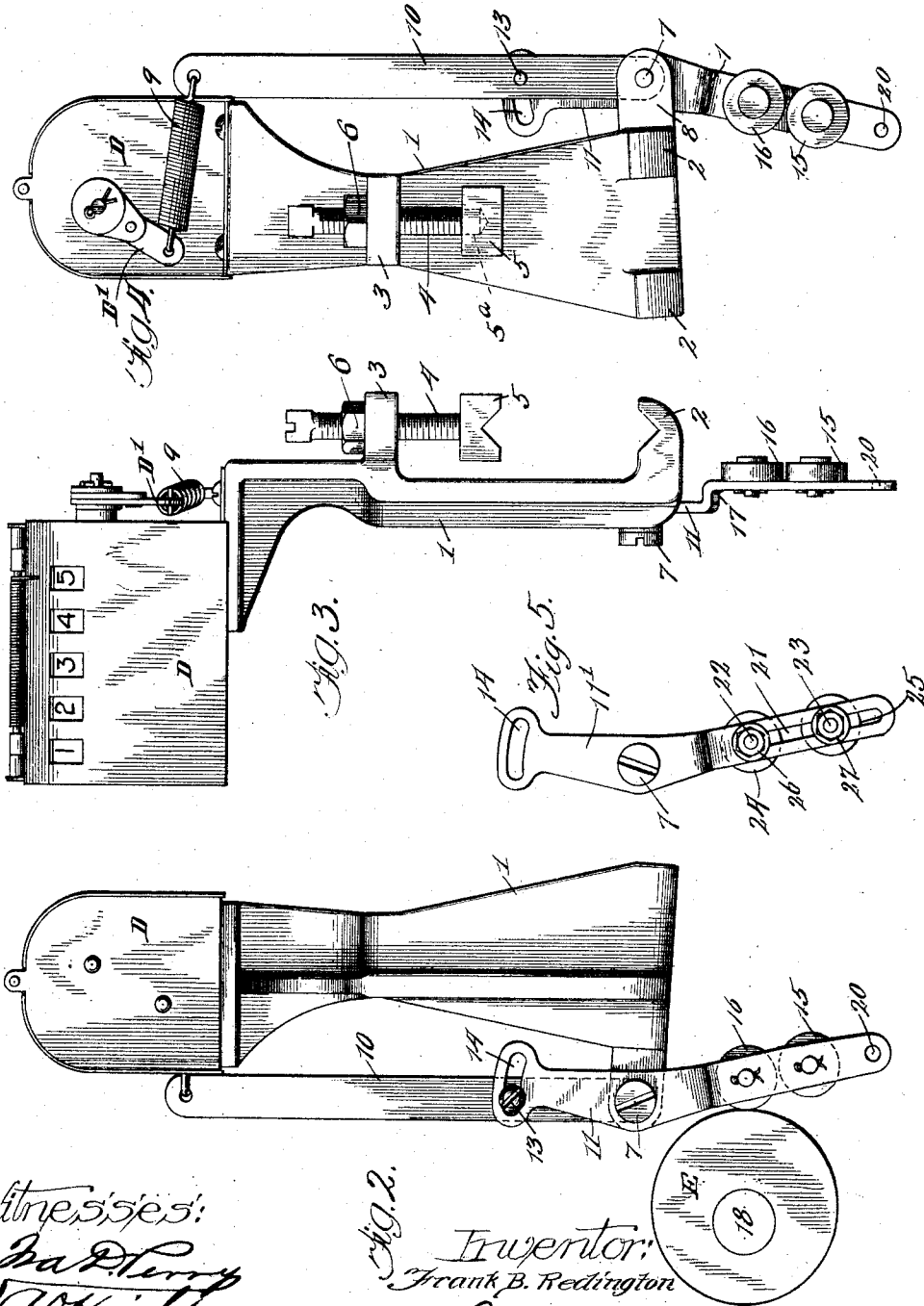


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 COUNTING ATTACHMENT.
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985,448.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 2.



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COUNTING ATTACHMENT.

985,448.

Specification of Letters Patent. Patented Feb. 28, 1911.

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To all whom it may concern:

Be it known that I, FRANK B. REDINGTON, 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 Counting Attachments, of which the following is a specification.

This invention relates to counting attachments, and has for its primary object to provide an improved construction, combination and arrangement of parts in a device of this nature.

One of the objects of this invention is to provide improved means for detachably mounting the counting attachment upon a platen printing press or other machine with which it may be desired to use a counting register.

Another object is to provide a counting attachment of improved construction which shall be adapted to be used on machines of different sizes.

More specifically, one of the objects is to provide an improved register actuating lever.

Another specific object is to provide an improved actuating lever for the register having a plurality of antifriction devices or rollers disposed at intervals along said lever.

Other and further objects will appear in the specification and be more specifically pointed out in the claims, reference being had to the accompanying drawings showing an exemplification of the invention in its application to a platen printing press, and in which drawings—

Figure 1 is a perspective view showing a counting attachment constructed in accordance with the principles of the present invention, and in its application to a platen printing press. Fig. 2 is a side elevation of the device shown in Fig. 1. Fig. 3 is a front elevation of the device. Fig. 4 is a side elevation of the side next to the press. Fig. 5 is a side elevation of a modified form of one section of the register-operating lever.

A commercially successful counter for platen printing presses must count only when an impression is made, must count every time an impression is made, must count correctly at all speeds of the press, must count quietly, must be easily and quickly attachable to any standard size of press without necessitating any undue exercise of skill, and must not interfere with the operation of the press.

Referring more particularly to the embodiment shown in the drawings, and first of all to Fig. 1, a tilting frame A is shown as being suitably mounted to be oscillated about the axis of the upper back shaft E, which back shaft is journaled in the upper end of the swinging bed (not shown on the drawings). Said swinging bed is in a well known manner oscillated about an axis in the lower portion of the machine (not shown on the drawings) by the connecting rod B, which is pivotally connected at the end shown in the drawings to the eccentric pin 18 forming a rigid part of the upper back shaft E. The connecting rod B is at its forward end (not shown on the drawings), usually pivoted to a rotating disk by means of which the upper end of the swinging bed of the press is moved toward and away from the impression platen. A roller arm connection C is pivotally connected at its forward end (not shown in the drawings) to the frame of the machine, and at its rear end is pivotally connected at 19 to said tilting frame or roller arm, so that as the swinging bed moves backwardly and forwardly, said connection lever C causes the tilting frame to oscillate about the shaft E to move the inking rollers successively across the ink plate and form in the usual manner.

In order to provide means for rigidly mounting a counting register D upon one of two portions of the machine, between which there is relative movement, a standard or upright bracket 1 is adapted to provide a rigid support for the register D by having integrally formed thereon a clamping foot 2, which, as shown in the drawings, is adapted to engage one edge of the roller arm connection C. Said standard 1 above is provided with a laterally projecting lug 3 suitably threaded to receive a clamping screw 4 provided on its depending end with a clamping block 5, said clamping block being thus adjustably disposed relatively to the clamping edge 2, which is formed in two parts, as shown in Fig. 4, thus providing a three point connection of the standard 1 with the connection arm C. A check nut 6 (see Figs. 3 and 4) may be provided for locking the screw 4 against accidental displacement. The standard 1 is provided adjacent its lower end with a lug 8, to provide together with a pivot stud 7 means for pivotally mounting an operating lever 10 upon said standard. Said operating lever is piv-

ofally mounted on said stud 7 intermediately of its ends and is disposed normally in a substantially vertical position. The upper end of said operating lever is operably connected with a radial arm D¹ on the counting register D, said connection preferably being in the form of a spring 9, so as to provide an elastic connection to obviate strain in the event of the upper end of the lever 10 moving farther than is required to operate the register D. In order to provide means for maintaining the upper end of the operating lever 10 in substantially the same position when said lever is at rest, said lever is preferably constructed in two sections for which purpose the lower end thereof is made in the form of a bent lever 11, provided in its upper end with an arcuate slot 14 by means of which, in connection with a screw 13, said lower section 11 is adjustably secured to the upper end of the lever 10. The lever 11 is provided intermediate its ends with a hub 12, whereby it may be pivotally mounted on the pivot screw 7. Provided on the lower end of the lever 11 are a plurality of anti-friction devices or rollers 15, 16 at different distances from the pivotal axis of the operating lever. The operating lever is thus adapted to be engaged at different distances by the forward portion of the upper back shaft E when the eccentric pin 18 is in impression position, as indicated in Figs. 1 and 2. The provision of rollers 15 and 16 at different distances from the pivot 7 adapts the counting device to be used with different sizes of presses. Said rollers 15 and 16 are preferably removably mounted on said lever, and in order to permit said rollers to be adjusted in position along said lever, the lower lever 11 is provided with one or more additional holes, such as hole 20 in the lower end of said lever, in which either one of the pivotal studs upon which the rollers 15 and 16 are mounted may be introduced. Said pivot studs may be maintained in position in any suitable manner, such as by cotter pins. In order to avoid interference between the lower end of lever 11 and parts of the press, the lower end of said lever 11 is provided with an offset 17 (see Figs. 3 and 4).

Referring now to Fig. 5, which shows a modification in construction of the section 11 of the operating lever, said modification comprises the bent lever 11¹, which differs from the lever 11 only in the lower depending end thereof, said depending end being provided with a slot 21 extending approximately from the lower end to the pivot stud 7. Within the slot 21 are slidably mounted pivot studs 22 and 23, with rollers 24, 25 rotatably mounted thereon. Said studs 22 and 23 are threaded on the ends thereof, the threaded ends projecting through said slot and being provided with clamping nuts 26

and 27, whereby the rollers 24 and 25 may be disposed at any desired distance from the pivot stud 7 to adapt the device to be used with various sized presses.

The operation of the device will now be apparent. When the platen press is being operated and the eccentric pin 18 is in the position shown in Figs. 1 and 2, when the swinging bed moves toward the impression platen, said platen and the form will be brought together into printing engagement by reason of the pivotal axis of the swinging frame A being in its nearest position with reference to said impression platen. The standard 1 is disposed at such position on the connection arm C as will insure the rollers 15, 16, or either one of said rollers, being pressed against the upper back shaft E to actuate the operating lever 10 to operate the counting register. On the other hand, should the eccentric pin 18 be brought into its nearest position to the rollers 15, 16 by the oscillation of the shaft E upon its axis, the position of the connecting rod B will be such as will not bring the form and platen into printing engagement. To make sure that in this position of the parts there will be no operation of the register D, the lower lever section 11 is adjusted relatively to the upper section of lever 10 to position the rollers 15, 16 in such a way that they will not come into engagement with the shaft E during the operation of the parts while the eccentric pin 18 is in its forward position. To quickly and readily secure the counting apparatus in position, it is only necessary to bring the integral clamping arms 2, 2 against the lower edge of the connection arm C and to screw up the clamping screw 4. The provision of a plurality of rollers 15 and 16, as well as the means for adjusting said rollers along the operating lever 10, not only permits a less accurate positioning of the bracket 1 with reference to the upper back shaft E, but it also adapts the device to be used on various sizes of presses. In operation, the shaft E may be brought into engagement with either the lower roller 15 or the upper roller 16, or into engagement with both of said rollers jointly, being thus adapted for use with any standard size press. After the standard 1 has been positioned to bring about an approximately accurate operation of the operating lever 10, if the operator finds that the lever 10 is thrown too much or too little, he may loosen the adjusting screw 13, and by shifting the lower section 11, bring the rollers 15, 16 into proper position to effect an accurate movement of the lever 10 without changing the position of the standard or bracket 1.

One of the advantageous features to be noted in connection with the operating lever disposed in a vertical position is the desir-

able, if not essential one, that the actuating lever 10 is engaged by the forward side of the eccentric, as shown in the drawings. This arrangement of the parts is shown in the drawings. This arrangement of the parts conduces to a more compact disposition of the several parts, permits a more accurate adjustment of the parts with little or no effort, and insures a more positive operation of the register than is the case in a horizontally disposed lever, in which the end of the operating lever cannot conveniently be brought adjacent to the operating arm D¹ of the counter D.

While I have exemplified my invention in the particular description of the embodiment shown in the drawings, I do not wish to be limited to such specific construction and arrangement of parts, as it is evident that various changes may be made therein without departing from the spirit of my invention.

What I claim is—

1. An attachment for printing machines comprising a register, a support therefor provided with an integral clamping jaw and a second adjustable clamping jaw adapting said support to be mounted on the machine, and means mounted on said support adapted for operating said register, said means being operable by a movable part of the machine.

2. An attachment for printing machines comprising a register, a support therefor provided with relatively adjustable clamping jaws, and a lever pivotally mounted on said support and operably connected to said register, said lever being provided with means adapting it to be movably engaged by moving parts of the machine at different distances from the pivotal axis of said lever.

3. In a counting attachment for printing machines, the combination of a register provided with an angularly movable arm, a support for the register, a lever pivoted on said support intermediately of its ends and having one of its ends movable in an arc approximately tangent to the arc of movement of the outer end of said arm, and a plurality of rollers mounted on said lever on the opposite side of the pivot and at different distances from said pivot.

4. In a counting attachment for printing machines, the combination with a register provided with a swinging arm, of a support for said register adapted to be mounted on the machine, a vertically disposed lever pivoted on said support with one end disposed adjacent to the outer end of said arm, a flexible connection between said lever and arm, and means carried by said arm at different distances from its pivotal axis whereby said lever may be oscillated by a movable part of the machine.

5. In a counting attachment for printing machines, the combination with a register

provided with a swinging arm, of a support therefor adapted to be mounted on the machine, a vertically disposed lever pivoted on said support, said lever comprising relatively adjustable sections, means for flexibly connecting one of said sections with said arm, and a plurality of rollers mounted on the other section at different distances from the pivotal axis of said lever.

6. The combination with two relatively movable levers of a printing press, of a standard rigidly mounted on one of said levers, said standard being provided with a fulcrum offset therefrom, a register mounted on said standard, a vertically-disposed lever pivoted at its lower end on said fulcrum, the other end of said lever being flexibly connected to said register, a second lever pivoted intermediately of its ends on said fulcrum and having its upper end overlapping a portion of the length of the said vertically disposed lever, adjustable connecting means interengaging between said vertically disposed lever and the adjacently disposed upper end of the last said lever, and rollers mounted on the depending end of the last said lever at different distances from said fulcrum.

7. A counting attachment for printing and other machines, comprising a register, a support therefor adapted to mount said register on a machine, a register-operating lever movably mounted on said support, and an anti-friction device adjustably mounted on said lever into different positions thereon.

8. A counting attachment for printing and other machines, comprising a register, a support therefor adapted to mount said register on a machine, a lever pivoted on said support and operably connected with said register, and a roller adjustably mounted on said lever toward and away from its pivot.

9. A counting attachment for printing and other machines, comprising a register, a support therefor adapted to mount said register on a machine, a lever pivoted on said support, said lever comprising relatively adjustable sections, and a roller, said roller and one of said sections being provided with means whereby said roller may be mounted at different points along said section and at different distances from the pivotal axis of said lever.

10. In a counting attachment for printing and other machines, the combination with a register, of a support therefor, a lever pivoted on said support for operating said register, and an anti-friction device adjustable on said lever toward and away from the pivotal axis of said lever to adapt said lever to be actuated by parts moving at different distances from said axis.

11. The combination with two parts of a printing or other machine between which

there is relative movement, one of said parts being provided with means for adjusting its range of movement relatively to the other part, of a register mechanism mounted on
 5 one of said parts, said mechanism being provided with an operating lever, and an anti-friction device adjustable along said lever into the path of movement of said other part.

10 12. The combination with two parts of a printing or other machine between which there is relative movement, one of said parts being provided with means for adjusting its range of movement relatively to the other
 15 part, of a register mechanism mounted on one of said parts, said mechanism being provided with an operating lever pivotally connected therewith intermediately of the ends of said lever, means for connecting
 20 one end of said lever to the register, and a

plurality of rollers adjustable on the other end of said lever relatively to the path of movement of said other part.

13. A counting attachment for printing and other machines comprising a register, a
 25 support therefor adapted to mount said register on a moving portion of a machine, a lever pivoted on said support, a roller carried by said lever, and means for adjustably mounting said roller at different points
 30 along said lever.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 19th day of February A. D. 1910.

FRANK B. REDINGTON.

Witnesses:

FRED G. BROOKS,
 H. M. PATTERSON.

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