

UNITED STATES PATENT OFFICE.

A. K. JOHNSTON, OF MIDDLETOWN, CONNECTICUT, AND L. DOW, OF TOPEKA,
KANSAS.

IMPROVEMENT IN ENVELOPES FOR CARTRIDGES FOR FIRE-ARMS.

Specification forming part of Letters Patent No. **34,061**, dated January 7, 1862.

To all whom it may concern:

Be it known that we, ALGERNON K. JOHNSTON, of Middletown, in the State of Connecticut, and LORENZO DOW, of Topeka, in the State of Kansas, have invented, and do claim as our joint invention, a new and improved method of making the envelope for cartridges for rifles, muskets, carbines, shotguns, pistols, and all species of fire-arms in which a percussion-cap or its equivalent is used to ignite the charge.

We here append a full and exact description of our invention and of the mode of manufacture.

Paper, cloth, or other fabric or textile material is first converted into gun-cotton, or its equivalent, in the usual manner, viz: by treatment with nitric acid (NO_5) in combination with sulphuric acid, (SO_3) or with a nitrate—as nitrate of potash (KONO_5)—and sulphuric acid in combination. If the raw material has been used, it must next be manufactured into a fabric. Next, the cartridge, having been made with powder and ball in the usual man-

ner, is treated with a coating of collodion, thus producing a cartridge perfectly combustible, entirely water-proof, and of great strength.

The advantages of this over any other method are that hereby a cartridge possessing the above-named qualities is produced at a smaller cost and much more expeditiously than by any other plan.

We do not claim to have invented gun-cotton, nor to have first used it in the construction of a cartridge; neither to have been the first to make use of collodion as a waterproofer; but the combination without the use of an oxidizing-salt is new.

We then desire to obtain Letters Patent for and claim—

As an article of manufacture, the envelope of a cartridge constructed as above described, and for the purposes set forth.

ALGERNON K. JOHNSTON.
LORENZO DOW.

Witnesses:

JULIUS R. POMEROY,
DANIEL POMEROY.