

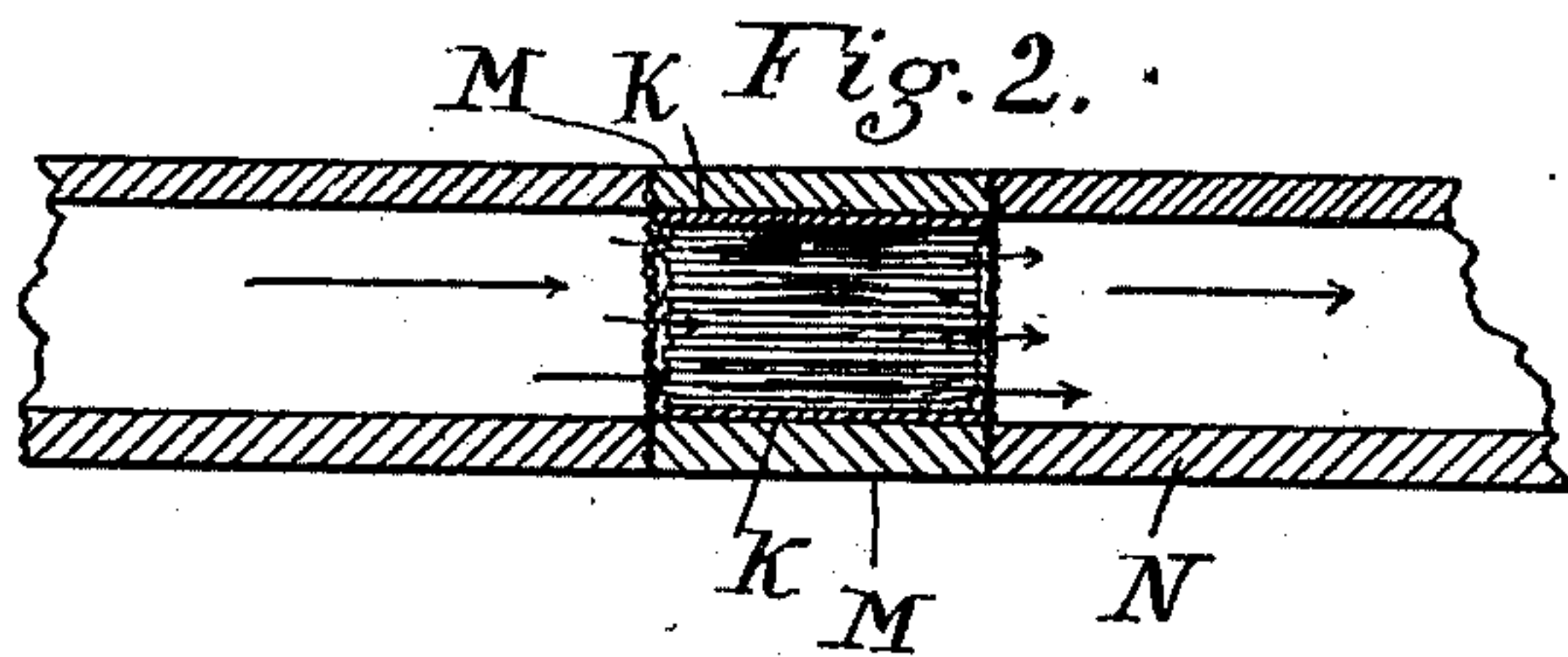
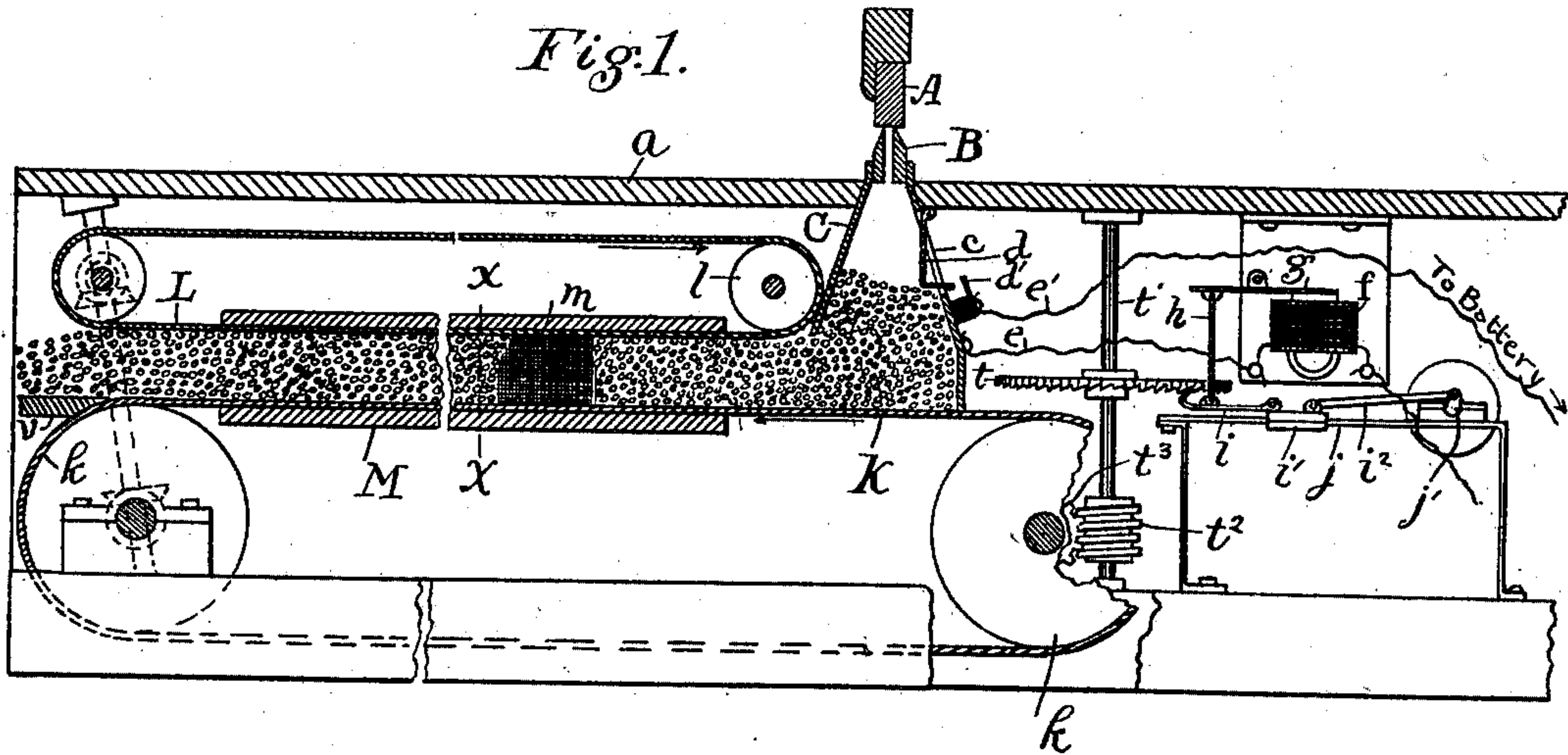
No. 670,971.

Patented Apr. 2, 1901.

C. F. SCAMMAN.
ATTACHMENT FOR TOOTHPICK MACHINES.

(Application filed Jan. 21, 1901.)

(No Model.)



Witnesses:
Benj. Schard
L. M. Godfrey

Inventor:
Charles F. Scamman
by S. W. Bates
his atty.

UNITED STATES PATENT OFFICE.

CHARLES F. SCAMMAN, OF PORTLAND, MAINE.

ATTACHMENT FOR TOOTHPICK-MACHINES.

SPECIFICATION forming part of Letters Patent No. 670,971, dated April 2, 1901.

Application filed January 21, 1901. Serial No. 43,981. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SCAMMAN, a citizen of the United States of America, and a resident of Portland, Cumberland county, State of Maine, have invented certain new and useful Improvements in Attachments for Toothpick-Machines, of which the following is a specification.

My invention relates to means for removing and drying toothpicks from the machines wherein they are formed.

The toothpick-machines to which the present invention particularly applies belong to that class wherein the picks are cut in succession from a strip of veneer having the same width as the lengths of the picks. In these machines the strips are fed over two stationary knives with their cutting edges uppermost and having a space between them which is the exact size of the picks. A cutting-block reciprocates vertically on top of the knives and forces the picks down between them.

My present invention is designed as an improvement or modification of the mechanism shown in my Patent No. 521,736, dated June 19, 1894. In that patent the picks drop or are enforced down into a long vertical spout which is constructed so that it elongates at the bottom as the picks feed in at the top, so that the spout is kept full at all times and the picks lie evenly in the spout in a horizontal position.

In my present device as I prefer to construct it the picks are dropped into a substantially straight non-extensible spout tapering at the upper end and fall upon a horizontally-moving belt upon which they are carried through a horizontal spout, being there subjected to a current of hot air for the purpose of drying them.

I illustrate my invention by means of the accompanying drawings, in which—

Figure 1 is a general vertical section, and Fig. 2 shows a section on the line *xx* of Fig. 1.

A represents the cutting-block, and B the knives, of the toothpick-machine, it being understood that the cutting-block A reciprocates vertically and forces the toothpicks as fast as they are cut downward between the two knives B. The picks fall from the knives into the spout C, the upper end of which is

tapered or contracted. The spout is vertically disposed and as here shown it is comparatively short and substantially straight, extending but a short distance below the bed *a* of the machine.

Immediately below the open end of the spout C is a horizontal receiving-surface forming the lower end of the spout. As here shown, this receiving-surface is composed of an endless belt K, which runs over two pulleys *k* and extends indefinitely in a horizontal direction.

For the purpose of removing the picks from the lower end of the spout C one of the vertical sides of said spout terminates at or immediately above the upper surface of the belt K, the opposite sides terminating a considerable distance above said belt, forming a recess or opening, through which the picks flow out laterally from the lower end of the spout. If the receiving-surface or lower end of the spout is stationary, the picks as they are forced in at the top of the spout will overflow through the opening at the lower end and may be removed in bunches by hand.

When the apparatus is running normally, the spout C is intended to be kept entirely full of picks, so that as they pass down between the knives B they will simply crowd downward the picks with which they come in contact, and in this way they are all kept parallel with each other, as they are given no opportunity to get out of line.

When an endless belt is used, as herein shown, for carrying the picks off from the bottom of the spout in a horizontal layer, it is necessary or desirable to automatically stop the belt when the pick-machines are not forming picks, for the reason that if any considerable space is left at the top of the spout, so that the picks fall through the air in dropping from the knives, they will become crossed and will disarrange the operation of the whole device.

For the purpose of controlling the movement of the belt K, I show herein an electric stop-motion, which is substantially the same as that patented to myself and Henry P. Churchill June 19, 1894, by Letters Patent No. 521,735, except that instead of being applied to control the motion of an extensible spout it is here applied to controlling the mo-

tion of a horizontal belt. d represents a piv-
 oted arm, which swings into the upper end of
 the spout through a slot c . When this arm
 swings to its outward position, into which it
 5 is forced by the weight of the column of picks
 in the spout, it forms an electrical contact
 with a plate d' and completes a battery-cir-
 cuit, passing through the wire e' , electromag-
 net f , the wire e , and the metallic surface of
 10 the spout. When this circuit is complete,
 the armature g is drawn down and the pawl
 i is lifted by the link h into engagement with
 the ratchet-wheel t . v represents the slide,
 v^2 the connecting-rod, j' the crank-arm for
 15 operating the slide, and j the guide on which
 the slide runs, the operation of these parts
 being substantially as shown in said patent.

The ratchet-wheel t is secured on shaft t' ,
 and on the lower end of the shaft is a worm
 20 t^2 , engaging with a worm-gear t^3 on the same
 shaft with the pulley k .

It will be seen that when the spout C is full
 of picks the arm d is pressed outward, com-
 pleting the circuit and moving the belt K for-
 25 ward. When the production of picks stops
 and they settle below the arm d , the latter
 swings in, breaks the circuit, and stops the
 movement of the belt.

The position of the arm d in the machine
 30 as actually made is relatively much nearer
 the knives therein than herein shown, and
 the space which is left empty at the top of the
 spout before the stop-motion comes into op-
 eration is relatively much smaller, so that the
 35 picks have but a short distance to drop and
 are not likely to get out of position to any ex-
 tent. This stop-motion not only stops the
 feed of the belt when the production of the
 pick-machine ceases, but it also stops the belt
 40 when the latter is moving faster than the pro-
 duction of the machine.

Means are herein shown for drying the picks
 as they come out upon the lower end of the
 spout. For this purpose I provide a second
 45 endless belt L, parallel with the first belt K
 and above it and passing over pulleys l . This
 belt is so located that it rests on the top of the
 horizontal layer of picks which come off on
 the belt K. The two belts K and L are given
 50 exactly the same rate of speed by means of
 suitable connecting-gears. (Shown in dotted
 lines in Fig. 1.) For the purpose of drying
 the picks the two belts pass through an elon-
 gated box M, having sides of wire-netting m ,
 55 through which a current of hot air is passed
 by means of ducts N, (shown clearly in Fig.
 2,) these ducts being connected with suitable
 blowing and heating apparatus. It will be
 seen that the two belts form the bottom and
 60 top of a horizontal spout of which the sides
 are composed of the wire-netting or other suit-
 able pervious material. At the ends of the
 belts, which extend far enough so that the
 picks are thoroughly dry when they reach the

ends, they overflow onto a table v , from which 65
 they are removed by hand.

While I have shown the spout C operating
 in connection with a moving belt or bed, it is
 evident that it can be used in connection with
 a fixed table or receiving-surface and without 70
 the use of a stop-motion.

I claim—

1. In a toothpick-machine of the class de-
 scribed, the combination with the cutting-
 knives, of a substantially straight vertical 75
 spout into which the picks drop laterally, said
 spout having a tapering upper end, a horizon-
 tal receiving-surface immediately below the
 lower end of said spout, one side of said spout
 coming substantially down to said surface and 80
 the opposite side terminating above said sur-
 face to allow the picks to pass out.

2. In a toothpick-machine of the class de-
 scribed, the combination with the cutting-
 knives, of a substantially straight vertical 85
 spout into which the picks drop laterally, hav-
 ing a tapering upper end, a horizontally-mov-
 ing belt immediately below the lower end of
 said spout for receiving and carrying off the
 picks, one side of said spout coming substan- 90
 tially down to the belt and the opposite side
 terminating above the belt to allow the picks
 to pass under.

3. In a toothpick-machine of the class de-
 scribed, the combination with the cutting- 95
 knives, of a substantially straight vertical
 spout into which the picks drop laterally, hav-
 ing a tapering upper end, a horizontally-mov-
 ing belt immediately below the lower end of
 said spout for receiving and carrying off the 100
 picks, an arm projecting normally into the
 upper end of the spout, and adapted to be
 pressed outward by the column of picks,
 means for imparting motion to said belt and
 a stop mechanism operated by the moving in 105
 and out of said arm for controlling the move-
 ment of the belt.

4. In a toothpick-machine of the class de-
 scribed, the combination with the cutting-
 knives of a vertical spout into which the picks 110
 drop laterally having a tapering upper end,
 a horizontally-moving belt immediately below
 the lower end of said spout for receiving and
 carrying off the picks in a horizontal layer,
 pervious guides at the sides of said belt form- 115
 ing the sides of a horizontal spout of which
 the said belt is the bottom an endless retain-
 ing-belt forming the top of said spout and
 adapted to rest on the layer of picks and means
 for forcing air through said spout from one 120
 side to the other to dry the picks.

Signed at Portland, Maine, this 14th day of
 January, 1901.

CHARLES F. SCAMMAN.

Witnesses:

S. W. BATES,
 W. M. CLEMENT.