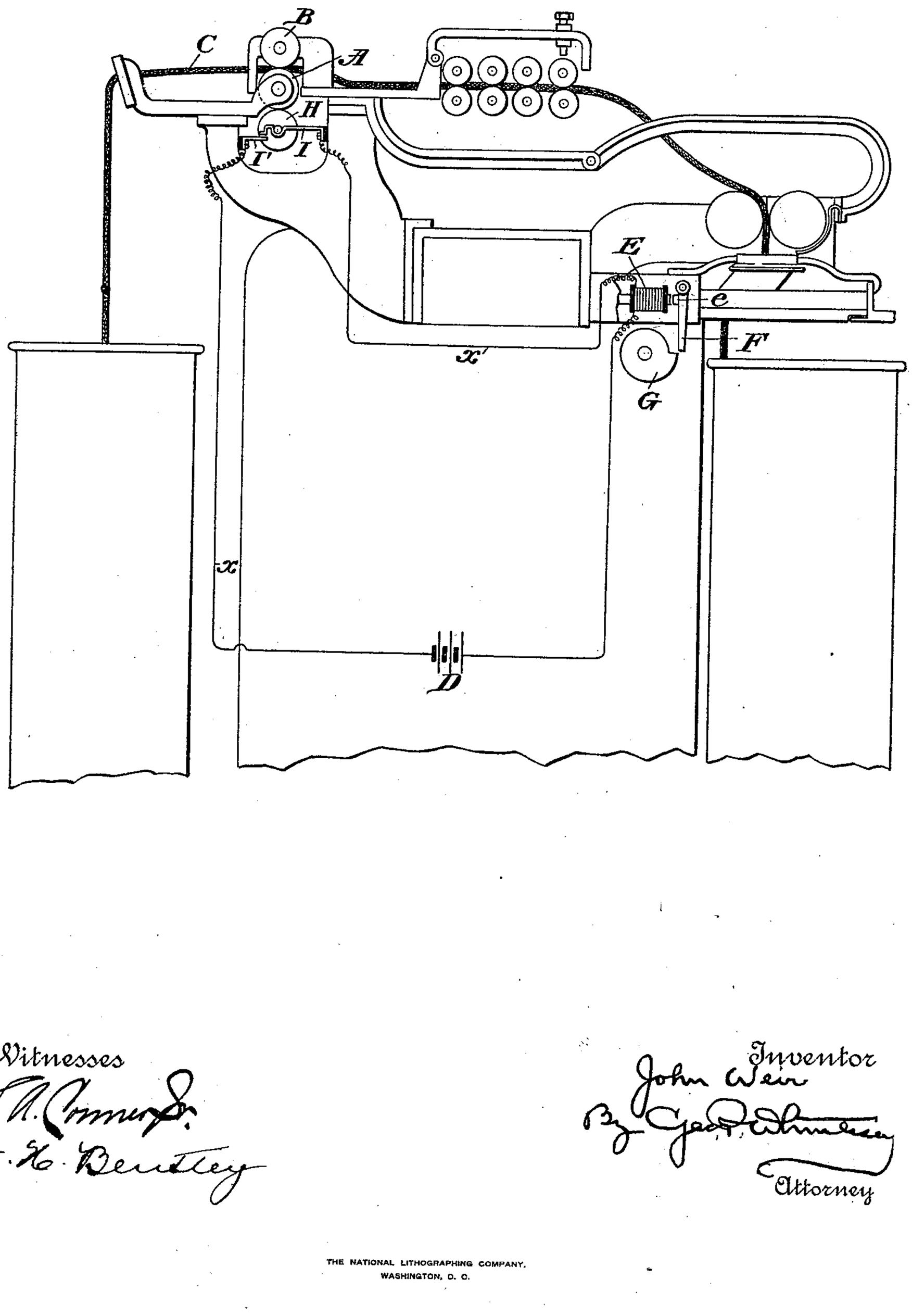
(No Model.)

J. WEIR.

ELECTRIC STOP MOTION.

No. 518,297. Patented Apr. 17, 1894.



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JOHN WEIR, OF FALL RIVER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JAMES MONAGHAN, OF SAME PLACE.

ELECTRIC STOP-MOTION.

SPECIFICATION forming part of Letters Patent No. 518,297, dated April 17, 1894.

Application filed October 4, 1893. Serial No. 487,181. (No model.)

To all whom it may concern:

Be it known that I, JOHN WEIR, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Electric Stop-Motions; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to drawing frames, and its object is to stop the machine automatically in case the rolls get clogged.

In many of the drawing frames now in use, there is a roll called the electric roll over which the cotton runs. In case the sliver breaks and runs off the electric roll, the presser roll comes in contact with the electric roll and closes a circuit through an electric battery and an electro magnet controlling a stop mechanism. As the cotton runs over the electric roll it is liable to stick to it and wind around it. When once started, this action continues until the pressure and clogging become so great as to break the gears and other parts of the machine, thereby entailing considerable expense in stoppages and repairs. My invention obviates all these troubles by stopping the machine as soon as one or two laps of cotton have wound upon the electric roll.

The invention consists in a circuit closer adjacent to the electric roll and controlling an electric stop motion, which may be either the same stop motion as that controlled by the electric roll or a separate and independent one.

The drawing is a diagrammatic representation of a drawing frame, equipped with one form of my invention.

The several parts of the machine are constructed as usual, including the electric roll A and the presser roll B, between which passes the sliver C. Adjacent to the electric roll A is a movable circuit closer, which may be of any suitable construction such that an increase in the size of the roll (as by a layer of cotton wound upon it) will actuate the circuit closer, and cause the battery D to energize the electro magnet E, whose armature *e* operates a detent F and causes it to engage with the stop wheel G on one of the shafts of the machine, which is thereby stopped.

The circuit closer which I prefer to use is shown in the drawing. It consists of a roller H lying close to or in contact with the electric roll A, and journaled at one or both ends in a spring arm I, adapted, when the roller is moved away from the electric roll, to touch another arm I′. These arms form the terminals of the circuit *x* of the stop motion which normally stands open, but is closed when the arms come in contact. It will be seen that this takes place as soon as the cotton winds on the electric roll A and thereby moves the roller H away from its normal position.

I have described the invention as applied to a drawing frame having an electric roll, but it is evident that it is not confined to this class of machines, being applicable to any in which a roll is liable to become wound or lapped with the material passing over it.

Having thus described my invention, what I claim is—

The combination with a drawing frame having the roll A, of the roller H adjacent thereto, a spring arm I supporting said roller, an arm I′ normally out of contact with the arm I, and an electric stop motion having the terminals of its circuit connected with the arms I, I′, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN WEIR.

Witnesses:

ARBA N. LINCOLN,

ALFRED H. HOOD.