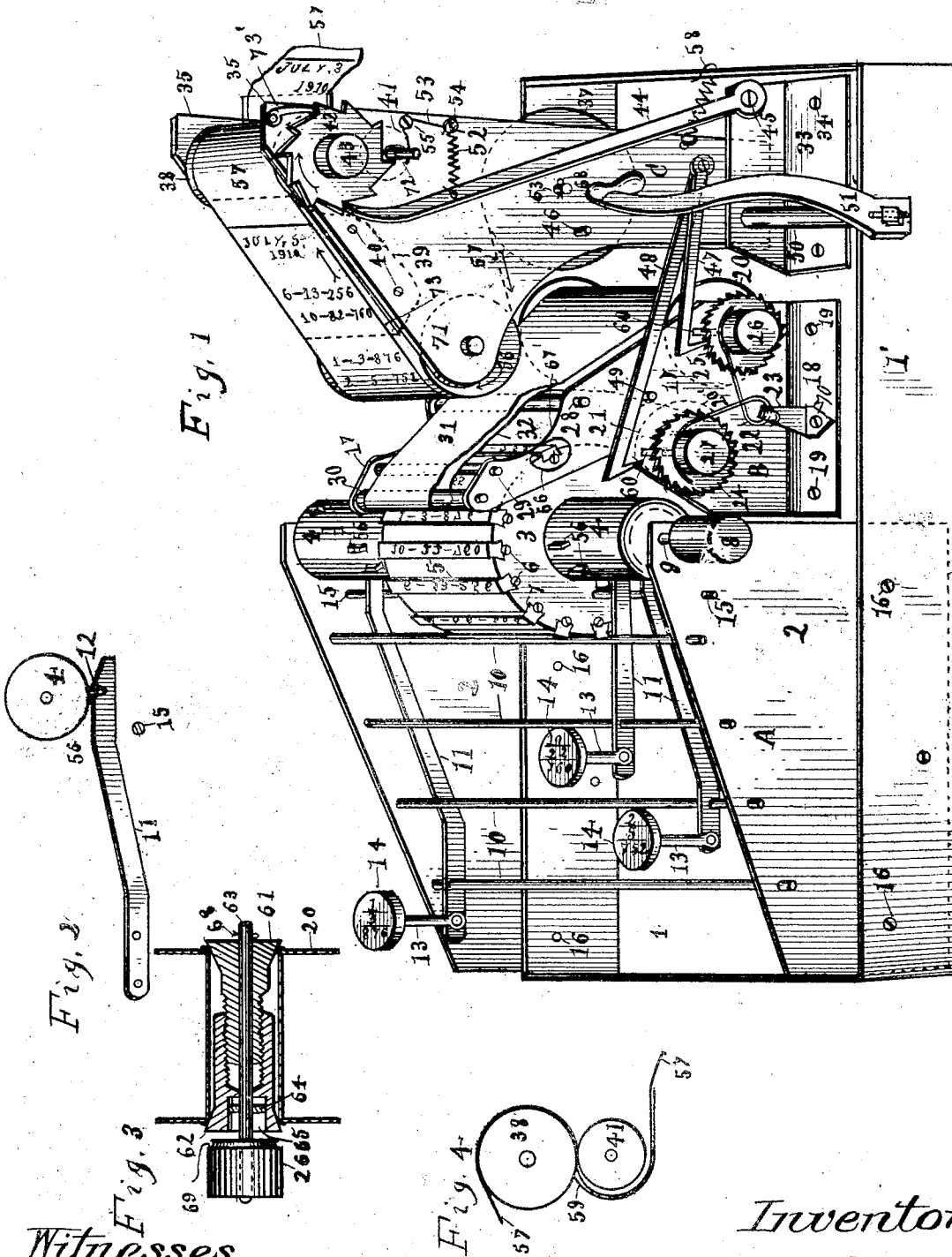


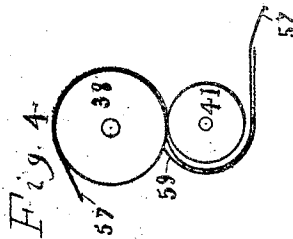
1,052,650.

Patented Feb. 11, 1913.



Witnesses.

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RECORDER.

1,052,650.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed January 21, 1911. Serial No. 603,986.

To all whom it may concern:

Be it known that I, WILLIAM S. BROWN, a resident of Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Recorders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to recorders, the object being to provide an instrument which will at one impulse print the predetermined characters with distinctness and to provide means by which the platen may be struck against the type with as much force as desired without inconvenience to the operator.

Another object is to provide means to present the type in proper position to be struck by the platen.

Another object is to provide means for quickly changing the type should it be necessary to print other characters.

Another object is to provide means for intermittently rotating back and forth an indelible ribbon.

With these objects in view and others subordinate thereto, the preferred embodiment of my invention comprehends the construction and arrangement of parts which will be hereinafter illustrated and specifically pointed out.

Figure 1, is a general view of my machine. Fig. 2, a locking bar engaging a tooth on the lower side of the cylinder by which means the type is presented in the proper position to be struck by the platen. Fig. 3, a longitudinal vertical sectional view of a stud on which are mounted the printing paper and type ribbon spools. Fig. 4, an end view of the rollers which move the printing paper along step by step.

Similar numerals refer to similar parts throughout the specification.

My device is substantially in three sections, A, B, and C, mounted upon a rectangular base 1, having a vertical rim 1'. Affixed to said rim with screws 16, are plates 2, approximately triangular which carry rods 10, on which are pivotally mounted locking-

bars 11, to which are affixed vertical standards 13, on the ends of which are keys 14. I have shown only three keys and locking-bars but it is to be understood that in practice as many can be used as desired, they all being exactly alike excepting in length, the bars are mounted in four series which makes the keys accessible to the operator. The other ends of the aforesaid bars have V shaped notches 12, which are to engage the teeth 56, when the keys are pressed down, but when in a normal position rest upon the rods 15, which are affixed in the member 2. A cylinder 3, having reduced extensions 4, is mounted upon an arbor 9, said arbor is journaled in the plates 2, and on one end of said arbor is a thumb-knob 8. In the periphery of the aforesaid cylinder are transverse dovetail grooves 7, in which are placed type blocks 5, and are retained therein by set screws 6. In the periphery of the extensions 4, are spirally located teeth 56, a tooth for each type block and set in longitudinal alinement therewith.

Section B, comprising vertical standards 17, having lateral bends 18, are affixed to the base 1, with screws 19. Between the free ends of said standards are journaled rollers 28—29 and 30. A portion 66, of the standard is removed to disclose the type bar. A scallop 67, is made in the edges of the said standards to allow the platen free access to the type. Between these standards are positioned indelible ribbon spools 20, which are mounted on studs which are in two sections 61, and 62, screwed together, their free ends progressively enlarging so that when the stud is placed inside the spool and screwed together it will tighten in the spool sufficient to turn the spools when the studs are turned. A rectangular slot 65, is made in one end of the studs to receive a pin 64, transversely set in the arbor 63, which passes through the stud. The pin 64, prevents the stud from turning on the arbor. On one end of said arbors are knobs 26, and 27, and ratchet wheels 24, and 25, the arbor 63, is pivotally mounted in the standards and retained therein by keys 68, a slot 60, is made in one of the standards to allow the pin 64, to pass

through to enter the studs. A groove 69, is made in the inner ends of the knobs 26, and 27, to receive the free curved ends of a spring 22, which spring is given a central coil 22, and attached to a hook 23, secured to the lateral projection 18, with a screw 70. The function of this spring is to keep the ribbon spools from over-running. The ribbon 31, extends from spool 20, over rollers 28, and 29, and around roller 30, then over roller 28, and 29, then around the spool shown in dotted lines 20' which keeps the section 32, clear of the type.

Section C, is composed of two vertical plates 35, having lateral projections 71, their lower ends being rigidly affixed to a shaft 50, which is pivoted in angle plates 33 (the one on the opposite side not being shown but both are exactly alike) secured to the base 1, with screws 34, the said shaft 50, extends on through an opening in the rim 1' and has a squared end on which is keyed a crank 51. With this crank the top ends of the standards 35, can be vibrated to and from the cylinder. Between said standards are pivotally mounted a rubber platen 36, rollers 38 and 41, and a spool 37, carrying printing paper 57, said spool being mounted with the same means as the indelible ribbon spools. Oblong openings 72, are made in the said standards to receive the journals of the roller 41, springs 53, (one being on the opposite side) are affixed to the standards with screws 55, one end of said springs are placed under the journals aforesaid and the other behind the screw 54, which also holds the end of a spring 52, the object of spring pressing the roller 41, against the roller 38, is to keep the printing paper from slipping. A curved member 59, for guiding the paper around the roller 41, is soldered to one of the standards and extends laterally somewhat beyond the standards and is convenient for tearing off a portion of the free end of the paper. A table 73, having a right angle bend as indicated by the dotted lines 39, is affixed to one of the plates 35, with screws 40, the function of said plate is to support the printing paper when it is desired to write or stamp characters on said paper. A knob 43, and ratchet wheel 42, is rigidly affixed to the end of the arbor on which the roller 38, is mounted.

A dog 44, having its free end curved is pivotally joined to the angle-plate 33, with a screw 45, the free end of said dog engages the ratchet wheel 42, and the spring 52, holds it in engagement therewith. It will be seen that when the free ends of the standards are moved toward the type the dog will move into the next notch below and when the spring 58, brings the standards to their normal position the ratchet wheel will be rotated one notch, moving the paper 57,

therewith, said paper being received from the spool 37, passing around the platen 36, and over the table 73, and between rollers 38, and 41, and a dog 73, prevents adverse rotation of the said wheel. To one of said standards are pivoted two dogs 47, and 48, which engage the ratchet wheels 24, and 25, only one dog being used at a time, each dog rotating its wheel in the opposite direction. When the dog 47, is engaged, 48, is placed up on the pin 49, which projects from the standard 17. When it is desired to rotate the ribbon in the opposite direction the dogs are reversed and dog 47, is put out of commission by placing it on the pin 46, and 48, engages wheel 24, the dogs receiving their movement by the vibration of the standards 35. The characters placed upon the type-blocks and the keys are the same.

Having described the construction and arrangement of parts I will now describe its *modus operandi*.

Having affixed the desired characters to be printed upon the keys and type blocks (there being a key for each type-block and a tooth 56, for each block) and it is wanted to print 2—5—752 the key, bearing said numerals is pressed down and the free end of the bar 11, is raised up off the rod 15, and contacts the cylinder section 4, and the knob 8, is turned and the tooth opposite the type bar bearing the aforesaid numerals enters the V shaped notch 12, and stops the rotation of the cylinder and locates the aforesaid type block exactly right to receive the print, while the key is still held down the crank 51, is moved and the platen 36, strikes the indelible ribbon against the type and makes a print on the paper 57, the crank and the key is then released and the spring 58, returns the standards 35, to their normal position and the free end of the bar 11, having dropped down on the rod 15, and coincident therewith the dog 44, rotates the ratchet wheel and printing paper one step and the dog 73' prevents adverse rotation and the dog 47, rotates the ratchet wheel 25, one step which moves the ribbon, meantime the print 2—5—752 is brought up into full view of the operator for inspection. Each type block on the cylinder is presented to the platen or roller 36, in exactly the same way. When the key is pressed down it makes no difference which way the cylinder is turned. The month, day and year can be stamped upon the printing paper resting on the table 73 which makes the beginning of the day's work.

From the foregoing it will be observed that I have produced a simple, compact and durable machine comprehending positively coöperating elements, but while the present embodiment of the invention is believed at this time to be preferable, still I do not de-

sire to limit myself to the structural details defined but reserve the right to effect such changes, modifications and variations as may be comprehended within the scope of the protection prayed.

What I claim is:

1. In a recorder, a rectangular base having upwardly extending rims, angle plates affixed to said rims, transverse rods in said plates, bars pivotally mounted on said rods, a V shaped notch in the free end of each of said rods and a key mounted upon the other end thereof, in combination with a type bearing cylinder, having reduced cylindrical extensions and means on said extensions to engage the notches in the pivoted bars to arrest the rotation of said cylinder.

2. In a recorder, a rectangular base having upwardly extending rims, angle plates affixed to said rims, transverse rods in said plates, bars pivotally mounted on said rods, a V shaped notch in the free ends of each of said rods and a key mounted upon the other end thereof, a cylinder mounted in the angle-plate, teeth in said cylinder to engage the notches in the pivoted bars whereby the rotation of the cylinder may be arrested at a predetermined point, and means for rotating said cylinder, and means for limiting the downward swing of the pivoted bars.

3. In a recorder, a cylinder having on its ends reduced cylindrical extensions, radial teeth extending helically around said extensions, longitudinal dovetailed grooves in the periphery of the parent cylinder, dovetailed blocks having type thereon positioned in said grooves, and screws in the cylinder to secure the aforesaid type in the cylinder, and means for revolvably mounting said cylinder and means for arresting the rotation of said cylinder, and locking it in a predetermined position to make the desired print.

4. In a recorder, a base plate having upwardly extending rims, triangle plates affixed to said rim, rods mounted in said plates, locking bars pivotally mounted upon said rods, a revoluble cylinder mounted in the aforesaid triangle plates, type-blocks set in the periphery of the cylinder and means for retaining said blocks therein, means for arresting the rotation of said cylinder to present the desired type in the proper position to make a print, standards affixed to the aforesaid base, spools carrying an indelible ribbon pivotally mounted between said standards, means for mounting said spools, rollers pivotally mounted between said standards and contiguous to the type, and means for moving the ribbon step by step, a spring brake to keep the spools from over-running.

5. Plates having upwardly extending rims, angle bars affixed to said plates, stand-

ards rigidly mounted upon a shaft, said shaft pivotally positioned in the angle plates aforesaid, and a crank to rock said shaft, laterally extending dogs pivoted to one of said standards to move the ribbon, spools carrying a band of printing paper pivotally mounted between said standards a revoluble platen to deflect said paper and strike the paper against the type to make a print, a ratchet wheel to move the paper rollers and a pivoted dog to engage the aforesaid wheel and rotate it one step when the standards are moved away from the type, means for pressing the paper rollers together to insure positive movement thereof, means for returning the standards to a normal position after a print has been made.

6. In a recorder a base plate having upwardly extending rims, angle plates affixed to said plate, standards rigidly mounted upon a shaft, said shaft pivotally positioned in the angle plates aforesaid, a crank to rock said shaft, laterally extending dogs pivoted to one of said standards to move the indelible ribbon spools, spools carrying a band of printing paper pivotally mounted between said standards, a revoluble platen to deflect said paper and strike the paper against the type to make a print, means to move the printing paper step by step when the standards are moved away from the type, standards affixed to the aforesaid base, a stud in two sections threaded together having enlarged ends whereby a spool carrying indelible ribbon may be clamped upon the stud when screwed together, a transverse slot in said stud, said stud having a central longitudinal hole therein, an arbor in said stud, a transverse pin in said arbor to rest in the aforesaid slot to keep the stud from turning upon the arbor, said arbor revolvably mounted between the aforesaid standards.

7. In a recorder, a base plate having upwardly extending rims, angle plates affixed to said plate, standards rigidly mounted upon a shaft, said shaft pivotally positioned in the angle plates aforesaid, a crank to rock said shaft, laterally extending dogs pivoted to one of said standards to move the indelible ribbon spools, spools carrying a band of printing paper pivotally mounted between said standards, a revoluble platen to deflect said paper and strike the paper against the type to make a print, means to move the printing paper step by step when the standards are moved away from the type, standards affixed to the aforesaid base, a stud in two sections threaded together having enlarged ends whereby a spool carrying indelible ribbon may be clamped upon a stud when screwed together, a transverse slot in said stud, said stud having a central longitudinal hole therein, an arbor in said

stud, a transverse pin in said arbor to rest in the aforesaid slot to keep the stud from turning upon the arbor, said arbor revolubly mounted between the aforesaid standards and means to prevent the spools from over-running.

In testimony whereof, I have signed this

specification in the presence of two subscribing witnesses.

WILLIAM S. BROWN.

Witnesses:

G. E. HALL,

G. R. WALKER.