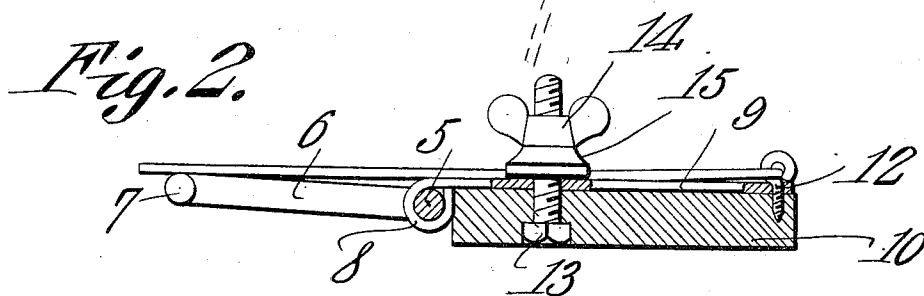
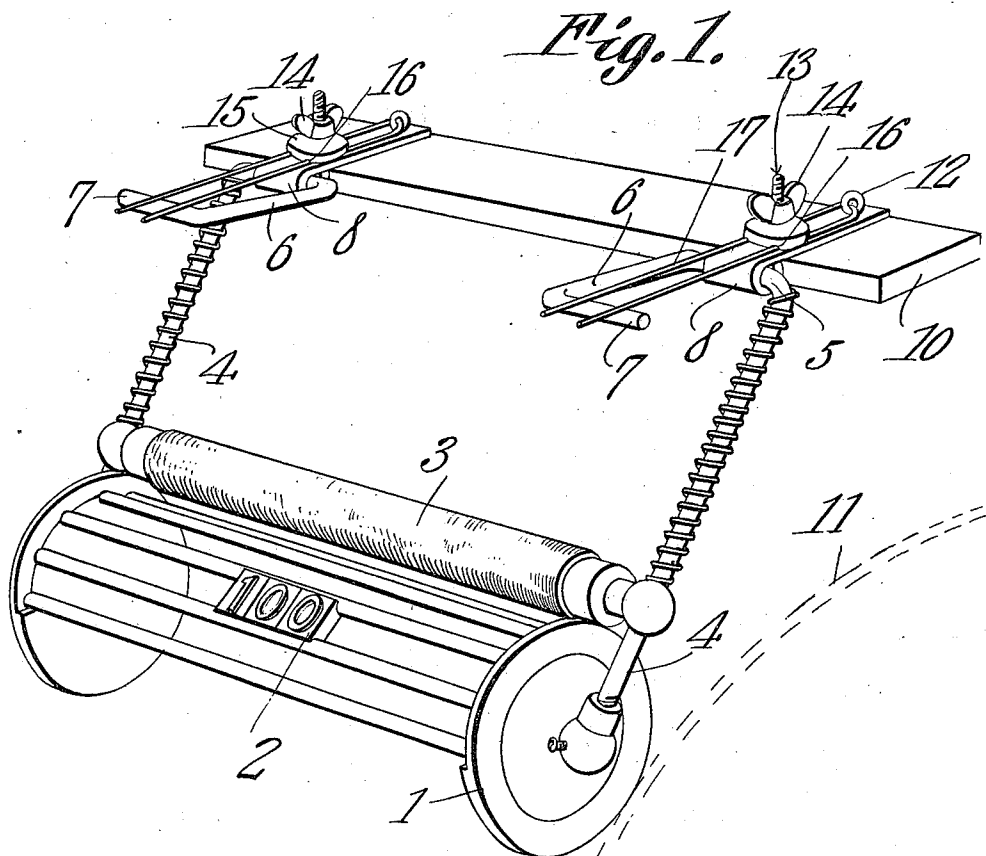


D. C. LEE.
 AUTOMATIC PRINTER FOR PAPER ROLLS.
 APPLICATION FILED SEPT. 21, 1909. RENEWED MAR. 29, 1912.
 1,041,494. Patented Oct. 15, 1912.



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AUTOMATIC PRINTER FOR PAPER-ROLLS.

1,041,494.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed September 21, 1909, Serial No. 518,742. Renewed March 29, 1912. Serial No. 687,268.

To all whom it may concern:

Be it known that I, DAVID C. LEE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Automatic Printer for Paper-Rolls, of which the following is a specification.

This invention relates more particularly to an improvement in an automatic printer for paper rolls for which Letters Patent 887,730 were granted to me on May 12, 1908, in which there is shown and described a printing attachment for paper rolls, carrying long webs of paper in the form of a roll, so that as the paper is withdrawn from the roll advertising or other matter is printed thereon automatically, the printing device being operated by the withdrawal of the paper as needed from the roll. In the aforesaid Letters Patent there is shown a printing roll in which suitable type may be arranged in any desired manner to imprint upon the surface of the paper roll, and this printing roll is urged constantly toward the paper roll by springs under constant tension. In the aforesaid Letters Patent the printing roll is carried at the ends of two arms constituting part of a rigid connecting yoke so that these two arms must have the same degree of movement at all times and this connecting yoke is so set as to form a crank member engaged by the springs tending to urge the printing roller against the paper roll. The present invention has reference to a similar structure and is designed to provide an improved means for urging the printing roll against the paper roll.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings—

Figure 1 is a perspective view of the inking attachment for paper rolls with the improvement applied thereto. Fig. 2 is a section through that portion of the attachment to which the improvements are applied.

Referring to the drawings there is shown a printing roll 1 carrying suitable type 2 with an inking roller 3 in operative relation thereto. The printing roll is mounted at each end on the corresponding end of a rod 4 having the other end bent first at right angles to the length of the rod 4 as indicated at 5 and then at right angles to the portion 5 as

indicated at 6, but this portion 6 being at an angle to the length of the rod 4, and finally the portion 6 terminates in an angle extension 7 directed toward the member 4 but out of line therewith.

The portion 5 of the rod 4 is passed through an eye 8 on one end of a plate 9 made fast to a strip 10 near one end of the latter, which strip is designed to be secured to the paper roll holder, which latter may be of the ordinary type and is consequently not shown in the drawing. The paper roll itself is simply indicated by dotted lines 11. The plate 9 is made fast to the strip 10 by a screw eye 12 or other like fastening means passed through the plate 9 near one end thereof. Near the other end the plate 9 is traversed by a bolt 13 which may extend through the strip 10 and above the plate 9 where it receives a thumb or wing nut 14 and between this wing nut 14 and the plate 9 the bolt 13 carries a washer 15 having parallel grooves 16 on the face thereof adjacent to the plate 9.

There is provided a spring member in the form of an elongated U as indicated at 17 this spring being made of a piece of spring wire bent on itself to form two parallel legs with a connecting yoke at one end, which yoke is passed through the screw eye 12 while the legs of the spring are confined against the plate 9 by the washer 15 with the said legs of the spring seated in the grooves 16. The length of the spring 17 is such that it extends from the eye end of the plate 9 to and over the extension 7 of the portion 6 of the rod 4, this portion 6 with its extension 7 being in the nature of a crank by means of which the rod 4 may be turned about the axis of the part 5 as a pivot. The eye 12 serves as a pivot connection for the spring 17 and at the same time holds the corresponding end of the plate 9 to the strip 10. The thumb nut 14 with the washer 15 constitutes a means for determining the tension of the spring 17 upon the crank end of the rod 4. Furthermore each rod 4 at the two ends of the printing drum are independent one of the other so that the printing drum may readily accommodate itself to variations in the thickness of the paper roll at the two ends thereof or at any other point. The thumb nuts 14, there being like structures at each end of the strip 10, provide a means where-

by the tension of the springs 17 may be readily adjusted and the degree of pressure of the printing roll upon the paper may be regulated to a nicety irrespective of the diameter of the paper roll which latter varies as the paper is withdrawn therefrom. Furthermore should a spring become broken it may be replaced with the greatest ease and without the aid of tools.

10 It will be understood of course that the printing roller may be provided with a suitable protecting casing as shown in the aforesaid patent, but the showing of this casing has been omitted from the drawings forming a part of the present specification.

What is claimed is:

1. In a printing attachment for paper rolls, independent pivoted supports for the two ends of the printing roll and each formed with a crank extension, and a linear spring for each pivoted support having one end fixed and the other engaging the crank extension of the respective roller supports, the springs being independent one of the other.

2. In an automatic printer for paper rolls, a printing roller, independent pivotal supports for the ends thereof each pivotal support terminating in a crank extension, a plate having at one end an eye forming the

journal for the pivot support for the corresponding end of the printing roller, a linear spring secured to the plate and engaging with its free end the crank extension of the corresponding printing roller support, and fastening means for the spring constituting the fastening means for the plate.

3. In an automatic printer for paper rolls, a printing roller, independent supports for the ends thereof each support terminating in a pivot extension and a crank member, a plate provided at one end with an eye constituting the journal for the pivot of the corresponding printer roller support, a spring formed of a looped wire engaging at its free end the crank portion of the pivot support, a holding member for the spring serving to secure the plate at one end and an adjustable holding member for the spring constituting a fastening member for the other end of the plate.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DAVID C. LEE.

Witnesses:

C. P. SILVA,

H. M. LEE.

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