thus the required characters are reliably held in position for printing, and any number of articles may be marked with the set characters by pressing them separately down upon the platen. The type are disposed on their disks so that when the segment-arms are moved to the left the characters will be revolved across their printing or lowermost positions until when the coacting arms have reached the extent of their travel a peripheral space without type will be exposed. To change or vary the type, the disks are first moved into this rotary position by sweeping with the arm 29 the segment-arms out of engagement with the key-hooks around and into engagement with the spring-hooks ready to be reset, as above explained.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the class described, the combination with movable marking mechanism, of a platen, means for simultaneously moving the platen and marking mechanism in the same direction but at different rates of speed, whereby they will ultimately come into contact.

2. In apparatus of the class described, the combination with marking mechanism, of a platen movable simultaneously with the marking mechanism and in the same direc-

tion but at a slower rate of speed and coöperating therewith against the action of a retracting-spring tending to separate them.

3. In an apparatus of the class described, the combination with movable marking mechanism and the inking mechanism therefor, of a platen, a pivoted lever on which said platen is mounted, a pivoted lever connected to the marking mechanism and adapted to move the same, and connections between said two levers, the said levers being so constructed and fulcrumed that the movement of the platen will impart movement in the same direction but at a greater rate of speed to the marking mechanism.

4. In apparatus of the class described, the combination with rotatable disks provided with peripheral type, means for revolubly moving said type individually and predeterminately into printing positions, and a platen, of mechanical connections between the disks and the platen whereby a downward movement of the platen will impart an accelerated printing movement in the same direction to the disks.

5. In apparatus of the class described, the combination of type-disks rotatably mounted in a movable head, a toothed wheel integral with each disk, a segmental gear severally provided with an arm for each toothed wheel, an arc member for each said arm and carrying hook devices for engaging and retaining the respective arms against the action of springs, said springs, a series of keys for each disk said keys being provided with means coacting with the arc members for disengaging the respective said arms from said hook devices, said arms also being adapted when depressed to limit the setting movement of and engage the arms whereby the type corresponding with a depressed key will be stopped in its revolution and retained in printing position, and means for disengaging the arms from the engaged keys.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN D. CALDWELL.
NELS A. SORENSON.

Witnesses:
PIERRE BARNES,
M. E. BREWER.