

F. SCHENKL.
Packing for Projectiles.

No. 45,951

Patented Jan. 17, 1865.

Fig:1.

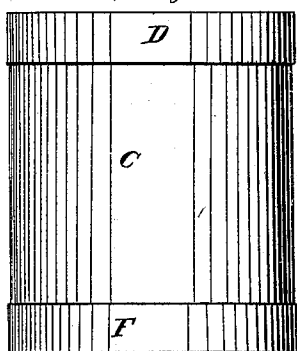


Fig:2.

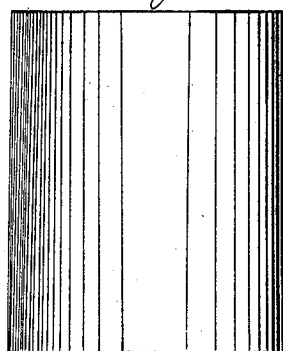


Fig:4.

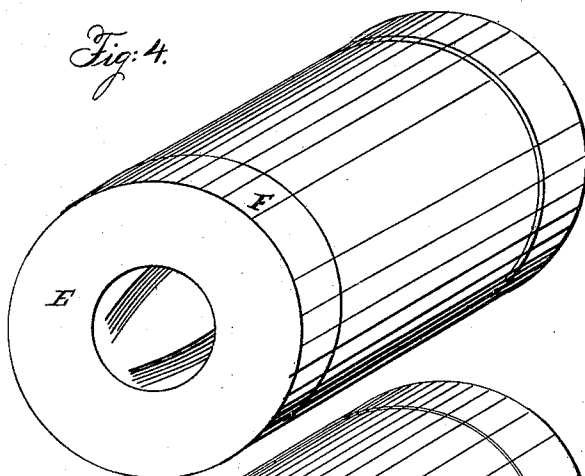


Fig:3.

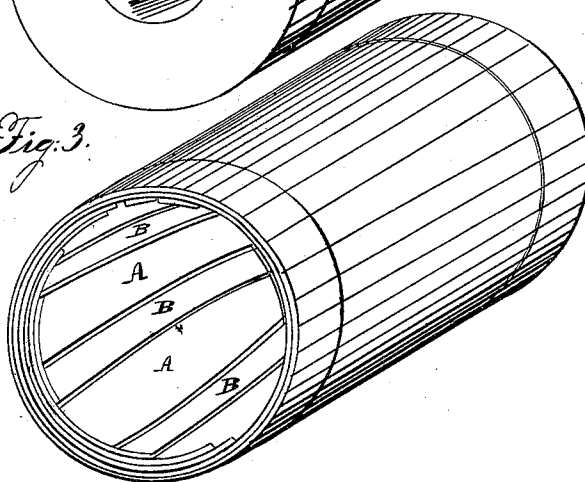
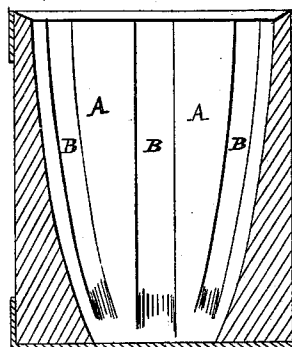


Fig:5.



Witnesses

Carlmal A Conant
Geo D Patton

Inventor

F Schenkl Adm^x
by his Attys
Baldwin & Sons

UNITED STATES PATENT OFFICE.

FREDERIKA SCHENKL, OF BOSTON, ADMINISTRATRIX OF JOHN P. SCHENKL,
DECEASED, ASSIGNOR TO HIMSELF AND EDWARD A. DANA, OF BROOK-
LINE, MASSACHUSETTS.

IMPROVEMENT IN PACKING FOR RIFLED PROJECTILES.

Specification forming part of Letters Patent No. 45,951, dated January 17, 1865.

To all whom it may concern:

Be it known that I, FREDERIKA SCHENKL, of Boston, in the county of Suffolk and State of Massachusetts, widow and administratrix of JOHN P. SCHENKL, deceased, late of Boston aforesaid, do affirm that in his life-time the said JOHN P. SCHENKL did invent a new and useful Packing for Projectiles for Guns or Ordnance; and I do hereby declare that the following is a full, clear, and accurate description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view in elevation of his improved packing finished. Fig. 2 is a similar view of the same without wrapper or bands. Fig. 3 is a view in perspective of the front end of the same. Fig. 4 is a perspective view of the rear end thereof, and Fig. 5 is a central vertical section through the same.

Like letters refer to like parts in all the figures of the drawings.

A perfect packing for heavy projectiles was a marked desideratum in gunnery previous to this invention. The packing is required to be light, for ease in handling and to diminish the difficulties of transportation; strong, to protect it against injury from fracture when fired, or from rough handling; compressible, that it may be condensed and forced into the grooves of a rifled gun and into the grooves of the projectile, and thus at the same time form a perfect gas-check between the walls of the bore of the gun and the circumference of the projectile, and secure positively an axial rotation to the latter. Besides all these qualities, the packing should be composed of materials not injurious to the bore of the gun, and inexpensive, to promote the economy of the service. It was the object of the said JOHN P. SCHENKL, deceased, to embody all these advantages in his invention, which therefore consisted in forming the packing of papier-maché, or other paper-pulp, condensed by pressure on a former, or on the projectile, to the required firmness, and strengthened by a firm paper wrapping securely attached by some strongly adhesive substance, and with a narrow soft-metal band at the top and a band

and disk at the bottom, to protect the packing from injury from rough handling and from the weather, and coating it on the outside with a proper material to render it water-proof.

In making this packing of paper-pulp, the material must be taken in a soft, plastic state and pressed into a mold of the proper diameter and around a former having grooves to match the ball or shell, or around a ball or shell having the proper grooves. It may then be dried and again pressed in the mold and around the former, the pressure being applied only in the direction of its length, when it will present externally the appearance, as shown in Fig. 2 of the drawings, and internally (viewed from the top) the appearance shown in Fig. 3, and when viewed from the bottom the appearance shown in Fig. 4.

In Figs. 3, 4, and 5 the ribs on the packing are shown at A A and the grooves on the same at B B, while the external surface is a smooth cylinder of a diameter only sufficiently less than the diameter of the bore to permit its easy introduction therein down to the breech or chamber upon the charge of powder or powder-cartridge.

When the packing is made of papier-maché, the compound may be made to consist of such proportions of paper-pulp, resins, gums, drying matter, and oils as will constitute chromic papier-maché, or that which is of a wax-like character, which may then be put into form in the same manner as above described for paper-pulp, and in the same mold, around the same former, or a grooved ball or shell, when its appearance will be not unlike in color and the same in shape as seen in Figs. 2, 3, 4, and 5 of the drawings.

The packing (made of either material, in the form and in the manner described) is of a close texture densely compacted together, and much resembles in appearance and is nearly as heavy as the closest-grained beech or oak timber, and is now ready for finishing. The packing is now covered with a wrapping of strong cartridge-paper, as at C, Fig. 1, by coating the paper with glue or any other proper adhesive substance, and rolling it around the packing, so as to cover it with one or more

smooth thicknesses of paper, after which a narrow metallic band, D, is securely fastened by solder or otherwise and pressed tightly down on the packing and over the paper until it comes flush, or nearly so, with the top of the packing, as shown in Fig. 1; or the band for the top of the packing may be made to fit snugly against the edge of the paper wrapping instead of going over it.

To the bottom of the packing a metal disk, E, with a central opening as large as that in the packing, is neatly fitted and secured in place by being firmly soldered or otherwise fastened to a narrow metal band, F, made to fit tightly on the lower edge of the packing and pass over or rest against the edge of the paper wrapping, as preferred. These bands and disks may be made of copper, zinc, or any suitable soft metal, and the top band may be cut from a cylinder or tube; or it may be spun up in the usual way from a flat disk, so as to require no rivets or solder. The disk and lower-band may be formed by stamping with suitable dies; or the band may be spun up from the edge of a disk of suitable size, and thus obviate the necessity of forming the lower disk and band separately, and uniting them by rivets or solder.

The packing, when covered with paper, and its disk and bands are fitted neatly upon it, may be coated with any suitable water-proof covering to protect it against moisture.

When the projectile is placed within the

packing and both are forced down upon the charge of powder in a rifled gun, and the charge is fired, its expansion will instantly so compress the packing as to perfectly fill the grooves of the gun and prevent wholly the escape of any gas between its outer circumference and the bore, and firmly embrace the projectile, and thus of necessity the packing will impart the desired axial rotation to the projectile due to the curve or twist of the rifle-grooves. If used with ordnance not rifled, the compression of the packing will effect a perfect gas-check between it and the bore, while it will embrace the projectile firmly and assist in lubricating the bore.

I do not claim, substantially, making a packing-ring or sabot for projectiles of papier-maché, nor protecting the same by a metal casing, nor rotating the projectile by the sabot; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

The combination of a papier-maché sabot, with a metallic ring at top and a ring and disk of metal at the base to protect it, substantially in the manner described.

In testimony whereof I have hereunto subscribed my name.

FREDERIKA SCHENKL,

Administratrix of John P. Schenkl.

Witnesses:

BENJ. DEAN,

J. G. ABBOTT.