

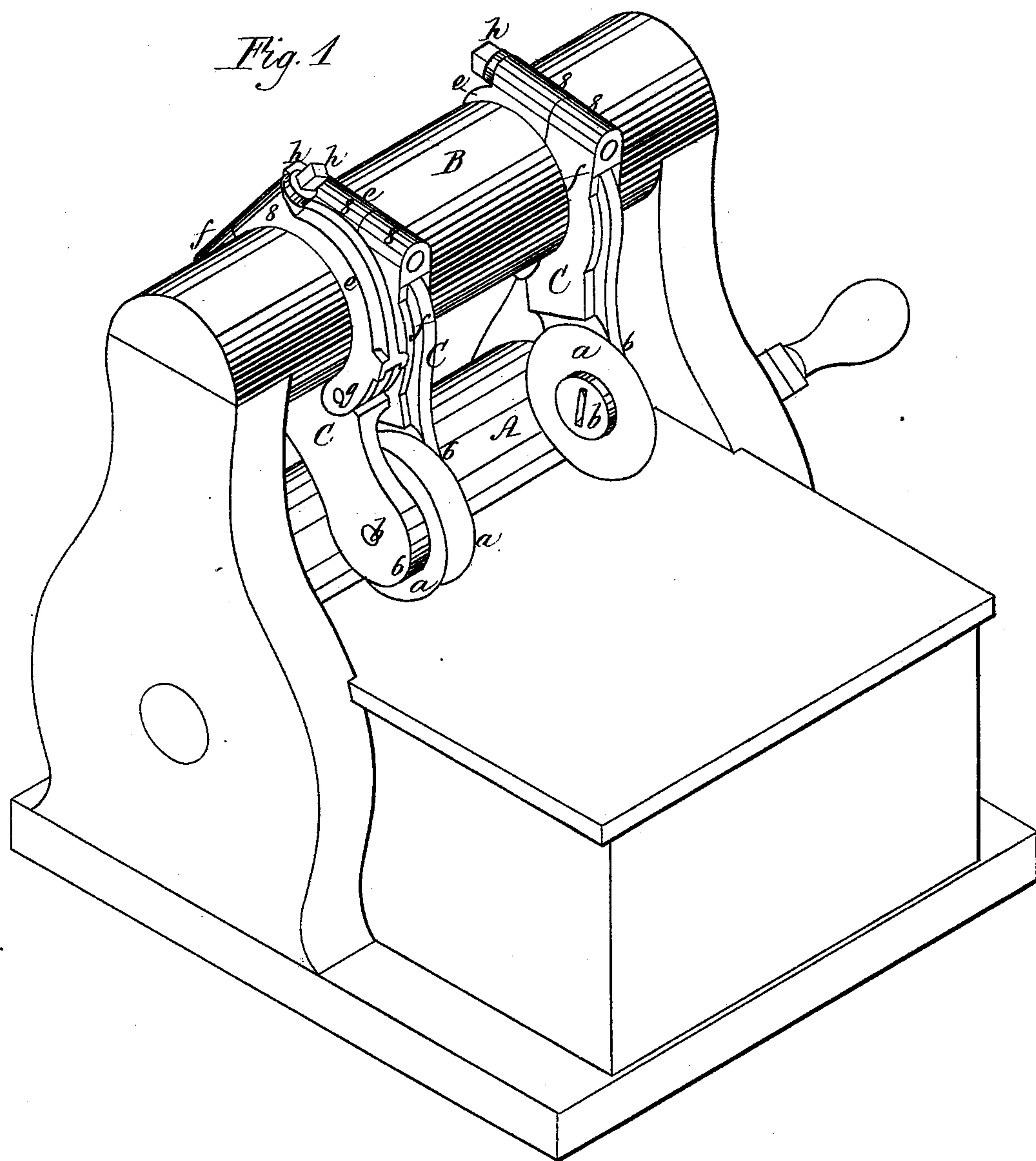
(Model.)

2 Sheets—Sheet 1.

J. C. MARSHALL.
Rotary Cutters.

No. 235,163.

Patented Dec. 7, 1880.



Witnesses
W. J. Cambridge
Chas. E. Griffin

Inventor,
James C. Marshall
per J. E. Teschemacher
Atty

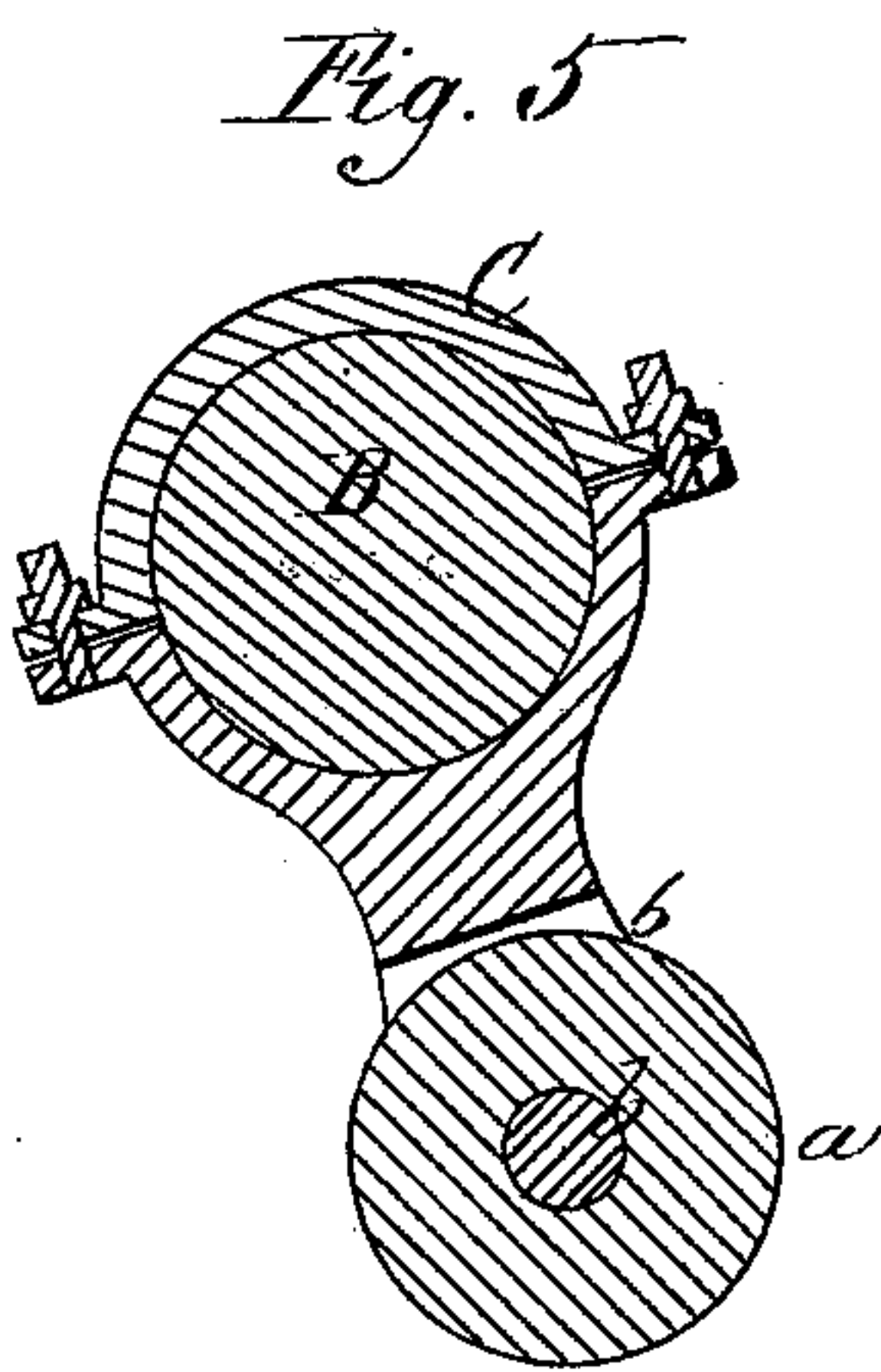
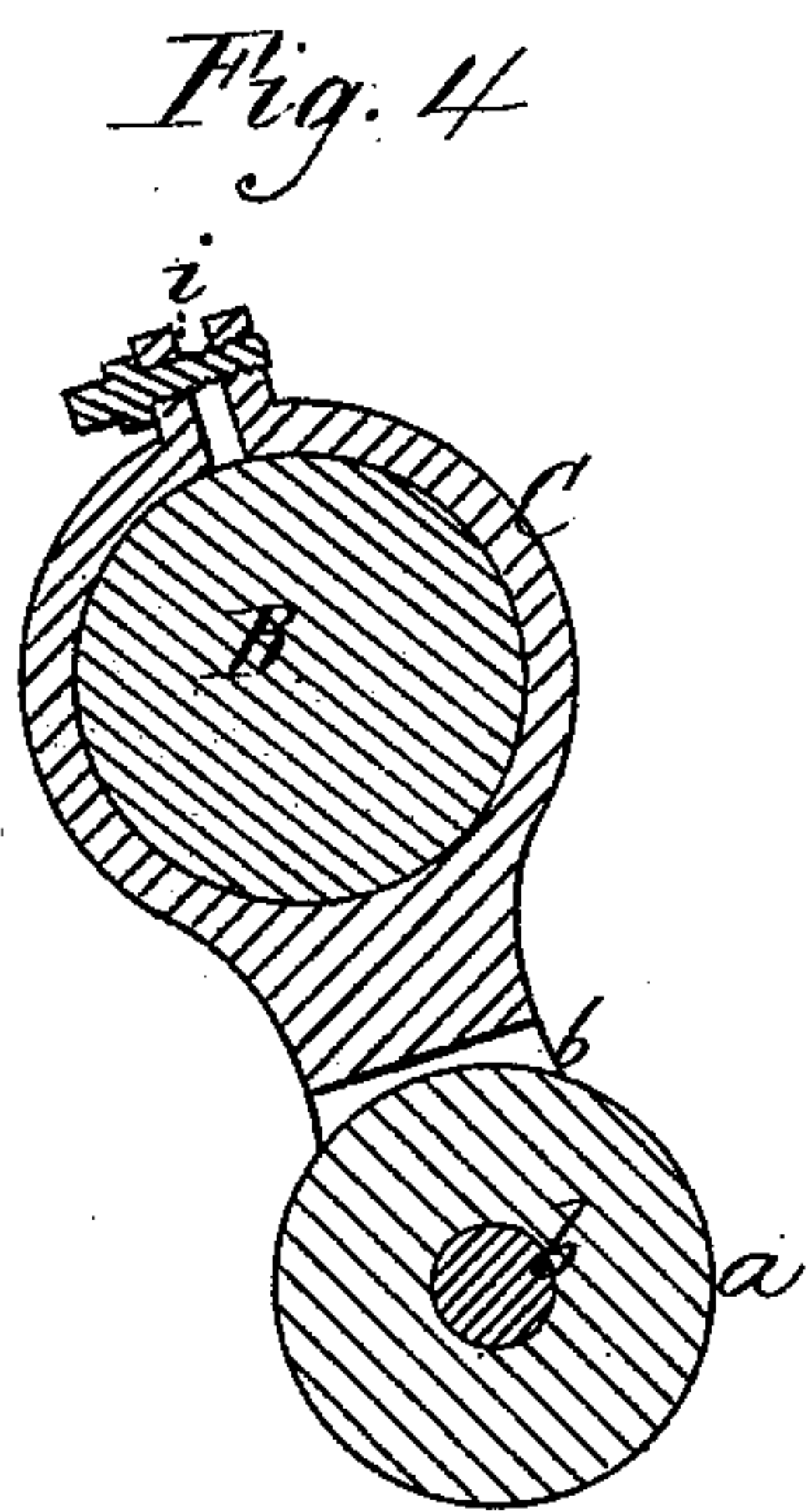
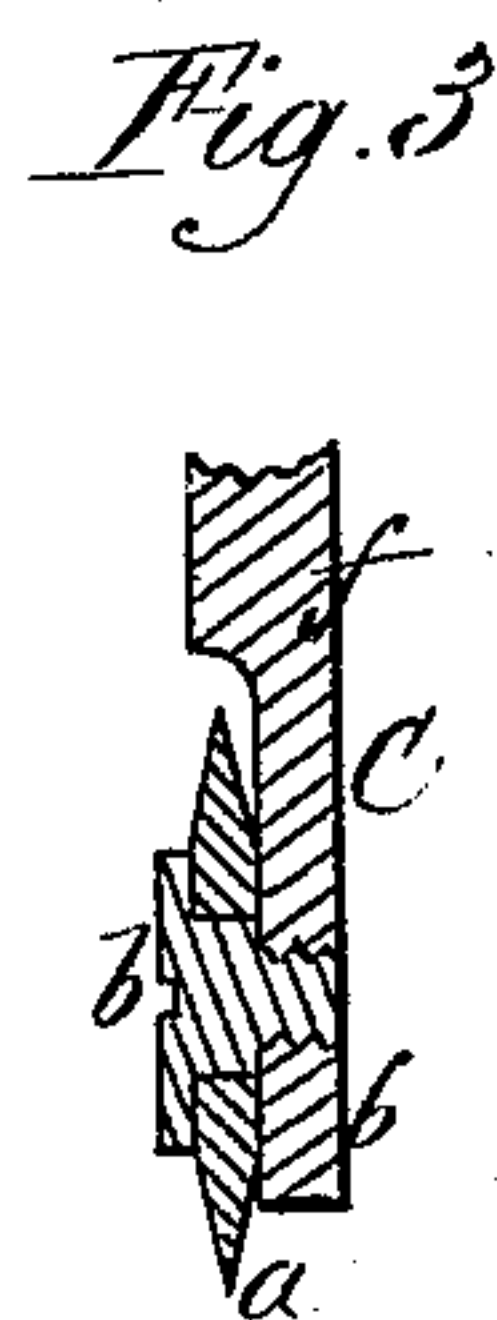
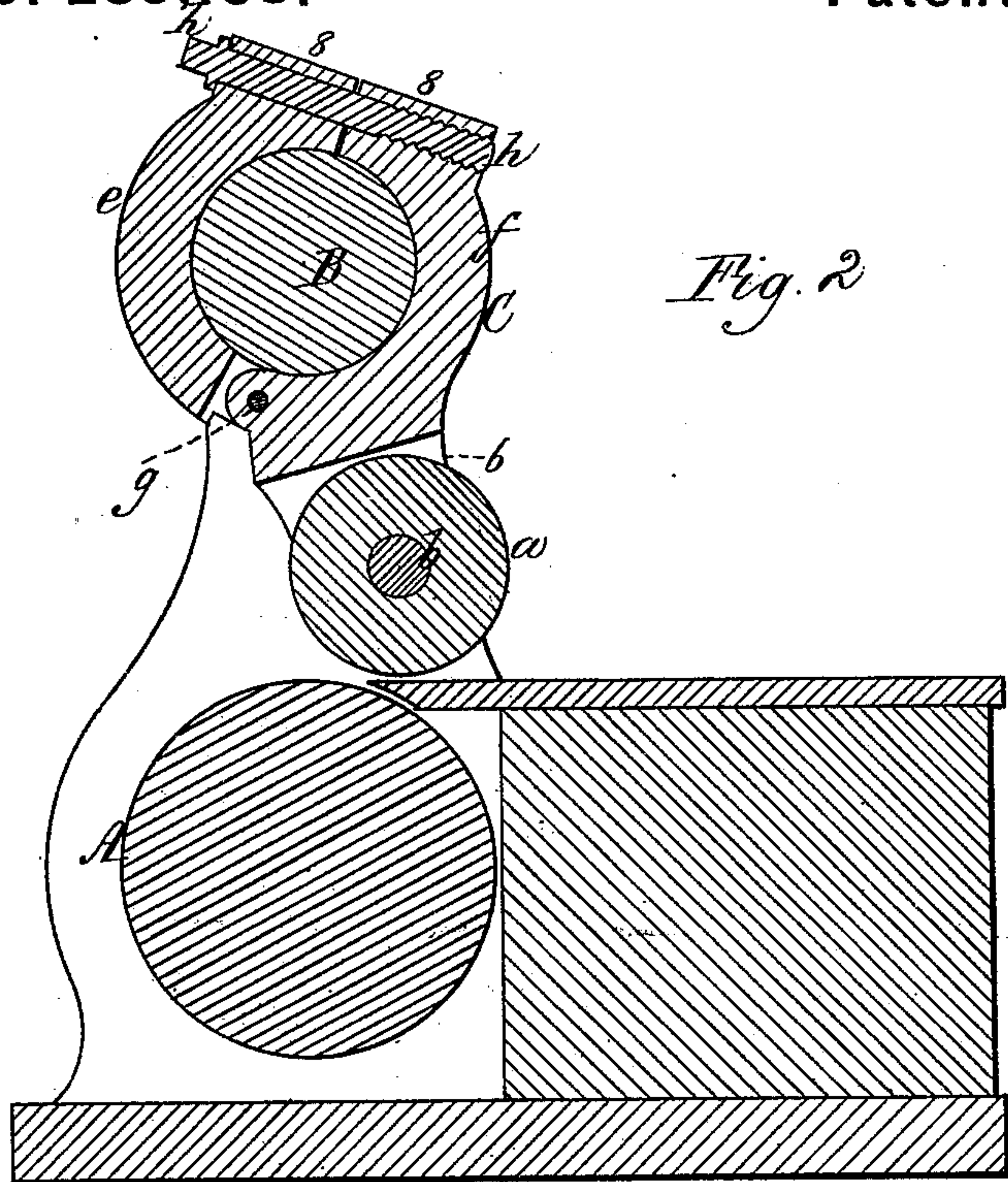
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2 Sheets—Sheet 2.

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Rotary Cutters.

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UNITED STATES PATENT OFFICE.

JAMES C. MARSHALL, OF BOSTON, MASSACHUSETTS.

ROTARY CUTTER.

SPECIFICATION forming part of Letters Patent No. 235,163, dated December 7, 1880.

Application filed October 18, 1880. (Model.)

To all whom it may concern:

Be it known that I, JAMES C. MARSHALL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Machines for Scoring and Cutting Paper for Boxes, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a paper scoring and cutting machine having my improvements applied thereto. Fig. 2 is a vertical section through the same; Fig. 3, sectional detail. Figs. 4 and 5 represent modifications of my invention.

My invention relates to certain improvements in machines for scoring and cutting paper for boxes, &c., and particularly to the construction of the cutter-holders which carry the revolving disk-cutters and slide upon the stationary cutter-bar or carrier-shaft, arranged horizontally over the bed or table on which the paper rests; and my invention consists in a cutter-holder made in the form of a divided collar and adapted to be clasped tightly around the cutter-bar by means of a clamping screw or screws, in order that it may be readily adjusted thereon in any desired position for cutting or scoring the paper, whereby I am enabled to dispense with the adjusting mechanism heretofore applied to the cutter-holder, which necessitated the formation of a longitudinal groove or grooves in the cutter-bar, and also avoid the use of the set-screws hitherto employed in connection with the adjusting mechanism to clamp the holder when adjusted, which set-screws are objectionable, as they indent and mar the surface of the cutter-bar, on which the holders slide, and often fail to hold the cutters immovably in position when adjusted.

In the said drawings, A represents the main roller, by means of which the paper to be scored or cut is moved over the bed or table.

B is the stationary cutter-bar or carrier-shaft, which is of circular form in cross-section, and secured, as usual, in a horizontal position immediately over the roll A, and at the desired distance therefrom.

C represents the cutter-holders, any desired number of which may be employed, these holders being mounted upon the cutter-bar B, upon which they are adapted to slide longitudinally in order that the revolving disk-cutters *a* may be set or adjusted at any desired distance apart. Each of these cutters *a*, which are of the usual form employed in machines of this description, is secured by means of a flat-headed screw, *b*, to one side of the lower end, 6, of its holder, instead of in a slit or between bifurcations thereon, as heretofore, for a purpose to be hereinafter explained.

Each cutter-holder C (shown in Figs. 1 and 2) is made in the form of a divided collar, being composed of two portions, *e f*, hinged or pivoted together at *g*, which construction admits of the collar being readily opened to allow of its being placed upon the cutter-bar B or removed therefrom for repairs or other purpose without disturbing the bar or taking it off the machine, as is necessary where an ordinary cutter-holder is employed.

The upper ends of the portions *e f*, which abut against each other, are somewhat enlarged, as at 8, and through these enlargements passes a tangential clamping-screw, *h*, upon the square end of which is fitted a key or wrench, by which the screw can be conveniently turned by hand to tighten or loosen it, as may be desired; and thus when an adjustment is required it is merely necessary to loosen the screw *h* and then turn the holder C upon the bar B to swing it up out of its operating position, or until the cutter *a* is brought into the desired position to score or cut the paper on the roll A, when, by a single turn of the screw *h*, the entire inner periphery of the collar C may be brought into contact with the surface of the bar B, and the holder thus clasped tightly around it, all liability of slipping being avoided, as a much greater amount of friction is thus created than where an ordinary set-screw is employed, as heretofore, to clamp the collar in place upon the cutter-bar, while the indenting and marring of the surface of the cutter-bar by the point of this set-screw is also avoided.

A cutter-holder constructed to be opened as above described possesses another great advantage, inasmuch as it can be readily re-

moved from the bar B and again placed thereon in a reversed position, as seen on the left-hand side of Fig. 1, which, on account of the cutter being secured to the holder on the side
 5 of its lower end, instead of between bifurcations thereon, enables two contiguous cutters to be brought much nearer together than has heretofore been possible in machines of this description, which is oftentimes a great con-
 10 venience.

Furthermore, no complicated adjusting mechanism or longitudinal groove or grooves in the cutter-bar B, which add materially to the cost of the machine, are required, while my im-
 15 proved cutter-holder is simple, cheap, and efficient, and can be readily removed and replaced without taking the bar B off the machine and adjusted thereon in any desired position.

If desired, the cutter-holder may be made
 20 of spring metal in a single piece with a dividing slit or opening, *i*, as seen in Fig. 4, and adapted to be drawn together and clasped tightly around the bar B by a single clamping-screw; or it can be made in two parts, se-
 25 cured together by two clamping-screws adapted to draw the two parts together and cause them to tightly clasp the bar B, as seen in Fig. 5; but I prefer to use a holder of the construction shown in Figs. 1 and 2, for the rea-
 30 son that it can be more readily removed for repairs and reversed when desired.

The cutter-holders shown in Figs. 4 and 5 I regard, however, as mere modifications of the holder shown in Figs. 1 and 2, as they contain
 35 the principal features of my invention.

I am aware of the two United States Letters Patent Nos. 212,314 and 212,315 granted,

respectively, to G. L. Ingram and W. F. Lodge, February 18, 1879, for paper scoring and cutting machines, and do not claim any of the
 40 mechanism therein described, as in both of the machines described in the said patents the cutter-bar is grooved longitudinally and one or more set-screws are employed to clamp the cutter-holder upon the bar, which it is the ob-
 45 ject of my invention to avoid; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for scoring and cutting paper, the combination, with the stationary cut-
 50 ter-bar B, of the adjustable cutter-holder C, made in the form of a divided collar, and provided with a clamping screw or screws adapted to draw the collar together and cause it to tightly clasp or embrace the bar B to hold the
 55 cutter immovably in position when adjusted, substantially as set forth.

2. In a machine for scoring and cutting paper, the combination, with the stationary cut-
 60 ter-bar B, of the adjustable cutter-holder C, made in the form of a divided collar, and composed of two portions, *e f*, pivoted together at *g*, and provided with a tangential clamping-screw, *h*, adapted to draw the two portions *e f* together and cause them to tightly clasp or
 65 embrace the bar B to hold the cutter immovably in position when adjusted, substantially as described.

Witness my hand this 2d day of October, A. D. 1880.

JAMES C. MARSHALL.

In presence of—

P. E. TESCHEMACHER,
 W. J. CAMBRIDGE.