

R. A. FESSENDEN.
WIRELESS SIGNALING.

(Application filed June 26, 1902.)

(No Model.)

FIG. 1.

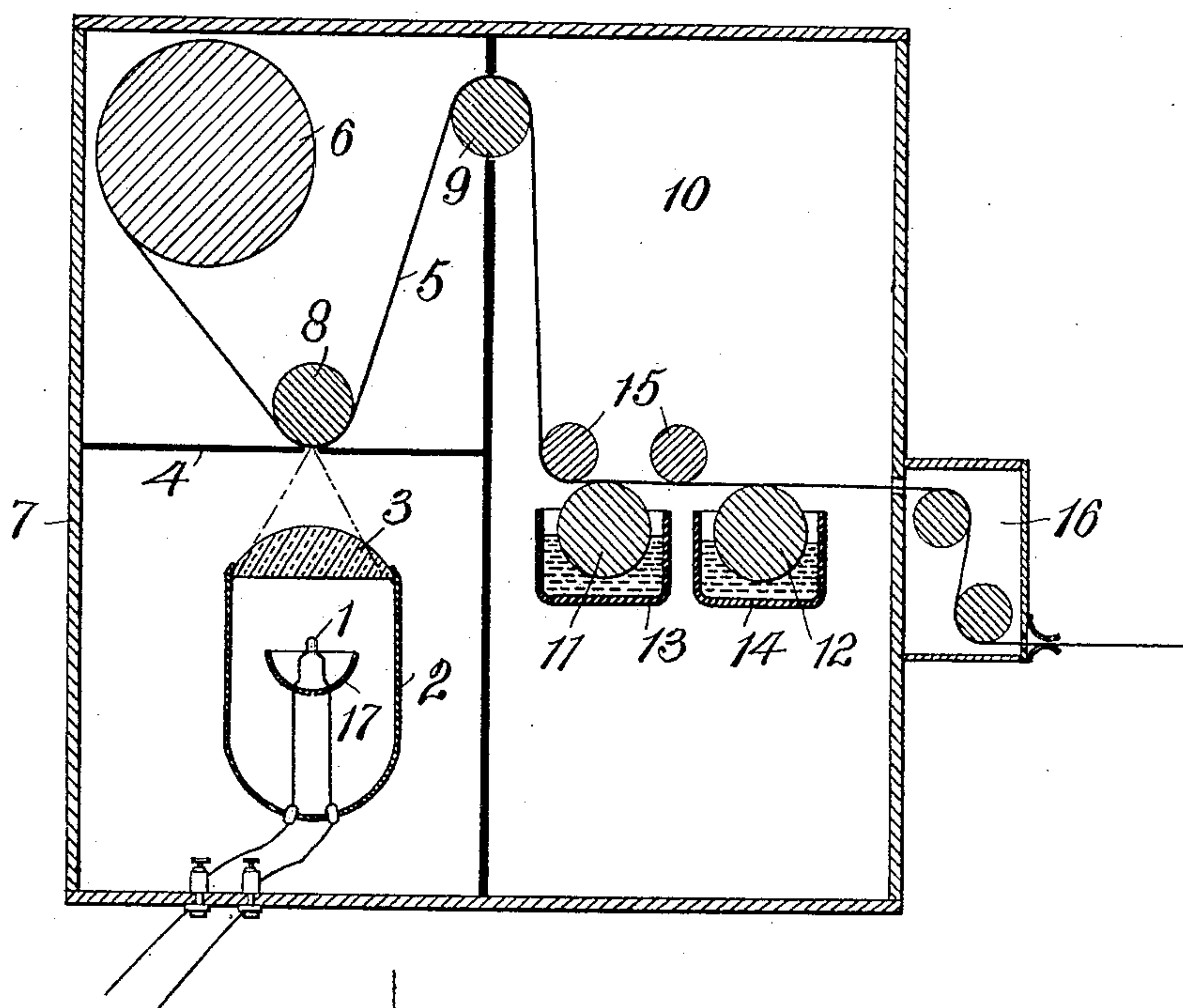
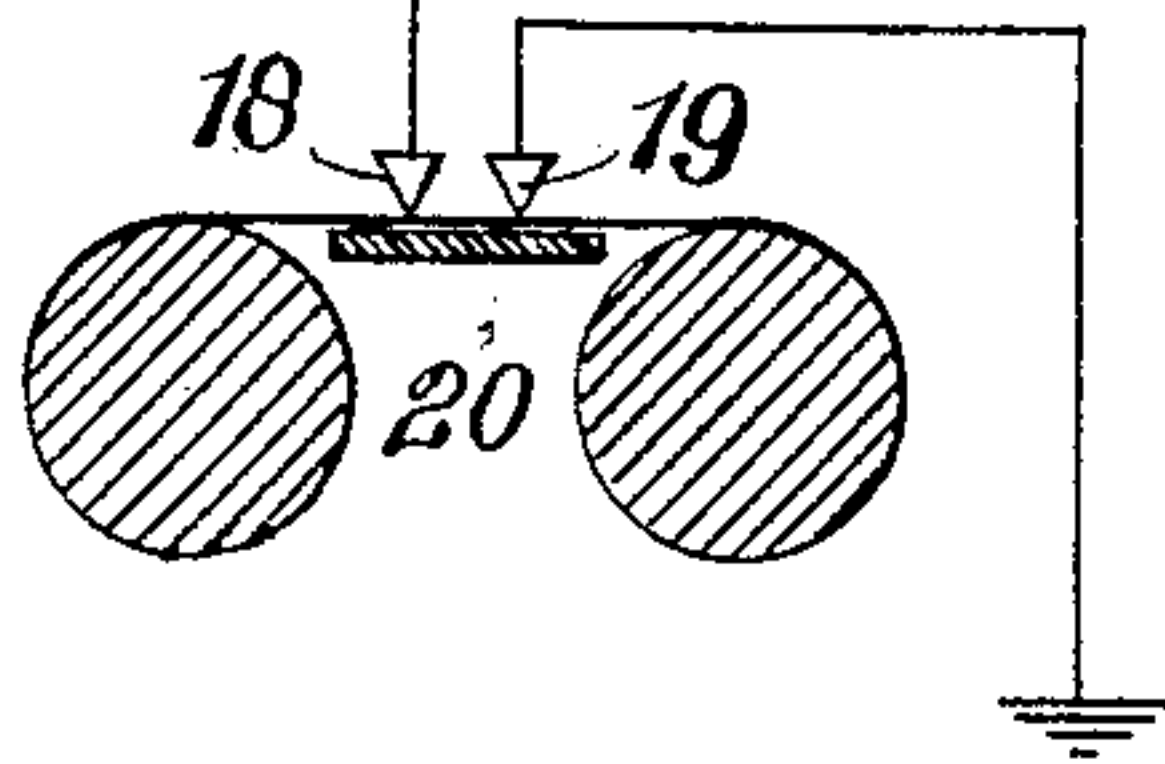


FIG. 2.



WITNESSES:
J. E. Gaither
Herbert Bradley

INVENTOR
Reginald A. Fessenden
by Dennis S. Wolcott Att'y.

UNITED STATES PATENT OFFICE.

REGINALD A. FESSENDEN, OF MANTEO, NORTH CAROLINA.

WIRELESS SIGNALING.

SPECIFICATION forming part of Letters Patent No. 706,743, dated August 12, 1902.

Application filed June 26, 1902. Serial No. 113,244. (No model.)

To all whom it may concern:

Be it known that I, REGINALD A. FESSENDEN, a citizen of the United States, residing at Manteo, in the county of Dare and State of North Carolina, have invented or discovered certain new and useful Improvements in Wireless Signaling, of which improvements the following is a specification.

The invention described herein relates to certain improvements in signaling by electromagnetic waves, and has for its object the utilization of the currents generated by such waves to effect chemical changes corresponding to the energy developed by such currents and the continuity of the currents.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional view of a receiving apparatus embodying my improvement, and Fig. 2 is a diagrammatic view illustrating a modification of my improvement.

In the practice of my invention, as illustrated in Fig. 1, I employ a receiver adapted on the passage of a current through it to emit radiations which will so affect a prepared strip within the range of the radiation as to produce a mark or character which can be interpreted or read. A convenient construction to that end consists of a loop-receiver 1, as described and claimed in applications No. 110,460, filed June 6, 1902, and No. 113,968, filed July 1, 1902, arranged as described in the receiving-circuit. In order to concentrate the radiations from the receiver onto the strip, the receiver is inclosed in a shell 2, having opaque walls except on the side toward the strip. This side is preferably provided with a lens 3, constructed to concentrate the radiations. At or adjacent to the focus of the lens an aperture is formed through the partition 4, and the prepared strip 5 is caused to move past said aperture. The strip is so prepared that the impingement of the radiations—*e. g.*, light or heat—from the receiver will produce a change, chemical or otherwise, at the point of impingement sufficiently permanent to enable the character sign or symbol so produced to be read. It is preferred to employ photographic paper, which will be chemically

changed by the light or heat radiations from the receiver. This strip is wound on a drum or spool 6, arranged in the inclosing box 7, and passes over a supporting-roller 8, arranged in such relation to the aperture in the partition 4 as to close the same and prevent the entrance of radiations into the compartment containing the strip. From the roller 8 the strip passes around another guide-roller 9 into the compartment 10, where the character sign or symbol is developed and fixed. The developing and fixing chemicals are preferably applied by means of rollers 11 and 12, revolving in basins 13 and 14, containing the liquids, the strip being guided into contact with rollers 11 and 12 by rollers 15. From the fixing-rollers the strip passes, by preference, through a chamber 16, where the strip can be dried, or partially so, thence through a contained slot. The strip is caused to move at any regular speed by any suitable means—as, for example, a clockwork-motor applied to one or more of the rollers with which the strip is in contact. It is preferred to employ a concave mirror 17 to direct the radiations to the lens, as shown.

In lieu of producing chemical change by means of radiations produced by currents traversing a receiver the current itself may be employed for that purpose. A convenient mechanism for that purpose consists of two pins or small rods 18 and 19, having their points resting on a strip 5, made conductive in any suitable manner and so prepared that on the passage of a current generated by electromagnetic waves in the conductor A a distinctive mark or character will be produced on the paper. As stated, one of the pins or rods, as 18, is connected to the aerial portion of the conductor A, while the other pin or rod is connected to ground. The pins are separated a sufficient distance to prevent the passage of a current direct from one pin to the other, and hence the current must pass along the strip, which forms a conducting medium or path between the pins. The strip is fed regularly over a supporting-table 20 by any suitable means. It is preferred that the strip should be in a moistened condition, thereby increasing its conductivity, by storing the same in a chamber of constant temperature and humidity.

It is characteristic of the invention described herein that energy produced or generated by electromagnetic waves is utilized to produce interpretable or readable characters or signs.

5 I claim herein as my invention—

1. As an improvement in the art of signaling by electromagnetic waves, the method herein described, which consists in producing interpretable characters or symbols on a strip
10 or film by chemical action produced by currents generated by electromagnetic waves, substantially as set forth.

2. As an improvement in the art of signaling by electromagnetic waves, the method
15 herein described, which consists in affecting a sensitive strip or film by currents generated

by electromagnetic waves, substantially as set forth.

3. As an improvement in the art of signaling by electromagnetic waves, the method 20 herein described, which consists in producing interpretable characters or symbols on a strip or film by chemical action induced by electric currents generated by electromagnetic waves, substantially as set forth. 25

In testimony whereof I have hereunto set my hand.

REGINALD A. FESSENDEN.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.