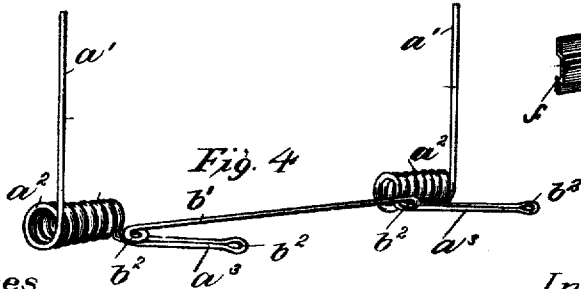
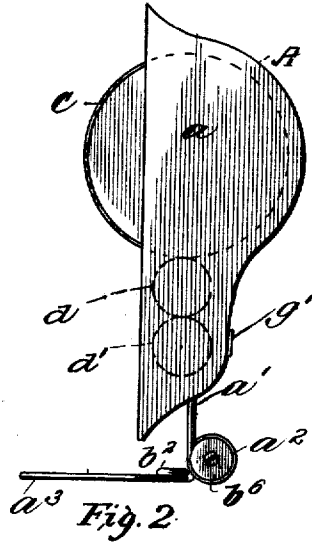
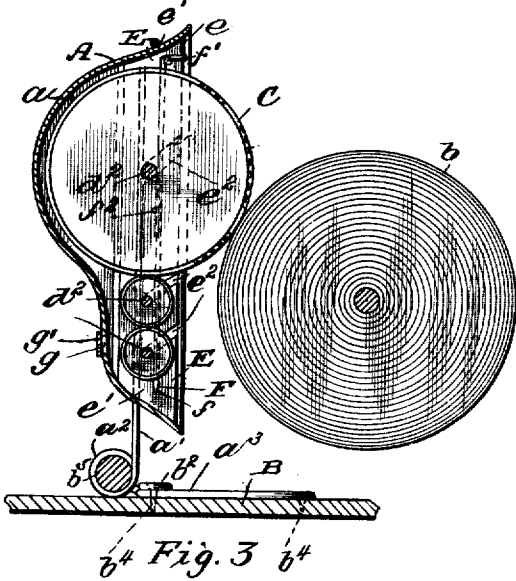
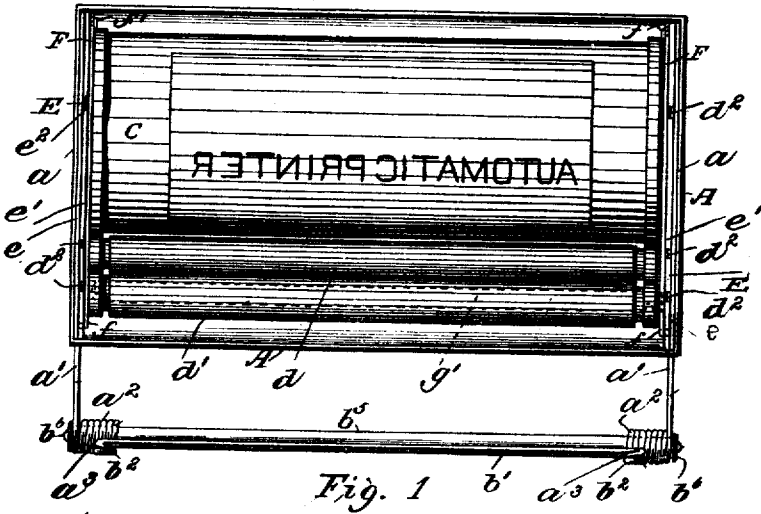


(No Model.)

C. J. SULLIVAN & L. MATHEWS.
PRINTING ATTACHMENT FOR ROLL PAPER HOLDERS.

No. 552,306.

Patented Dec. 31, 1895.



Witnesses $\bar{v}^2$ $\bar{a}^3$
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UNITED STATES PATENT OFFICE.

CHARLES J. SULLIVAN AND LYSANDER MATHEWS, OF SEATTLE, WASHINGTON, ASSIGNORS TO G. MEADE EMORY, OF SAME PLACE.

PRINTING ATTACHMENT FOR ROLL-PAPER HOLDERS.

SPECIFICATION forming part of Letters Patent No. 552,306, dated December 31, 1895.

Application filed May 2, 1895. Serial No. 547,944. (No model.)

To all whom it may concern:

Be it known that we, CHARLES J. SULLIVAN and LYSANDER MATHEWS, of Seattle, in the county of King and State of Washington, have
5 invented certain new and useful Improvements in Printing Attachments for Roll-Paper Holders; and we 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
10 make and use the same.

This invention contemplates certain new and useful improvements in printing attachments for roll-paper holders.

15 The object of the invention is to provide a simple and highly-efficient printing attachment in which the several inking and printing rolls will be securely held in position and can be easily removed.

20 A further object is to provide an attachment of this kind which can be applied to any paper-roll and yet be independent of the paper-rack, save for the friction between the paper-roll and the printing-roll.

25 These objects we accomplish by mounting the roll-carrying frame on the base of the paper-rack, the frame being flexibly supported and provided with slotted bearings for the journals of the several rolls. These journals
30 are held in their proper positions by pivoted rods which extend over the slots in said bearings and in juxtaposition to the journals.

35 The invention comprises the novel features of construction and also the detail combination and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

40 In the accompanying drawings, Figure 1 is a front elevation. Fig. 2 is an end view. Fig. 3 is a central vertical sectional view looking in the opposite direction to Fig. 2 and showing a paper-roll. Figs. 4 and 5 are details.

Referring to the drawings, A designates a frame, which is made of any suitable material, preferably metal, one side of which is
45 open and the other closed. The ends *a* of this frame are parallel. The frame is flexibly supported by two upright arms *a'*, which extend up thereinto and are secured to the
50 ends *a* thereof. The arms *a'* are connected at their lower ends to coil-springs *a²*, which

latter are attached by means of arms *a³* to the base-board B of the paper-roll rack. (Not shown.) The paper-roll is indicated at *b*. In practice the arms *a'*, coil-springs *a²* and lateral arms *a³* are all made of one continuous
55 wire, which is coiled to form the springs and extended outward and bent back upon itself in the formation of the lateral arms, which latter are united by a connecting portion *b'*.
60 In the inner and outer ends of arms *a³* are eyes *b²* for the passage of holding-screws *b⁴*. Through the coiled springs is passed a rod *b⁵*, to the ends of which are attached holding-plates *b⁶*. This rod serves to maintain the
65 proper form of the springs.

C is the printing-roll and *d d'* the inking-rolls, all mounted within frame A. The journals *d²* of these rolls fit at their ends in bearings E, which consist each of a plate *e*, attached to the parallel sides *a* and having central bulged or flanged portions *e'*, in which
70 are inclined slots *e²* open at their outer ends to permit of the insertion and removal of the journals. The latter are locked in position
75 in the slots of each bearing by a rod F, which is pivoted at its lower end *f* and at its upper end is bent to engage a pin *f'* by which it is held in place, a second pin *f²*, against which the rod bears, serving to maintain the same in
80 a truly straight line. When the rods F are in their normal positions they are in close juxtaposition to the journals of the several rolls and thus lock the same in their bearings. It is only necessary to disengage the hooked
85 ends of the rods from contact with pins *f'* and turn them downward to enable the rolls to be removed. In the curved wall of frame A, on a line with the ink-roll *d'*, is a longitudinal slot *g*, through which ink is introduced to the
90 lower ink-roll *d'*. This slot is normally closed by a removable cover *g'*.

The tension of the springs of the supporting-arms of the frame serves to constantly keep the printing or type-carrying roll D in
95 contact with the paper-roll. Beyond this and the attachment of the lateral arms *a³* to the base-board our attachment is independent of the paper-roll rack.

The advantages of our invention are apparent to those skilled in the art to which it appertains, and it will be especially observed
100

that the same is extremely simple and inexpensive and composed of but few parts. Hence it is not liable to readily get out of order. Then, again, it can be attached to any
5 paper-roll rack by simply securing the lateral arms to the base-board.

We claim as our invention—

1. A printing attachment for roll-paper holders having a frame, inking and printing
10 rolls carried by said frame, supporting arms connected to said frame, springs at the lower ends of said arms, and lateral arms extending from said springs, all being formed from one continuous wire substantially as set forth.

15 2. The combination with the frame and the inking and printing rolls carried thereby, of the two arms attached to the ends of said frame bent at their lower ends to form coil-springs, and extended outwardly to form lateral
20 arms, said supporting arms, springs and lateral arms, all being formed from one continuous wire, and the rod fitted in said coil-springs, substantially as set forth.

3. In a printing attachment, a frame having
25 journal-bearings at its ends provided with downwardly inclined slots open at their upper ends, inking and printing rolls having journals fitted in said slots, and rods pivoted each at one end and designed to extend over said
30 slots adjacent to said journals, whereby the latter will be held at the inner ends of said slots, substantially as set forth.

4. In a printing attachment, a frame having
35 plates attached to its ends provided with bulged portions having downwardly inclined

slots open at their upper ends, inking and printing rolls having journals designed to fit in said slots, pins extending from said plates at or near the upper ends thereof, and rods
40 pivotally secured at their lower ends to said plates and designed to engage said pins, the upper ends of said rods being bent out, said rods being extended over said slots adjacent to said journals, substantially as set forth.

5. In a printing attachment, the combination
45 with the printing and inking rolls, of the frame supporting said rolls and having a slot in rear of one of said inking rolls, and a removable cover for said slot, substantially as set forth.

6. The herein-described improved printing
50 attachment for roll paper holders, comprising the frame having a slot, a removable cover therefor, slotted journal bearings at the ends of said frame, inking and printing rolls having
55 their journals fitted in said bearings, pivoted locking rods for holding said journals in position, supporting arms connected to the ends of said frame and formed at their lower ends into coil springs and lateral arms, and
60 the rod fitted in said coil springs, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

CHARLES J. SULLIVAN.
LYSANDER MATHEWS.

Witnesses:

M. E. HAGAN,
O. H. REESE.