UNITED STATES PATENT OFFICE.

THEODORE H. BABCOCK, OF BROOKLYN, AND FRANCIS CARR UPTON, OF NEW YORK, N. Y., ASSIGNORS OF ONE-THIRD THEIR RIGHT TO SAMUEL BABCOCK, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN CIGARS.

Specification forming part of Letters Patent No. **196,552,** dated October 30, 1877; application filed September 15, 1877.

To all whom it may concern:

Be it known that we, THEODORE H. BABCOCK, of Brooklyn, in the State of New York, and FRANCIS C. UPTON, of New York city, in the State of New York, have invented certain new and useful Improvements in Cigars, of which the following is a specification:

This invention is directed to means whereby cigars, and, if desired, cigarettes as well, can be readily and surely lighted.

We propose to provide the cigar itself with material which can be ignited by friction, and will, when so ignited, communicate fire to the cigar. This, we are aware, has heretofore been attempted; but, so far as we are informed, the result has been arrived at by attaching to or inserting in the end of the cigar a friction wafer or cartridge of ignitible material. This is objectionable on the score of expense and trouble in applying the material to the cigar. There is also liability of the material becoming detached from the cigar.

These and other objections are removed by our invention. We apply to the end of the cigar the ignitible material while it is in a liquid or soft state, in such a manner that the tobacco shall be impregnated with the same. One way of so applying it is by dipping the end of the cigar to the desired depth into the composition until the tobacco at that end is permeated by the liquid, and becomes itself, in effect, an ignitible material.

Under these conditions the material becomes intimately incorporated into the cigar, the end of which is, in fact, saturated with the composition.

The composition, when dry, will harden, so that it can be ignited by friction. It further forms a cap which will protect the end of the cigar from breaking, and which also will exclude the air, and so, to great extent, preserve the flavor of the cigar. The cost of the material and expense of its application is but trifling.

Any suitable composition ignitible by friction can be employed. On the whole, we prefer to employ a composition analogous to that used in what are termed "safety-matches"—that is to say, a composition which will ignite by friction only when rubbed on a surface specially prepared for the purpose.

In this way all danger of the cigar becoming improvidently ignited—as, for instance, when packed and in course of transportation—will be avoided.

One composition of the kind which may be used for the purpose is as follows:

For the cigar, six parts chlorate of potash, two parts bichromate of potash, two parts oxide of iron, and five parts pulverized charcoal. Mix these ingredients with hot glue to proper consistency for application to the cigar. Dip into this composition the end of the cigar to the proper depth, and then allow it to dry.

For the friction-surface, ten parts amorphous phosphorus and eight parts sulphide of antimony. Mix these ingredients with glue dissolved in cold water to thin consistency, and coat with the composition the card-board or other article on which the friction-surface is to be formed.

Cards having a friction-surface of this character can be furnished at a nominal cost to the purchaser of the prepared cigars.

The cigar thus prepared can be ignited with ease and absolute certainty in wind or rain. Not only can it be ignited by friction, but also by touching it with an ember or lighted match.

The composition, saturating more or less (as it does) the end of the cigar, and being, in fact, incorporated therewith, unfailingly ignites the cigar, and, burning slowly, keeps the cigar lighted for some time without rendering it necessary for the smoker to take the cigar in his mouth. The cigar can, however, be smoked the moment it is lighted, since the composition is innoxious, and has no offensive taste or odor.

It will be understood that we do not limit ourselves to the particular composition whose formula is above given. Any other suitable composition ignitible by friction, whether upon a specially-prepared surface or not, will answer our purpose. It is manifest, however, that all compositions of the kind are not suitable for our purpose, since some are composed of ingredients which give off noxious vapors offensive to the taste and smell, and, indeed, poisonous. It is only those that are composed of inoffen-

sive ingredients that are suitable. Further, they should be of such composition as to burn slowly, and to ignite and burn without flame.

The compound whose formula is above given possesses these characteristics, and may be considered as a type of the kind.

One further characteristic of that compound, it may be noted in passing, is the charcoal, which we find to highly conduce to a slow and sure burning composition.

The principal feature that characterizes our invention is the intimate incorporation of the composition with the cigar, due to the union of the two while the composition is yet in a liquid or soft state, in such manner, as before stated, that the composition shall saturate and thoroughly impregnate the tobacco fiber, thus rendered in itself a material ignitible by friction, even if the exterior coating of composition should be removed.

Another feature is, that while thus intimately incorporated with the cigar, it forms also a cap which covers the end and prevents it from breaking.

It will be understood that the invention is applicable also to cigarettes, and in using the word "cigar," we intend thereby "cigarette" as well.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. As a new manufacture, a cigar permeated at one end by a composition or material ignitible by friction, substantially as set forth.

2. The method of providing a cigar with an end ignitible by friction, by saturating the said end with a liquid composition which becomes hard when dry, and is ignitible by friction.

3. A cigar one end of which is permeated by a composition ignitible by friction only when brought into contact with a specially-prepared frictional surface, as set forth.

In testimony that we claim the foregoing as our own we hereunto affix our signatures in presence of two witnesses.

THEODORE HURLBUT BABCOCK.
FRANCIS CARR UPTON.

Witnesses:
FRANCIS B. ALLEN,
ELTON JORDAN.