

(No Model.)

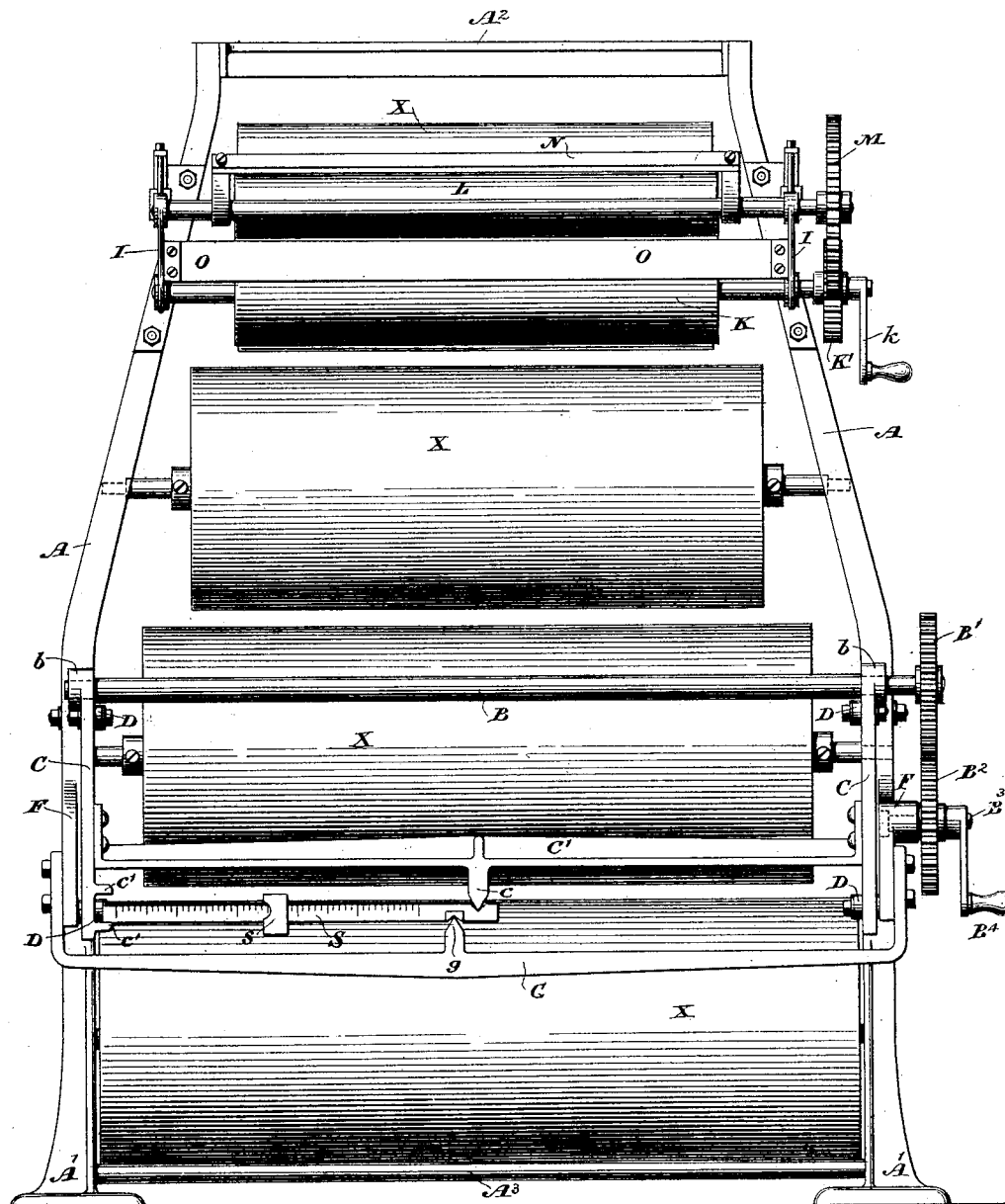
2 Sheets—Sheet 1.

J. CROTTY & R. DE S. BACOT.
APPARATUS FOR WEIGHING ROLLS OF PAPER AS THE PAPER IS
WOUND THEREON.

No. 463,732.

Patented Nov. 24, 1891.

Fig. 1.



Witnesses

Geo. W. Breck
Henry W. Lloyd.

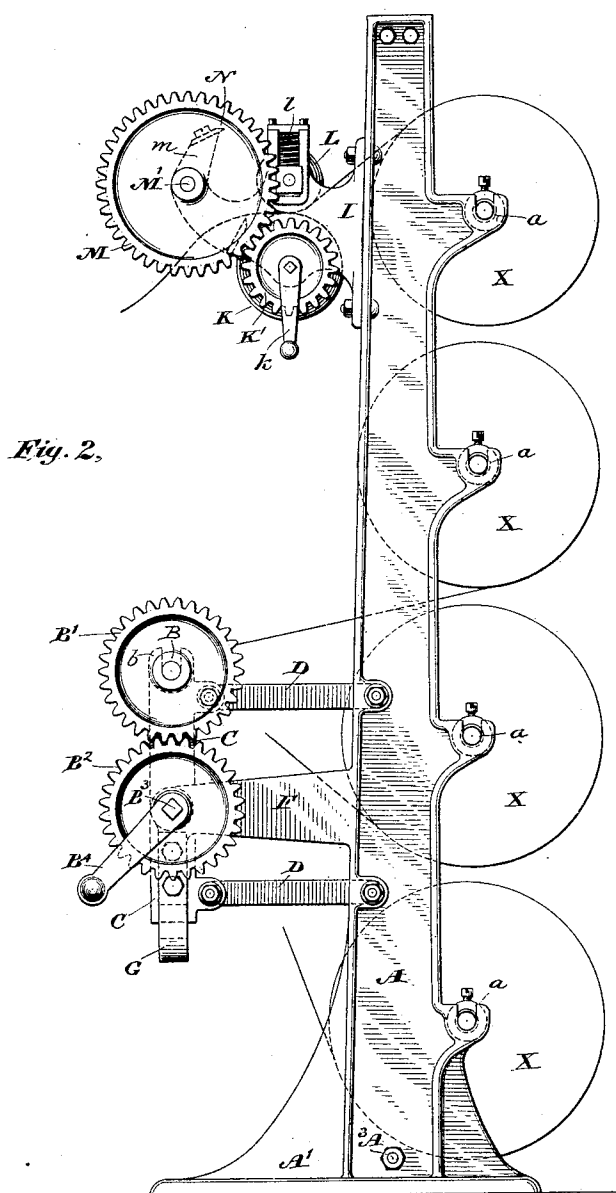
Inventors:

John Crotty
R. De S. Bacot
By their Attorneys
Baldwin, Davidson & Wright

J. CROTTY & R. DE S. BACOT.
APPARATUS FOR WEIGHING ROLLS OF PAPER AS THE PAPER IS
WOUND THEREON.

No. 463,732.

Patented Nov. 24, 1891.



Witnesses
Geo. W. Brock
Henry W. Lloyd.

Inventors.
John Crotty
R. De S. Bacot
By *Wm. H. Baldwin* Attorneys
Baldwin, Davidson & Wright.

UNITED STATES PATENT OFFICE.

JOHN CROTTY AND RICHARD DE S. BACOT, OF NEW YORK, N. Y.

APPARATUS FOR WEIGHING ROLLS OF PAPER AS THE PAPER IS WOUND THEREON.

SPECIFICATION forming part of Letters Patent No. 463,732, dated November 24, 1891.

Application filed May 24, 1890. Serial No. 353,048. (No model.)

To all whom it may concern:

Be it known that we, JOHN CROTTY and RICHARD DE S. BACOT, citizens of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Apparatus for Weighing Rolls of Paper, of which the following is a specification.

The object of our invention is to provide a convenient and practical apparatus by which paper is wound into rolls that are automatically weighed as the operation of winding the paper on the roll progresses. By our improved arrangement rolls of paper of uniform weight are obtained without special handling of the rolls for purposes of weighing.

In the accompanying drawings, Figure 1 is a front elevation of our improved machine, and Fig. 2 a side elevation.

The frame, which may, as shown, be formed of wrought-iron castings or wood-work, consists of two uprights A, having suitable bases A' and converging somewhat toward each other at the top, where they are united by a cross-beam A². They are also tied together near the base by a tie-bolt A³. On the rear sides of the beams A a series of bearings *a* are provided, in which the spindles of the rolls of paper X may be seated. As is obvious from the drawings, the paper web from any one of the rolls X may be brought forward to and around a roll or spindle B, removably mounted in bearings *b* in a vertically-rocking frame C, hung from each frame-beam A by parallel links D. The roll or spindle B is driven by a gear-wheel B', mounted on the end thereof and gearing with a corresponding gear B², fast on a short stud-axle B³, having its bearings in one of the brackets F projecting from the frame-beams A. The wheel B² may be driven by a crank B⁴, as indicated, or in any other suitable manner. There is sufficient play vertically between the teeth of the gears B' B² to permit a slight vertical rocking of the frame C. A fulcrum bar or strap G is bolted to the brackets F and extends across the front of the machine. At its middle it is provided with a fulcrum-point or knife-edge *g*, on which is seated a scale-beam S, having the ordinary sliding weight *s*. The frame C is also provided with a cross-piece C', having a downwardly-pro-

jecting knife-edge *c*, which bears on the short arm of the scale-beam S. The longer end of the beam S plays between lugs *c' c'* on one side of the frame C. As a paper web is wound upon the spindle B from any one of the rolls X its weight will be carried by the frame C and will be transferred to the scale-beam at the point *c*, and, the scale-weight *s* being adjusted as desired, the scale will indicate when the required weight of paper has been wound upon the roll. The paper web may then be cut and the spindle B, carrying the roll of paper, lifted from its bearings and the roll of paper removed therefrom.

So far as we are aware, we are the first to provide an organization of this kind in which paper is weighed as it is wound upon the rolls. Ordinarily, there is considerable trouble in obtaining rolls of paper of equal weight, and to insure any real accuracy it is necessary to stop the operation of winding and weigh the roll from time to time. This, however, is entirely obviated by the use of our invention.

The drawings illustrate a practical and suitable embodiment of our invention in a working apparatus; but of course the details of construction may be varied without departing from the spirit of our invention.

In connection with the apparatus already described we may also provide devices by which a paper web drawn from a roll may be cut into sheets of uniform size. These devices are illustrated at the upper part of the figures of the drawings. A bracket I projects from the front of each frame-beam A. In this bracket a paper-drawing or feed roller K is mounted, and also just above it another drawing-roll L, which is normally pressed against the roll K by springs *l* applied at its bearings. The roller K is driven by a crank *k*, and on one end of the spindle of the roller is a gear-wheel K', that drives a larger gear M, mounted on a shaft M', having bearings in the outer ends of the brackets I. Radial arms *m*, projecting from the shaft M', support a knife N, arranged longitudinally with the shaft M', and as the shaft is rotated the knife N moves past a corresponding knife O, supported at both ends in the brackets I. The paper web from the roll X is drawn between the rolls K L as the roll K is revolved by its crank and over the knife-edge O. On

each revolution of the shaft M' the knife N severs the paper against the knife O. With this arrangement the paper from the roll may be readily cut into sheets of uniform size.

5 Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, substantially as set forth, of the paper-receiving roll or spindle B, means for revolving it to wind the paper web thereon, and the weighing device supporting it.

2. The combination, substantially as set forth, of the vertically-rocking frame, the spindle B, carried thereby, means for revolving the spindle to wind a paper web thereon, and weighing devices supporting the vertically-movable frame.

3. The combination, substantially as set forth, of the rocking frame C, the roll or spindle mounted thereon, means for revolving the spindle to wind the paper web thereupon, a fulcrum *g*, the scale-beam, and the knife-edge *c* on the frame C.

4. The combination, substantially as set forth, of the main frame A A, the rocking frame C, the fulcrum-bar G, having the knife-edge *g*, the scale-beam mounted on said knife-edge, and the knife-edge *c*, carried by the rocking frame and bearing on the shorter arm of the scale-beam.

5. The combination, substantially as set forth, of the main frame A A, having bearings *a* for the reception of the spindles of a series of rolls of paper X, the rocking frame C, carrying a spindle B, upon which the paper web is to be wound, the links D, connecting the frame C with the main frame, the fulcrum-bar G, the scale S, the knife-edges *c g*, and the driving-gears B' B².

In testimony whereof we have hereunto subscribed our names.

JOHN CROTTY.

RICHARD DE S. BACOT.

Witnesses:

EDWARD C. DAVIDSON,

MAMIE J. KELLEY.