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R. S. SANFORD

2,371,109

ROLL HOLDER

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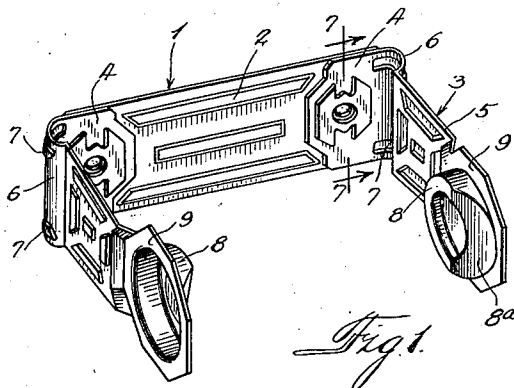


Fig. 1.

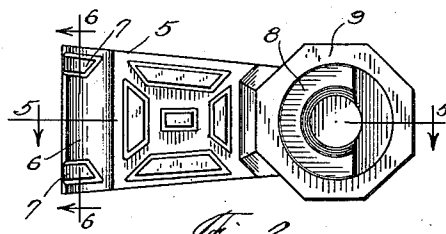


Fig. 2.

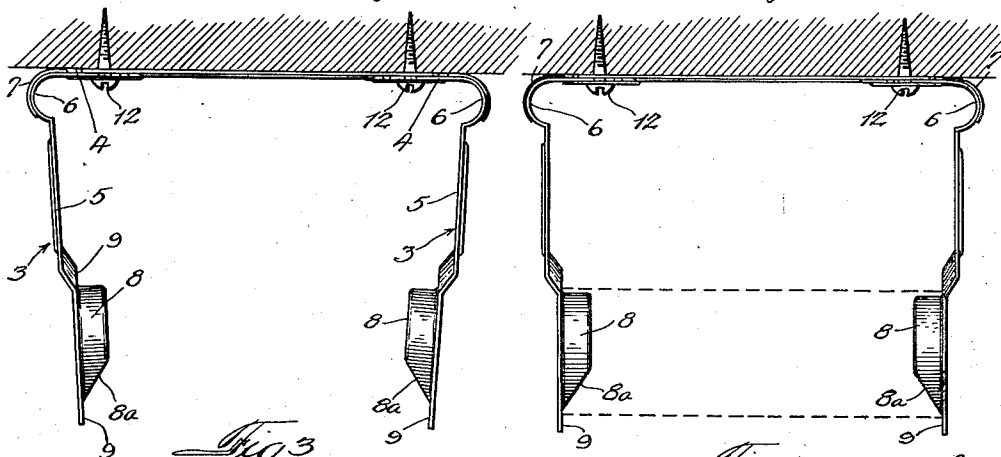


Fig. 3.

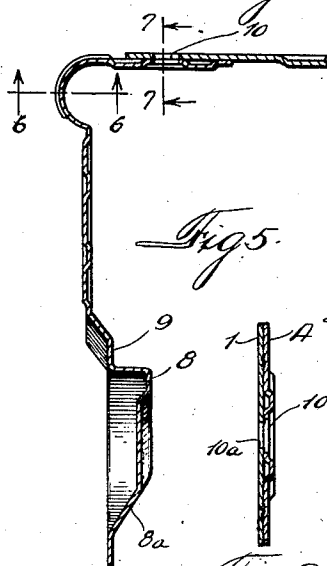


Fig. 4.

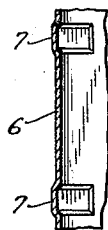


Fig. 5.

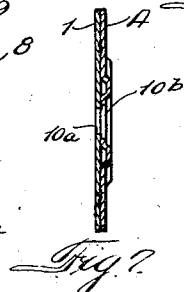


Fig. 6.

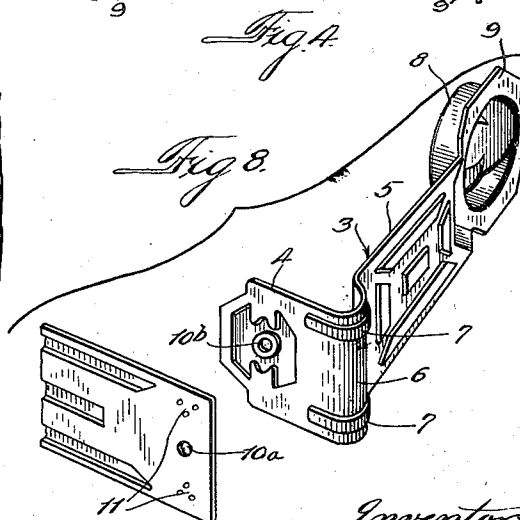
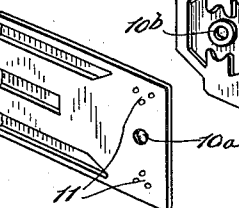


Fig. 7.



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UNITED STATES PATENT OFFICE

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ROLL HOLDER

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Application September 12, 1941, Serial No. 410,537

3 Claims. (Cl. 242—55.2)

This invention relates to a roll holder and more particularly to a holder adapted to support rolls of toilet tissue or the usual paper towel rolls. The invention comprises a base of sheet metal having outstanding resilient sheet metal brackets welded thereto and each bracket provided at its outer end with a roll supporting boss or enlarged pintle having an annular flange to frictionally engage the end of a paper roll adjacent the cardboard tube on which the paper is usually wound.

The embodiment illustrated and described herein comprises a structure peculiarly adapted for economical quantity production and consists of a minimum number of interchangeable parts which may easily and cheaply be spot-welded together to form roll holders of any required length to conform with the length of rolls to be used therewith.

The invention comprises a base plate preferably formed of very thin strap-like sheet metal such as cold rolled steel and having shallow longitudinal reinforcing ribs terminating short of the ends of the base. The bases may be made of various lengths and are interchangeable during assembly so that a minimum number of basic elements are required to produce roll holders of any desired length to conform with the requirements of the paper rolls to be supported thereby.

L-shaped sheet metal brackets are formed of resilient sheet metal and are all identical in structure and are interchangeable for mounting on either end of a base plate of any length. A short arm of the bracket is adapted to be spot-welded to the outer surface of the base plate closely adjacent the end thereof and is provided with a central screw hole registering with a corresponding screw hole through the base plate. The spot welding is preferably accomplished on opposite sides of and substantially in transverse alignment with the screw hole and the bracket may be slightly ribbed or deformed around the screw hole and transversely of the bracket arm to provide a more rigid reinforcement adjacent the screw and a countersink for the screw head. This construction provides a very rigid mounting portion at each end of the base plate and enables the use of very thin resilient material in the entire construction.

The outstanding bracket arms are sufficiently resilient to retain the roll in frictional engagement therebetween, and at the same time, when the holder is secured to a wall, the more rigid mounting portions to hold the base plate in substantially rigid alignment against the wall and with the outwardly extending arms provide suffi-

cient resilience to snugly retain the roll and enable easy entrance and removal of any paper roll corresponding to the length of the holder used.

5 It is an object of the present invention to provide a roll holder of the character described having a minimum number of interchangeable thin sheet metal elements which elements may be made cheaply in quantity production by a minimum number of punching or stamping operations and may readily be assembled by a minimum number of simple welding operations.

10 A further object is the provision of a roll holder which may be formed entirely of thin, flexible, strap-like sheet metal and in which the relationship of the assembled parts and the manner of their assembly provide a structure in which the flexible base plate and the bases of the brackets will be held substantially rigid after the device is secured to a wall and the outstanding portions of the brackets provide sufficient resilience to permit easy insertion and removal of the roll and sufficient friction against the ends of the roll to retard free movement thereof.

20 A further object is to provide a roll holder of the character described which will be cheap to manufacture, easy to install, and which will not easily get out of order.

25 Further objects will be apparent from the specification and the appended claims.

30 In the drawing:

Fig. 1 is a perspective view of one of the assembled roll holders and illustrates one embodiment of the invention.

35 Fig. 2 is an end elevation of the embodiment illustrated in Fig. 1.

Fig. 3 is a top view of the embodiment illustrated in Fig. 1 secured to a wall.

40 Fig. 4 is a top view of the holder similar to that shown in Fig. 3, but with the arms in the position which they assume after a roll has been inserted therebetween, as indicated by the dotted lines.

45 Fig. 5 is a longitudinal sectional view through one of the brackets and a portion of the base and is taken on a line substantially corresponding to line 5—5 of Fig. 2.

Fig. 6 is a detail sectional view through the reinforced intersection of the arms of the L-shaped bracket and is taken on a line substantially corresponding to line 6—6 of Figs. 2 and 5.

50 Fig. 7 is a transverse sectional view through the embodiment illustrated in Fig. 1 and is taken on a line substantially corresponding to line 7—7 of Figs. 1 and 5.

Fig. 8 is an expanded view of one end of a base plate and one of the roll supporting brackets before they are spot-welded together, the base plate being of any required length for interchangeable assembly with any two interchangeable brackets.

Referring to the drawing in detail, the embodiment illustrated comprises a base plate 1 preferably formed of thin, somewhat resilient or flexible material, such, for instance, as cold rolled steel. This base plate is preferably reinforced with shallow longitudinal ribs 2 formed therein. The ribs are pressed outwardly from the base and terminate short of the ends thereof to enable suitable brackets to be spot-welded to the outer surface of the flat end portions of the base. Base plates of this type may easily be manufactured in various lengths to conform to the lengths of various types of paper rolls and the brackets may interchangeably be assembled on any length.

L-shaped brackets 3 are formed of resilient strap-like metal of substantially the same width as the base 1, and one of these brackets is spot-welded to the base at each end thereof as illustrated in Fig. 1. The brackets 3 are interchangeable in assembly and each comprises a short arm 4 to be secured to the base and a longer arm 5 normally at slightly less than a right angle thereto and adapted to support one end of a paper roll. The bracket is formed to provide a relatively large arcuate outstanding transverse rib 6 adjacent the intersection of the arms and this large rib is provided with shallow strengthening ribs 7 formed therein to secure greater rigidity at the intersection of the arms.

The outer end of the arm 5 is formed to provide an intumed substantially cylindrical boss or pintle 8 of sufficient diameter to provide a bearing for the usual paper roll, and an annular flange 9 is formed at the base of the boss 8 to provide friction against the end of the roll. The outer edge of the boss 8 is provided with an inclined surface 8a to enable easy insertion of the roll.

The outstanding arm 5 is preferably slightly tapered from the base toward the roll holding end so as to more effectively distribute the resilience of the arm. Each end of the base is provided with a central screw hole 10a and each bracket is provided with a corresponding screw hole 10b so that, when the bracket is assembled on the base and spot-welded thereto with the holes in alignment, as shown in Fig. 3, a single mounting screw hole 10 is thereby formed through each end of the base and through a respective bracket. The bracket and base are preferably spot-welded at points on opposite sides of the screw hole 10 and in transverse alignment therewith substantially as shown at 11 in Fig. 8.

It will be apparent that the spot-welded construction of the overlapping bracket and base, and the transverse arcuate and strengthened ribs 6 adjacent the intersection of the bracket arms, provide a very rigid construction at each end of each base where rigidity is required, and this rigid construction prevents undue flexing of the base or any other part of the structure after the device has been rigidly secured to the wall by means of screws 12.

The invention provides many advantages in that the brackets are interchangeable with each other and with base plates of various lengths. The entire structure may be made of very thin, flexible, strap-like material, and the overlapping

and reinforced end structure enables the use of such material by providing rigid mounting portions which prevent undue flexing after the device is installed.

It is intended, of course, that the invention should not be limited to the specific embodiment or embodiments disclosed herein, since modifications may be made, and it is contemplated, therefore, by the appended claims to cover any such modifications as fall within the true spirit and scope of this invention.

Having thus described this invention, what is claimed and desired to be secured by Letters Patent is:

1. A roll holder made entirely of thin flexible and resilient sheet metal stampings comprising an elongated substantially flat strap-like base of a width slightly greater than the diameter of the axial hole in a paper roll to be supported by said holder, a pair of oppositely disposed interchangeable angle brackets each having a short arm and an outstanding roll engaging arm, said roll engaging arms being flexible with respect to their respective short arms, said short arm overlapping said base adjacent an end thereof and welded thereto so as to provide a rigid wall attaching portion adjacent each end of said holder, each of said wall attaching portions being adapted to be held flat against a wall and being provided with a screw hole for receiving an attaching screw, and each outstanding bracket arm having an inwardly extending cup-like pintle formed therein to form a running fit in the hole in said paper roll, said pintle having a peripheral flange for frictionally engaging the end of said roll.

2. In a paper roll holder, a substantially L-shaped roll holding bracket, said bracket being integrally formed of thin resilient strap-like sheet metal and comprising a short arm adapted to be rigidly spot-welded adjacent one end of a flexible sheet metal base, and a materially longer outwardly extending arm having a central intumed boss adjacent its outer end to engage in the axial opening of a paper roll, said bracket being formed with a transverse outstanding rib tangent with said short arm and providing an arcuate intersection of said arms, said rib having smaller reinforcing ribs formed transversely thereof and extending across the intersection of said arms.

3. A sheet metal paper roll holder comprising a substantially flat elongated base plate having shallow longitudinal strengthening ribs pressed outwardly and terminating short of the ends of said plate, interchangeable L-shaped brackets, each having a short arm thereof welded to the outer surface of said base on opposite sides of a central screw hole through said base and bracket, said bracket extending longitudinally beyond the end of said base and having an arcuate transverse return bend forming an outwardly extending transverse stiffening rib, said return bend being reinforced by shallow stiffening ribs so that the outwardly extending arm of said bracket is more resilient than the inner arm and return bend, the outer ends of said brackets each being formed to provide intumed bosses to receive a paper roll and a circumjacent flange adapted to engage said roll only adjacent the center thereof, the outer sides of said bosses being inclined from the flange toward the axis to enable free insertion of a paper roll by springing said brackets outwardly.

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