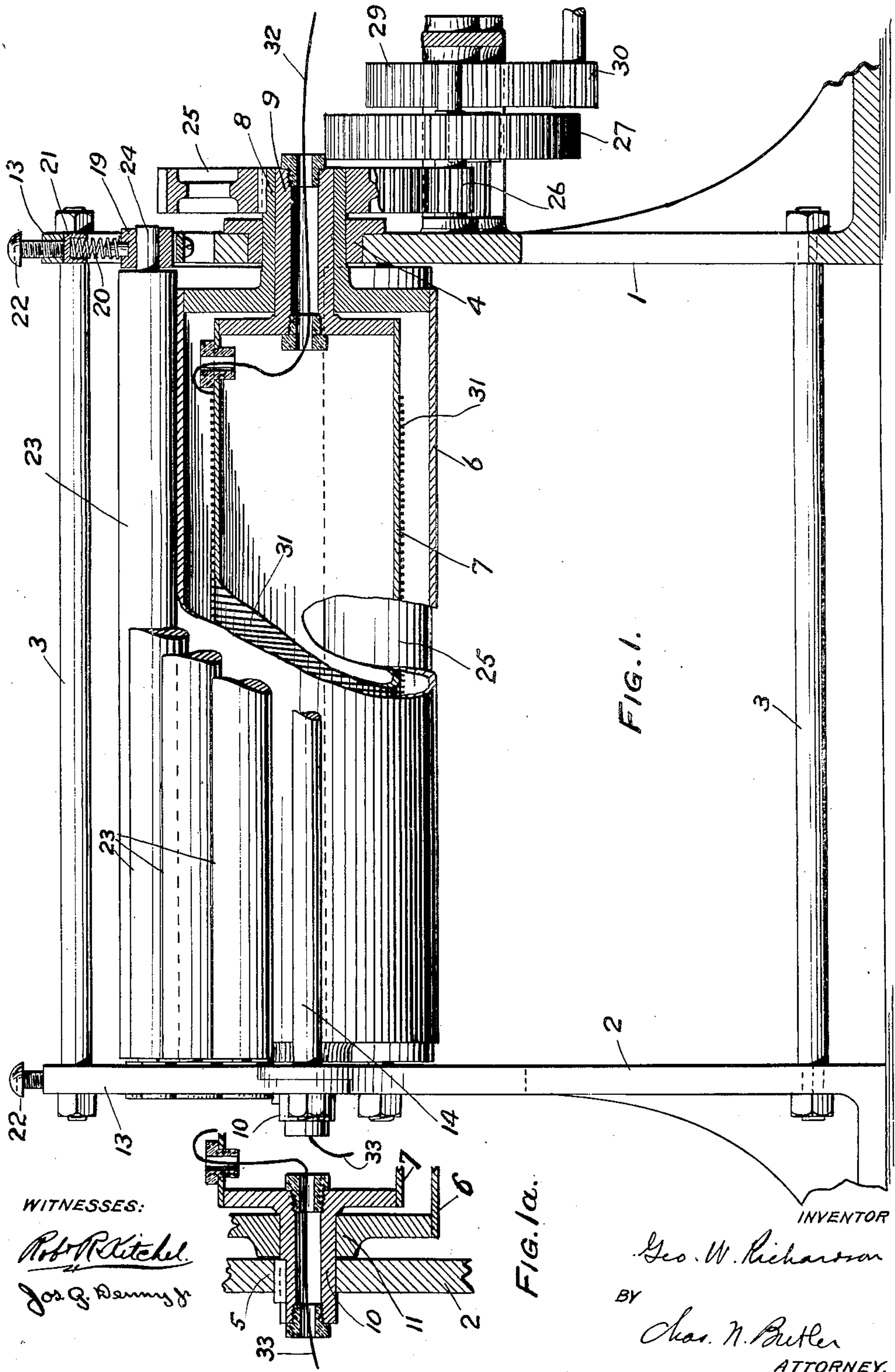


G. W. RICHARDSON.
ELECTRICAL DRYING APPARATUS.
APPLICATION FILED JUNE 1, 1908.

963,942.

Patented July 12, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

Robt. R. Kitchel
Jos. Q. Denny Jr.

FIG. 1a.

INVENTOR

Geo. W. Richardson

BY

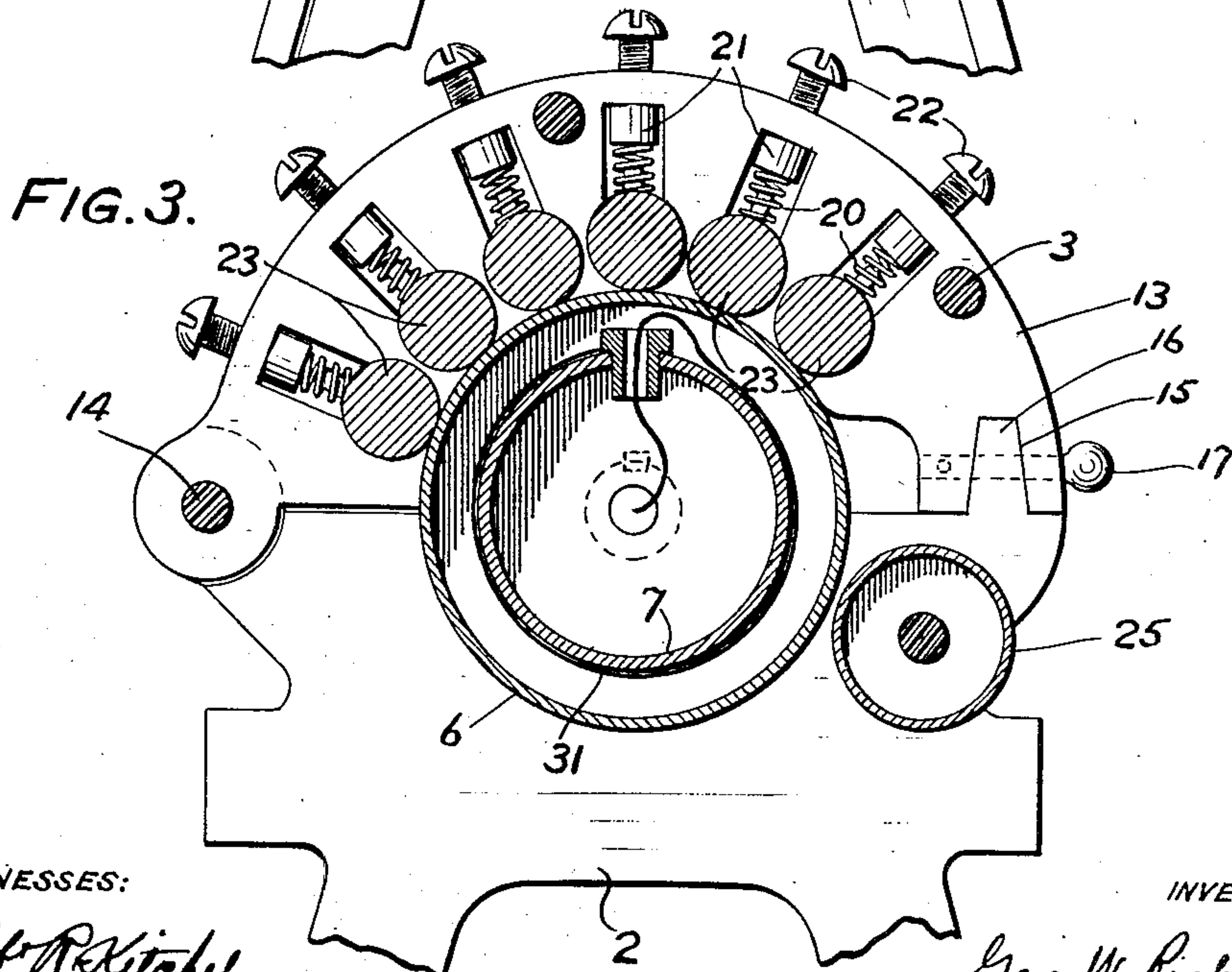
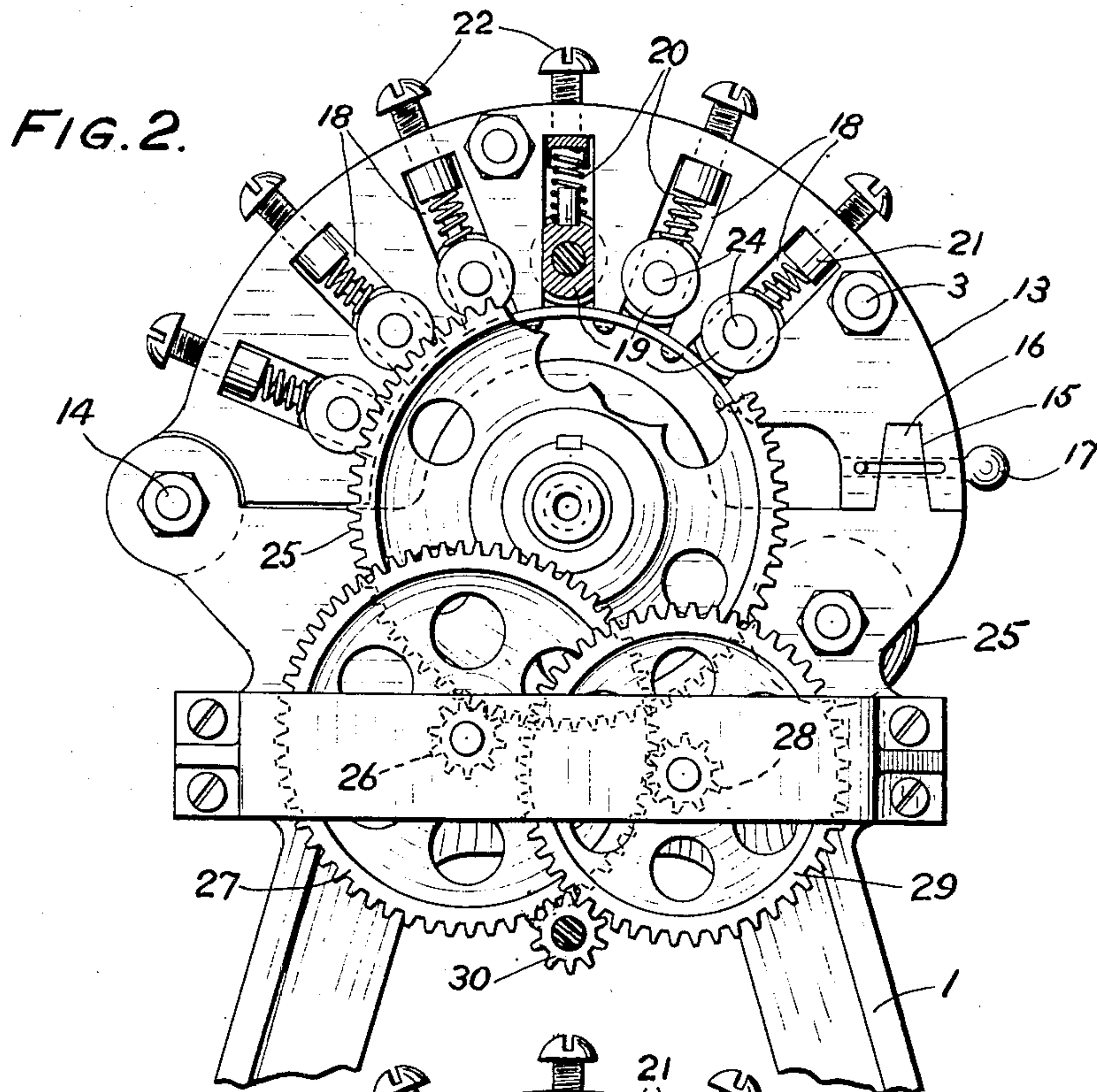
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WITNESSES:

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UNITED STATES PATENT OFFICE,

GEORGE W. RICHARDSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO STEPHEN T. MAJOR, OF PENCYD, PENNSYLVANIA.

ELECTRICAL DRYING APPARATUS.

963,942.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed June 1, 1908. Serial No. 435,943.

To all whom it may concern:

Be it known that I, GEORGE W. RICHARDSON, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain Improvements in Electrical Drying Apparatus, of which the following is a specification.

This invention is an apparatus, designed particularly for drying and smoothing or ironing blue prints. Where this work is conducted on a large scale, the usual methods require a great deal of time and space which are saved by the use of my apparatus, which will dry, smooth and deliver the paper rapidly and regularly.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a broken sectional elevation of the preferred form of the mechanism; Fig. 1^a is a sectional view showing the details of a bearing; Fig. 2 is an end elevation of the mechanism, part being shown broken away, and Fig. 3 is a vertical sectional view taken transversely through the mechanism.

The mechanism illustrated in the drawings has a frame comprising the standards or lower housing members 1 and 2 connected by rods 3. Bearings 4 and 5 are provided in the respective standards to carry the hollow roller 6 and the insulating cylinder 7 located within this roller. At one end the roller has the hollow spindle 8 journaled within the bearing 4 and on a hollow spindle 9 of the cylinder 7; and, at the other end, the cylinder 7 has the hollow spindle 10 fixed, as by a key, in the bearing 5, while the roller has the bearing 11 journaled on this spindle. The frame has the top housing members 13, connected by rods 3, hinged by a rod 14 to the bottom housing members and provided with wedge shaped recesses 15 engaging like projections 16 on the lower members, a bolt 17 normally holding the upper and lower members together in the registered relation effected by the engagement of the wedging members. Ways 18, radially disposed with reference to the axis of the roller 6, are formed in the upper housing members, and movable blocks or journal bearings 19 are disposed in these ways. The blocks are pressed down by springs 20 which bear against them and against the caps 21, the latter being carried

by screws 22 movable in the housing members to adjust the tension of the springs. Rollers 23 have their spindles 24 journaled in the bearings 19 so that they are circularly disposed and normally bear against the roller 6. A guide roller 25 is journaled in the standards in position to carry paper or other material between the rollers 6 and 23 which are heated so that they dry and iron it.

To draw the material to be ironed and dried through the rollers 6 and 23, the roller 6 is revolved by power applied through a gear train, comprising the spur wheel 25 fixed to the journal 9, the revoluble pinion 26 engaging the wheel 25, the spur wheel 27 fixed to the pinion 26, the pinion 28 engaging the wheel 27, the spur wheel 29 fixed to the pinion 28 and a pinion 30 engaging the wheel 29, the speed reducing train being adapted for the use of an electric motor of usual type. To heat the rollers, a resistance coil 31 is carried by the cylinder 7 and connected in a circuit having wires 32 and 33 passed through the hollow spindles 9 and 10.

The apparatus provides, in the electrically heated main roller and the coacting circularly arranged spring pressed auxiliary rollers, an extended and flexible drying and smoothing operation, in which the pressure can be varied to accommodate the requirements. The hinged housing which carries the radially movable rollers provides means for withdrawing the latter from the main roller to give access to the parts for any desired reason.

While the apparatus is designed primarily for drying and smoothing blue prints, it may be used for performing like operations upon cloth or other materials.

Having described my invention, I claim:

1. In apparatus of the class described, housing members, a main roller revolvably mounted in said members, a stationary coil within said roller, housing members hinged on said members first named, and a set of auxiliary rollers carried by said hinged housing members and coacting with said main roller.

2. In apparatus of the class described, housing members, a hollow roller having a hollow spindle journaled therein, an insulating cylinder having a spindle at one end supported in said hollow spindle and means

at the other end for fixing it to one of said
members, a coil carried by said cylinder,
housing members hinged to said housing
members first named, and a set of spring
5 pressed auxiliary rollers carried by and
movable in said hinged housing members
radially to said main roller.

In witness whereof I have hereunto set
my name this 28th day of May, A. D. 1908,
in the presence of the subscribing witnesses. 10
GEORGE W. RICHARDSON.

Witnesses:

ROBERT JAMES EARLEY,
JOS. G. DENNY, Jr.