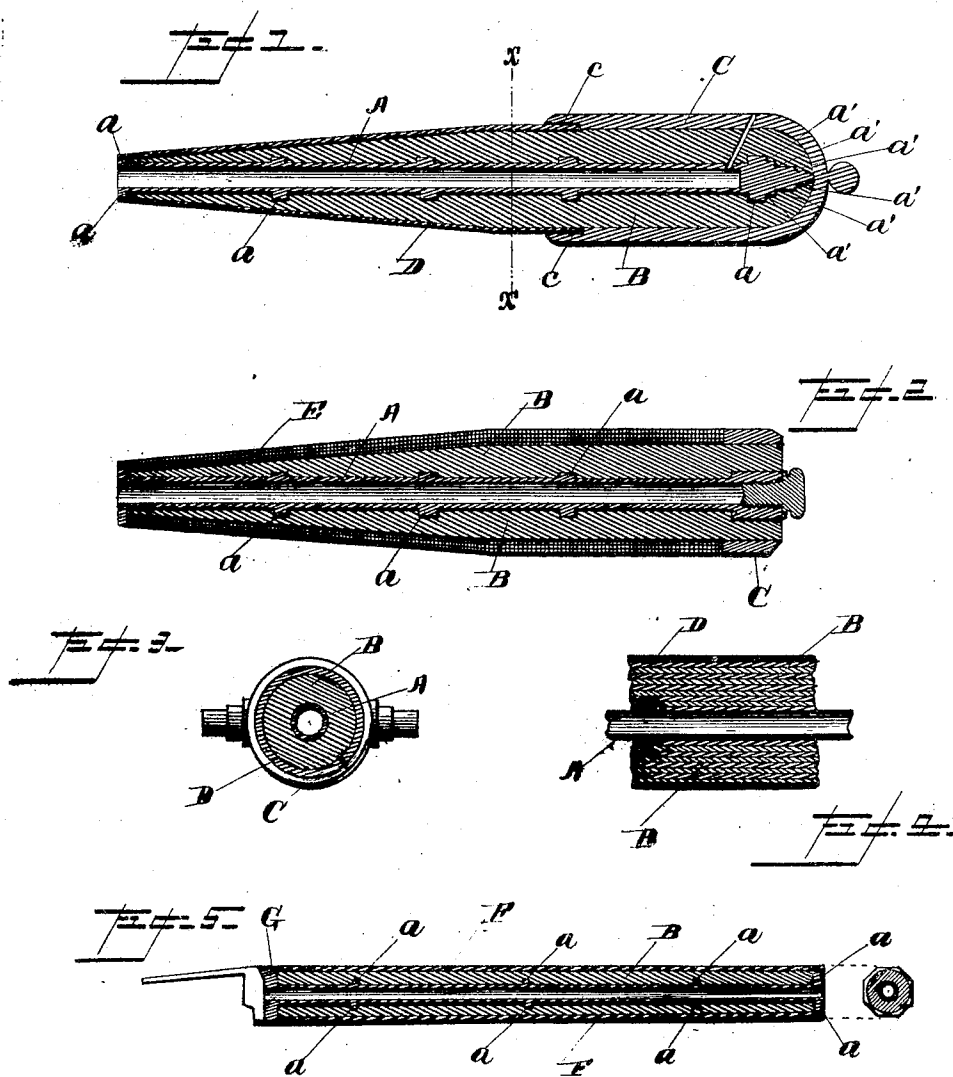


(No Model.)

F. LATULIP.
RAWHIDE WOUND GUN.

No. 521,911.

Patented June 26, 1894.



WITNESSES

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FREDERICK LATULIP, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF
TO JOHN H. LINK, OF SAME PLACE.

RAWHIDE-WOUND GUN.

SPECIFICATION forming part of Letters Patent No. 521,911, dated June 26, 1894.

Application filed July 29, 1893. Serial No. 481,844. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK LATULIP, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Guns; and I 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 make and use the same.

My invention relates to improvements in the construction of guns, more particularly to the class known as "built up" guns; and it consists in surrounding a specially constructed core, properly bored, by a casing of rawhide inclosed by a shell of metal or a jacket of steel wire, as will be hereinafter more fully explained and specifically set forth in the claims.

The principal objects of the invention are to cheapen and lighten the construction of guns and gun-barrels, and, at the same time, to so strengthen the same that they will withstand the explosive strain of not only the usual charge but an unusual one. These objects I accomplish by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal sectional view of my improved gun; Fig. 2, a similar view showing a modification thereof; Fig. 3, a vertical transverse section taken on line $x-x$, of Fig. 1; Fig. 4, a vertical longitudinal section of a section of the gun, showing the overlapping layers of rawhide, and Fig. 5, a vertical longitudinal section of a gun-barrel of my improved construction.

Referring to the drawings:—The letter A indicates a core of steel or other suitable metal, properly bored, and provided with exterior collars or bands a arranged at intervals thereon. These collars or bands are cast integral with the core and serve to prevent endwise movement of the rawhide casing during firing. The breech portion of the core is provided with a series of step-like depressions a' , the purpose of which will be presently made apparent.

B indicates a casing of rawhide surrounding the core, and before being applied is treated as follows, viz:—I take the ordinary dried commercial rawhides and soak in water

sufficiently to soften the hides and remove the lime therefrom. The hides are then well fleshed and split into thin layers in any well known manner. These layers are then soaked in a bath of liquid ammonia for from ten to fifteen minutes, after which they are thoroughly dried and cut into strips of the width desired for winding. The strips are then subjected to a bath consisting of a solution of sulphuric acid and water, in about the proportion of one part of acid to thirty two of water, for about ten minutes. A bath of pure naphtha might be substituted for the sulphuric acid one above mentioned with equally good results. The effect of either of these baths is to cause a drawing or exudation of the oil or grease contained in the rawhide strips. The result of this treatment leaves the strips, when dried, hard and tough like horn, and possessing great strength.

In winding the strips around the core, cement is first applied to both surfaces to cause the successive overlapping layers to adhere, and this application of the cement also serves to soften the rawhide sufficiently to permit of easy and perfect winding; and in winding the spaces or seats between the collars or bands are first filled. The strips are wound tightly around the core between said points in spiral overlapping layers until the spaces or seats are filled flush with the tops of the collars or bands, the cement pressure and strain causing the layers to adhere firmly. After the spaces or seats have been filled with the rawhide layers the breech is then wound in a like manner. In winding the breech I commence at the outer end and wind the strip around the core, filling the first step or depression, and, when filled even with the second step or depression, the winding is continued until both of said steps or depressions are filled flush with the third step or depression, and so the winding continues until the breech is incased flush with top of the first collar or band a . After all of the spaces or seats and depressions are filled with the spirally wound overlapping layers of rawhide the winding is continued the entire length of the gun until the required thickness is obtained, after which the gun is placed in a suitable lathe and the rawhide casing is turned down to the

desired shape. When turned down to the required shape a steel cap, C; having a groove or rabbet *c*, is fitted tightly over the breech portion of the thus far constructed gun, and
 5 a steel shell D, conforming to the taper of the forward portion of the gun is forced over the rawhide until its inner end fits snugly within the groove or rabbet *c* of the cap, where they are secured together. The cap C
 10 is provided with the usual trunnions, as shown in Fig. 3.

In place of the shell D I may provide the rawhide casing with a wire jacket, E, and instead of making the core-breech solid, as
 15 shown in Fig. 1, I may make it with a screw-threaded opening closed by a screw-threaded breech-block, as shown in Fig. 2.

In constructing gun-barrels, as shown in Fig. 5, I provide the core with the collars or
 20 bands as in the larger gun, and wind the rawhide strips around the said core in the same manner, filling the spaces or seats first, and then continuing the winding until the desired thickness is reached. After being turned
 25 down a shell, F, is forced over the rawhide casing until its inner end abuts against the abutment G, to which it is brazed or soldered.

By constructing guns and gun-barrels as hereinbefore described the tendency to trans-
 30 verse and longitudinal rupture is reduced to a minimum, as the rawhide gives the necessary tension to withstand the explosive strain of the charge.

Having thus fully described my invention,
 35 what I claim as new, and desire to secure by Letters Patent, is—

1. A gun having a metallic core provided with retaining collars or bands, an intermediate casing of rawhide and a metallic covering for said casing. 40

2. A gun having a metallic core formed with integral collars or bands on its exterior, and having an intermediate casing formed of strips of raw hide wound in successive overlapping layers, and a metallic covering for
 45 said casing.

3. In a gun the combination with a metallic core having a series of retaining collars or bands formed on its exterior and along its
 50 length, the same being of less diameter than the gun when built up, of an intermediate casing formed of strips of raw hide wound upon said core and between and over said collars or bands, and an exterior metallic covering, substantially as described. 55

4. The combination with a steel core having retaining bands or collars formed on its periphery, of an intermediate covering formed
 60 of strips of raw hide wound in layers thereon and between said collars, said layers or strips being subjected to a softening bath of cement, whereby they are rendered flexible in winding and held in position when wound,
 65 substantially as and for the purposes specified.

In testimony whereof I affix my signature in the presence of two witnesses.

FREDERICK ^{his} X LATULIP.
 mark

Witnesses:

J. R. NOTTINGHAM,
 EDWARD A. PAUL.