

(No Model.)

A. REINISCH.  
CARTRIDGE CASE.

No. 436,150.

Patented Sept. 9, 1890.

Fig. 1.

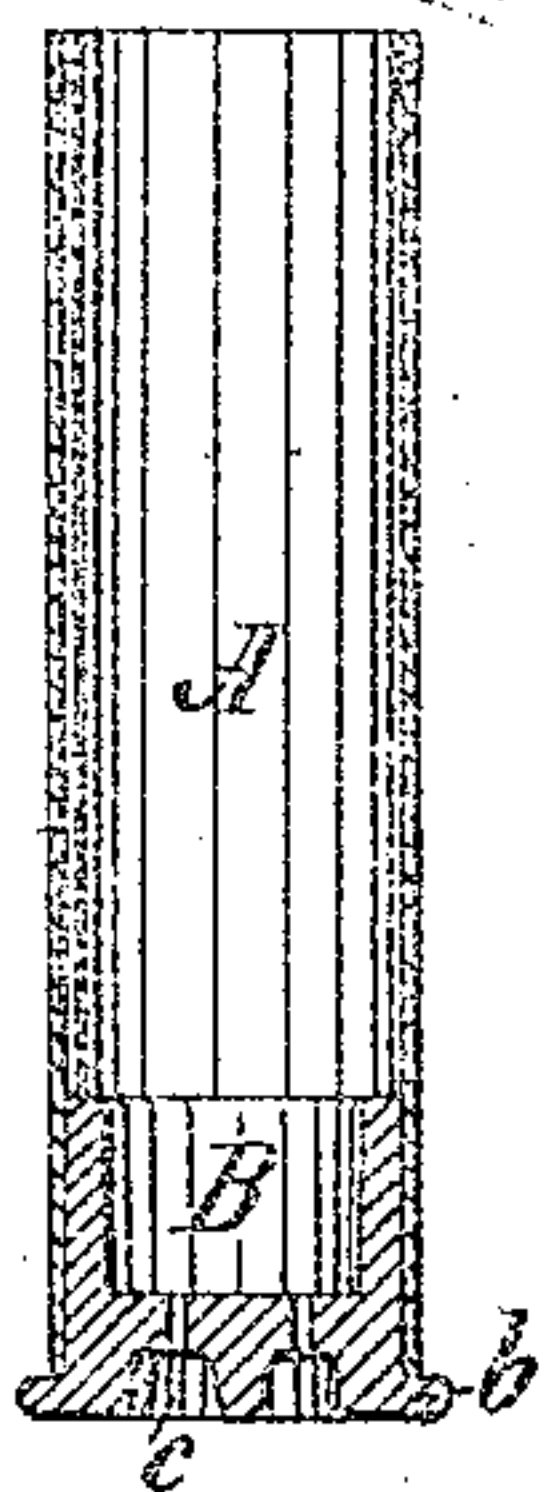


Fig. 2.

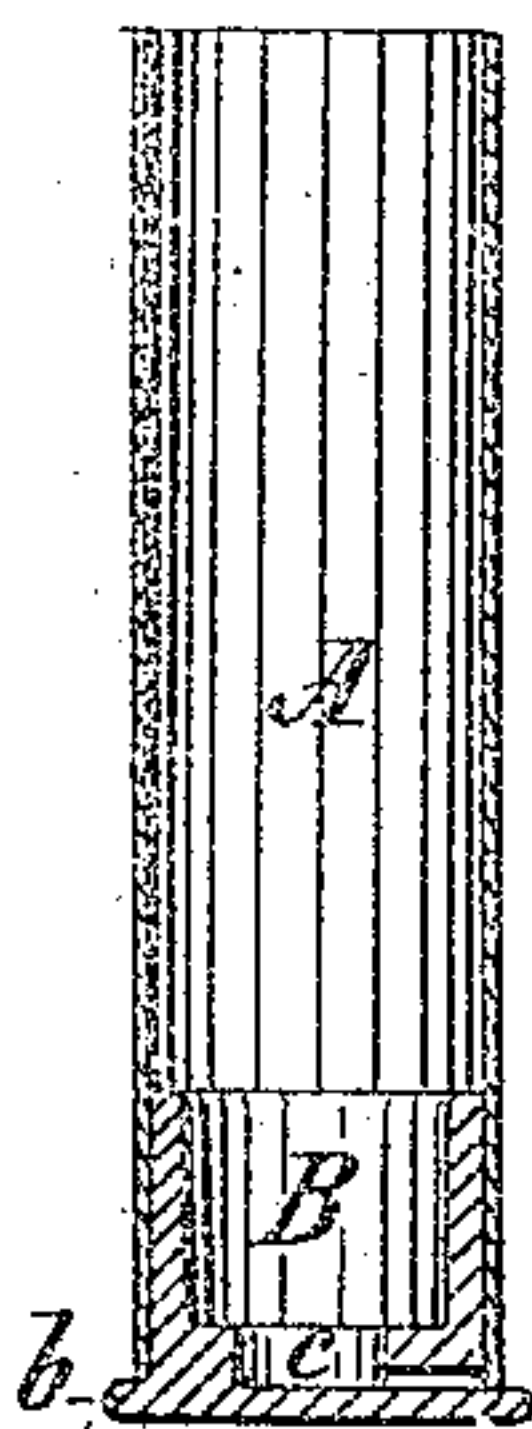


Fig. 3.

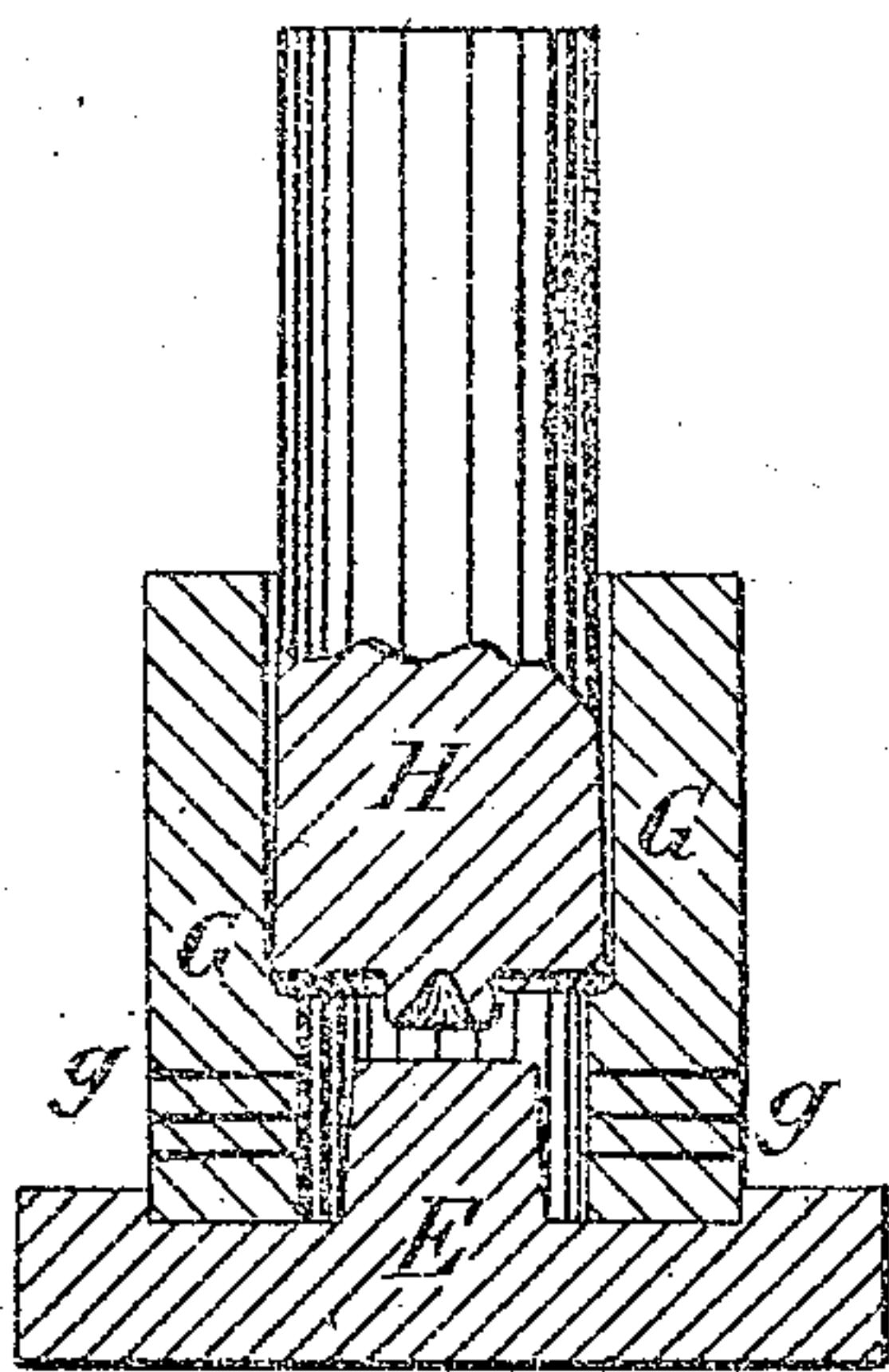
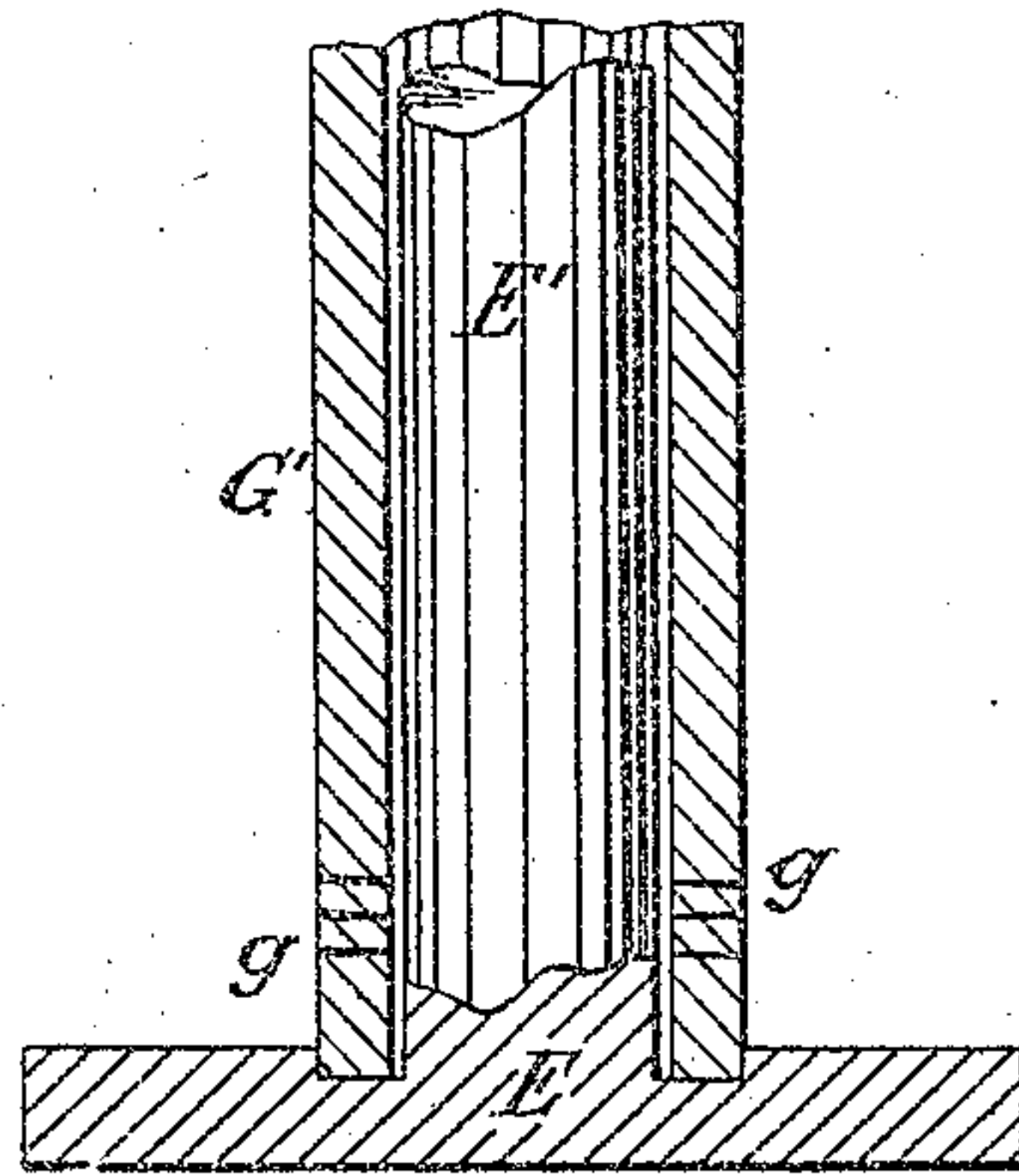
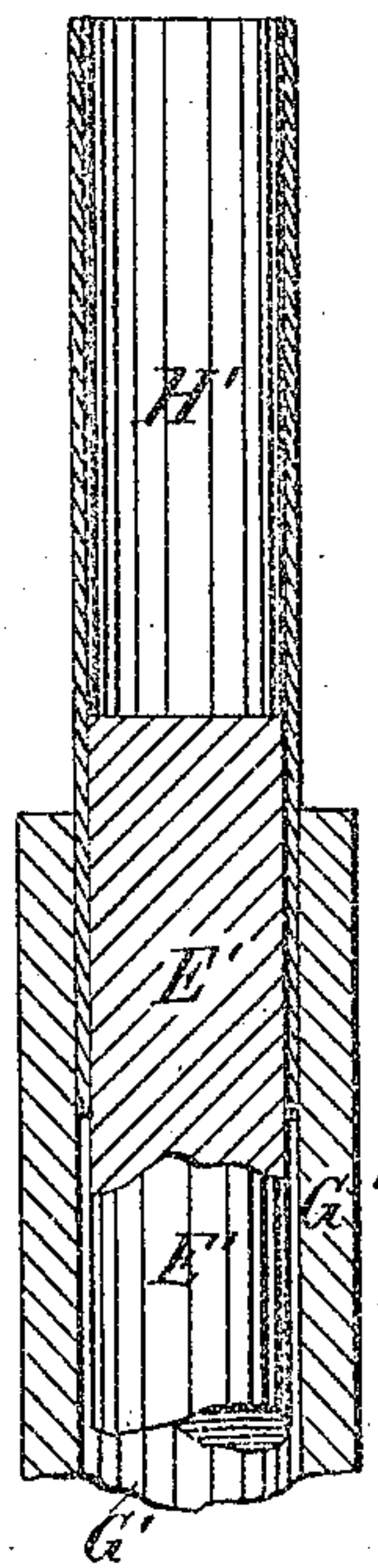


Fig. 4.



Witnesses

John Revell  
George Baumann

Inventor

Anton Reinisch  
By his Attorneys  
Howen and Howen



# UNITED STATES PATENT OFFICE.

ANTON REINISCH, OF VIENNA, AUSTRIA-HUNGARY.

## CARTRIDGE-CASE.

SPECIFICATION forming part of Letters Patent No. 436,150, dated September 9, 1890.

Application filed February 11, 1890. Serial No. 340,048. (No specimens.)

*To all whom it may concern:*

Be it known that I, ANTON REINISCH, a subject of the Emperor of Austria-Hungary, and a resident of the city of Vienna, in Austria-Hungary, have invented certain new and useful Improvements in Cartridge-Cases, of which the following is a specification.

According to the present improvements the cartridge-case is formed of two parts, both of which are manufactured of a particular material later described.

With reference to the accompanying drawings, Figure 1 shows a central-fire-cartridge case, and Fig. 2 a pin-fire-cartridge case, made according to the present invention. Figs. 3 and 4 show the molds for manufacturing the parts of the cartridge-case.

A is the tubular part of the cartridge-case B is the head, provided with the flange *b* and with the chamber *c*, into which the priming-cap is inserted.

According to the present improvements the cartridge-case is manufactured from a pulp prepared from cordage. The cordage—that is to say, ship's ropes or rope ends—is treated in the way usual in making tough paper from such material. It is first cut into small pieces, then ground, washed, and again treated in a pulping-machine. The pulp obtained is mixed with five per cent. of its own weight of a solution of starch. The mixture is then suitable for the manufacture of the cartridge-cases.

Without departing from the substance of this invention, any of the following materials may be added to the cordage when a minor quality of cartridge-cases is manufactured, viz: linen, cotton, hemp, jute, sulphite cellulose, white or brown wood pulp or straw pulp, fine or coarse packing-rags or other rags, twine refuse, spinning-refuse, cording refuse, cotton-wool, animal hairs, vegetable fibers, gypsum, chalk, potatoes, mealy pulpy substances, such as paste, gluten, glue, and the like.

The pulp prepared as above described is put into steel or metal molds, as shown in Fig. 3, for forming the cartridge-head B, or, as in Fig. 4, for forming the cartridge-tube A. The molds consist of the lower part E E', the middle part G G', and the stamp or die H H'. The die H may be suitably engraved with any design or letters representing the quality of the cartridge-case, its caliber, the name of

the maker, &c. The pulp poured into the mold is subjected to a pressure of about a ton, and the expressed liquid passes out through holes *g*, suitably arranged in the mold. The cartridge-tubes A thus made are well dried and finally polished with agate.

The cartridge-heads B made as above described are well dried, then dipped into an oil bath, and immediately taken out and well baked for about two hours in an oven at a temperature of about 50° to 60° centigrade, which causes it to attain the consistency of bone. The cartridge-head is finally coated with a bronze paint, giving it the appearance of brass. The manufacture of the cartridge-case is completed by applying fluid glue to the cartridge-head B, and then inserting it into the tube A, and finally drying it.

The cartridge-cases manufactured as described have the following advantages: First, the tube A, being molded and not made of rolled paper, is of uniform strength and not liable to split in firing; second, the head B is of less weight than a metal head and does not oxidize or cause oxidation, as it does not contain metallic or corrosive materials; third, the gun is not liable to injury through friction in using such cartridges, as there is no friction of metal against metal; fourth, the cartridge-case having a bone-like consistency resists injurious influences of weather, &c., and does not suffer from exposure to wet; fifth, the cartridge-cases are much cheaper than those hitherto used.

I claim—

1. A cartridge-case composed of two parts, the tube and the head, both of molded paper-pulp, the head coated with oil and baked and fitted into the tube, which has its outer surface polished.

2. The mode herein described of manufacturing cartridge-cases, consisting in preparing a pulp from cordage, pressing the same into molds to form the separate tube and head, polishing the tube, oiling and baking the head, and fixing the head into the tube, all substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

ANTON REINISCH.

Witnesses:

P. O. PAGET,  
T. G. HARDY.