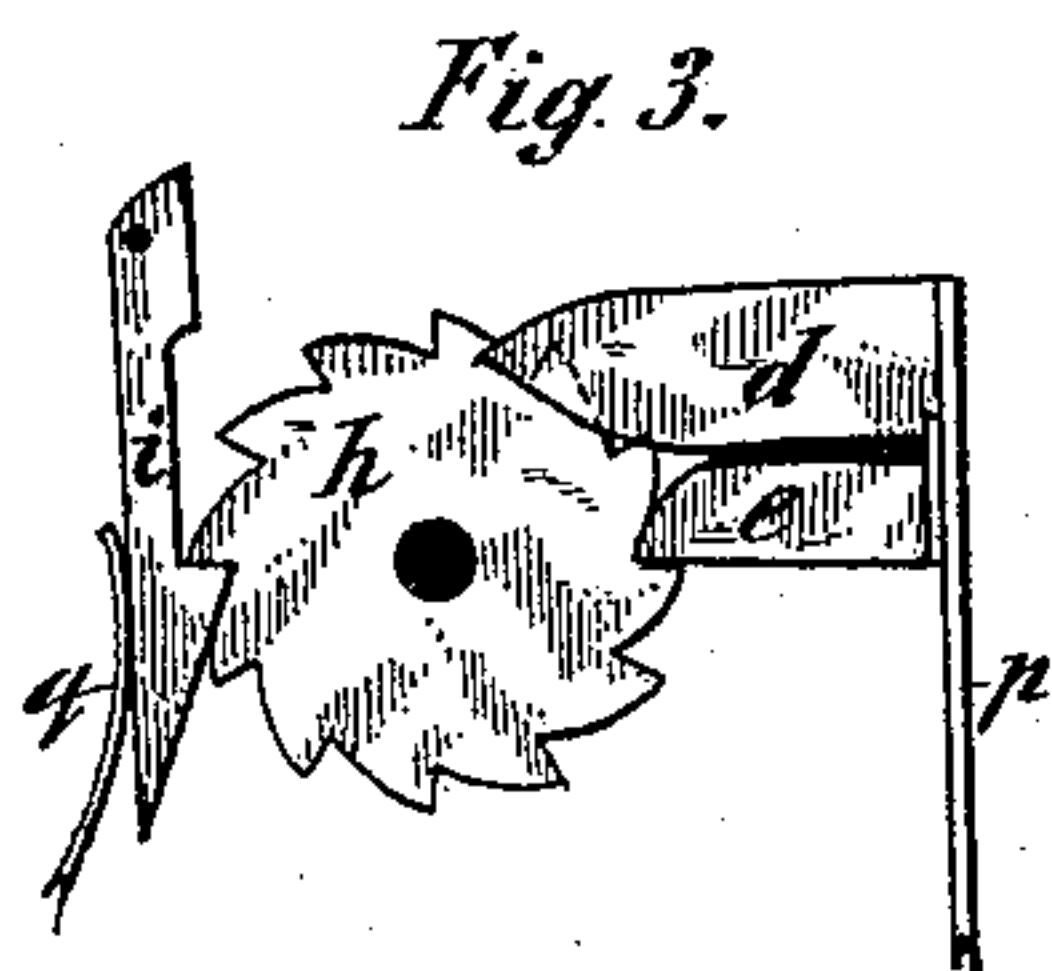
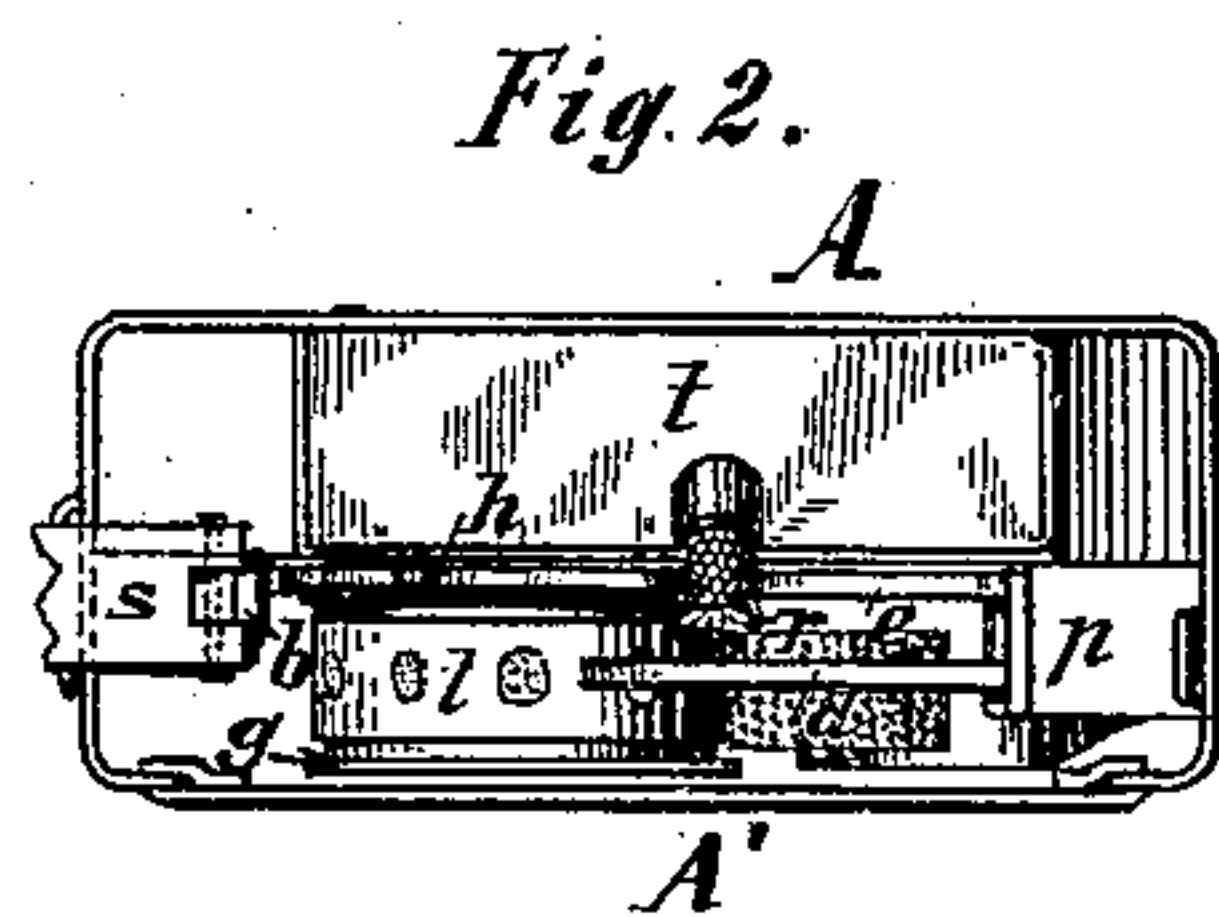
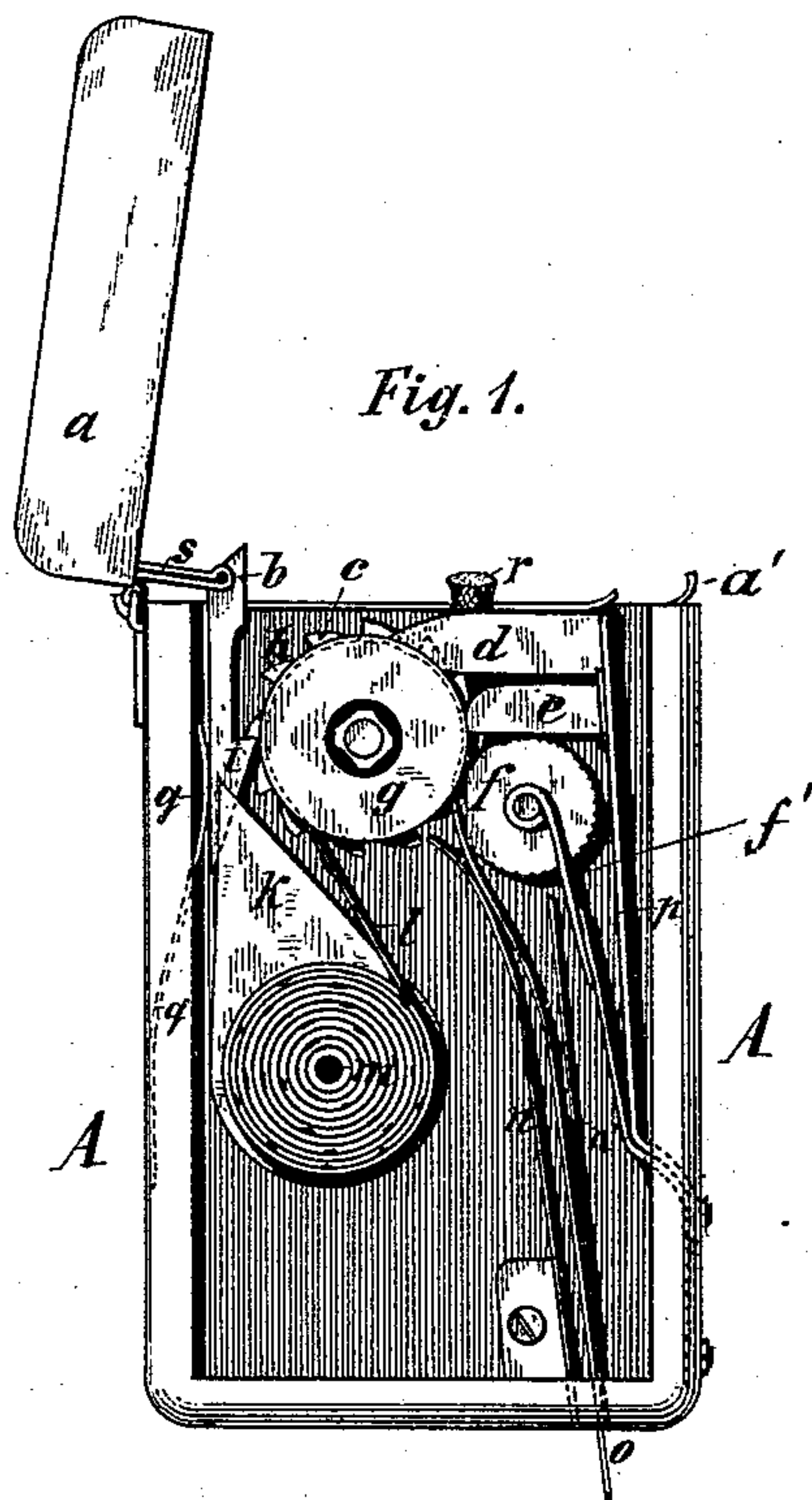


(No Model.)

W. LANG.
POCKET LIGHTER.

No. 487,845.

Patented Dec. 13, 1892.



WITNESSES:

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POCKET-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 487,845, dated December 13, 1892.

Application filed February 6, 1892. Serial No. 420,540. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LANG, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Pocket-Lighters, of which the following is a specification.

This invention relates to an improved pocket-lighter of that class in which is combined a percussion lighting device with a small lamp, the wick of which is ignited by the automatic working of the percussion device by the opening of the cap of the lighter; and the invention consists of a pocket-lighter having a small lamp arranged in one side part of the inclosing case, a guide-pulley for the tape provided with percussion-pellets, a star-wheel on said roller, a spring-hook connected with the hinged cover of the case, said hook being adapted to engage the teeth of the star-wheel and a spring-actuated hammer that is actuated by the star-wheel, so as to ignite the pellets, and a spring-actuated guide-wheel by which the spent tape is conducted along guide-flanges to an exit-opening in the case, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved pocket-lighter in which the detachable side wall is removed, so as to show the interior construction. Fig. 2 is a top view of the same, the cap being removed. Fig. 3 is a detail side view of the mechanism for actuating the hammer by which the pellets are ignited.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the case of my improved pocket-lighter; *a*, the cover, which is hinged at one end to the upper part of the case and adapted to be engaged and locked by a spring *a'* at the upper side of the same. To the cover *a* is attached, near its hinge, a fixed arm *s*, which is pivotally connected at *b* with a sliding hook-pawl *i*, that is acted upon by a spring *q*, so as to be placed in engagement with the teeth of the star-wheel *h*, that is attached to a guide-roller *g*, mounted to turn on a fixed shaft attached to the side wall of the lamp *t*, that is arranged at the interior of the casing A. The lamp *t* is provided with a wick-tube through which

the wick *r* is extended to the top. The lamp is provided with a hinged lid and is preferably filled in the usual manner with the cotton wicking or other suitable material, which is soaked with benzine or other suitable hydrocarbon oil, so as to supply the necessary substance for combustion to the wick *r*. The wick-tube is arranged at a slight inclination, so that the wick is brought close to the roller *g* and the hammer *d*. The tape *l*, which is provided with a number of percussion-pellets, is supplied in the form of a coil and placed on the pin *m* of a plate *k*, which latter is attached to the side wall of the lamp *t* and adapted to serve, in connection with said wall, as a guide for the hook-pawl *i*, as shown clearly in Fig. 1. The tape is conducted from the plate *k* over the guide-roller *g* and retained on the latter by a contact-roller *f*, which is supported in bearings of a suitable spring-arm *f'*, as shown clearly in Fig. 1. The surface of the roller *f* is slightly roughened, so that a certain friction is exerted on the tape, and the same thereby conducted from the guide-roller *g* along the guide-strips *n n'* to the outlet-opening *o*, which is arranged in the bottom of the casing A. The hammer *d* is applied to the spring-arm *p*, which, like the supporting-arm for the contact-roller *f*, is attached to the end wall of the casing A, said arm *p* being provided with a lug *e*, which is in the same plane with the star-wheel *h* and the hook-pawl *i*, so that it can be acted upon by the teeth of the star-wheel *h*, and thereby the hammer actuated by its spring whenever one of the teeth of the star-wheel presses the lug *e* away from the star-wheel, so that the hammer *d* exerts a blow on one of the fulminating pellets of the tape *l*.

The mechanism described is in full view when the detachable sliding side wall A', which is guided by means of flanges on the edges of the casing A, is removed, as shown in Fig. 1. Whenever the tape is spent, a new tape is inserted, the coiled tape being placed on the fixed pin *m* of the plate *k* and the tape next conducted over the guide-roller and between the same and the contact-roller *f*. The side wall A' is then replaced in position.

Whenever the pocket-lighter is to be lighted, the cover is opened and placed into entire open position, as shown in Fig. 1, whereby

the hook-pawl *i* engages one of the teeth of the star-wheel *h*, so that one of the teeth on the other side of the same can actuate the lug *e*, and thereby cause the hammer *d* to strike one of the fulminating pellets on the tape. The ignition of the same produces the lighting of the wick *r* of the lamp *t*, which then serves either for lighting a cigar or for any other purpose, as required. The spent tape is conducted past the contact-roller *f* and between the fixed guide-strips *n n'* to the outlet-opening *o* and is torn off from time to time as the same is gradually used up. On closing the cover *a* the light is extinguished.

The operation of the pocket-lighter takes place in a perfectly quick and reliable manner. The new tape is readily inserted and also the benzine or other oil easily supplied from time to time to the lamp by lifting the lid of the same, so that the whole forms a simple and effective pocket-lighter for general use.

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

1. The combination, with an inclosing case, a lamp having a wick-tube arranged within said casing, a tape having fulminating pellets supported in said casing, a guide-roller for said tape, a spring-actuated contact-roller, a star-wheel applied to said guide-roller, an actuating-hook for intermittently moving said star-wheel, a hinged cover for the casing, having an arm pivoted to the upper end of the actuating-hook, a hammer applied to the spring-arm, said arm being provided with a lug which is engaged by the teeth of the star-wheel, and guide-strips extending from the guide-roller to an outlet-opening in the case

for conducting the spent tape to the outside of the casing, substantially as set forth.

2. The combination, with a casing having a detachable side wall, a lamp arranged at the inside of the casing and provided with a lid having a laterally-inclined wick-tube, a hinged cover provided with an arm, a guided and spring-actuated actuating-hook connected with said arm, a guide-roller, a star-wheel applied to said guide-roller and engaged by said hook, a tape having fulminating pellets and applied to a pin on the inside of the casing, a spring-actuated hammer, the spring-arm of which is provided with a lug that is engaged by the teeth of the star-wheel, and a spring-actuated contact-roller that is located below the hammer, and guide-strips between which the spent tape is guided from the contact-roller to an outlet-opening in the bottom of the casing, substantially as set forth.

3. The combination, with a casing, of a guided and spring-actuated hook operated by the hinged cover of the casing, a guide-pulley for the fulminating tape, a star-wheel attached to said pulley and located in the same plane with the actuating-hook, a hammer applied to a spring-arm, a lug on the spring-arm of the hammer, also located in the plane of the star-wheel, so as to actuate the hammer by the star-wheel, and a spring-actuated contact-roller that is located below the hammer, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

WILLIAM LANG.

Witnesses:

PAUL GOEPEL,
CHARLES SCHROEDER.