

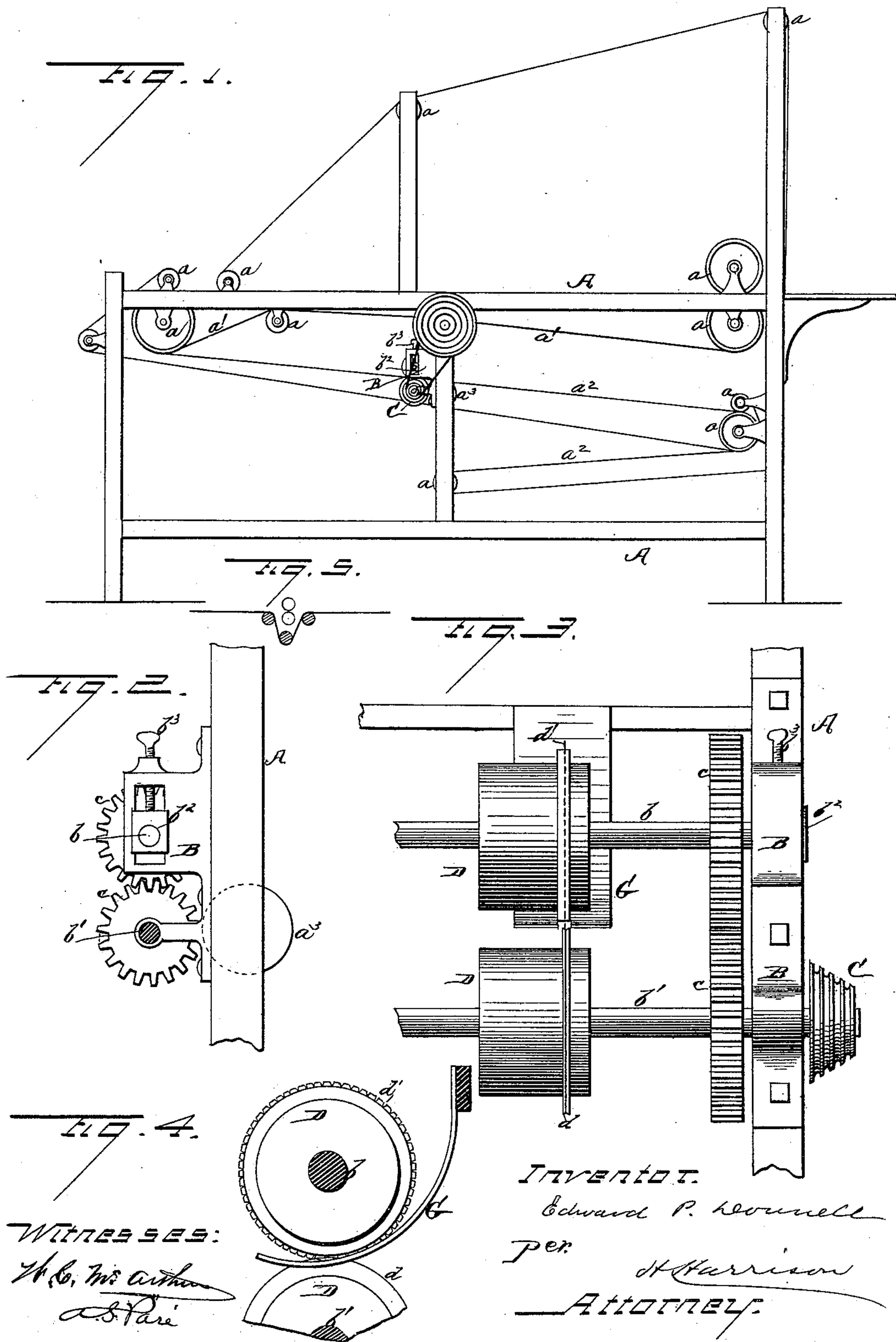
(No Model.)

E. P. DONNELL.

PERFORATING ATTACHMENT FOR RULING MACHINES.

No. 335,570.

Patented Feb. 9, 1886.



UNITED STATES PATENT OFFICE.

EDWARD P. DONNELL, OF CHICAGO, ILLINOIS.

PERFORATING ATTACHMENT FOR RULING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 335,570, dated February 9, 1886.

Application filed April 24, 1884. Serial No. 129,149. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. DONNELL, 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 Perforating Attachments for Ruling-Machines, of which the following is a specification, to wit:

This invention relates to an improvement in paper-ruling machines; and it consists in the combination therewith of a rotary perforator or cutter, substantially as will be hereinafter more fully set forth and claimed.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a side view of a paper-ruling machine having my perforator attached. Fig. 2 is an enlarged end view of the perforator-shafts and their bearings. Fig. 3 is a front elevation of the same, and Fig. 4 is a view of the clearing-fingers.

A represents a paper-ruling machine of any of the ordinary and well-known forms, provided with the usual rollers, *a a*, journaled in the main frame, and upon which run the endless apron *a'* and the belts or tapes *a''*, which carry the ruled paper through the machine and finally deposit it in a receptacle provided for that purpose. The machine is also provided with ruling-pins, &c.; but these parts have nothing to do with the present invention, and are therefore not represented in the drawings.

The endless carrying-tapes *a''* are usually supported by a roller, *a'''*, near the center of the machine, to prevent them from sagging, and just in rear of this roller I have shown two shafts, *b b'*, the latter of which is stationary in suitable castings, B, upon the main frame, while the former is journaled in sliding blocks *b''*, operated to and from the lower shaft by means of set-screws *b'''* in the bearing B. These shafts extend across the main frame of the machine, and are at one end provided with gear-wheels *c c*, which mesh, as in Fig. 2, and one of the shafts has upon its outer end a differential belt-pulley, C, as seen, which is connected by a belt with any desired portion of the main body of the machine, to give it the proper speed.

The tapes *a''* run between the two shafts *b b'*,

and upon these shafts are secured at intervals any desired number of small cylinders, D, the lower of which is provided with a circumferential groove, *d*, and the upper with a disk having perforating-teeth *d'* upon its periphery, which are of round or elongated form, as may be necessitated by the character of the perforations desired.

The paper under operation is ruled in the usual manner, and while being carried away to dry by the endless belts and tapes it is carried between the disks or cylinders D D and perforated. To prevent its being taken around the cylinder by its perforating-points, I provide a spring clearing-finger, G, which clears the paper and allows it to drop back upon the tapes, where it is carried on to the point of delivery. The same operation is performed when the teeth *d'* are replaced by a knife-edge, which severs the paper as it passes forward and saves handling it again for this purpose after it is ruled.

The drawings herewith represent the perforator placed upon the tapes near the center of the machine; but it is as well placed in any other convenient position upon the travel of the paper—as, for instance, the endless apron *a'* may be deflected from its straight course by suitable rollers, and the perforator placed in the depression of this apron, as in the modification shown in Fig. 5.

The device is adapted for attachment to any paper-ruling machine, and when not wanted for use the upper shaft, with its perforating-disks, is drawn back by means of its set-screws and sliding boxes, and is then out of the way, so as not to perforate the paper as it passes.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a paper-ruling machine, the combination, with the endless aprons or tapes for carrying the paper away, of a rotary perforating and cutting disk, beneath or past which the paper is carried, substantially as shown and described.

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

EDWARD P. DONNELL.

Witnesses:

W. C. MCARTHUR,
W. S. MCARTHUR.