

E. J. BLOOM.
 ROLL PAPER HOLDER.
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1,220,064.

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 2 SHEETS—SHEET 2.

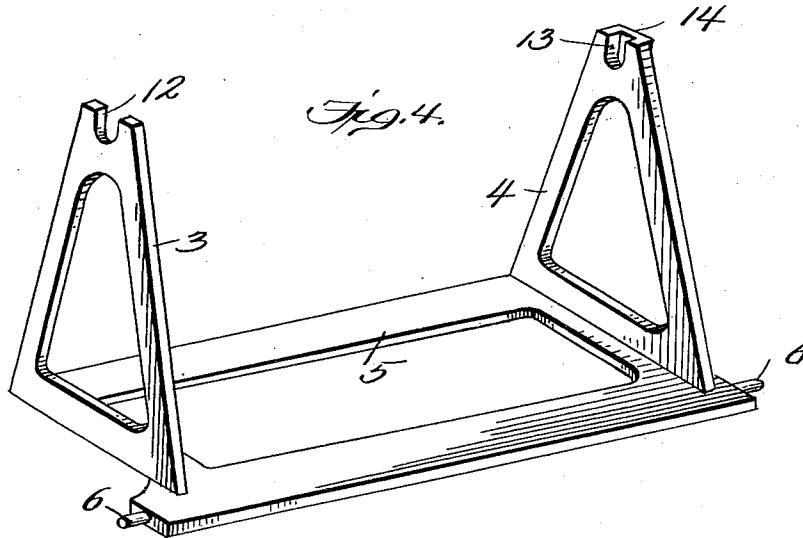


Fig. 5.

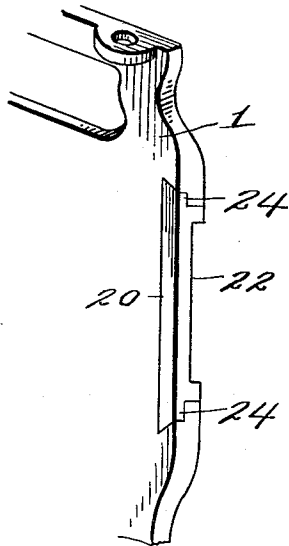
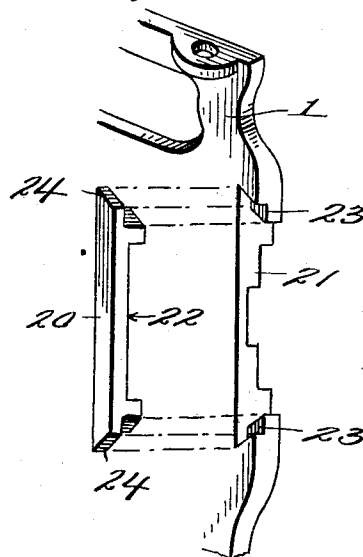


Fig. 6.



Witnesses:

Chas. Kessler

John D. Powers

Inventor

Emil John Bloom

by

Amos L. Norris

Attorney.

UNITED STATES PATENT OFFICE.

EMIL JOHN BLOOM, OF KEMMERER, WYOMING.

ROLL-PAPER HOLDER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EMIL JOHN BLOOM, a citizen of the United States, residing at Kemmerer, in the county of Lincoln and State of Wyoming, have invented new and useful Improvements in Roll-Paper Holders, of which the following is a specification.

This invention relates to an improvement in paper roll holders and its principal object is to provide a holder wherein a length of paper will project beyond the cutter and provide a grasping tab by which the paper may be unwound from the roll and severed and wherein the roll will be positively operated to provide the aforesaid projecting portion or grasping tab.

With this object in view, the invention proposes a paper roll holder of exceedingly simple and durable construction embodying certain novel features of structure and combination which will be pointed out in detail as the description proceeds.

A preferred embodiment of the invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a plan view partly in horizontal section of a paper roll holder in which the features of the invention are incorporated, the cutter being omitted for the sake of clearness of illustration;

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a similar view showing the relations of the parts during the operation of unwinding a length of paper from the roll;

Fig. 4 is a detail perspective view of the roll carrier;

Fig. 5 is a detail perspective view showing the front construction of one of the upright standards of the main frame or support; and

Fig. 6 is a detail perspective view of the same but showing the key hereafter referred to as removed and in the relation of its assemblage.

Similar characters of reference designate corresponding parts throughout the several views.

The improved paper roll holder consists of a main frame or support provided with a pair of upright standards 1 and 2; and a roll carrier which comprises upright standards 3 and 4 and a base 5 to which the standards 3 and 4 are secured or with which said standards are formed integral. The roll carrier is movable relatively to the main

frame in a forward or rearward direction and normally occupies a position which it assumes in its rearward movement. In the preferred embodiment of the invention the base 5 has end trunnions 6 which are journaled in the standards 1 and 2 and are located forward of the centers of the standards 3 and 4 whereby the roll carrier will occupy a normal position in which it is tilted rearwardly about said trunnions as a pivotal axis, the roll carrier being supported in this position by the engagement of the rear edge of the base 5 upon the base 7 which carries the standards 1 and 2.

The paper roll 8 is mounted, as usual, upon a mandrel 9 which has at its ends trunnions 10 and 11, these being journaled in bearing recesses 12 and 13 provided at the upper ends of the standards 3 and 4. The recess 13 in the standard 4 has a closed end 14 against which the end of the trunnion 11 bears. The recess 12 in the standard 3 is open at its ends and the trunnion 10 projects beyond the standard 3 and its end engages in an arcuate guide groove 15 formed in the inner face of the standard 1.

A series of rack teeth 17 extend concentrically to, and under, the groove 15. In the embodiment disclosed the groove 15 is preferably formed concentrically within a groove 16 of similar outline and the teeth 17 are formed on the lower wall of the groove 16. The teeth 17 extend to a point suitably short of the front end of the lower wall of the groove 16 whereby a clearance 18 intervenes in front of the teeth 17. The trunnion 10 carries on its projecting end a pinion 19 for engagement with the rack teeth 17.

The groove 15 is closed at its front end by a key 20 which is fitted in a dove-tail recess 21 in the front face of the standard 1 and is removable from said standard by a lateral sliding movement in an outward direction. The key 20 has a cut-away portion 22 in line with the groove 16 whereby said key presents no obstruction to the pinion 19. The recess 21 has rabbets 23 adjacent the outer side face of the standard 1 and at its upper and lower ends and the key 20 is provided with upper and lower projections 24 for engagement in the rabbets 23 and which limit the inward movement of said key in the recess 21.

The paper roll holder is completed by a cutter 25 of any suitable or usual construc-

tion and which is preferably pendant from end trunnions (or it might be a rock shaft) 26 journaled in the standards 1 and 2. The cutter 25 is held against the roll 8 by its own weight, aided, if desired and as is well known, by the action of a spring (not shown).

It will be noticed that a length of paper A projects below the lower or cutting edge of the cutter 25 and this projecting length of paper provides a tab by means of which the paper may be unwound from the roll and severed by tearing it along the edge of the cutter in the well known manner.

As above stated, the roll carrier which includes the standards 3 and 4 occupies a normal position (as shown in Fig. 2) wherein it is tilted rearward about the trunnions 6, owing to the arrangement of the latter forward of the centers of the standards 3 and 4. In the use of the device, the tab provided by the projecting portion A is grasped and pulled forward. This is instrumental in pulling the roll carrier forward until its movement is arrested by the engagement of the end of the trunnion 10 against the key 20. During the forward movement of the roll carrier, the pinion 19 works along the rack 17 and its engagement with said rack insures that the forward pull on the tab A will not be spent in unwinding the paper from the roll but will be utilized in effecting the forward tilting movement of the roll carrier about the trunnion 6 as an axis. When this forward tilting movement of the roll carrier is limited by the engagement of the trunnion 10 against the key 20, the roll carrier has the position shown in Fig. 3 and the pinion 19 will have left the rack 17 and its lower portion will project into the clearance 18. Thereupon, the forward pull on the paper being continued, the paper is unwound freely from the roll to the required length, at which time it is severed by tearing it against the edge of the cutter 25 in the usual manner. As soon as the paper has been severed from the web, the roll carrier returns by gravity to its normal position. During the return movement of the roll carrier, the pinion 19 engages the rack 17 by which said pinion and therewith the roll 8 are rotated in a direction opposite to that in which the roll is rotated when the paper is being unwound. This reverse rotation of the roll 8 during the movement of the roll carrier to normal position causes the free portion of the paper which was immediately in the rear of the cutter 25 at the completion of the previous paper severing operation to be brought to a position wherein it is pendant from the lower edge of said cutter and provides the projecting portion or tab A above described.

In order to mount a roll of paper upon the roll carrier, the key 20 is removed from

its recess 21 and thereupon the roll carrier is tilted forwardly until the trunnion 10 passes beyond the groove 15, at which time the mandrel 9 may be removed from the standards 3 and 4 and fitted upon a new roll in the usual manner, after which the mandrel is restored to position with its trunnions engaging in the recesses 12 and 13 of the standards 3 and 4. The roll carrier is thereupon restored to its normal position, the trunnion 10 entering the groove 15 and the key 20 being thereafter fitted in position to close the front end of said groove and limit the forward operative movement of the roll carrier.

I claim—

1. A paper roll holder comprising a main frame, a roll carrier mounted in said main frame for forward and rearward movement and having supporting standards, a roll mandrel having end trunnions journaled in said supporting standards, one of said trunnions projecting beyond the standard in which it is journaled and carrying a pinion, and a series of rack teeth fixed with said main frame and arranged under and for engagement with said pinion, said main frame having a clearance at the front end of said rack teeth in which said pinion may rotate freely.

2. A paper roll holder comprising a main frame having upright standards, a roll carrier having supporting standards and end trunnions forward of the center of said supporting standards, said roll carrier being mounted within said main frame with its end trunnions journaled in said main frame standards and the roll mandrel having end trunnions journaled in said supporting standards, one of said mandrel trunnions projecting beyond the standard in which it is journaled and carrying a pinion, the adjacent main frame standard having an arcuate groove in which the end of said projecting mandrel trunnion works and having a series of rack teeth below said groove for engagement with said pinion, and a clearance in front of said rack teeth in which said pinion may rotate freely.

3. A paper roll holder comprising a main frame having upright standards, a roll carrier having supporting standards and end trunnions forward of the center of said supporting standards, said roll carrier being mounted within said main frame with its end trunnions journaled in said main frame standards, a roll mandrel having end trunnions journaled in said supporting standards, one of said mandrel trunnions projecting beyond the standard in which it is journaled and carrying a pinion, the adjacent main frame standard having an arcuate groove in which the end of said projecting mandrel trunnion works and having a series of rack teeth below said groove for engage-

ment with said pinion and a key providing a closure for the front end of said groove and removably fitted in the main frame standard in which the groove is formed.

5 4. A paper roll holder comprising a main frame having upright standards, a roll carrier mounted in said main frame for forward and rear movement and having supporting standards and a roll mandrel having
10 end trunnions journaled in said supporting standards, one of said trunnions projecting beyond the standard in which it is journaled and carrying a pinion, the adjacent main frame standard having an arcuate
15 groove in which the end of said projecting mandrel trunnion works and having a series of rack teeth below said groove for engagement with said pinion and a clearance in front of said rack teeth in which said pinion
20 may rotate freely.

5. A paper roll holder comprising a main frame having upright standards, a roll carrier having supporting standards and end
25 trunnions forward of the center of said supporting standards, said roll carrier being mounted within said main frame with its end trunnions journaled in said main frame standards, and a roll mandrel having end
30 trunnions journaled in said supporting standards, one of said mandrel trunnions projecting beyond the standard in which it is journaled and carrying a pinion, the adjacent main frame standard having an arcuate groove in which the end of said projecting
35 mandrel trunnion works and having a series of rack teeth below said groove for engagement with said pinion.

6. A paper roll holder comprising a main frame having upright standards, a roll carrier mounted in said main frame for forward
40 and rearward movement and having supporting standards, a roll mandrel having end trunnions journaled in said supporting standards, one of said trunnions projecting
45 beyond the standard in which it is journaled and carrying a pinion, the adjacent main frame standard having an arcuate groove in which the end of said projecting mandrel trunnion works and having a series of rack
50 teeth below said groove for engagement with said pinion, and a key providing a closure for the front end of said groove and removably fitted in the main frame standard in which the groove is formed.

7. A paper roll holder comprising a main frame having upright standards, a roll carrier mounted in said main frame for forward
55 and rearward movement and having supporting standards, a roll mandrel carried by said supporting standards, one of said main frame standards having a groove extending to the front thereof, a removably fitted key providing a closure for the front end of
60 said groove, a series of rack teeth fixed with the standard in which the groove is formed

and arranged below the groove, a pinion for engagement with said teeth, and a trunnion carrying said pinion and working in said
70 groove, said pinion effecting rotation of said roll mandrel and said trunnion being supported by said roll carrier.

8. A paper roll holder comprising a main frame having upright standards, a roll carrier having upright supporting standards
75 and end trunnions at the lower ends and forward of the center of said supporting standards, said roll carrier being mounted within said main frame with its end trunnions journaled in said main frame standards, a roll mandrel mounted in said supporting stand-
80 ards and means operated by the roll mandrel as paper is unwound from the roll for moving said roll carrier forward about said end trunnions as a pivotal axis, said roll carrier moving rearward by gravity into
85 its normal position when the paper is released.

9. A paper roll holder comprising a main frame having upright standards, a roll carrier having upright supporting standards
90 and end trunnions at the lower ends and forward of the center of said supporting standards, said roll carrier being mounted within said main frame with its end trunnions journaled in said main frame stand-
95 ards, a roll mandrel mounted in said supporting standards, means operated by the roll mandrel as paper is unwound from the roll for moving said roll carrier forward about said end trunnions as a pivotal axis,
100 said roll carrier moving rearward by gravity into its normal position when the paper is released; and means removably associated with one of said main frame standards for limiting the forward pivotal movement of
105 said roll carrier.

10. A paper roll holder comprising a main frame having upright standards, a roll carrier having upright supporting standards
110 and end trunnions at the lower ends and forward of the center of said supporting standards, said roll carrier being mounted within said main frame with its end trunnions journaled in said main frame stand-
115 ards, a roll mandrel mounted in said supporting standards, means operated by the roll mandrel as paper is unwound from the roll for moving said roll carrier forward about said end trunnions as a pivotal axis,
120 said roll carrier moving rearward by gravity into its normal position when the paper is released, said roll mandrel having an end projecting beyond the standard in which it is journaled, and a key removably fitted to one of said main frame standards for en-
125 gagement with said projecting mandrel end to limit the forward movement of said roll carrier.

11. A paper roll holder comprising a main frame having upright standards, a roll car- 130

rier having supporting standards and end
trunnions forward of the center of said sup-
porting standards, said roll carrier being
mounted within said main frame with its
5 end trunnions journaled in said main frame
standards and the roll mandrel having end
trunnions journaled in said supporting
standards, one of said mandrel trunnions
projecting beyond the standard in which it
10 is journaled, a key removably fitted to one of
said upright standards for engagement with
said projecting mandrel trunnion to limit
the forward movement of said roll carrier,

a pinion carried by the roll mandrel, and a
series of rack teeth associated with one of 15
said upright standards for engagement with
said pinion in connection with the pivotal
movement of said roll carrier.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit- 20
nesses.

EMIL JOHN BLOOM.

Witnesses:

CHAS. S. HYER,
JOHN S. POWERS.

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