

April 27, 1926.

1,582,453

F. P. DUSTAN

PRINT ROLLER

Filed Oct. 7, 1924

Fig. 1.

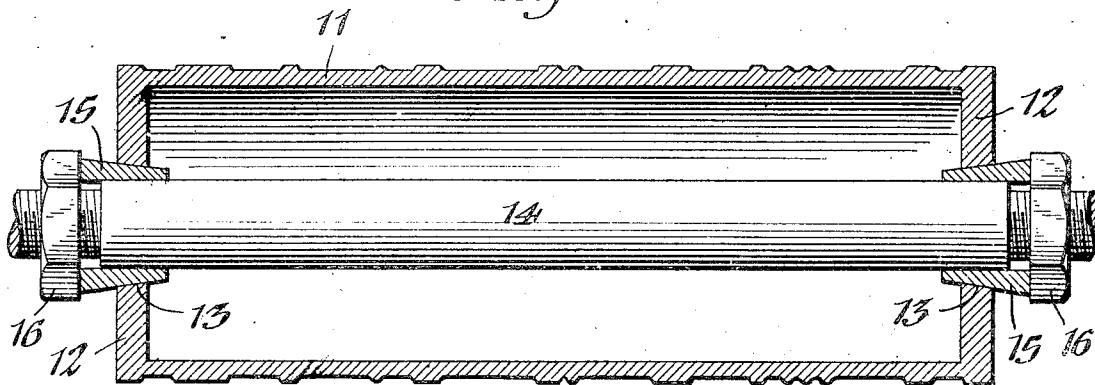
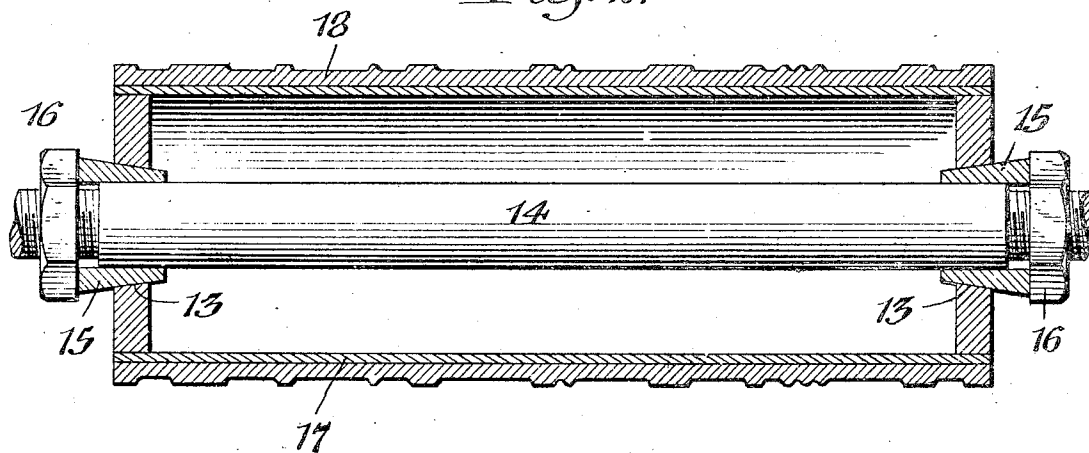


Fig. 2.



Inventor,
Frederick P. Dustan,
by *Geyer & Geyer*
Attorneys.

UNITED STATES PATENT OFFICE.

FREDERICK P. DUSTAN, OF BUFFALO, NEW YORK, ASSIGNOR TO JOHN WALRATH, OF SALAMANCA, NEW YORK.

PRINT ROLLER.

Application filed October 7, 1924. Serial No. 742,228.

To all whom it may concern:

Be it known that I, FREDERICK P. DUSTAN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Print Rollers, of which the following is a specification.

This invention relates to the print rollers and blocks used in the manufacture of wall paper.

Its object is the provision of an improved metallic roller or print block of this kind which combines lightness, strength and durability and whose surface, or both body and surface, is of such nature as to permit easy and rapid machining by the customary routing tools for producing the usual pattern or design thereon.

In the accompanying drawing:

Fig. 1 is a longitudinal section of a print roller embodying the invention. Figure 2 is a similar view showing a modified construction of the roller.

The improved roller 11 is preferably hollow and provided with heads 12 cast integral therewith, as shown in Fig. 1. Formed centrally in these heads are openings 13 for the passage of the roller-shaft 14 and the reception of the usual conical bushings 15 which are forced into the correspondingly tapered openings 13 by the customary clamping nuts 16.

The roller is cast of an alloy composed of aluminum, tin and zinc, which metals are preferably combined in the following proportions:

	Pounds.
Aluminum -----	84
Tin -----	10
Zinc -----	6

These metals are heated in a crucible or furnace to a sufficiently high temperature to fuse them, say 1,300 degrees Fahrenheit, after which the alloy is cast in a suitable mold to produce the print rollers or blocks. To obtain the best results, and avoid the formation of air bubbles or blow holes in the castings, it is desirable to place the mold, in pouring, at an inclination of about forty-

five degrees and to dispose the gate tangentially to the mold cavity, to cause a swirling action of the inflowing molten metal which insures the complete escape of the gases from the mold.

While the above-mentioned proportions are preferred, they may be varied somewhat without materially changing the result and I do not therefore wish to be limited to the exact proportions herein specified.

Instead of casting the entire roller of the above specified alloy, only its printing surface may be made or consist of the alloy, in which case the body of the roller may be constructed of steel tubing with cast iron heads or any other suitable material. Such a modified construction is shown in Fig. 2, where 17 indicates the body of the roller, and 18 the alloy facing secured to the body and forming the printing surface.

In either case, the character of the alloy is such that it is unaffected by the chemicals in the printing colors.

A print roller or block, made of or having a printing surface of the above-specified alloy has the following advantages:

While being comparatively light and strong, it can be easily machined with the usual routing tools, the composition of the alloy making it possible to cut the most finely figured designs with the ease and rapidity of cutting an ordinary wooden roller and twice as fast as can be done with other metallic print rollers now in use.

The alloy offers so little resistance that routing tools of the smaller sizes are not liable to break, thus prolonging their lives and saving the considerable expense of re-grinding broken tools, incident to the use of ordinary metallic rollers. It has been found that a routing tool of ordinary temper operating on a roller made of this alloy will hold its cutting edge for at least three hours at a cutting speed of one thousand feet per minute.

A design cut in this alloy roller will give considerable more service than the same design cut in a wooden roller, or a brass and felt on a wooden base. Furthermore this improved roller retains its original cylindri-

cal shape and does not require truing up from time to time, as is the case with the present type of rollers.

On account of its light weight, this alloy roller can be handled by the operator with less effort and hence with less danger of damaging its finely carved surface.

The cost of the roller is low as compared with the print rollers hitherto used.

10 A roller made of this alloy also has a

relatively high salvage value, as it can be melted and recast without destroying its chemical properties.

I claim as my invention:

A print roller or the like, having a printing surface composed of an alloy containing about eighty-four pounds of aluminum, ten pounds of tin and six pounds of zinc. 15

FREDERICK P. DUSTAN