

(No Model.)

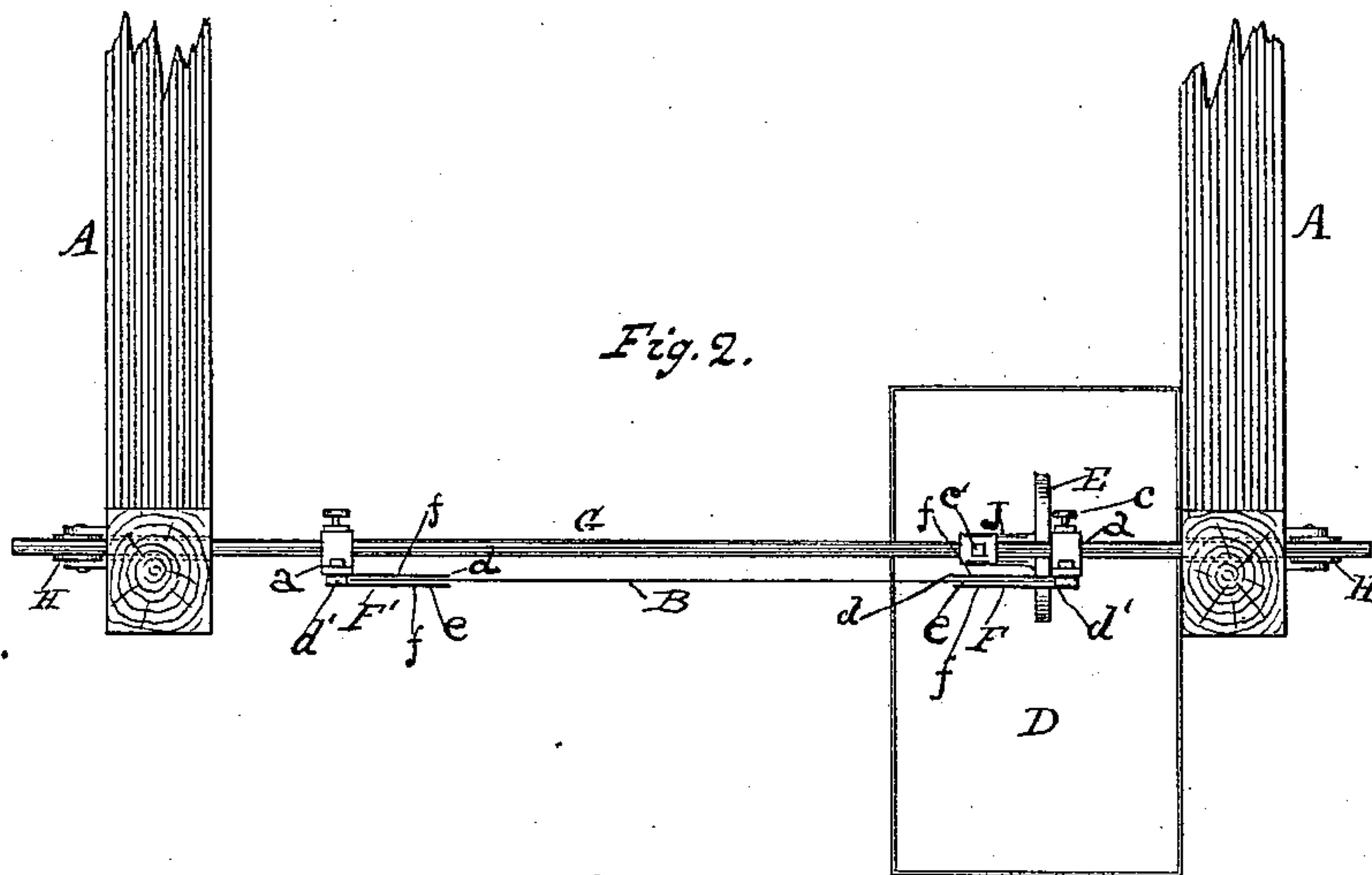
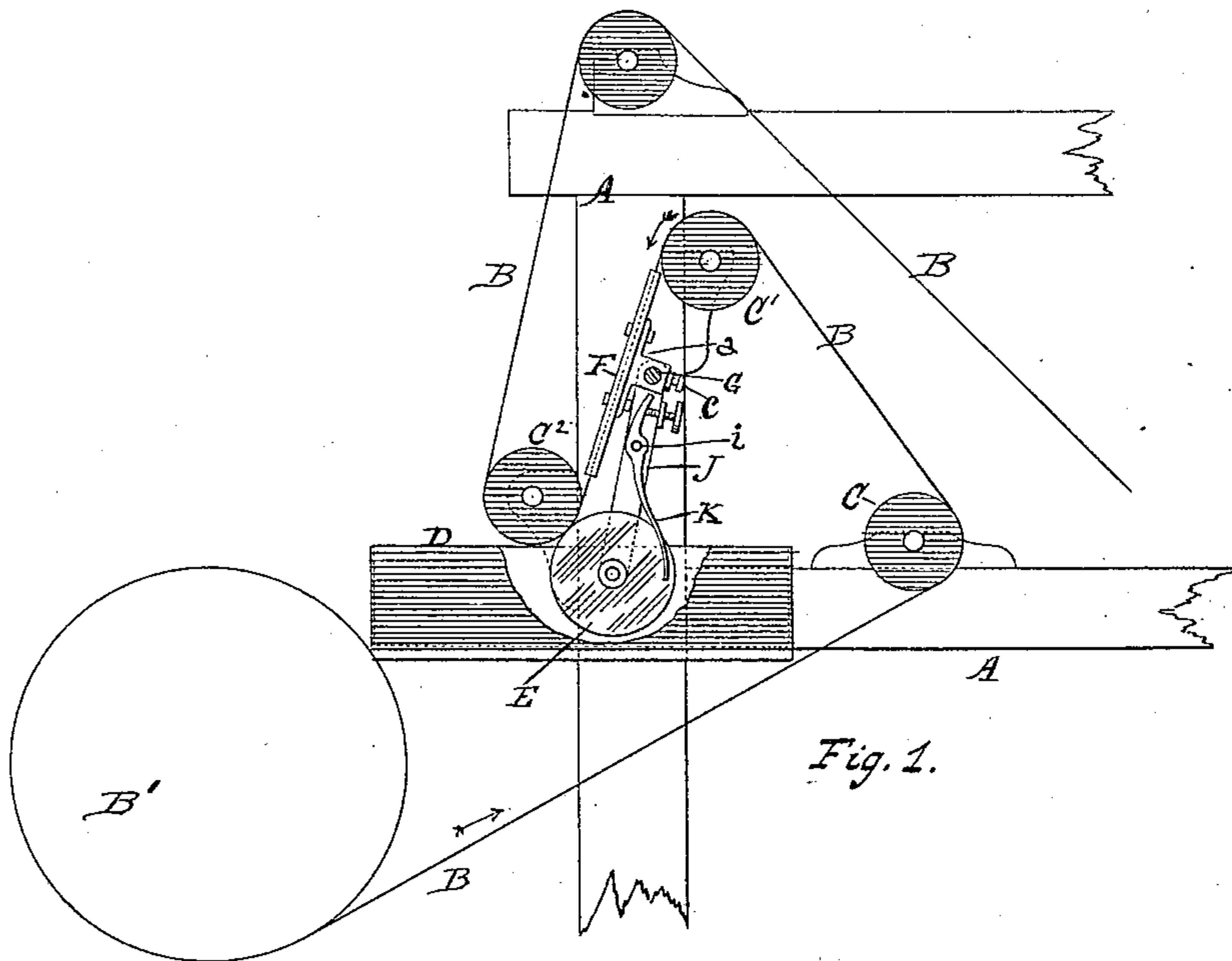
3 Sheets—Sheet 1.

J. ARKELL.

DEVICE OPERATED BY THE EDGES OF MOVING WEBS.

No. 428,363.

Patented May 20, 1890.



Witnesses:
H. Schlinghoff.
W. A. Drown.

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Inventor.
by his Attorney
Alex. Belknap

(No Model.)

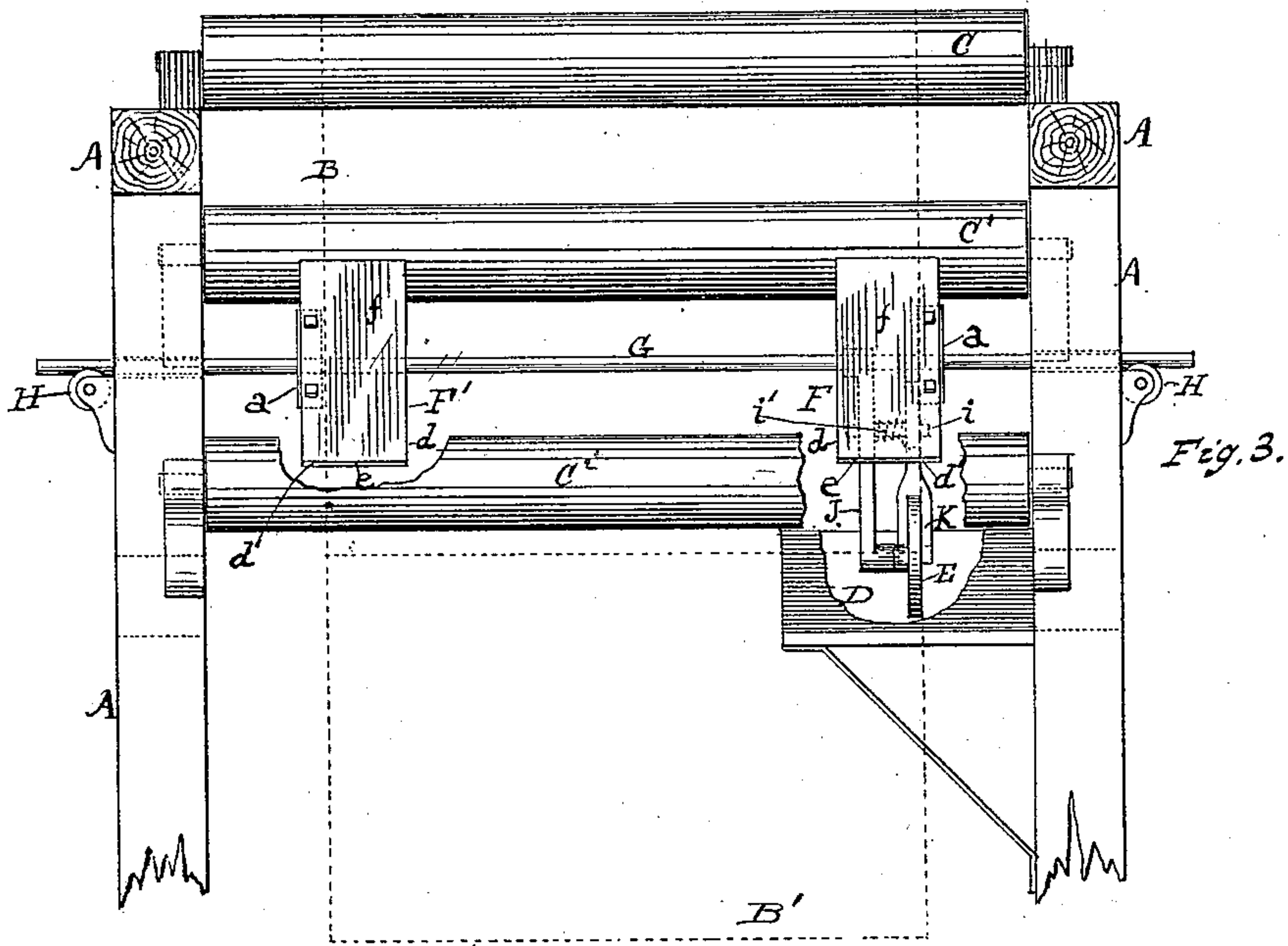
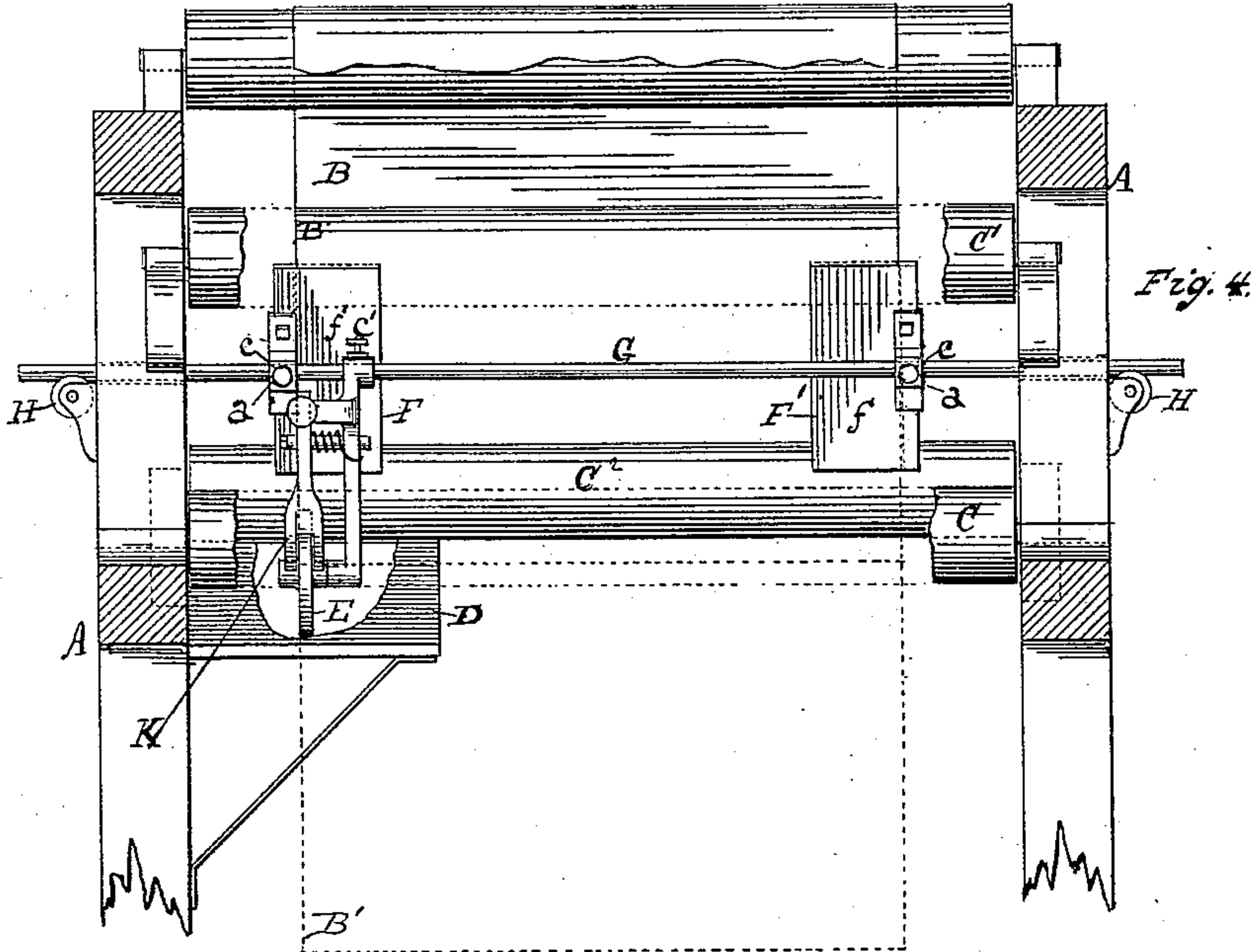
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Witnesses:
H. Schlingloff
W. A. Dunn

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(No Model.)

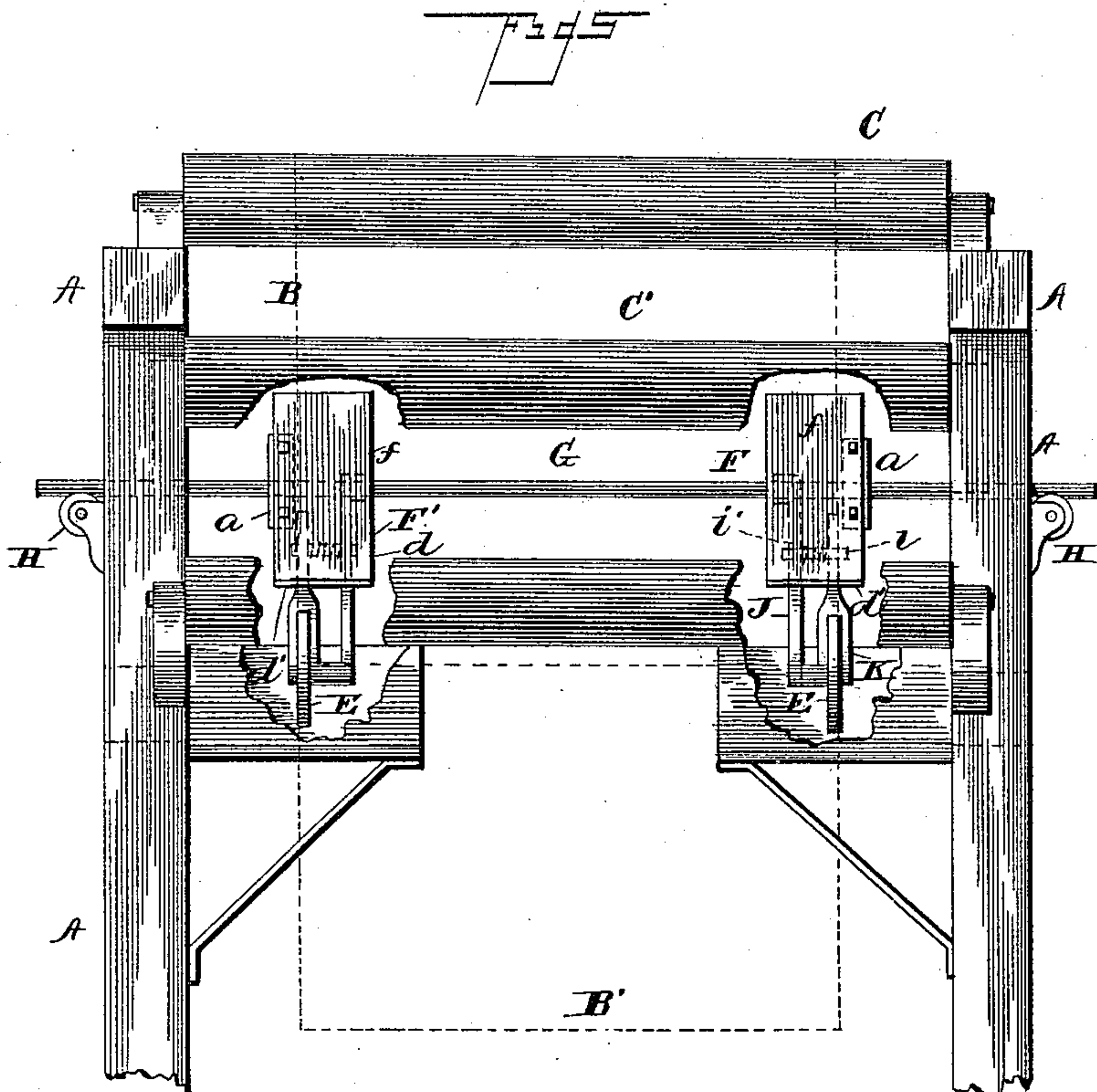
3 Sheets—Sheet 3.

J. ARKELL.

DEVICE OPERATED BY THE EDGES OF MOVING WEBS.

No. 428,363.

Patented May 20, 1890.



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UNITED STATES PATENT OFFICE.

JAMES ARKELL, OF CANAJOHARIE, NEW YORK.

DEVICE OPERATED BY THE EDGES OF MOVING WEBS.

SPECIFICATION forming part of Letters Patent No. 428,363, dated May 20, 1890.

Application filed January 10, 1889. Serial No. 295,908. (No model.)

To all whom it may concern:

Be it known that I, JAMES ARKELL, a citizen of the United States, residing at Canajoharie, in the county of Montgomery and State of New York, have invented a new and useful Improvement in Devices Operated by the Edges of Moving Webs of Paper, of which the following is a specification.

My invention relates to that type or class of machine in which some sort of roller for applying paste or other material to the surface of a traveling web of paper, and more especially to that species of machine in which a paste-wheel is employed for applying a strip of paste at the vicinity of one of the edges of a traveling web of paper, which is subsequently automatically folded over and pasted into a flattened tubular condition for the manufacture of such paper-bag blanks.

In all such machines as heretofore made considerable difficulty has been encountered by reason of the liability of the roller or rollers employed to apply the paste or other material to the surface of the traveling web not always acting upon precisely that portion of the web designed to be treated in consequence of the sidewise movement or variation to which the web of paper traveling continuously over rollers is liable. I have effectually overcome this serious difficulty by my improvement, which I will now proceed to more fully describe, and which will be found more particularly pointed out and more clearly defined in the claim of this specification.

In the accompanying drawings, which form part of this specification, Figure 1 is a side elevation of so much of a machine for making flattened tubular bag-blanks from a continuous web or roll of paper as is necessary to be shown for the purpose of illustrating my improvement as applied to this type of machine. Fig. 2 is a partial top view of the device seen in elevation at Fig. 1. Fig. 3 is a rear view or elevation. Fig. 4 is a front view of the same. Fig. 5 is a rear view or elevation similar to Fig. 3, but showing a modification of the invention, in which two paste-wheels instead of one are employed.

In the several figures the same part will be

found always designated by the same letter of reference.

A A represent a portion of the suitable frame-work for supporting the several working parts of the machine to which I have shown my improvement applied.

B is the web of paper to be (in the case shown) pasted and folded up into a flattened tubular condition and made into bag-blanks from the roll B', from which the paper is continuously drawn over, passing over rolls C, C', and C², from whence it passes to the mechanism applied near one edge of the web, and by which the web thus pasted is folded into a flattened tubular condition, (devices for performing which operation are not shown in the drawings,) all in a manner familiar to those skilled in the art.

D is the paste-box, and E the paste-wheel, the periphery of which applies a line of paste to the web of paper B by running in contact therewith at a point or at the vicinity at which the said web passes partially around roller C², (see Fig. 1,) all as clearly shown. Instead, however, of having the paste-wheel mounted, as usual, so as to rotate always in precisely the same plane, while the traveling web of paper may slightly vary or fluctuate from a straight course in its path of motion, I have the paste-wheel mounted axially upon the lower ends or portions of the turning devices, which are connected with supporting guide-like devices, which in turn act upon the web of paper in such manner (as I will presently explain) as to enforce a given relationship between the contacting periphery of the paste-wheel and the edge of the traveling web, no matter how much the latter may fluctuate sidewise from a straight path of motion.

F and F' are two guideways, which are connected, preferably, by means of brackets *a a* to the longitudinally-movable bar or shaft G, and for convenience in adjusting these guideways to different positions or localities to suit webs of different widths and thicknesses the brackets *a a* are adjustably secured to the shaft G by means of said screws *c*, (see Figs. 1, 2, and 4,) as plainly shown. These guideways F F' are duplex and are preferably made

of metal, though they might be made of wood or other material, and each one is composed of a rectangular piece, having formed in it a deep groove or recess *e*, (see Fig. 2,) which groove or recess *e* lies between side plates *ff* and extends, as shown, from the inner edge *d* to the back piece *d'*. In practice and for use with heavy paper I have made these guideways *F* and *F'* about eight inches long and with a depth of groove or recess *e* of about four inches from the edge *d* to the back piece *d'*, and with the groove or recess *e* about one-eighth of an inch or less in thickness. When the web of paper to be used is lighter, however, it is preferable to increase the length of these guideways to make the groove *e*, within which the marginal portions of the web are accommodated, of somewhat less width. These guideways are of course properly adjusted on the shaft *G* to a distance apart such that the place between the adjacent edges of their back piece *d d'* shall be about equal to the width of the web of paper to be run through the machine, all as clearly illustrated in the drawings.

The shaft *G* is supported at either end or rests upon anti-friction wheels or rollers *H H*, which are secured in any suitable manner to the frame-work of the machine, and the function of which is to support the said shaft *G* and its attachments in such manner that the shaft may be moved endwise in either direction as easily as possible. When, however, a web of very heavy strong paper is used in the machine, these anti-friction wheels may be dispensed with and the end portions of the shaft *G* be supported in simple perforations in the frame or in pieces secured thereto, the said perforations being of course made sufficiently large to permit the said shaft to move endwise in either direction with perfect freedom. The web *B*, after having passed partially around the roller *C* and thence partially over roller *C'*, is carried thence downwardly in the case shown to the roller *C²*, from which it passes upwardly and inwardly to the folding mechanism of the machine; but, as shown, in passing from the roll *C'* to the roller *C²* both edges of the web of paper pass through the groove or recess *e*, which I have called the "guideways" *F F'*.

In the operation of my invention, carried into effect as shown in the accompanying drawings, when the web *B* is drawn from the roll *B'* in the direction of travel indicated by the arrows at Fig. 1, and with the opposite edges or margins of the web or strip of paper running through the guideways *F* and *F'*, as shown and above described, the said edges of the web running in contact with the bags and piece *d'* of the said guideways will tend to keep the said guideways always in the same line of path of travel in which the web itself moves, and as the shaft *G*, by which these guideways are supported, is free to move easily in either direction endwise, it follows that in the course

of any variation from a straight path of movement the web will carry these guideways always in the same fluctuating path. Now, as the paste-wheel *E*, as above described, is mounted or hung upon a device depending from the shaft *G*, it follows that the said paste-wheel must always travel with the said shaft and its guideways, and that consequently the line of paste applied to the web by the periphery of said paste-wheel will always be in perfect parallelism with the edge of the web of paper. As shown in the drawings, the pasting-wheel *E* is connected with one of the guideways *F* through the medium of the bracket-arm *J*, connected both with the shaft and provided at its lower end with a suitable pintle or spindle, upon which the said paste-wheel freely revolves, being driven, as usual, by its peripheral contact with the web of paper during the paste-applying operation. By preference the bracket-arm *J* is adjustably connected with the shaft *G*, in order that the paste-wheel *E* may be set or adjusted to have its periphery run in contact with the web of paper at one or another distance from the extreme edge of the web. The paste-scraper *K* is preferably connected with this bracket-arm *J* by means of a pivot at *i*, and is held in place, straddling the said wheel, by means of a suitable spring *i'*. If desired, a second paste-wheel may be in like manner arranged and operated at the opposite side of the machine to apply a line of paste at the vicinity of the other edge of the web of paper.

Of course in carrying my invention into effect many modifications in the details of construction may be made without departing from the novel principles of construction and mode of operation of my improved contrivance; and in applying my invention any suitable modifications for pasting together separate traveling webs in the manufacture of bristol-board or in the use of rollers for doing color-printing on webs of paper. In the manufacture of wall-paper great advantage will arise, from the fact that the roll or roller, of whatever nature and for whichever of the purposes mentioned it may be used, can be always made to travel in a given relative position to the web of paper widthwise of the same. I therefore wish it to be understood that I do not consider my improvement or invention as restricted to the precise form of mechanism shown, nor to the application of my improvement to paper-bag-blank machines only; but,

Having so fully described my improvement to those skilled in the art to make and use my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a machine through which a continuous web or strip of paper or other material is to be pasted, and in which paste or other material is to be applied to the surface of said web, the combination, with the device by which

the web of paper is supported and caused to travel, of a roller or rollers adapted to travel in contact with the surface of the web for applying thereto paste or other material, and
5 guideways adapted to be actuated by the edges of the web of paper and operating to keep the said roll or rollers in a given rela-

tive position to the traveling edge or edges of the web, all substantially in the manner and for the purpose hereinbefore set forth.

JAMES ARKELL.

Witnesses:

E. B. BURNAP,

J. D. McDIARMID.