L. JENSEN.

AUTOGRAPHIC REGISTER.

APPLICATION FILED AUG. 23, 1920.

1,386,709.

Patented Aug. 9, 1921.

2 SHEETS—SHEET 1.

Fig. 1

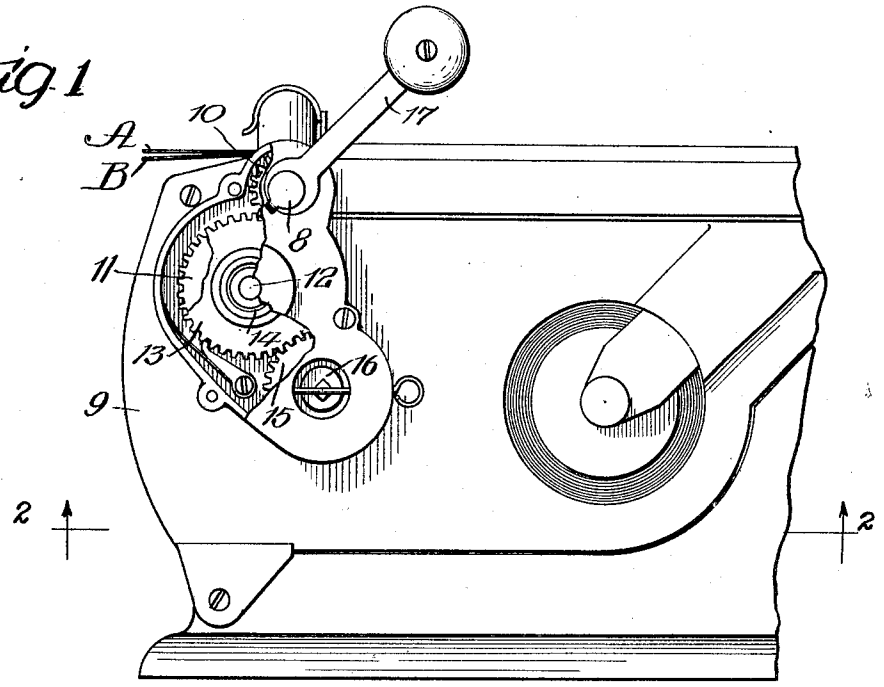
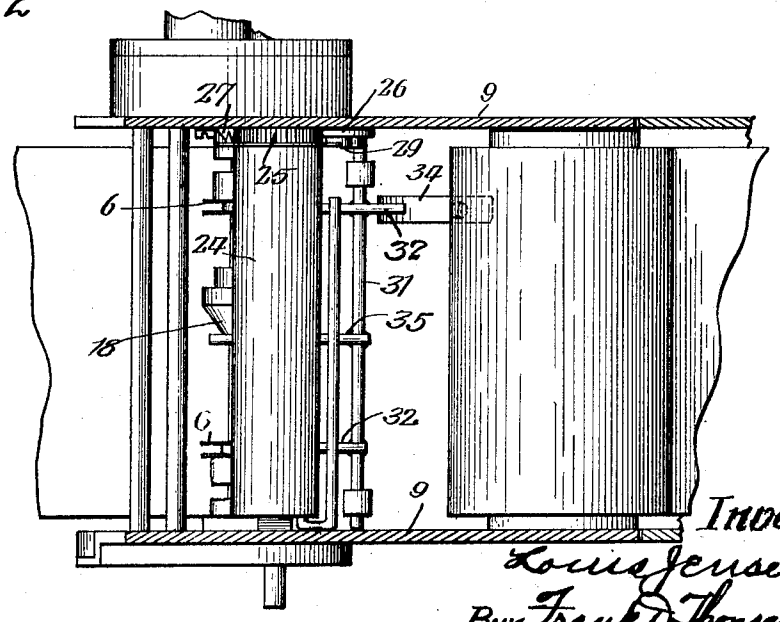


Fig. 2



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2 SHEETS—SHEET 2.

Fig. 3

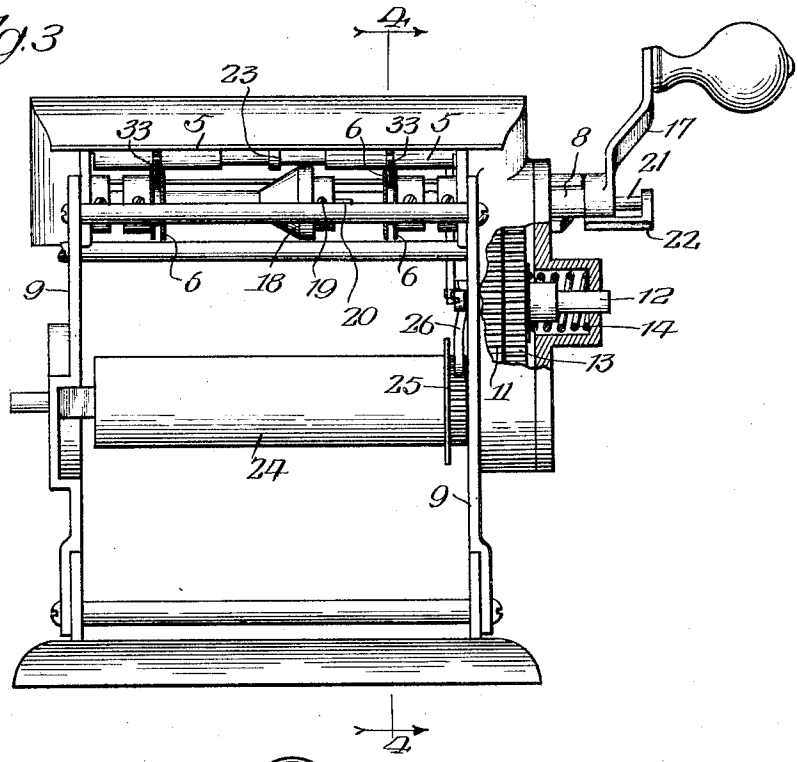
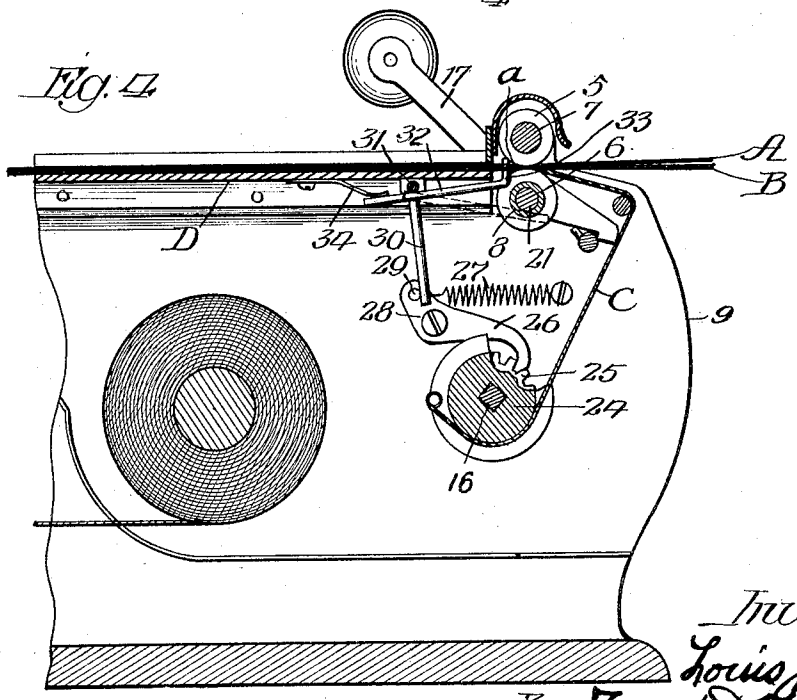


Fig. 4



Inventor

Louis Jensen

By Frank A. Thompson

Atty

UNITED STATES PATENT OFFICE.

LOUIS JENSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNITED AUTOGRAPHIC REGISTER CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

AUTOGRAPHIC REGISTER.

1,386,709. Specification of Letters Patent. Patented Aug. 9, 1921.

Application filed August 23, 1920. Serial No. 405,254.

To all whom it may concern:

Be it known that I, LOUIS JENSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Autograph-Registers, of which the following is a full, clear, and exact description.

My invention relates to autograph register of the type known as measured service registers, in which several record strips each having longitudinally alined series of equidistant postholes therein are used and placed in such relative positions that said postholes coincide.

Heretofore it was difficult to keep this rewound lower strip from getting out of register with the strips above it and thus moving the postholes of the former out of register with the postholes of the latter, and consequently preventing the proper operation of the machine. The object of my invention is to prevent the rewound strip from getting out of register with the strips above it and to insure the coincident position of its postholes with those of the same, and thus avoid the waste of time and labor required to open up the register and rearrange the said strips, which heretofore has frequently been necessary. This I accomplish by the means hereinafter described, and as particularly pointed out in the claims.

In the drawings:

Figure 1 is a side view of the discharge end of an autographic register to which my improvements have been applied.

Fig. 2 is a horizontal section taken on line 2—2, Fig. 1, looking in the direction indicated by the arrows.

Fig. 3 is an end elevation of the same.

Fig. 4 is a longitudinal section taken on dotted line 4—4, Fig. 3, looking in the direction indicated by the arrows.

In the register illustrated in the drawings the record strips A, B and C are moved over the platen D and discharged by means of contacting friction rollers 5 and disks 6, that are mounted on transverse shafts 7 and 8, respectively, which latter are journaled in the side frames 9—9 of the register. The rollers are preferably formed by reducing the diameter of the shaft 7, as at 5′, 5′.

The lowermost shaft 8 has one end made tubular and extended through its bearings, and has a pinion 10 mounted thereon that engages and rotates a gear 11. This gear 11 is loosely mounted on a stud 12, projecting laterally from the adjacent side frame, and the outer face of said gear 11 engages and has frictional contact with the opposing face of a corresponding gear 13, that is kept pressing against the same by a coil spring 14. Gear 13 meshes with a pinion 15, fast on the projecting end of the longitudinally removable transverse shaft 16, which is journaled in the side frames 9—9 of the register, and which, between said side frames, is square in cross section.

The strips A, B and C are moved forward between rollers and disks 5 and 6 by turning a crank 17 on the projecting end of shaft 8, and the strips continue to move until the postholes *a* come between said rollers, whereupon the latter, having no purchase on the strips, cease to function. In order to start the strips forward again, a cone-shaped cam 18 is mounted on shaft 8 between the disks 6 thereon, and its boss is connected by means of a pin 19 that passes through a longitudinal slot 20, to the adjacent end of a longitudinally reciprocal bar 21, which latter is seated in the bore of the hollow end of shaft 8. The outer end of this bar extends beyond the outer end of shaft 8 and is connected to the boss of crank 17 by means of an arm 22 extending from the latter. Crank 17 can be moved laterally on the end of shaft 8, toward the adjacent side-frame, and when this is done the cam 18 is moved so as to bring the cylindrical portion thereof having the greatest diameter opposite the periphery of a circular boss 23, which is integral with the upper shaft 7, afforded by virtue of the reduced portions 5′, 5′. The central portions of the strips A, B and C are imperforate, and when the cam functions with boss 23, the said strips are moved forward until the postholes of the strips are beyond the friction rollers and disks 5 and 6 and said disks are enabled to obtain a purchase on said strips back of said holes to pull the strips forward.

The mechanism hereinbefore described, except when combined with that constituting the subject matter of the improvements hereinafter described, constitute the mecha-

nism of an autographic register now in extensive use.

My invention comprises means for absolutely stopping the strip which is rewound upon a transverse roller 24, mounted upon and rotatable with transverse shaft 16, whenever the postholes of the two uppermost come between the rollers and disks 5 and 6.

To accomplish this I secure to one end of roller 24 a ratchet wheel 25 and engage the same by a pawl 26, which latter is pivoted to the inner surface of the adjacent side-frame and has an extension 28 beyond its pivot that is connected to a coil contraction spring 27, that always tends to press the engaging point of the pawl against the ratchet 25. This extension has a pin 29 projecting laterally therefrom that is engaged by the lower end of an arm 30, projecting down from a transverse rock-shaft 31, and this rock-shaft has horizontally projecting arms 32—32 secured to and projecting therefrom, whose forward ends terminate between the forward edge of the platen D of the register and shaft 8, and are bent upward to form hooks 33—33. One of the arms 32 extends to the rear of rock-shaft 31 and has a leaf spring 34 bearing down upon it, and the pressure of this spring keeps the ends of the hooks 33 bearing upward against the underside of the lowest manifold record strip and causes them to enter the postholes thereof, as the latter pass between the friction rollers and disks, and prevent the further progress of said lower strip, as well as the upper strips.

In order to release the said strips when it is desired to extract the most advanced form or ticket thereof, the rock-shaft 31 is provided with a horizontal arm 35 near its center of length, the forward end of which crosses and intersects the path of the cone-shaped side of cam 18. This cam is moved lengthwise on shaft 7 by pushing the handle toward the side-frame, and pushes the arm 35 downward, rocks shaft 31 and moves hooks 33 downward and thus releases the strips, the two uppermost of which latter by the continued rotation of the handle are discharged while the lowermost is wound upon roller 24.

What I claim as new is:

1. In an autographic register from which are withdrawn a plurality of record strips having postholes therein, means for engaging said postholes as said strips are withdrawn, a rewinding roller for the lowermost strip, devices for stopping said roller from revolving, and mechanism actuated by said engaging means for controlling the engagement of said roller by said devices.

2. In an autographic register from which are withdrawn a plurality of record strips having postholes therein, means that press upward against the underside of the lowermost record strip, for engaging said postholes as said strips are withdrawn, a rewinding roller for the lowermost strip, devices for stopping said roller from revolving, and mechanism actuated by said engaging means for controlling the engagement of said roller by said devices.

3. In an autographic register from which a plurality of record strips having postholes therein are withdrawn, revoluble friction elements for withdrawing said strips, means for engaging said postholes when the latter come between said elements, a rewinding roller for the lowermost strips, devices for stopping said roller from revolving, and mechanism actuated by said engaging means for controlling the engagement of said roller by said devices.

4. In an autographic register from which a plurality of record strips having postholes therein are withdrawn, revoluble friction elements for withdrawing said strips, which cease to function when said postholes come between them, means for initially advancing said strips, vertically moving members that engage said postholes, simultaneously with said friction elements, a rewinding roller for the lowermost strip, devices adapted to stop said roller from revolving, and mechanism actuated by said means that disengage said devices from said roller.

5. In an autographic register from which a plurality of record strips having postholes are adapted to be withdrawn, revoluble friction disks for withdrawing said strips which cease to function when said postholes come between them, shafts on which disks are mounted, a cam which is reciprocally mounted on and is revoluble with one of said shafts, a rewinding roller for the lowermost strip, devices adapted to prevent said roller from revolving, and mechanism actuated by said cam that disengage said devices from said roller.

6. In an autographic register, friction disks for withdrawing a plurality of record strips therefrom that have postholes therein, shafts therefor, a rewinding roller for the lowermost strip, friction gearing connecting one of said shafts with said roller, devices for preventing said roller from revolving, means that engage said postholes when they pass between said disks, and mechanism released by said means whereby said devices are permitted to engage said roller.

7. In an autographic register, friction disks for withdrawing a plurality of record strips therefrom that have postholes therein, shafts therefor, a rewinding roller for the lowermost strip, friction gearing connecting one of said shafts with said roller, a ratchet connected to said roller, a pawl that engages said ratchet, means that engage

said postholes when they pass between said disks, and mechanism released by said means whereby said pawl engages.

8. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which the same are mounted, a roller upon which the lowermost strip is rewound, a ratchet connected to said roller, a pawl adapted to engage said ratchet, a transverse rock-shaft, an arm projecting therefrom that engages said pawl and another arm projecting forward therefrom, the end of which extends upward for engagement with a posthole when between said disks.

9. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which the same are mounted, a roller upon which the lowermost strip is rewound, a ratchet to said roller, a spring actuated pawl adapted to engage said ratchet, a transverse rock-shaft, an arm projecting therefrom that engages said pawl, and another arm projecting forward therefrom the end of which extends upward for engagement with a posthole when between said disks.

10. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which the same are mounted, a roller upon which the lowermost strip is rewound, a ratchet connected to said roller, a pawl adapted to engage said ratchet, a transverse rock-shaft, an arm projecting therefrom that engages said pawl, a second arm projecting forward from said rock-shaft, the end of which extends upward for engagement with a posthole, and spring means engaging said first arm, for maintaining the latter in engagement with said pawl.

11. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which the same are mounted, a roller upon which the lowermost strip is rewound, a ratchet connected to said roller, a pawl adapted to engage said ratchet, a transverse rock-shaft, an arm projecting therefrom that engages said pawl and having a rear extension, a spring bearing downward on said extension, and another arm projecting forward therefrom the end of which extends upward and engages a posthole when it passes between said disks.

12. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which said disks are mounted, a roller upon which the lowermost of said strips are rewound, a ratchet connected thereto, a pawl engaging said ratchet, a rock-shaft, a longitudinally reciprocal cam on one of said shafts, an arm projecting forward from said rock-shaft that is engaged by said cam, and means connecting said rock-shaft to said pawl.

13. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which said disks are mounted, devices that engage said postholes when they pass between said disks, a roller upon which the lowermost of said strips is rewound, a ratchet connected thereto, a pawl engaging said ratchet, a rock-shaft, a longitudinally reciprocal cam on one of said shafts, an arm projecting forward from said rock-shaft that is engaged by said cam, and means connecting said rock-shaft to said pawl, said devices disengaging said postholes simultaneously with the release of the ratchet by said pawl.

14. In an autographic register, friction disks for advancing a plurality of record strips that are provided with postholes, shafts upon which said disks are mounted, a roller upon which the lowermost of said strips are rewound, a ratchet connected thereto, a pawl engaging said ratchet, a rock-shaft, horizontal arms projecting therefrom the forward ends of which are upturned and adapted to engage the postholes when they pass between said disks, a longitudinally reciprocal cam on one of said shafts, an arm projecting forward from said rock-shaft that is engaged by said cam, and means connecting said rock-shaft to said pawl.

In witness whereof, I have hereunto set my hand and seal this 20th day of July, 1920.

LOUIS JENSEN.

Witnesses:
FRANK D. THOMASON,
VIOLET WARDELL.