

No. 618,997.

Patented Feb. 7, 1899.

I. M. ROSE.

PERCUSSION TAPE AND METHOD OF MAKING SAME.

(Application filed June 3, 1897.)

(No Model.)

FIG. 1.

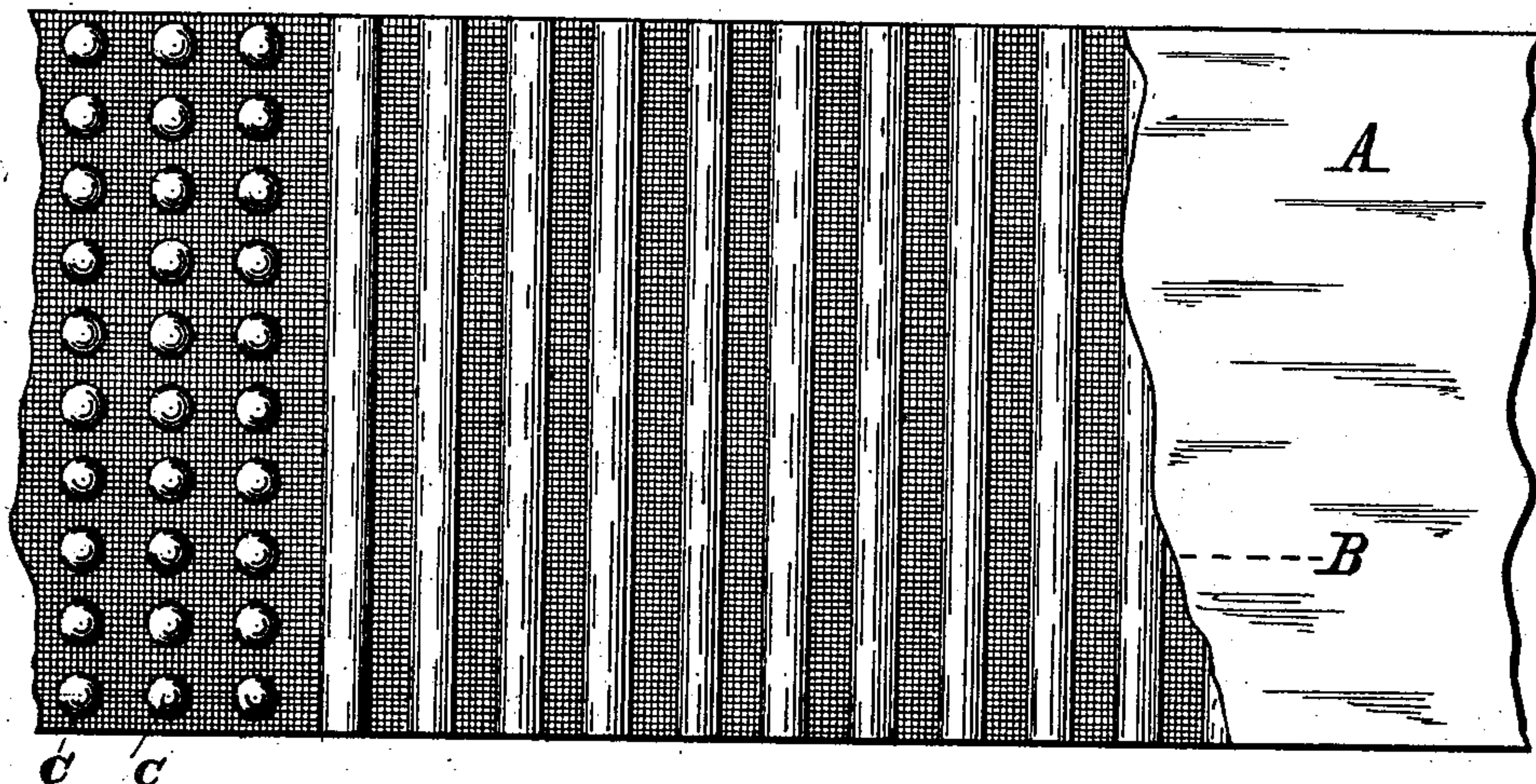


FIG. 2.



FIG. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ISRAEL M. ROSE, OF PHILADELPHIA, PENNSYLVANIA.

## PERCUSSION-TAPE AND METHOD OF MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 618,997, dated February 7, 1899.

Application filed June 3, 1897. Serial No. 639,300. (No specimens.)

*To all whom it may concern:*

Be it known that I, ISRAEL M. ROSE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Percussion-Tapes for Lighting Devices and Method of Producing Same; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to percussion-tapes for lighting devices and method of producing the same; and it consists, essentially, in the novel and peculiar combination of parts and details of manipulations, as hereinafter first fully set forth and described and then pointed out in the claims.

In the drawings already referred to, which serve to illustrate my said invention more fully, Figure 1 is a plan of a sheet of lighter-tapes constructed in accordance with my invention. Fig. 2 is an edge view of the same. Fig. 3 is a plan of one of the tapes.

Like parts are designated by corresponding letters of reference in all the figures.

The object of this invention is the production of igniting-tapes for pocket-lamps and other lighters which shall be efficient in action, not liable to deterioration when subjected to atmospheric influences, and that shall burn a much longer time than those now in use. To accomplish these results, I produce these lighter-tapes in the following manner:

I first take a sheet of suitable paper A, such as Manila stock and of proper width, and cement thereto a textile fabric or webbing B by any suitable glue solution and allow this compound sheet to dry spontaneously or by the application of heat or a current of air. I also compound a suitable composition of ignitable substance or substances capable of being ignited by friction, such as is now used on parlor-matches, being a compound of phosphorus and any of the salts or oxids containing oxygen, such as black oxid of manganese, chlorate of potassium, &c., and after dampening the compound sheets deposit this

composition when in a pasty condition upon said sheets either in the form of drops or pellets C or in transverse streaks C' and then allow the sheets to dry spontaneously. In this condition the sheets are readily ignitable and combustible, but not durable, since they are affected by atmospheric temperature and humidity, and to protect them against the influences of moisture I soak the sheets for a sufficient length of time in an alcoholic solution of a resin, such as shellac, &c., and removing them from such solution pass them immediately through flexible compression-rollers to remove therefrom all superfluous moisture, but leaving them in a damp state. In this condition the sheets can be safely handled and will be cut up by any suitable shearing device into strips or tapes, care being taken that the sheets are kept in a damp condition and should they begin to dry while being cut to moisten them with the alcoholic solution by means of a sponge, and as soon as the strips are cut to roll them into coils and place them into metallic trays. Should at any time during this cutting process the work be interrupted, I immediately place all the remaining uncut sheets into a box capable of being hermetically sealed to prevent evaporation of the alcoholic solution, in which box the sheets will remain damp for a long time.

After cutting and rolling the tapes into coils and depositing them into trays, as described, I immerse the trays and their contents for a sufficient length of time in a bath of hot oil, paraffin, or other suitable substance to thoroughly impregnate them with a substance containing carbon or hydrocarbon, and thereby to render them thoroughly inflammable and to be readily consumed when ignited. The coils of tape are now ready for packing for market purposes, and they being protected by the resin they will not be affected by atmospheric conditions, so that when a streak or pellet of the igniting substance is scratched it will readily flash, and thereby ignite the material upon which the said pellets or streaks are deposited, and the latter being thoroughly soaked with carbon will burn for a much longer time than the usual percussion-tapes now in the market and be entirely consumed by combustion.



In lighting devices as now made, where the lighting-tape is fed by mechanism coming in contact with the igniting-pellets, there is a liability of igniting the pellets or streaks by frictional contact with the feeding device, which usually feeds by the projecting pellets being part of the means for feeding them. To overcome this objection, I produce in the tapes a series of notches E, one between each pellet or streak, with which notches the feeding device engages and feeds the tape along without touching the pellets or streaks, thereby avoiding any possibility of their being ignited by friction.

In the manufacture of tapes for lighting purposes the igniting composition when dry is very brittle and will not adhere sufficiently to paper to be scratched for ignition, but will fly off, and thereby render the tape useless and the person using the same liable to accident. By the introduction of the open-woven fabric or netting and depositing the igniting composition upon the fabric side of the compound tape when in a plastic condition the composition will fill the interstices of the netting and clench thereto, so as to be securely attached to the tape, and thereby avoid any possibility of the pellets or streaks chipping off when being used.

It is obvious that these tapes may be employed in pocket and other lighters having suitable mechanism for feeding or advancing the pellets or streaks into proper position to be ignited by the igniter.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. A percussion-tape for lighting devices

consisting of a compound paper and textile-fabric strip, percussion - pellets deposited upon the textile-fabric side of said compound tape, and a coating of a suitable resin upon said strip and its pellets, said tape being completely saturated with a combustible substance, substantially as described.

2. A percussion-tape for lighting devices consisting of a paper strip and an open-woven textile fabric cemented thereto, percussion-pellets deposited upon the textile fabric, a coating of resin upon said pellets, and notches in one edge of the compound strip and between the adjacent pellets, said tape being thoroughly saturated with a combustible, as and for the object set forth.

3. The method of manufacturing percussion-tapes for lighting devices consisting, essentially, in cementing an open-woven textile fabric upon suitable paper, depositing an igniting substance in a moist state upon the textile-fabric side of the compound sheet, soaking said sheet in an alcoholic solution of a resin, removing the superfluous liquid therefrom, then cutting the sheet when still in a moist state into suitable strips, rolling these strips into coils, then drying the coils, and finally soaking them in a hot bath of a combustible substance, as and for the object set forth.

In testimony that I claim the foregoing as my invention I have hereunto set my hand in the presence of two subscribing witnesses.

I. M. ROSE.

Attest:

LOWRIE MONTGOMERY,  
CHARLES EDW. FOULKE.