

W. WENDTLAND.

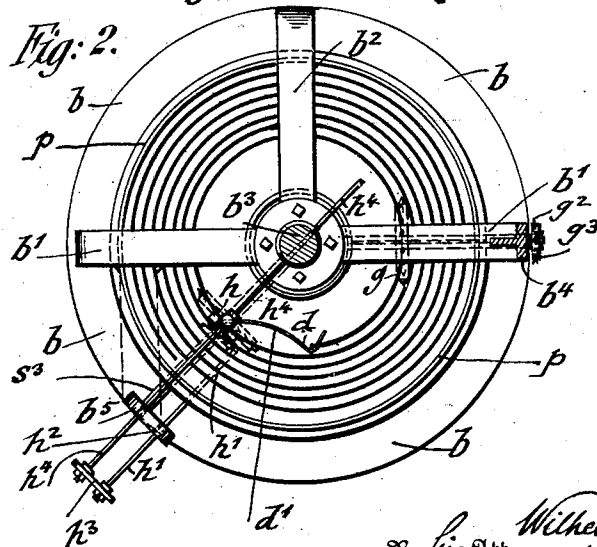
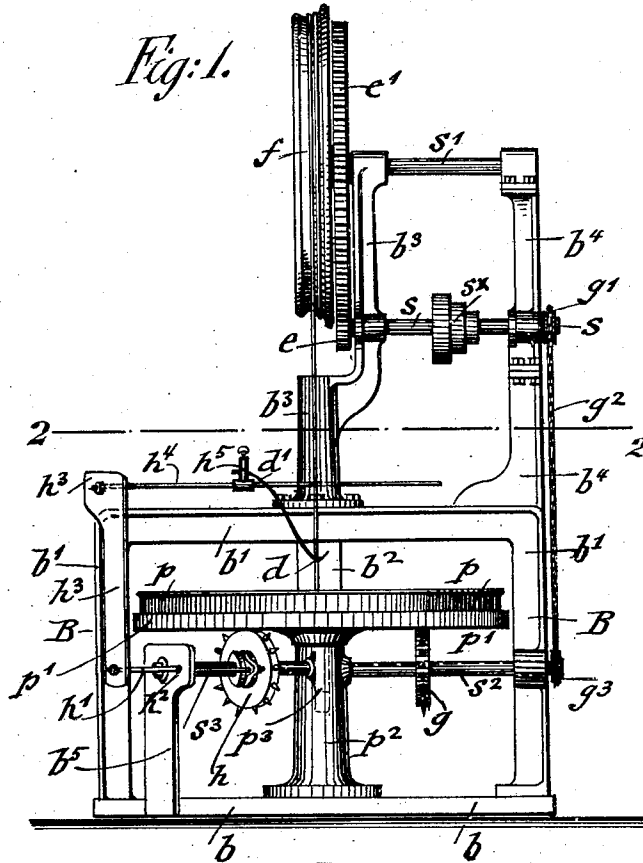
MACHINE FOR REELING COVERED ELECTRIC WIRE FOR VULCANIZATION.

APPLICATION FILED MAY 27, 1908.

918,235.

Patented Apr. 13, 1909.

3 SHEETS—SHEET 1.



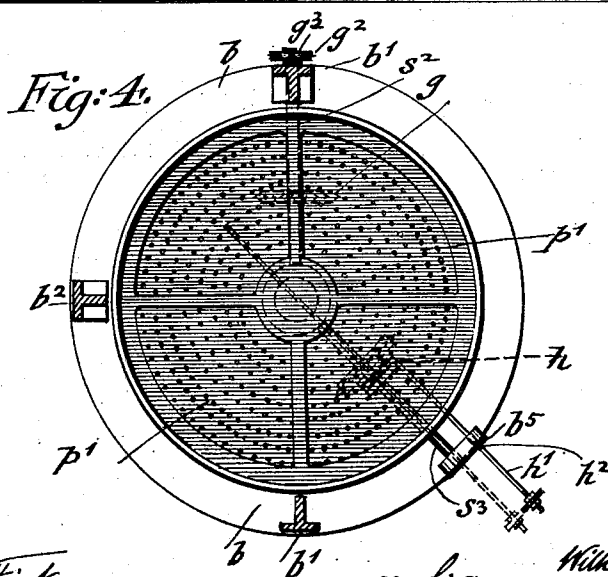
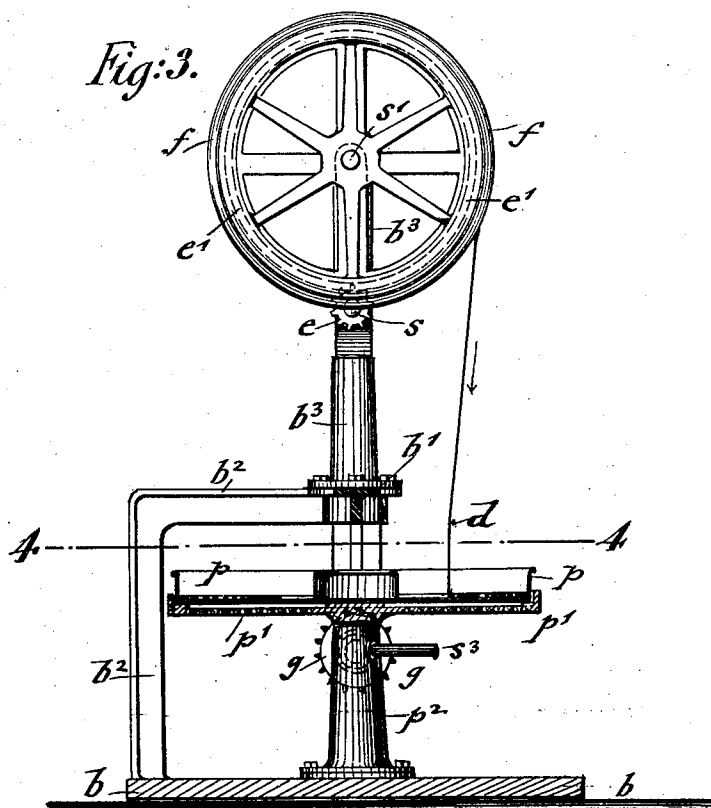
Witnesses:
Fannie Fish
H. J. Scherbin

Inventor
Wilhelm Wendtland
By: Otto von S.
James L. S.

W. WENDTLAND.
 MACHINE FOR REELING COVERED ELECTRIC WIRE FOR VULCANIZATION.
 APPLICATION FILED MAY 27, 1908.

918,235.

Patented Apr. 13, 1909.
 3 SHEETS—SHEET 2.



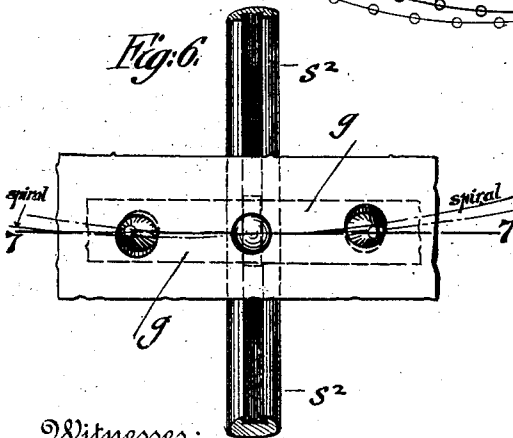
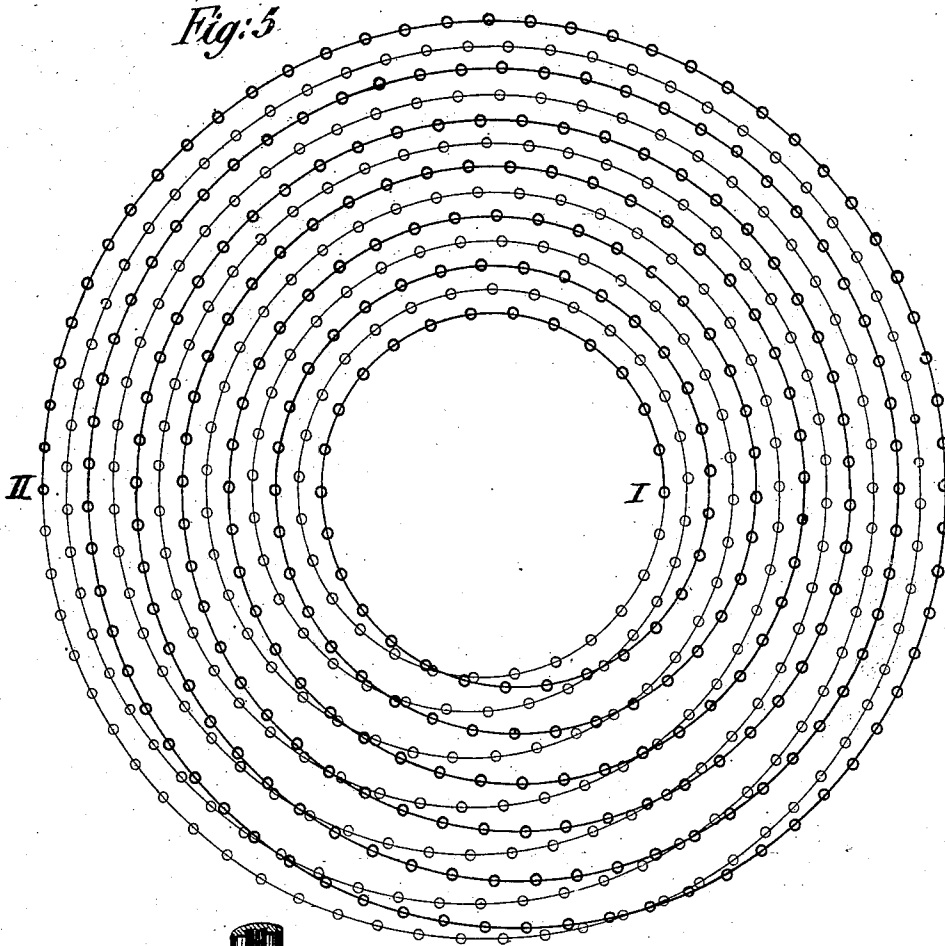
Witnesses:
Fannie Fisk
H. J. Bullock.

Inventor
Wilhelm Wendtland
 By his Attorneys
Paul & Siegel.

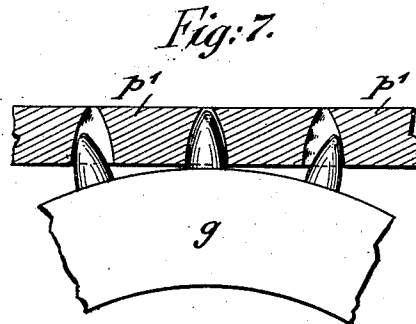
W. WENDTLAND.
MACHINE FOR REELING COVERED ELECTRIC WIRE FOR VULCANIZATION.
APPLICATION FILED MAY 27, 1908.

918,235.

Patented Apr. 13, 1909.
3 SHEETS—SHEET 3.



Witnesses:
James Fish
W. F. Schirmer.



Inventor
Wilhelm Wendtland
By his Attorneys
Ames & Co.

UNITED STATES PATENT OFFICE.

WILHELM WENDTLAND, OF NEW YORK, N. Y.

MACHINE FOR REELING COVERED ELECTRIC WIRE FOR VULCANIZATION.

No. 918,235.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed May 27, 1908. Serial No. 435,273.

To all whom it may concern:

Be it known that I, WILHELM WENDTLAND, a citizen of the United States of America, residing at New York, in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Machines for Reeling Covered Electric Wire for Vulcanization, of which the following is a specification.

This invention relates to an improved machine for reeling covered electric wire preparatory to vulcanizing the covering; and for this purpose the invention consists of a machine for reeling covered electric wire, which comprises a pan, a rotary platform supporting said pan and provided with perforations, said perforations being arranged in spiral ingoing and outgoing lines, means for feeding the covered wire to said pan, a pinion engaging the holes of the platform for rotating the same, a radial spline shaft for moving the pinion in inward and outward direction on said shaft, a reciprocating guide for the wire, and means for imparting rotary motion to the wire feed mechanism and pinion-shaft for reeling the covered wire into successive spiral layers in the pan.

The invention consists further of certain details of construction and combinations of parts which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front-elevation of my improved machine for reeling covered electric wire for vulcanization, Fig. 2 is a plan-view of the same, partly in horizontal section on line 2—2, Fig. 1, Fig. 3 is a side-elevation of my improved machine, partly in section, Fig. 4 is a horizontal section on line 4—4, Fig. 3, shown with the pan removed, Fig. 5 is a diagram showing the arrangement of the spiral ingoing and outgoing lines along which the perforations of the rotary platform are arranged, and Figs. 6 and 7 are respectively a detail top-view and a detail vertical section on line 7—7, Fig. 6, showing the engagement of the driving pinion with the perforations of the platform.

Similar letters of reference indicate corresponding parts throughout the several figures.

Referring to the drawings B represents the supporting frame of my improved machine for reeling covered electric wires. The frame B consists of a base-plate b , a diametrical yoke-shaped frame b^1 attached to the same, an

angular standard b^2 located at right angles to the yoke-shaped frame, a central upright standard b^3 supported on the yoke-shaped frame, and a second standard b^4 , parallel with the center standard supported at one end of the yoke-shaped frame. About midway of the height of the upright standards b^2 , b^4 are arranged bearings for a driving shaft s , to which rotary motion is imparted by a cone-pulley s^x and a transmitting belt from an overhead shaft. At the inner end of the shaft s is mounted a pinion e which meshes with a large gear-wheel e^1 on the shaft s^1 which is supported in bearings at the upper ends of the standards b^3 , b^4 . The upper shaft s^1 carries adjacent to the gear-wheel e^1 , a grooved guide-wheel f around which the covered wire is conducted first to the lower part of the same, then around the circumference of the guide-wheel and then in downward direction over the bent or hook-shaped end d of a guide-device located above a rotating pan p , of circular shape, which is supported below the yoke-shaped frame b^1 . The pan p is supported on a flanged perforated platform p^1 to which rotary motion is imparted by a pinion g that is reciprocated on a radial auxiliary spline-shaft s^2 which is supported at its outer end in bearings on the upright portion of the yoke-shaped frame b^1 and at its inner end in bearings on a tubular center-pillar p^2 . The spline-shaft s^2 receives rotary motion by a sprocket-wheel and chain transmission g^1 , g^2 , g^3 from the driving-shaft s . The central-pillar p^2 is made tubular and supports in its upper socket-shaped end the pan supporting platform by means of a short center-shaft p^3 , as shown in Fig. 1. A second radial shaft s^3 is arranged in bearings of the center-pillar p^2 and an upright auxiliary standard b^5 which is supported on the base b , as shown in Figs. 1 and 2. On the auxiliary shaft s^3 is splined a second reciprocating pinion h which like the pinion g , enters into the perforations in the platform, it being located at the same distance from the center of the platform p^1 as the pinion g and reciprocated on its shaft s^3 in the same manner as the pinion g on its shaft s^2 . To the hub of the pinion h is attached a guide-rod h^1 , which is located parallel with the shaft s^3 , and which is guided in an opening h^2 of the auxiliary standard b^5 . To the outer end of the guide-rod h^1 is attached an upright arm h^3 which carries at its upper end a radial rod h^4 , the inner end of

which is guided in a perforation in the lower part of the center-standard b^3 , the guide-rod h^1 , upright arm h^3 and upper radial rod h^4 following the reciprocating movement of the splined pinion h in inward and outward direction. To the upper rod h^4 is clamped a holder h^5 , on which is supported a downwardly-bent guide-arm d^1 , the lower end of which is bent into angular shape so as to form the hook d , over which the covered wire is conducted from the guide-wheel into the rotating pan p .

Rotary motion is imparted to the perforated platform p^1 , and simultaneously therewith reciprocating motion to the guide-device for the covered wire, so that the latter is delivered in spirally superposed layers into the pan, by the driving pinions g and h , which engage with the perforations of the platform p^1 . The perforations are arranged in spiral lines, according to the diagram shown in Fig. 5. Supposing that the electric wire is delivered at the inner edge of the pan, then the toothed pinions g and h are placed at the inner ends of their shafts so as to engage the perforations at the inner end or beginning I of the heavy spiral line, shown in Fig. 5. The intermeshing of the conically-tapering teeth of the pinions with the correspondingly-shaped perforations of the platform (as shown in Figs. 6 and 7) imparts then rotary motion to the platform and the pan on the same so as to cause the wire to be laid in the latter in spiral convolutions following the heavier spiral line in Fig. 5, until the wire arrives near the circumference of the pan at the point II radially in line with the beginning I of the heavy spiral line. During this operation the pinions g and h have moved from the inner ends of the auxiliary shafts s^2 , s^3 to the outer ends of the same. By the continuation of the driving motion of the pinion g , the rotary motion of the platform is continued and the teeth of both pinions g and h placed into engagement with the perforations arranged on a return spiral, which is shown in a thin line in Fig. 5, and which passes at certain points over the spiral convolutions or layers of the wire formed below the same, until the guide-device arrives at the inner end of the thin spiral line which is the starting point I of the heavy spiral line forming thereby a complete reel of wire. When the lowermost spiral layer of wire is formed on the pan, a thin layer of talcum powder is spread over the same so as to prevent the lower layer from adhering to the next following layer, the convolutions of which are located intermediately with and crossing at certain points the convolutions of the lower layer, as indicated by the thinner spiral return-line in Fig. 5. When the second layer is thus formed, a layer of talcum powder is spread over the same, and then the third layer of wire formed, following the

heavy outgoing spiral line in Fig. 5. Talcum powder is again spread over the third layer, and the fourth layer formed along the thin return-line, and so on alternately, until the pan is entirely filled with a plurality of superposed layers of electric wire. As the guide-device is moved outwardly and inwardly corresponding to the spiral convolutions of the outgoing and ingoing spiral layers, a reel formed of evenly superposed wire is formed in the pan. When the required height of the reel is obtained, the incoming wire is cut off and the reel removed with the pan and subjected to vulcanization in a suitable chamber, so that the covering of the electric wire is vulcanized to the proper degree. The interposed layers of talcum powder separate the superposed layers of wire, and prevent the adhesion of any one layer with the adjacent layers.

As soon as a reel is removed with the pan, a new pan is placed on the platform and the layers of the next reel formed therein in the same manner as before, the machine producing the reeling of the covered electric wire in a quick, effective and automatic manner. All that is necessary is that the attendant arranges the wire properly at the feed or ingoing end and on the guide-device of the machine, then starts the machine so as to feed the wire into the pan for reeling it, and stops the machine when a reel having the required number of superposed layers is formed. The wire is then cut off and the reel transmitted into the vulcanizing chamber, and the machine started again with another pan for another reel and so on.

Instead of reeling covered electric wire, any other wire or other article may be reeled in the same manner, as I do not desire to confine the machine to reeling covered electric wire, the same being capable of other applications in the arts.

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

1. In a wire-reeling machine, the combination of a rotary platform, a member driven radially of said platform by direct engagement therewith, and a wire-guiding device supported by said member.

2. In a wire-reeling machine, the combination of a rotary horizontal platform, a member engaging the under-surface of the platform and driven radially thereof, and a wire-guiding device above the platform connected with said member to be moved radially with the same.

3. In a wire-reeling machine, the combination of a rotary platform having spirally arranged perforations, a shaft, a pinion splined on the shaft and engaging said perforations, said pinion being movable longitudinally of the shaft, and means for driving the shaft.

4. In a wire-reeling machine, the combina-

tion of a rotary platform having a series of spirally arranged perforations, a radially movable pinion engaging said perforations, and a wire-guiding device movable by, and
5 radially of the platform with, the pinion.

5. In a wire-reeling machine, the combination of a rotary platform having a series of spirally arranged perforations leading toward the periphery of the platform and back toward the center, a radially movable pinion engaging said perforations beneath the platform, and a guiding device above the platform connected with said pinion to move therewith.
10

15 6. In a wire-reeling machine, the combination of a platform having a plurality of perforations arranged spirally, a radially movable driving pinion beneath the platform engaging said perforations to rotate said platform, means to drive said pinion, and a device to guide the wire to the platform.
20

7. In a wire-reeling machine, the combination of a platform having a series of perforations arranged in a spiral line directed outwardly toward the periphery and leading
25

back toward the center, a radially movable driving pinion engaging said perforations, means for driving said pinion, a second radially movable pinion also engaging the perforations and driven by the platform, and a wire-guiding device which is connected and moves radially with said second pinion. 30

8. In a wire-reeling machine, the combination of a horizontal platform having a series of spirally arranged perforations, radial shafts beneath the platform, pinions movable longitudinally on said shafts but splined thereto, said pinions engaging the perforations of the platform, means to drive one of said shafts to rotate the platform, and a guiding device located above the platform and connected with the pinion on the other shaft to be moved radially therewith. 35 40

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses. 45

WILHELM WENDTLAND.

Witnesses:

PAUL GOEPEL,
HENRY J. SUHRBIER.