

A. TILLMES.
Cartridge.

No. 227,191.

Patented May 4, 1880.

Fig. 1.

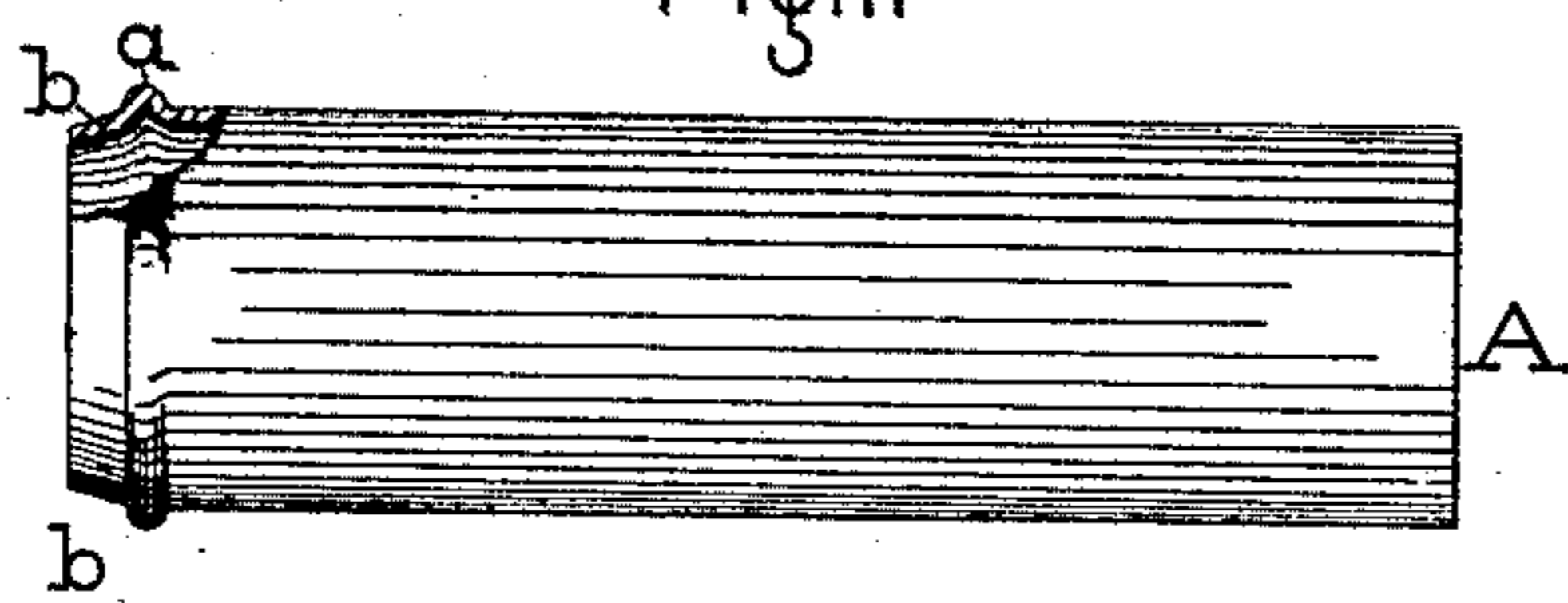


Fig. 2.

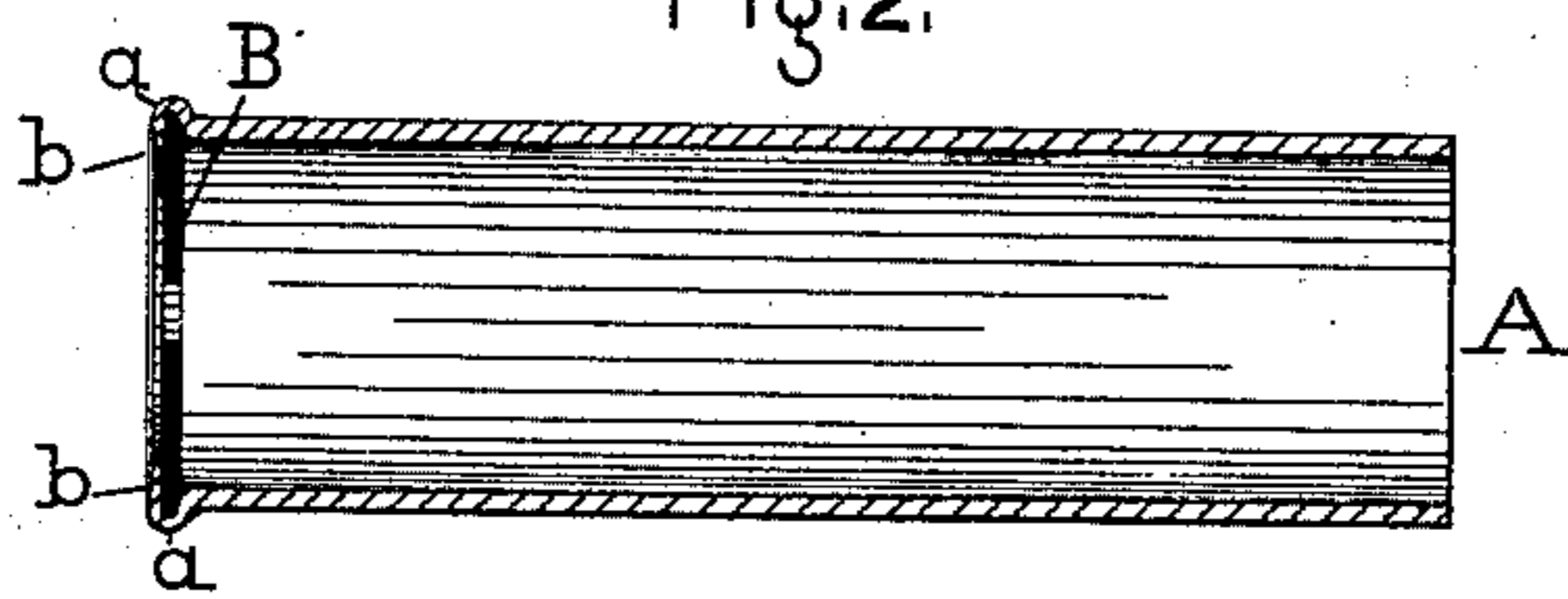


Fig. 3.

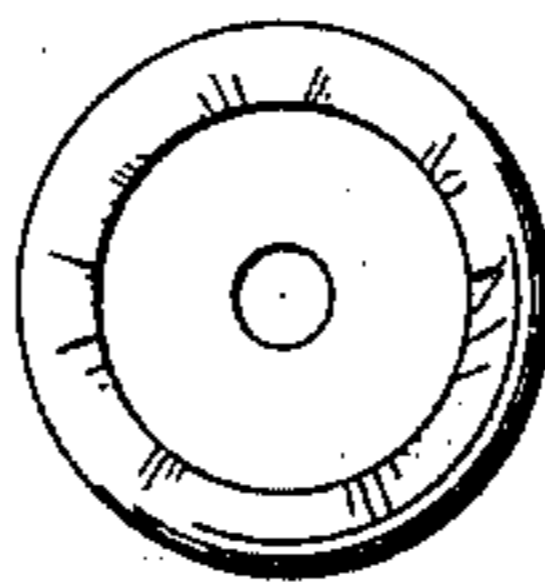


Fig. 4.

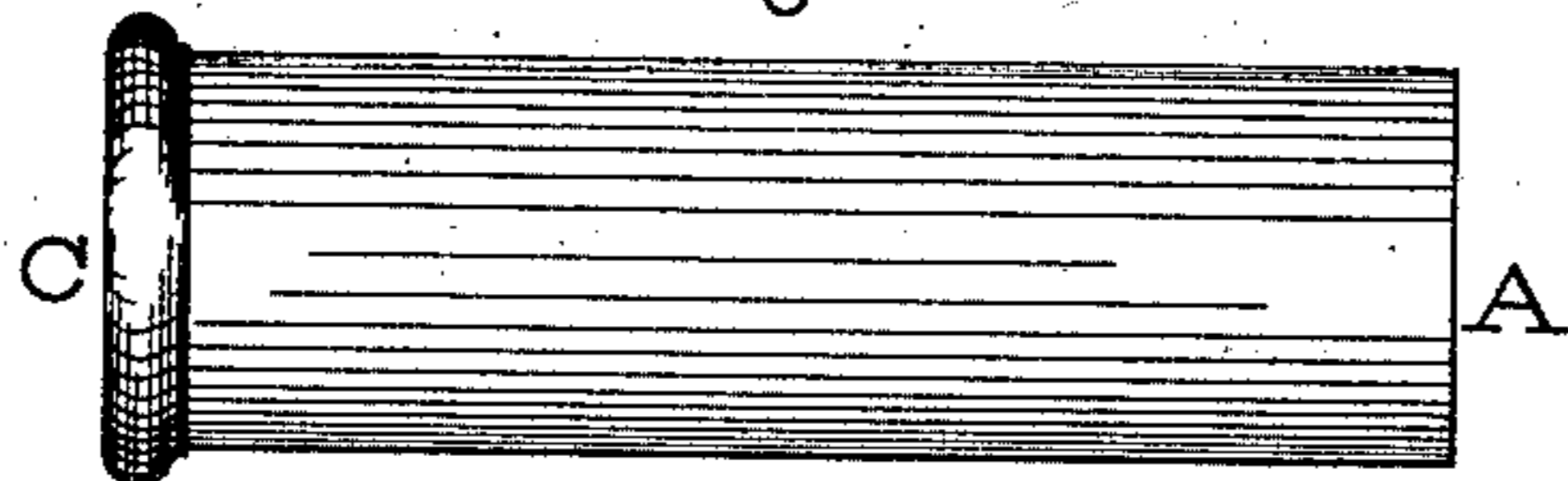


Fig. 5.

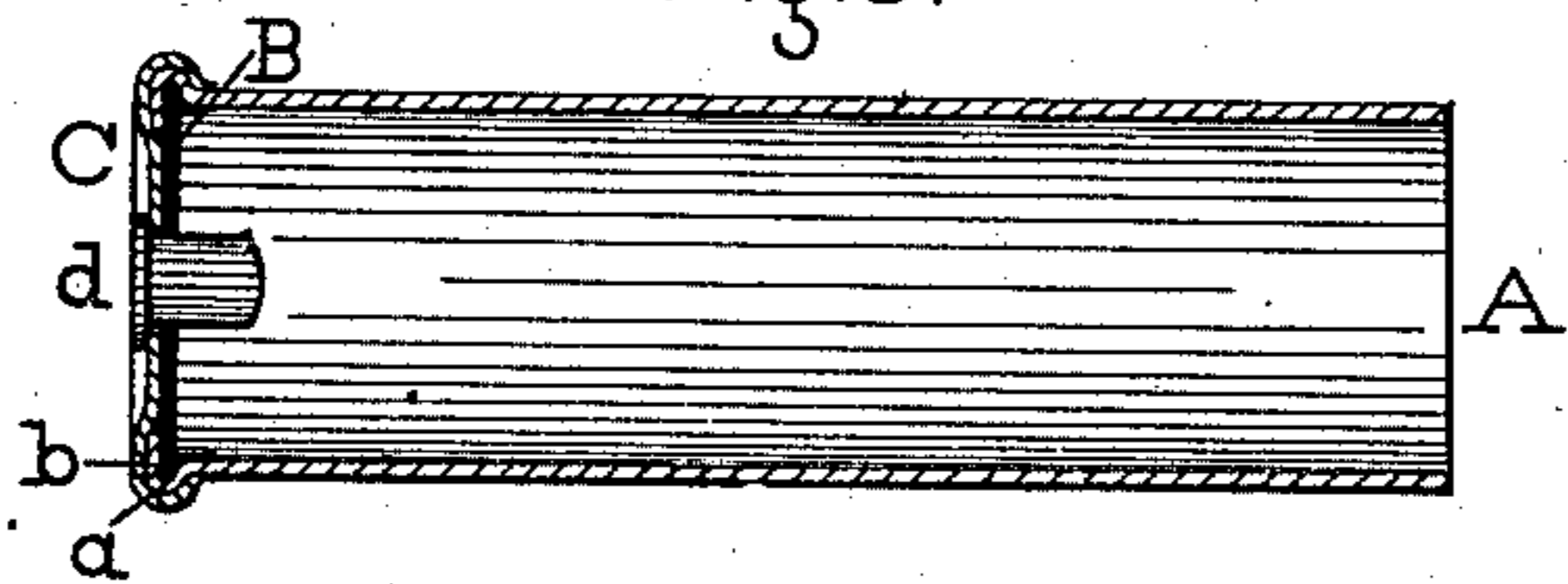
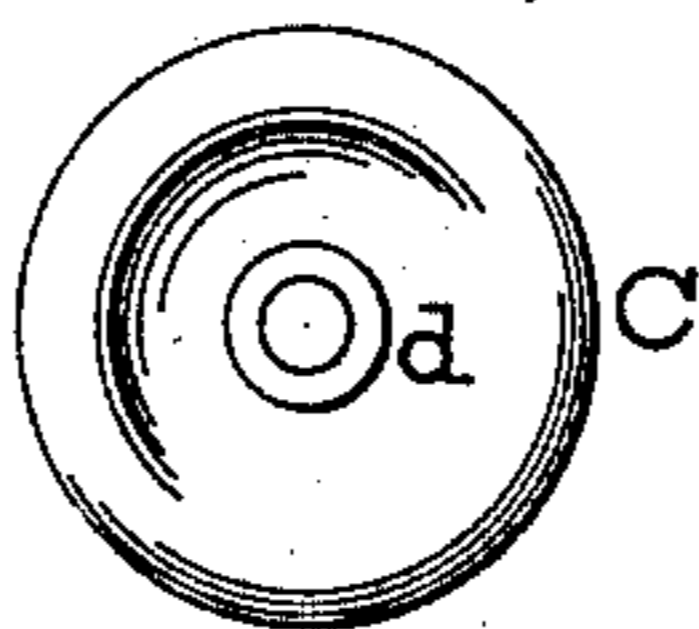


Fig. 6.



Witnesses:

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CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 227,191, dated May 4, 1880.

Application filed August 28, 1879.

To all whom it may concern:

Be it known that I, AUGUST TILLMES, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Cartridge-Shells, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figures 1 and 4 are side elevations of the cartridge-shell embodying my invention. Fig. 2 is a longitudinal section of Fig. 1, showing the flange *b* turned in at a right angle to the wall of the shell. Fig. 5 is a longitudinal section of Fig. 4. Figs. 3 and 6 are end views, respectively, of Figs. 2 and 4.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a paper cartridge shell or case having the rear end of the case crimped, so as to embrace the edges of a flat inner disk, and retained between said disk and an exterior re-enforce which is turned over and forms the flange of the cartridge.

It also consists of the exterior disk-shaped re-enforce, formed of metal and enveloping the offset of the shell, so as to strengthen the same for engagement of the cartridge-retractor.

Referring to the drawings, A represents a shell, which is formed of a tube of stout or strong paper crimped circumferentially near one end to form an offset, *a*, the extreme end or projecting portion *b* adjacent to the offset being left somewhat flexible.

B represents the base, consisting of a disk whose diameter is slightly less than the inner diameter of the offset *a*. This disk-shaped base is sprung into the offset so as to snugly fit the same, and thus be securely held in position at the base of the shell.

The projecting end *b* is folded over the base B, as in Fig. 2, thus providing additional means of holding or sustaining the base.

C represents a disk, which is termed an "ex-

terior disk-shaped re-enforce," and is placed against the folded end *b* of the shell and outer face of the base B, and secured thereto by gumming, if so desired.

Through the disk C and base B is passed the pin *d*, which pierces the fulminate or cap-holder, which directs the fire of the cap to the powder of the shell.

It will be seen that the shell A is formed entirely of paper, thus being light and cheap, and the crimp or offset *a* and base B vastly strengthen the base portion of the shell, thus increasing the endurance of the shell without materially increasing its weight. It will also be seen that the base is confined and supported by the offset *a*, and, furthermore, sustained by the folded end *b* of the shell resting against its outer face.

The re-enforce C assists in holding the end *b* in position against the base B and provides additional strength for the base end of the shell. It is formed of metal, and has its circumference bent over by swaging, spinning, squeezing, or other means, so as to envelop the offset *a* exteriorly, whereby the latter, and consequently the base proper, is vastly strengthened, a strong metallic surface is presented for engagement of the cartridge-retractor, and the re-enforce retains its position.

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

A paper cartridge shell or case having the rear end of the case crimped, so as to embrace the edges of the flat disk B, and retained between said disk and the re-enforce C, which is turned over and forms the flange of the cartridge, all substantially as and for the purpose set forth.

AUGUST TILLMES.

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