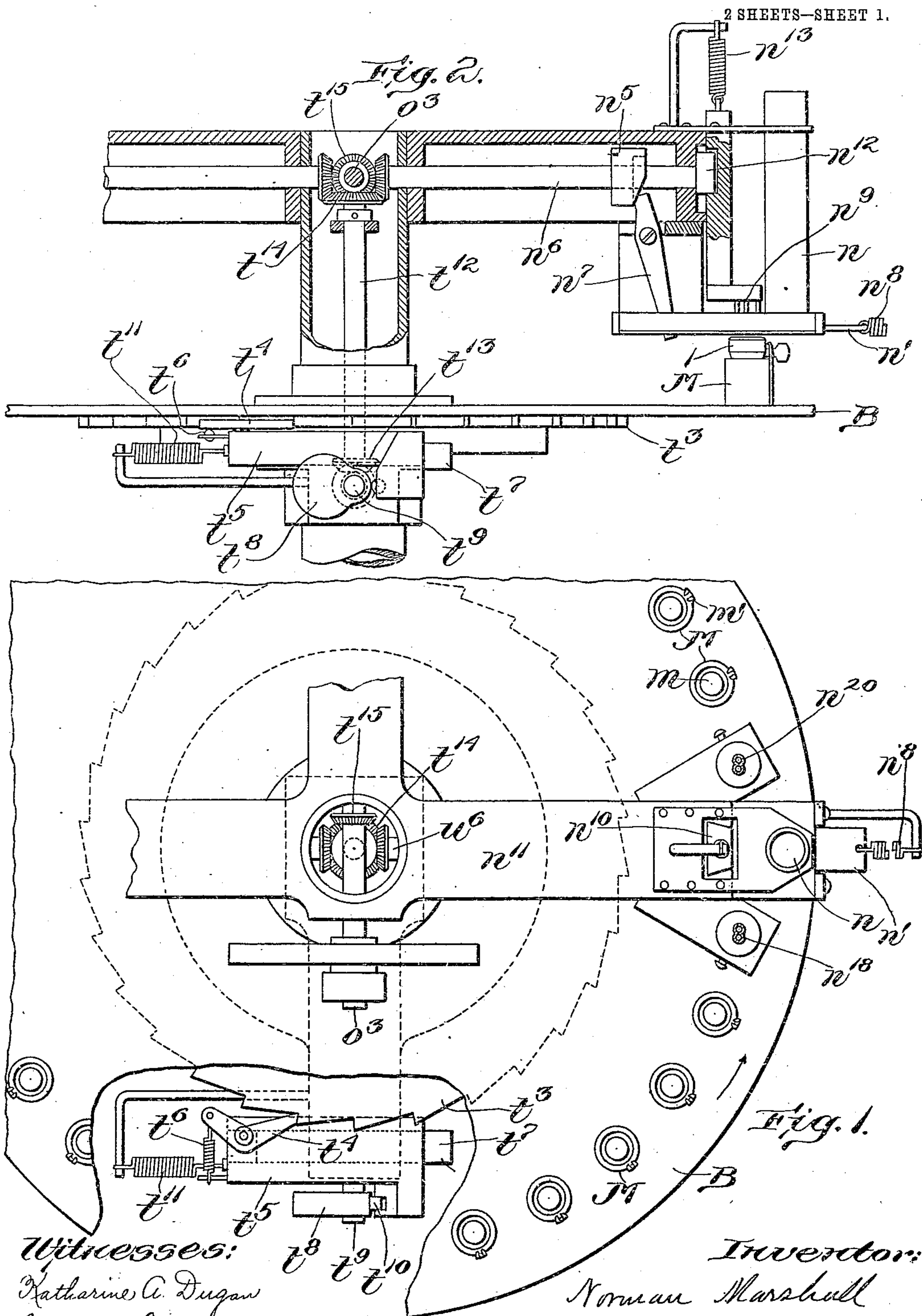


N. MARSHALL.
CEMENT SUPPLYING APPARATUS.
APPLICATION FILED SEPT. 20, 1905.

954,753.

Patented Apr. 12, 1910.

2 SHEETS—SHEET 1.



Witnesses:
Katharine A. Dugan
Geo. N. Goddard

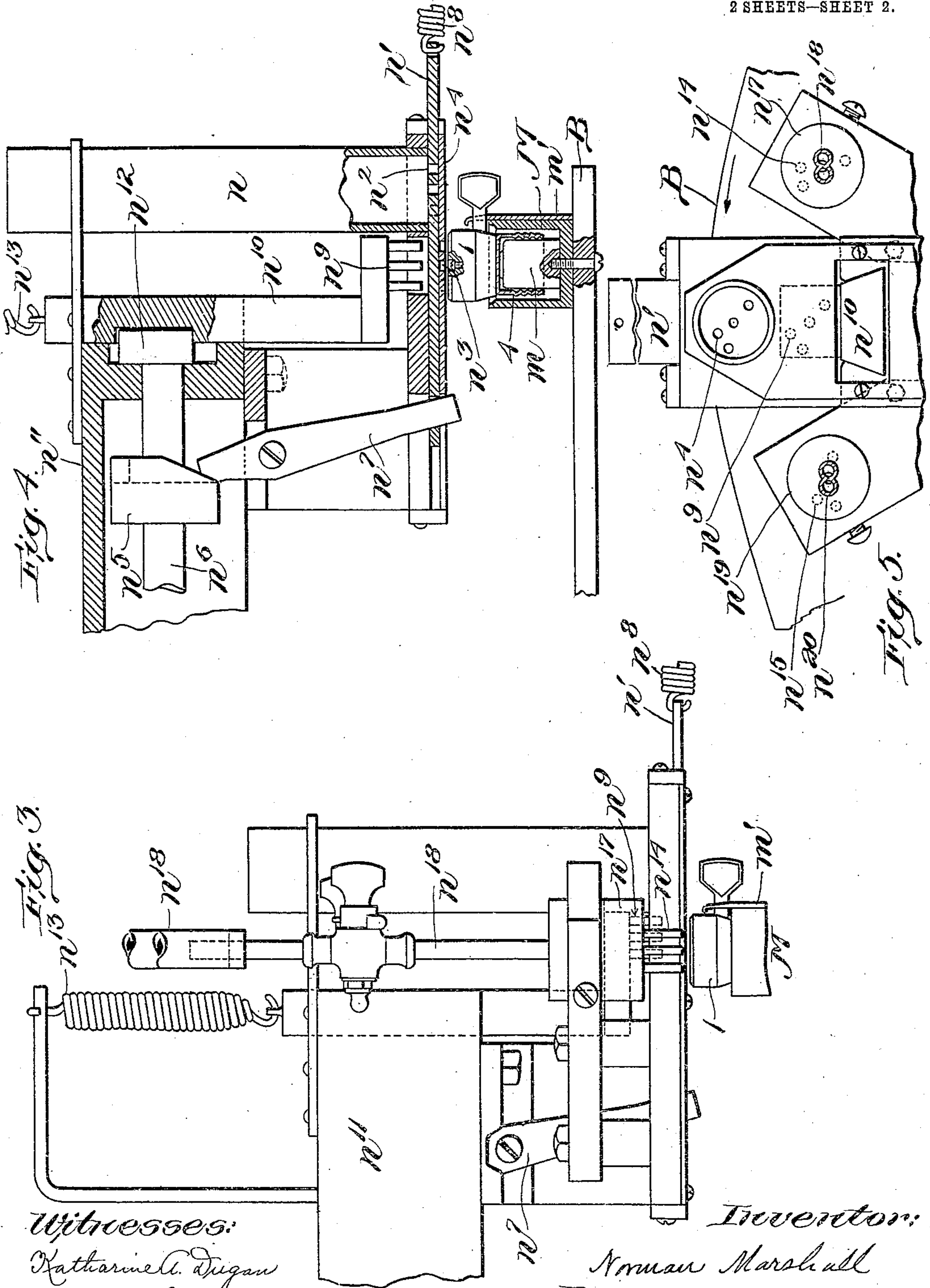
Inventor:
Norman Marshall
by
Ina L. Fish, Attorney.

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UNITED STATES PATENT OFFICE.

NORMAN MARSHALL, OF NEWTON, MASSACHUSETTS.

CEMENT-SUPPLYING APPARATUS.

954,753.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Original application filed January 19, 1905, Serial No. 241,834. Divided and this application filed September 20, 1905. Serial No. 279,290.

To all whom it may concern:

Be it known that I, NORMAN MARSHALL, citizen of the United States, and resident of Newton, county of Middlesex, Massachusetts, have invented certain new and useful Improvements in Cement-Supplying Apparatus, of which the following is a specification.

In assembling the parts of incandescent lamp sockets, electric switches and various other electrical devices, it is customary to insulate and protect the heads of screws and other fastening devices by filling or partially filling the recesses in which the screw heads lie, with cement. This has heretofore been one of the manual operations incident to the assembling of the various parts of the sockets or other devices, the cement in a molten state being dropped into the recesses by the operator.

The present invention relates to mechanism for automatically supplying cement to the recesses in the work and may be embodied in and form a part of an apparatus for assembling the various parts of the article being produced or may be embodied in a separate machine.

In practicing my invention I prefer to feed the cement to the recess in a powdered form and to then melt the cement in the recesses and I have embodied the various features of the invention in a mechanism for thus supplying the cement to the work.

The various features of the invention will be understood from the following detailed description of this mechanism which is shown in the accompanying drawings.

In the drawings Figure 1 is a plan view of a machine embodying my invention; Fig. 2 is an elevation partly in section; Fig. 3 is a side elevation on an enlarged scale showing the cement feeding and heating devices; Fig. 4 is a sectional elevation of the same, and Fig. 5 is a plan view of the same.

The mechanism shown in the drawings is designed and arranged to supply cement to the porcelain bases of lamp sockets for the purpose of covering and insulating the metallic screws and nuts which lie within the four recesses in the ends of the bases.

The socket bases with the screw shell, key frame, and center terminal secured thereto are supported by a series of jigs which are brought successively into register with the

devices of the cement supplying mechanism. The jigs are provided with a central post *m* adapted to fit within the screw shell 4 of the socket and are also provided with a vertical arm *m'* which is slotted at its upper end to receive the key shaft and thus determine and maintain the angular position of the socket base. The jigs are arranged in a circular series upon a carrying table B which is advanced intermittently to bring the jigs successively to the cement supplying mechanism.

The cement is fed to the recesses of the base in a powdered form and is subsequently melted by the application of heat. The mechanism for feeding the powdered cement comprises a receptacle *n* containing powdered cement and a measured quantity of this cement is transferred to the recesses in the porcelain base by means of a feed slide *n'* provided with holes *n²* corresponding to the recesses in the base. This feed slide *n'* is moved from the position shown in Fig. 4 in which the holes *n²* are in the bottom of the receptacle *n* to a position in which the holes *n²* register with a series of holes *n³* in the plate *n⁴* which underlies the feed slide by means of a cam *n⁵* secured to a constantly running shaft *n⁶* and operating upon a lever *n⁷* the lower end of which passes through an opening in the slide. The feed slide *n'* is returned to normal position under the control of the cam *n⁵* by means of a spring *n⁸*. The holes *n³* are so arranged that they are directly above the recesses in the porcelain base 1 when the jig M carrying the parts is at rest under the plate *n⁴* as indicated in Fig. 4. When the feed slide is moved to bring the holes *n²* into register with the holes *n³* the cement carried in the holes *n²* is forced down through the holes *n³* into the recesses in the porcelain base by means of a series of plungers *n⁹* carried on the lower end of a slide *n¹⁰*. This slide *n¹⁰* is mounted in suitable guides in the end of an arm *n¹¹* projecting from the central standard for the table B and is reciprocated by means of an eccentric *n¹²* on the end of the shaft *n⁶* which engages a transverse slot in the slide, the lower side of the slot being held in engagement with the eccentric by means of a spring *n¹³* connected with the upper end of the slide.

Previous to being brought into position to receive the cement, the porcelain base 1 is

subjected to the action of a series of gas jets n^{14} which heats the walls of the recesses in the porcelain and subsequent to the introduction of the powdered cement the porcelain is brought under a second series of gas jets n^{15} which melt the cement. The gas jets for effecting the preliminary heating project from a chamber n^{17} which is supplied with air and gas through a double pipe n^{18} and the jets n^{15} for melting the cement project from a similar chamber n^{19} supplied with air and gas through a double pipe n^{20} . The porcelain base is moved into position under the jets n^{14} , then into position to receive the powdered cement, and then into position to be acted upon by the jets n^{15} by successive movements of the table B.

The table B is advanced intermittently through a ratchet wheel t^3 secured to the under side of the table and acted upon by a pawl t^4 . The pawl t^4 is pivoted to a slide t^5 and is held in engagement with the ratchet wheel by a spring t^6 . The slide is guided upon a bar t^7 secured to an arm projecting from the central standard for the table and is operated by a cam t^8 secured to a shaft t^9 and engaging a roll t^{10} carried by the slide. The roll is held in engagement with the cam by a spring t^{11} . The shaft t^9 is constantly driven from a vertical shaft t^{12} with which it is connected by bevel gears t^{13} . The shaft t^{12} is driven from the driving shaft o^3 through a gear t^{14} secured to the upper end of the shaft and engaged by a gear t^{15} secured to the shaft o^3 .

While I have shown a machine adapted to supply cement to the recesses of a lamp socket base, it will be understood that the invention may be embodied in machines adapted for supplying cement to other articles, the feeding and heating devices being modified to suit the requirements of the work to be done. The specific construction and mode of operation of the devices employed may also be varied widely without departing from the invention.

Without attempting to set forth in detail the various constructions and modifications in which my invention may be embodied,

what I claim and desire to secure by Letters Patent is:—

1. A cement supplying mechanism, comprising a receptacle for powdered cement, a feed slide provided with one or more holes for receiving the cement, one or more reciprocating plungers, means for moving the slide back and forth between the receptacle and plungers, and means for supporting the work in register with the plungers.

2. A cement supplying mechanism comprising a work carrier, one or more heating jets arranged to register with one or more recesses in the work, correspondingly arranged cement feeding devices, and means for moving the work support successively to the cement feeding devices and heating jets.

3. A cement supplying mechanism comprising a work carrier, cement feeding devices arranged to register with one or more recesses in the work, two correspondingly arranged sets of heating jets located on opposite sides of the cement feeding devices, and means for moving the work carrier from one set of heating jets to the cement feeding devices and then to the second set of heating jets.

4. A cement supplying mechanism comprising a receptacle for powdered cement, a feed slide provided with one or more holes for receiving the cement, means for supporting the work, and means for moving the slide from the receptacle to a position with the holes in the slide in register with holes in the work.

5. A cement supplying mechanism comprising a work support, a receptacle for powdered cement, a cement carrying device, and mechanism for moving the carrying device back and forth between the receptacle and a position in register with the work support.

In witness whereof, I have hereunto set my hand, this 5th day of September 1905.

NORMAN MARSHALL.

Witnesses:

IRA L. FISH,
KATHARINE A. DUGAN.