A. SHAW.

REGISTER.

APPLICATION FILED DEC. 19, 1912.

1,067,944.

Patented July 22, 1913.

2 SHEETS—SHEET 1.

Fig. 1

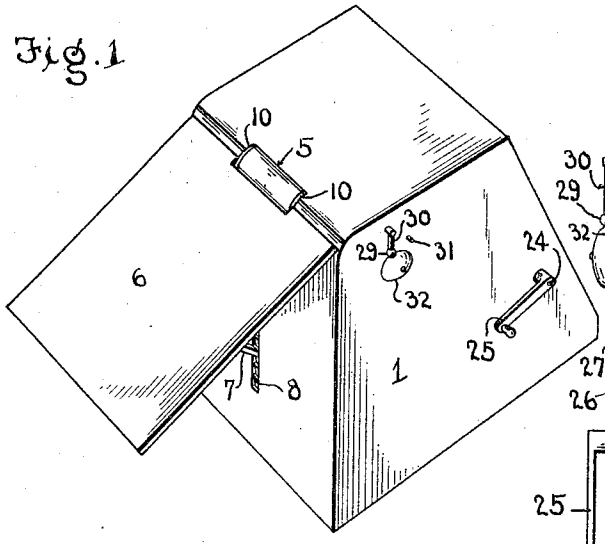


Fig. 3.

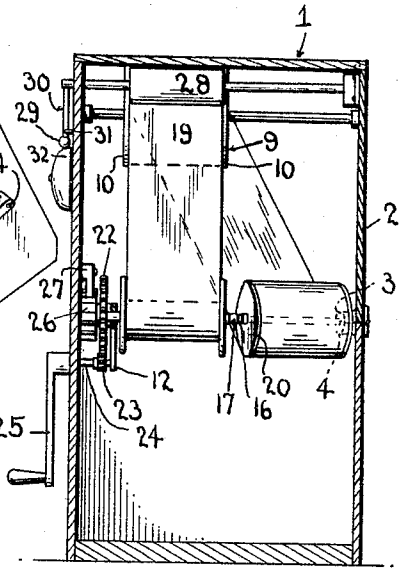
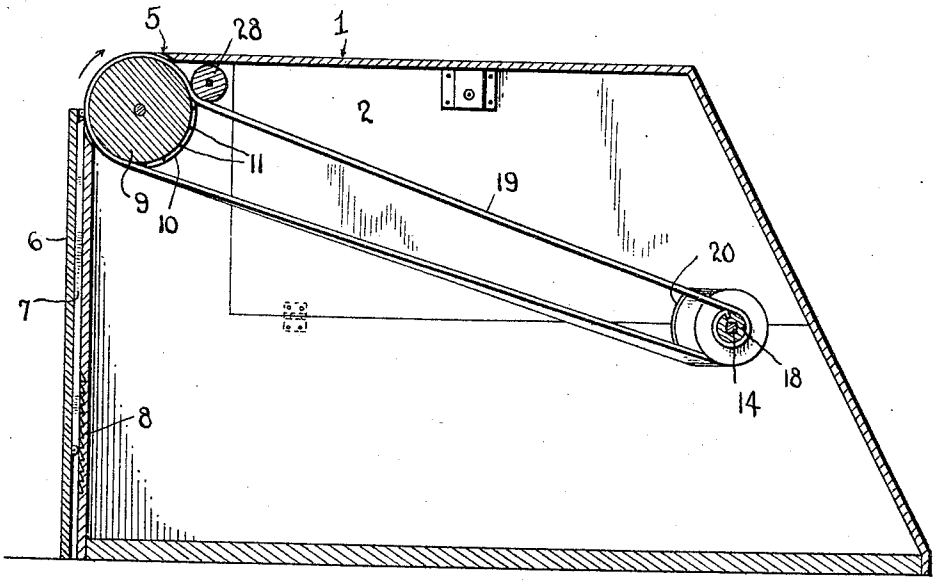


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 4.

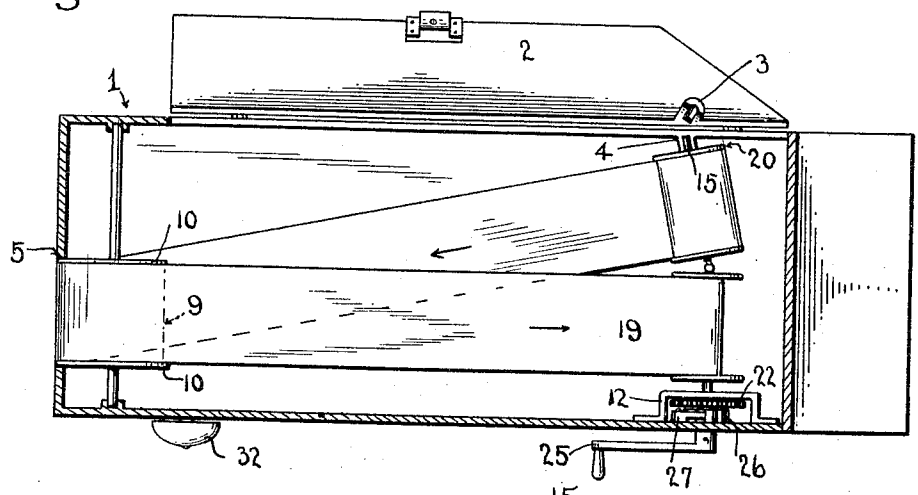


Fig. 5.

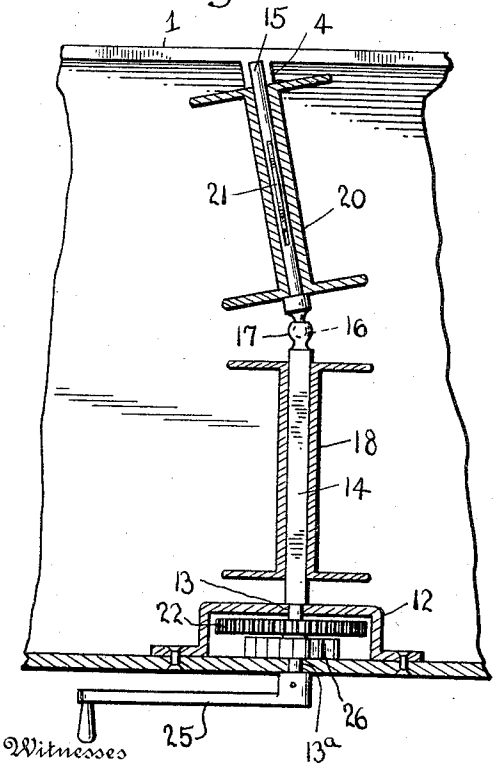


Fig. 6.

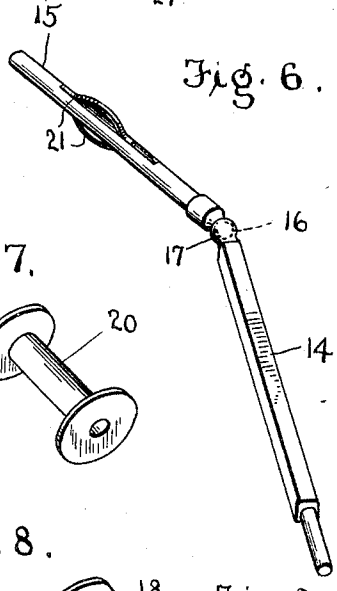


Fig. 7.

Fig. 8.

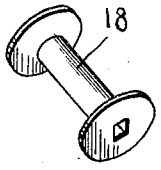
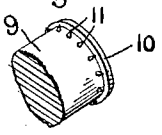


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

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REGISTER.

1,067,944. Specification of Letters Patent. Patented July 22, 1913.

Application filed December 19, 1912. Serial No. 737,721.

To all whom it may concern:

Be it known that I, ALFRED SHAW, a citizen of the United States, residing at Roundup, in the county of Musselshell and State of Montana, have invented certain new and useful Improvements in Registers; and I do 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.

This invention relates to improvements in registers.

One object of the invention is to provide a register having an improved construction and arrangement of ribbon supporting and winding mechanism whereby the record receiving ribbon may be supported in position to be written on and may be wound from one spool to another as the ribbon is used and in which the spools of ribbon may be readily removed and replaced by other spools.

Another object is to provide means for indicating the proper distance for moving the ribbon each time the same is written upon.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a perspective view of my improved register; Fig. 2 is a vertical longitudinal section thereof; Fig. 3 is a vertical cross section through the rear end of the casing showing a rear end view of the ribbon supporting and operating mechanism; Fig. 4 is a horizontal sectional view through the upper portion of the casing with the door in the side thereof swung down to an open position; Fig. 5 is an enlarged horizontal sectional view through a portion of the casing of the register taken on a line with the spool supporting shaft; Fig. 6 is a detail perspective view of the spool supporting shaft; Fig. 7 is a similar view of one of the spools for holding the ribbon before the same has been written on; Fig. 8 is a similar view of the spool upon which the ribbon is wound after being written upon. Fig. 9 is a detail perspective view of a portion of the platen roller.

Referring more particularly to the drawings 1 denotes the casing of my improved register, said casing being of any suitable size and shape and constructed of any suitable material. In one side of the casing is arranged an outwardly and downwardly swinging door 2 on the lower edge of which adjacent to one end is formed the upper member 3 of a shaft bearing, the lower member 4 of which is arranged on the side of the casing at the lower end of the door opening therein whereby when the door 2 is closed a bearing is formed for one end of a spool supporting shaft hereinafter described.

In the front upper corner of the casing is formed a slot 5 the purpose of which will be hereinafter described. Hinged to said front upper corner of the casing is an arm rest or supporting shelf 6 which when not in use is adapted to be swung down against the front end of the casing, and which when in use may be supported at the desired inclination by means of a prop or brace bar 7 which is hinged at one end to the lower side of the rest and is adapted to be engaged at its free end with a series of rack teeth 8 formed in the front end of the casing as shown.

Revolubly mounted in suitable bearings in the upper front portion of the casing is a ribbon supporting roller 9 which forms a platen for the ribbon whereby the latter may be written upon through the slot 5 in the upper front corner of the casing, said roller being mounted in such position that the part of the same with which the ribbon is engaged will project through said slot 5 as shown. The roller 9 is provided on its ends with annular ribbon guiding flanges 10 and on the outer surface of the roller adjacent to said flanges are annular series of spurs 11 which project into the ribbon and enable the latter to obtain a firm grip on the roller.

Arranged on the opposite inner side of the casing from the bearing members 3 and 4 is a bearing bracket 12 having a bearing aperture 13 in which and in a corresponding

bearing aperture 13ª in the adjacent side of the casing is revolubly mounted the reduced cylindrical outer end of one section 14 of a spool supporting shaft. The double bearing formed by the aperture 13 in the bracket 12 and the aperture 13ª in the side of the casing firmly support this section of the shaft. The other section 15 of which has its outer end revolubly mounted in the bearing members 3 and 4. On the inner end of the shaft section 15 is a substantially spherical bearing head 16 which has a revoluble engagement with a bearing socket 17 formed on the adjacent inner end of the section 14 of the shaft whereby said sections are revolubly connected or engaged with each other and may be independently turned or revolved. The firm support given the section 14 of the shaft by the double bearing hereinbefore described permits this shaft section to support the inner end of the shaft section 15 which is revolubly engaged therewith in the manner described, and at the same time allows these shaft sections to freely revolve independent of each other. The section 14 of the shaft is square for the greater part of its length and with said squared portion of the shaft is removably engaged a record spool 18 on which the ribbon 19 is wound after being written upon on the platen roller 9. By forming the section 14 of square or rectangular shape the spool 18 will be operated by this section of the shaft. The section 15 of the shaft is cylindrical and has revolubly engaged therewith the supply spool 20 which contains the ribbon to be written upon and which is unwound therefrom and drawn around the platen roller 9 and wound upon the spool 18 when the shaft section 14 is operated. In order to prevent the spool 20 from revolving too freely or rapidly on the shaft section 15 the latter is preferably provided with radially projecting bowed springs 21 which form a yielding frictional engagement with the inner surface of the spool 20 and prevent the latter from revolving faster than the ribbon is unwound therefrom, but which will not prevent the spool from turning to permit the ribbon to be unwound from the spool in the manner described.

Fixed on the reduced end of the shaft section 14 adjacent to the bracket 12 is a spur gear 22 with which is operatively engaged a spur gear pinion 23 which is fixedly mounted on a short crank shaft 24 revolubly mounted at its inner end in an extension on the bracket 12 and at its outer end in a bearing aperture in the adjacent side of the casing through which said outer end of the shaft projects. With the projecting end of the shaft 24 is adapted to be engaged a crank handle 25 whereby the shaft 24 and pinion 23 are revolved and the gear 22 and shaft section 14 thereby driven in the proper direction for winding the ribbon 19 on the spool 18. On the reduced end of the shaft section 14 adjacent to the gear 22 is a ratchet gear 26 with which is engaged a pawl 27 pivoted on the inner side of the casing and which holds the shaft section 14 and the spool 18 thereon against retrograde movement or prevents the same from being turned in the wrong direction by the crank handle 25 and the driving mechanism which connects said handle with the shaft section 14.

Revolubly mounted in suitable bearings in the upper portion of the casing and disposed immediately above and in engagement with the upper stretch of the ribbon 19 where the latter engages the roller 9 is a combined ribbon pressing and alarm operating roller 28 which presses or holds the upper stretch of the ribbon down into engage- with the roller 9 whereby the spurs 11 on the latter will be projected into the ribbon thus preventing the latter from slipping around on the roller 9 and causing the ribbon to positively turn said roller. The circumference of the roller 28 corresponds to the length of the portion of the ribbon exposed through the slot 5 of the casing, the exposed parts of the ribbon being of sufficient length to receive the names or other inscriptions to be written thereon. By thus forming the roller 28 it will be seen that each time the ribbon is moved to a distance corresponding with the width of the slot 5 the roller 28 will be turned one complete revolution by the engagement of the ribbon therewith. Carried by one end of the shaft of the roller 28 is a bell clapper 29, said clapper being secured to the end of the roller shaft by a spring arm 30. Arranged in the outer side of the casing and in the path of movement of the clapper 29 is a detent 31 with which the clapper is adapted to be brought into engagement, just before the completion of each revolution of the roller 28 whereby the movement of the clapper will be retarded and its supporting arm sprung back until the roller has made a complete revolution at which time the clapper will be disengaged from the detent and will be brought into forcible engagement with a bell 32 secured in proper position on the side of the casing as shown. By thus constructing and arranging the roller 28 and the bell 32 it will be seen that each time the ribbon is moved a distance corresponding to the width of the slot 5 an alarm will be sounded thus indicating to the person operating the register that the ribbon has been wound on the roller to a sufficient extent to bring the next space thereon into position to be written on through the slot 5.

A register constructed as herein shown and described may be employed for a num-

ber of different purposes such as keeping a record of visitors or customers or as a hotel register and is particularly designed for advertising purposes. When used for this purpose the ribbon 19 will be in the form of strips of paper of suitable length for containing a certain number of names, for instance each strip might contain spaces for fifty names and addresses. Each day, beginning preferably with the first day of the month one of these strips would be placed in the machine and the first fifty customers or visitors at a store having one of the machines would be permitted to register. At the end of the month or at the end of any other predetermined length of time a number would be drawn and the name on one of the slips corresponding to or having this number would be entitled to a prize. It will be readily seen that an advertising device of this character would be an attraction for any store or mercantile business and would induce the public to patronize the store thereby increasing the business of the merchant.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

1. A register of the character described comprising a casing having revolubly mounted therein a spool supporting shaft, a supply spool and a record spool operatively mounted on said shaft, a ribbon adapted to be wound from said supply spool onto said record spool, a platen roller revolubly mounted in said casing in line with said record spool and projecting from the casing to support a portion of the ribbon in position to be written on as the ribbon is wound from the supply spool onto the record spool, an alarm, and means operated by the movement of the ribbon to successively sound said alarm.

2. A register of the character described comprising a casing having therein a slot, an arm supporting shelf hingedly secured to the casing and adapted to be swung into and out of operative position adjacent to said slot, means to support the shelf in an operative position, a spool supporting shaft revolubly mounted in said casing and formed in independent sections, a record spool fixedly mounted on one of said sections, a supply spool revolubly mounted on the other section of said shaft, a platen roller revolubly mounted in said casing in line with said record spool and projecting through said slot, a ribbon arranged on said supply spool and adapted to be engaged with said platen roller and wound on said record spool, means to revolve one section of said shaft and said record spool, and means engaged with and operated by said ribbon to sound an alarm each time the ribbon has been moved a predetermined distance.

3. A register of the character described, comprising a casing having therein a slot, a platen roller revolubly mounted in said casing and adapted to project through said slot, a spool supporting and operating shaft formed in independent sections and having its ends mounted in suitable bearings in the sides of the casing, a shaft operating mechanism geared to one end of said shaft, means to hold the shaft against retrograde movement, a record spool fixedly mounted on one section of said shaft in line with said platen roller, a supply spool revolubly mounted on the other section of the shaft, a ribbon arranged on said supply spool and adapted to be engaged with said platen roller and wound upon said record spool whereby successive lengths of the ribbon may be brought opposite the slot in said casing and exposed therethrough for the purpose of being written on, a series of spurs on said platen roller whereby said ribbon is adapted to obtain a firm grip thereon, a pressing roller revolubly mounted in said casing in position to engage the ribbon and to hold the latter in engagement with the spurs of the platen roller, said ribbon revolving said pressing roller, and an alarm operated by the movement of said roller each time the ribbon has been moved to a distance corresponding to the width of the slot in said casing.

4. A register of the character described comprising a casing having therein a slot, a platen roller revolubly mounted in said casing and projecting through said slot, a spool supporting and operating shaft mounted in said casing, a supply spool revolubly mounted on said shaft, a record spool fixed on the shaft, a ribbon carried by said supply spool and adapted to be engaged with said platen roller and wound on said record spool whereby successive spaces on the ribbon are brought opposite the slot in said casing, a pressing roller revolubly mounted in said casing in position to engage and to be operated by said ribbon, said roller having a circumference equal to the length of the space on the ribbon exposed through said slot in the casing, a bell mounted on the casing, a spring clapper operated by said pressing roller, a detent adapted to be engaged by said spring clapper at each com-

plete revolution of the pressing roller whereby the clapper is caused to sound said bell each time the ribbon has been moved to a distance corresponding to the circumference of the roller and to the width of the slot in said casing, and means to operate said spool supporting and operating shaft.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALFRED SHAW.

Witnesses:
V. D. DUSENBERY,
R. J. BRENNAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."