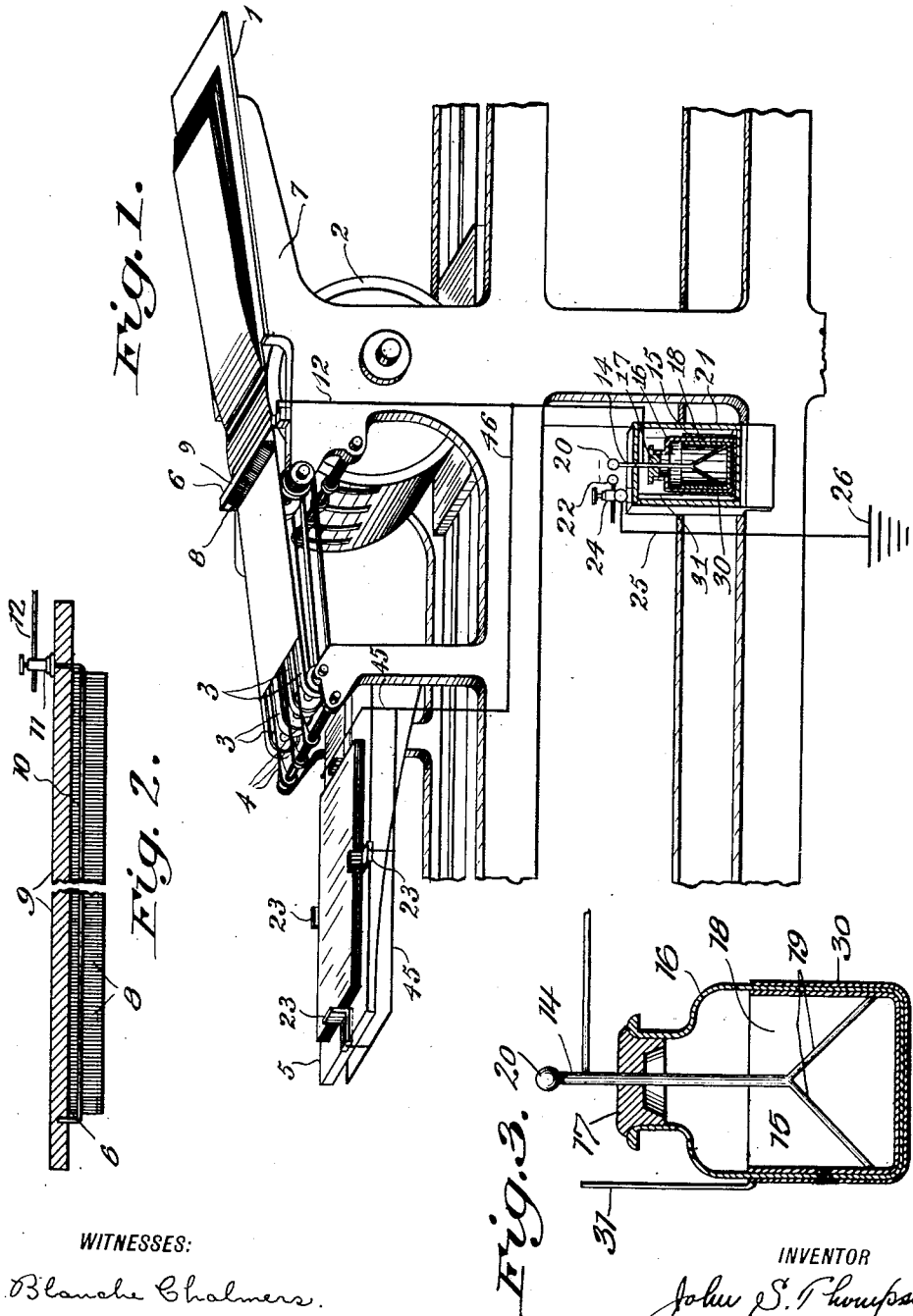


J. S. THOMPSON.
 STATIC COLLECTING AND DISCHARGING MECHANISM.
 APPLICATION FILED FEB. 9, 1912.

1,120,984.

Patented Dec. 15, 1914.



WITNESSES:

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JOHN S. THOMPSON, OF CHICAGO, ILLINOIS.

STATIC COLLECTING AND DISCHARGING MECHANISM.

1,120,984.

Specification of Letters Patent.

Patented Dec. 15, 1914.

Application filed February 9, 1912. Serial No. 676,685.

To all whom it may concern:

Be it known that I, JOHN S. THOMPSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Static Collecting and Discharging Mechanism, of which the following is a description.

My invention relates to means for collecting and discharging, or conducting away, substantially all of the electric energy in various articles, such for example, as the fabric passing through textile machines or paper passing through a printing press.

The object of my invention is to provide a simple, convenient and efficient device of the kind described, which will operate substantially under all atmospheric conditions and wholly eliminate the difficulty produced by electricity in the handling of fabrics, paper or other light articles.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described and more particularly pointed out in the claims.

In the accompanying drawings, wherein like or similar reference characters indicate like or corresponding parts: Figure 1 is a side elevation of my device shown for the purpose of illustration, operatively attached to a printing press. Fig. 2 is a sectional detail of a desirable form of collector brush for my device. Fig. 3 is a sectional detail of one form of my accumulator.

In the drawings, merely for the purpose of illustration my device is shown in connection with a printing press of the usual or ordinary form, in which 1 is the feed-board, 2 the cylinder, 3—3 the tapes, 4 the fly sticks, and 5 the delivery board, all constructed and arranged in the usual or any desired manner. As shown, my improved collecting and discharging mechanism consists of a collector 6 rigidly mounted upon the frame 7 of the press, comprising a supporting rod or bar 9, preferably formed of wood or other light, strong material, which may be readily attached to the frame 7. The collecting points 8 are preferably formed of tinsel, very fine wire or other suitable material clamped upon the supporting bar 9 with a multitude of free ends or points projecting as a metallic fringe or fine soft brush in close proximity to, or in actual contact with, the paper as it issues

from the press. A bar 10 of brass or other suitable conducting material is positioned in electrical contact with the collecting points 8 and with one end electrically connected to a binding post 11 or other suitable means, so that electricity gathered by the points 8 will flow through the bar 10 to the binding post 11, thence by a suitable conductor 12 to the pole piece 14 of my accumulator 15.

The accumulator 15 may be of any desired form or construction adapted for accumulating or storing static electricity. In the form shown, my accumulator consists of a cylindrical receptacle 16 open at one end, formed of glass or other suitable material. A loosely fitting cover or stopper 17 is provided to close the open end of the receptacle and thin metallic coatings 18 and 30 are provided upon the interior and exterior respectively of the receptacle 16, each extending approximately two-thirds the height of the receptacle. The pole piece 14 extends through the cover or stopper 17 and its lower end is connected to the coating 18 by suitable springs 19 or other convenient means adapted to serve as electrical conductors. The upper or free end of the pole-piece 14 is provided with a spherical knob 20. In the preferred construction, the entire accumulator is inclosed in a suitable box or casing 21, whereby it may be rigidly secured in position and prevent accidental breakage of the comparative fragile receptacle 16. As shown, the knob or ball 20 projects beyond the upper surface of the box 21, and a similar knob 22 is adjustably mounted upon the top of the box in proximity to the knob 20 by means of a binding-post 24, which is in turn connected by a conductor 25 to a suitable ground 26 and by a connector 31 to the outer coating 30 of the accumulator 15.

In operation, my device is arranged upon a printing press or other mechanism where it is desired to remove the static electricity from the material passing through the machine, and the knob 22 is brought into close proximity to the knob 20, leaving a slight air-gap between them. When thus arranged, the brush or collector 6 gathers the minute amount of electricity from each sheet or article as it passes through the machine and this electricity is conducted to, and stored in my accumulator 15.

In actual service, the apparatus described has in all cases discharged the static electricity from paper passing through printing

presses and other devices where it has been tested in an absolutely satisfactory manner. In some cases I also prefer to connect my accumulator so as to receive the electricity
 5 from the passing material at a point beyond the principal collector 6. In the form shown, a conductor 46 is attached to the conductor 12 and is connected to the jogger plates 23—23 of the press by conductors
 10 45—45 so that any electricity remaining in the sheets or generated by their movement over the parts of the machine or otherwise after passing the collector 6 will also be collected and conducted to the accumulator.
 15 In the foregoing specification and in the claims where I have used the word "accumulator" I wish to be understood as meaning and intending, a Leyden jar or condenser having sufficient capacity to operate
 20 in the manner described in the specification.

Having thus described my improvement, it is obvious that various immaterial modifications may be made in my device without departing from the spirit of my invention, hence I do not wish to be understood
 25 as limiting myself to the exact form or construction shown.

What I claim as new and desire to secure by Letters Patent is:

30 1. A device for removing static electricity from paper or like material comprising mechanism for advancing the material, in combination with a collector positioned adjacent the path of said material, an accu-

mulator for storing static electricity, means 35 for electrically connecting said collector and said accumulator, a receiver, a spark gap between said receiver and said accumulator, and means for grounding said receiver.

2. A device for removing static electricity 40 from paper or like material comprising mechanism for advancing said material, in combination with a collector positioned adjacent the path of said material and having a multitude of collecting points extending 45 toward said material, an accumulator for storing static electricity, means for electrically connecting said collector and said accumulator, a receiver, a spark gap between said receiver and said accumulator and 50 means for grounding said receiver.

3. The herein described process for removing static electricity from paper or like material comprising first, advancing a single layer from the body of said material, 55 second, bringing said layer into operative proximity to a collector for static electricity, third, accumulating and storing the static charge from each layer and fourth, discharging the accumulated charge thus obtained at intervals.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN S. THOMPSON.

Witnesses:

BLANCHE CHALMERS,
 BURTON U. HILLS.