No. 864,790. PATENTED SEPT. 3, 1907.

G. H. LANG.

NUMBERING OR MARKING MACHINE.

APPLICATION FILED DEC. 20, 1906.

2 SHEETS—SHEET 1.

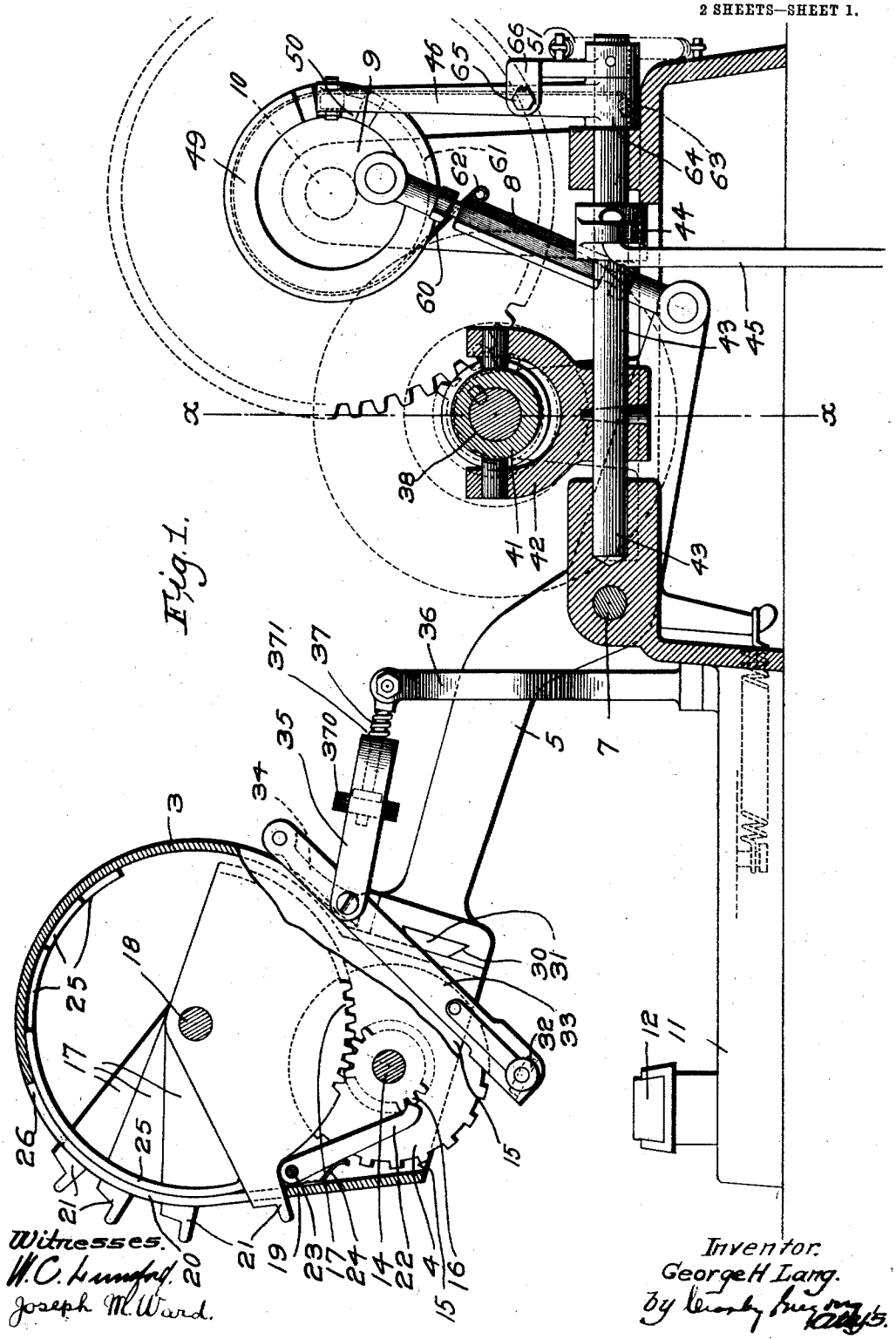


Fig. 1.

Witnesses.
W. C. Langford.
Joseph M. Ward.

Inventor.
George H Lang.
By Crosby Gregory & Kelly's.

No. 864,790. PATENTED SEPT. 3, 1907.

G. H. LANG.

NUMBERING OR MARKING MACHINE.

APPLICATION FILED DEC. 20, 1906.

2 SHEETS—SHEET 2.

Fig. 4.

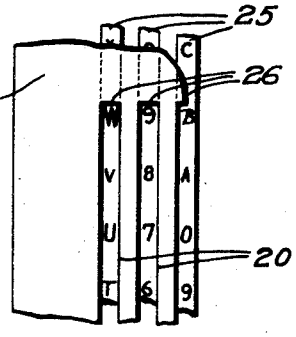


Fig. 3.

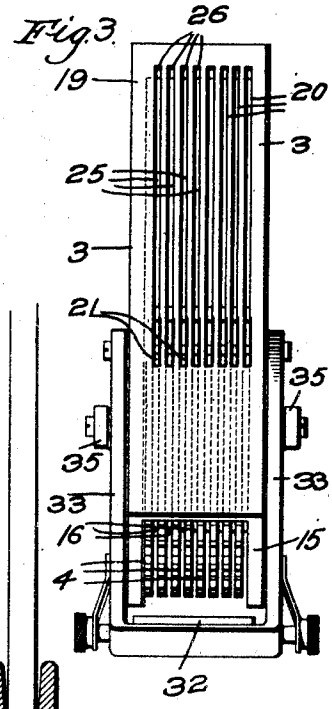


Fig. 2.

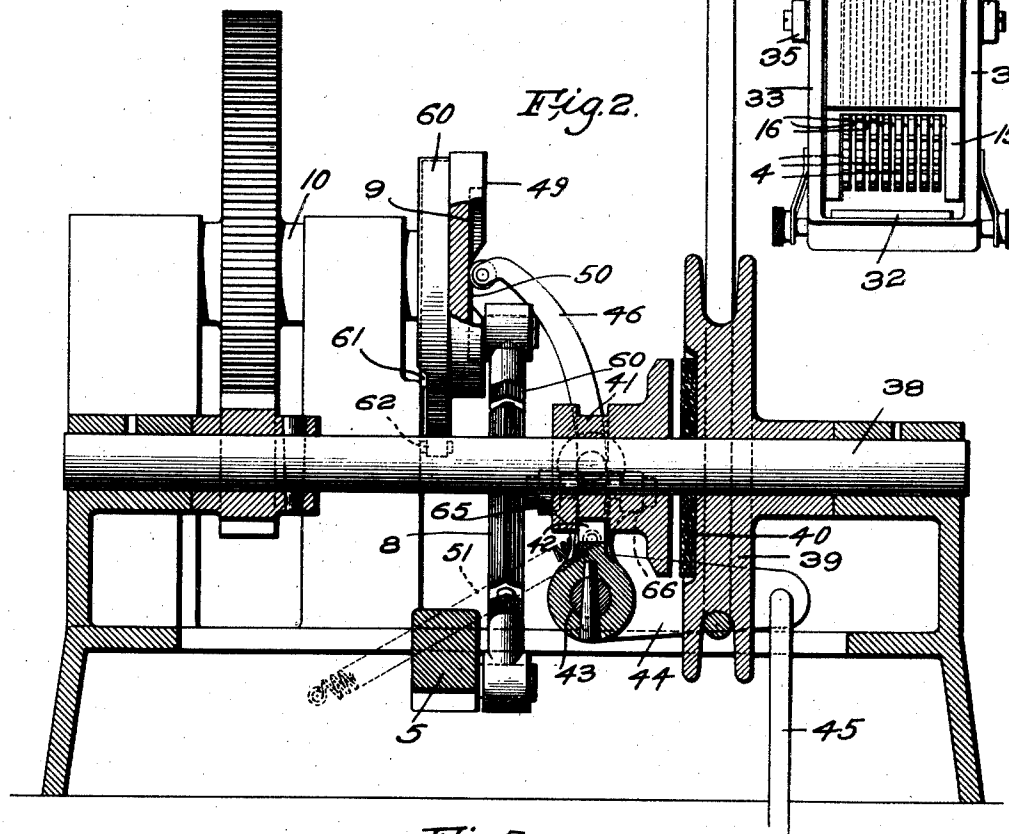
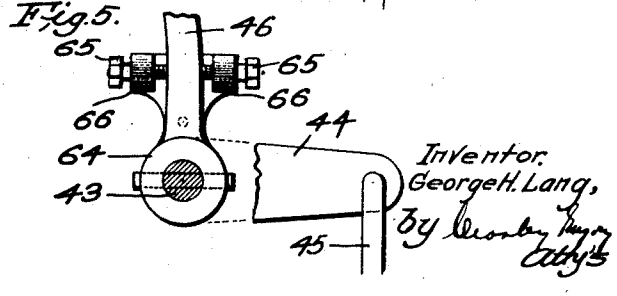


Fig. 5.



Witnesses.
W. C. Lumsford
Joseph M. Ward.

Inventor.
George H. Lang,
By Crosby Gregory
Atty's

UNITED STATES PATENT OFFICE.

GEORGE H. LANG, OF BOSTON, MASSACHUSETTS.

NUMBERING OR MARKING MACHINE.

No. 864,790. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed December 20, 1906. Serial No. 348,731.

To all whom it may concern:

Be it known that I, GEORGE H. LANG, a citizen of the United States, residing at Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Numbering or Marking Machines, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to numbering or marking machines and especially to machines that are adapted to be used in laundries for printing laundry marks upon articles of clothing, although the invention is of such a character that it may be embodied in other types of numbering or marking machines.

The invention relates especially to the numbering head which includes a plurality of marking or type-disks each of which contains a plurality of numbers or marks, and one of the objects of the invention is to provide a novel means for setting the disks to get the desired combinations of numbers or marks.

Other objects of the invention will be more fully hereinafter described and then pointed out in the appended claims.

In the drawings wherein I have illustrated one embodiment of my invention, Figure 1 is a vertical section through the frame of the machine and through the numbering head; Fig. 2 is a vertical section on the line *x*—*x*, Fig. 1; Fig. 3 is a front view of the numbering head; Fig. 4 is an enlarged view of a portion of the front of the numbering head; and Fig. 5 is a detail of the driving mechanism.

The numbering head 3 which carries the type-disks 4 is carried by an arm 5 which is pivoted to the frame of the machine, as at 7, said arm extending beyond the pivot and being connected to a link 8 which connects said arm to a crank-disk 9 mounted on a shaft 10. Rotation of the shaft 10 will obviously rock the arm 5 and give the numbering head a vertical oscillatory motion. The frame 6 is provided with a bed 11 which carries at one end a platen 12 on which the articles to be marked are placed. Any number of type-disks 4 may be employed, and each disk has on its periphery type for printing the desired marks. This type may be either numbers or letters or any other distinguishing mark, although in the present embodiment of my invention I have shown each type-disk as having the digits and certain letters thereon.

The various type-wheels are mounted independently upon a shaft 14 carried by the sides 15 of the numbering head 3, and said type-disks are situated so that the lower portions thereof project below the side walls 15, as best seen in Figs. 1 and 3. Each type-disk has rigid therewith a gear 16 which meshes with and is operated by a segmental gear 17 journaled on a shaft 18 also supported in the cheeks 15 of the numbering head. The front wall 19 of said numbering head is provided with a plurality of slots 20, one for each of the segmental gears 17, and each segmental gear is provided with an arm 21 which extends through the corresponding slot, said arm constituting a thumb-piece by which the gear may be turned. It will be obvious that by moving any one of the thumb-pieces up and down in its slot 20, the corresponding type-disk will be rotated. Each type-disk is held in its adjusted position by means of a locking pawl 22 which is pivoted to the numbering head, as at 23, and is acted upon by a suitable spring 24 tending to keep the nose thereof in engagement with the teeth of the gear 16. The nose of the locking pawl is comparatively blunt so that it will not enter between the teeth of the gear 16 sufficiently to positively lock the type-disk, but the friction between the locking pawl and the gear caused by the spring 24 is sufficient to hold the type-disk in its operative position.

The type-disks 4 are all independent from each other and each can be independently operated so that it is possible to adjust the type-disks to print any desired number or combinations of numbers or marks within the range of the machine. To facilitate the correct adjustment of the type-disk, I have associated with the numbering head an indicator by which the operator can readily determine just how much to move each of the segmental gears 17 to bring the desired number or mark on the corresponding type-wheel into operative position. In the present embodiment of my invention this is accomplished by connecting to each of the segmental gears an indicating strip 25 which has imprinted thereon the letters or marks corresponding to those on the type-wheel. Each indicating strip lies immediately under the side 19 of the numbering head and in line with a slot, and as it is attached to a segmental gear it moves with the latter inside of the casing of the numbering head. The numbers or marks are so arranged on the indicating strip with relation to the position of the corresponding numbers on the type-wheel that the number or mark which is just visible at the upper end 26 of the slot is the number or mark which is in operative position on the type-wheel.

The desired number or mark on any type-wheel can be brought into operative position by merely shifting the corresponding thumb-piece 21 until the desired number or mark on the attached indicating strip is just visible at the upper end of the slot. The friction of the locking pawl 22 while sufficient to hold the type-disks in their operative position, yet is such as to permit the disks to be readily shifted by the segmental gear 17.

The numbering head 3 containing the type-disks and

segmental gears is preferably detachably mounted on the arm 5 so that one head containing one character of type-wheels may be removed and another head containing a different character of type-wheels may be substituted if desired. For this purpose I have shown the end of the arm as having the transverse dovetailed slot 30 therein in which is received the dovetailed rib 31 carried by the numbering head.

For inking the type-disks I employ an inking pad 32 which is supported by a swinging yoke 33, said yoke being pivoted to the upper end of an arm 34 which extends upwardly from the arm 5.

A yoke 35 is pivotally connected at one end to the yoke 33, and at the other end to a fixed post 36 rising from the frame. The up and down vibrating movement of the arm 5 will obviously cause the yoke 33 to swing toward and from the type-wheels, and the construction is such that when the arm 5 reaches its maximum height the inking pad is brought in contact with the type disks, while when said arm descends the inking pad is carried away from the type disks.

I have herein shown the yoke 35 as adjustable as to its length so as to insure the proper adjustment of the inking pad 32. The adjustment herein shown is effected by means of a stem 37 which loosely extends through the head of the yoke 35 and has thereon an adjusting nut 370, which is received between the arms of the yoke.

371 is a spring which surrounds the stem 37 and bears against the head of the yoke 35. This construction permits the effective length of the yoke 35 to be varied so as to secure a proper adjustment of the inking pad.

The shaft 10 is driven from a driving shaft 38 which has loosely mounted thereon the continuously-running driving pulley 39. I have provided means for manually clutching the driving pulley 39 to the shaft 38 and for automatically disengaging said clutching means after the shaft 10 has made one revolution and when the vibrating arm 5 is in its elevated position. To accomplish this the side of the driving pulley 39 is provided with a friction surface 40 constituting one member of the friction clutch and the shaft 38 has splined thereto a clutch member 41 which is operated by a forked arm 42 extending from a rock-shaft 43. The rock-shaft 43 has extending therefrom an arm 44 to which is connected a link 45 leading to a treadle so that by pressing the treadle the clutch can be thrown into engagement thereby starting the mechanism.

Extending from the rock-shaft 43 is an arm 46 adapted to bear at its upper end against a cam surface on the face of the crank disk 9. Said cam surface has the high portion 49 extending nearly around the periphery of the disk and the low portion 50. When the arm 46 bears against the high portion 49 of the cam surface, the two clutch members are held in engagement, but when the low portion 50 of the cam surface comes underneath the arm the clutch members are separated by the action of a spring 51.

In starting the machine the rock-shaft 43 is rocked by means of the treadle thereby to throw the clutch members into engagement, such rocking of the shaft 43 carrying the upper end of the arm 46 away from the cam disk 9. When the machine has started and the cam disk 9 has turned sufficiently to bring the high portion 49 of the cam beneath the arm 46 said arm by engaging the high portion will hold the clutch members in engagement, such engagement being maintained until the low portion 50 of the cam comes underneath the arm 46 when the spring 51 acts to separate the clutch members.

For bringing the parts to rest as soon as the clutch is separated I have shown a friction brake, shown as a flexible brake band 60, which partially encircles a brake disk 61. One end of said brake band 60 is connected to a fixed support, as at 62, and the other end is connected to an adjusting screw 63 by which the tension of the brake band can be adjusted.

The mechanism is so designed that the parts come to rest when the machine is stopped just before the numbering head reaches the limit of its upward movement and with the crank disk and inking pad in the position shown in Fig. 1. When the machine is started the first movement of the clutch depresses the right hand end of the arm 5 thereby raising the opposite end and carrying the numbering head to the limit of its upward movement. During this initial upward movement of the numbering head the inking pad is brought against the type disk to ink the latter. Further rotation of the crank disk causes the numbering head to descend to mark the goods on the platen 12, the inking pad 32 being moved away from the type disks during this movement.

When the clutch has been disengaged, as above described, the brake band will bring the parts to rest just before the head reaches the upper limit of its movement. I will preferably make the arm 46 adjustable on the rock shaft 43, and in the present embodiment of my invention said arm is provided with a hub 64 which is loosely mounted on the rock shaft 43, and the arm is held in its proper position by two opposed adjusting screws 65 carried by the arms of a yoke 66 which is rigid with the rock shaft 43.

I have used the term "numbering head" in the specification and claims as indicating a head carrying type disks without reference to the character of the type on the disks, that is whether they are letters, numbers or any other marks.

Having described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a marking device, the combination with a pivoted arm and means to vibrate it, of a numbering head comprising a casing, type disks journaled therein, and manually-operated means to set said disks independently, and an inking device mounted on the arm separately from the numbering head, said casing with the type-disks therein being detachably supported by the arm and capable of removal therefrom without disturbing either the type-setting means or the inking device.

2. In a marking machine, the combination with a pivoted arm and means to vibrate it, of a numbering head carried by said arm at one end thereof, said head having a plurality of type disks each provided with gear teeth, a corresponding number of segmental gears meshing with the type disks and each provided with a thumb-piece, a spring pressed locking pawl engaging the gear teeth of each type disk and holding it in adjusted position, and an inking device mounted on the arm separately from the numbering head, said numbering head being bodily removable from said arm without disturbing either said inking device or the means for setting the type-disks.

3. In a marking machine, in combination, a platen, a pivoted arm, means to vibrate it, a numbering head detachably carried by the arm at its end, said numbering head comprising a casing, a plurality of type disks

journaled therein, each having a gear wheel rigid therewith, a corresponding number of segmental gears also journaled in the casing, each segmental gear having a thumb-piece extended through a slot in the front face of the casing, and a spring-pressed locking pawl coöperating with each gear to lock the corresponding type-disk in adjusted position, said casing having on its backside a dovetailed rib adapted to be received in a dovetailed groove on the arm whereby the numbering head with its type-disk and gears may be removed as an entirety from said arm.

4. In a marking device, in combination, a platen, a vibrating arm, a numbering head carried thereby, said head having type disks, a crank disk connected to said vibrating arm whereby the latter is given a complete vibration during each rotation of the disk, means to rotate said disk, an ink pad arranged to be brought against the type disks when the head reaches the limit of its upper movement, and means to bring the parts to rest during the upward movement of the head and before it reaches the extreme limit of its upward movement.

5. In a marking device, in combination, a platen, a vibrating arm, a numbering head carried thereby, said head having type disks, a crank disk connected to said vibrating arm whereby the latter is given a complete vibration during each rotation of the disk, means including a clutch to rotate said disk, an ink pad arranged to be brought against the type disks when the head reaches the limit of its upper movement, and means to disconnect the clutch and bring the disk to rest during each upward movement of the head and before it reaches the extreme limit of its upward movement.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE H. LANG.

Witnesses:

LOUIS C. SMITH,

M. A. DUNN.