

No. 631,475.

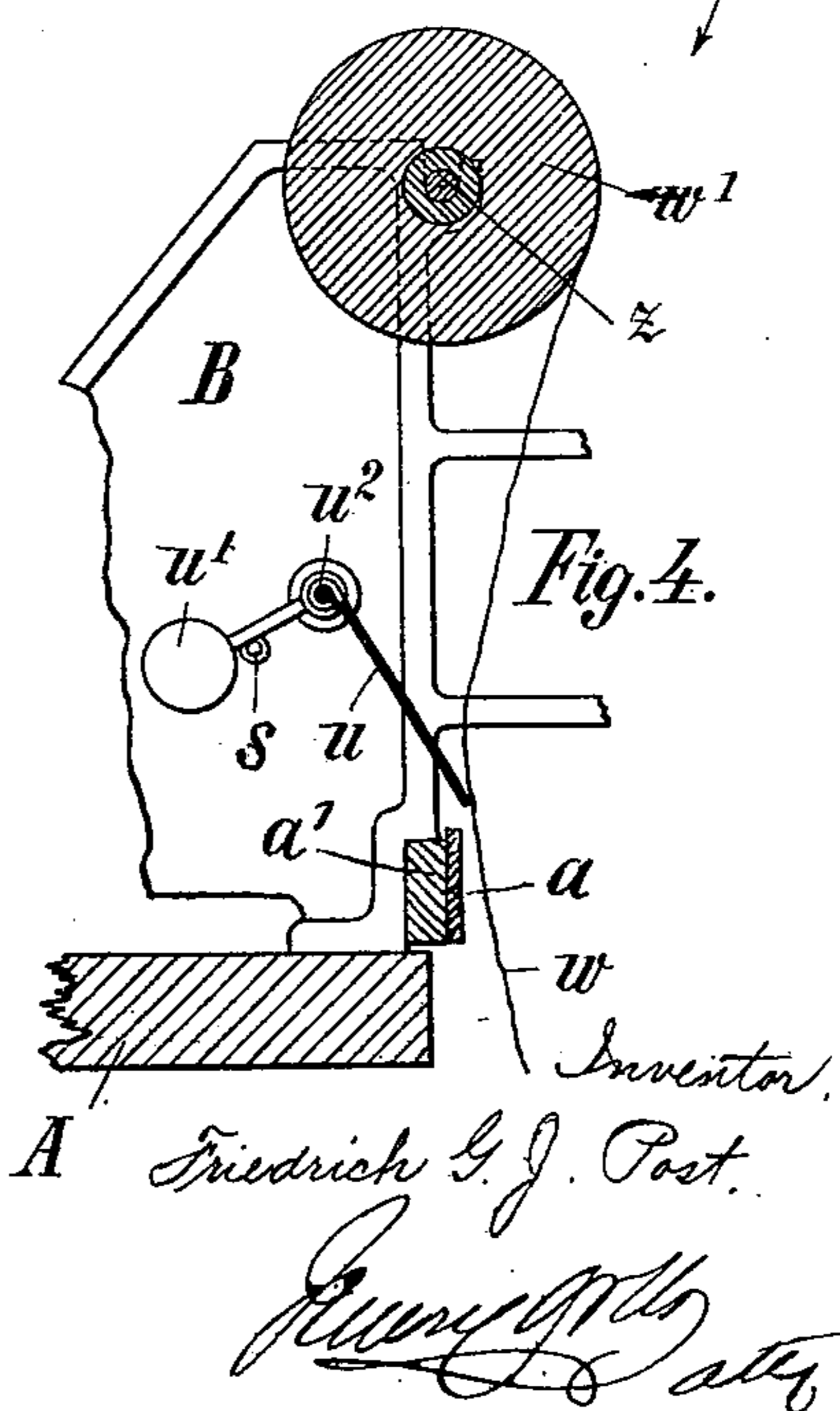
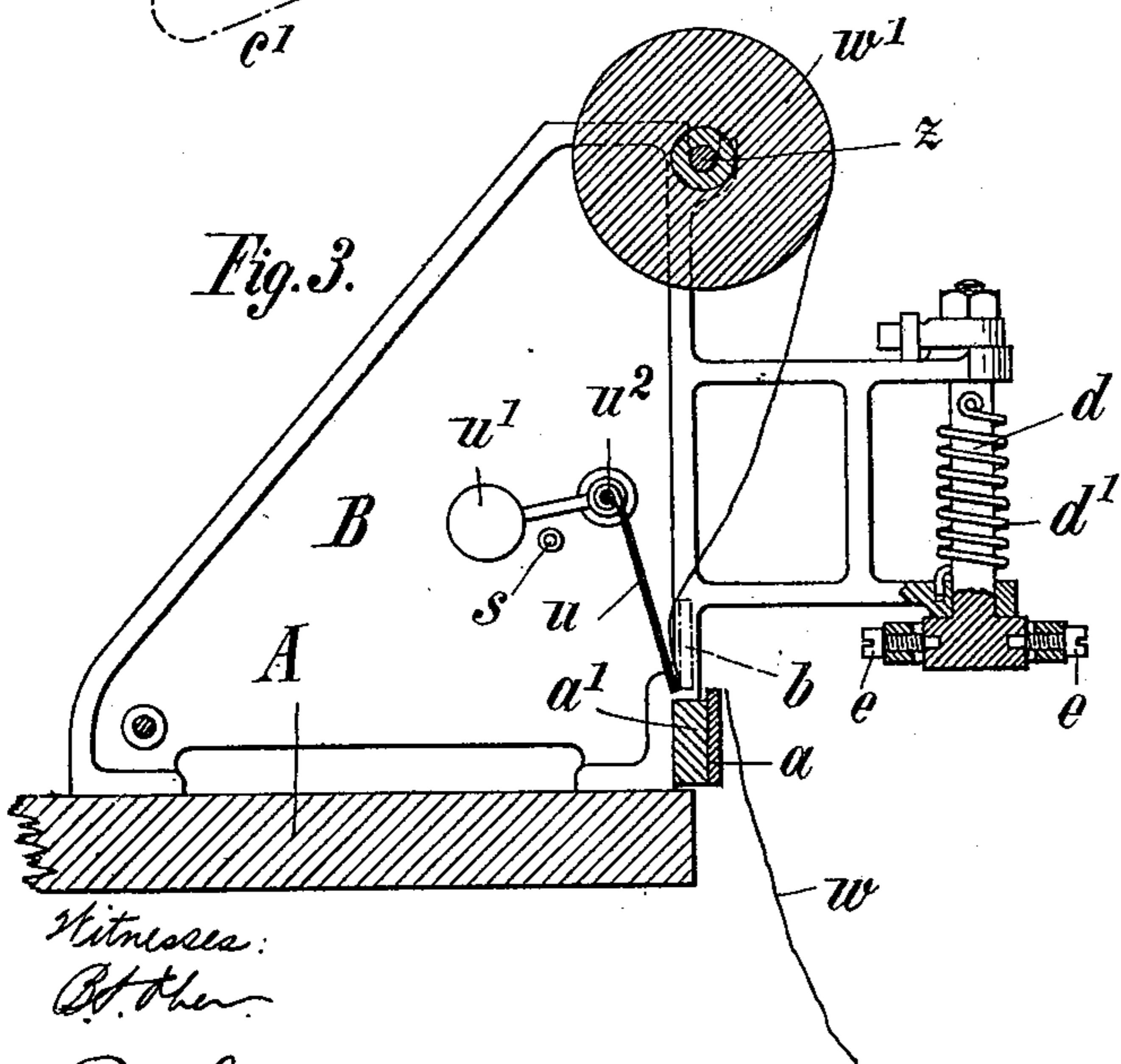
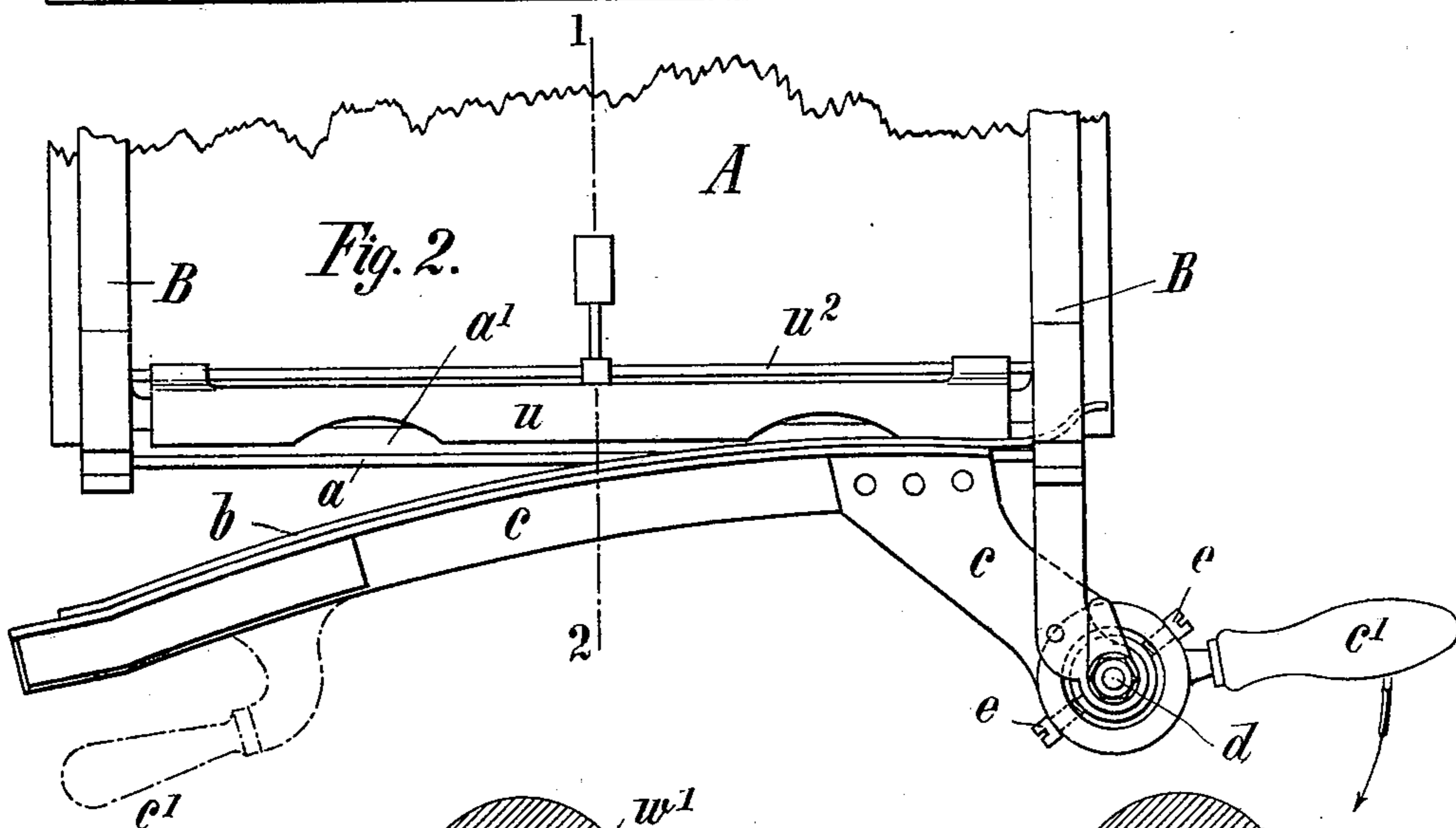
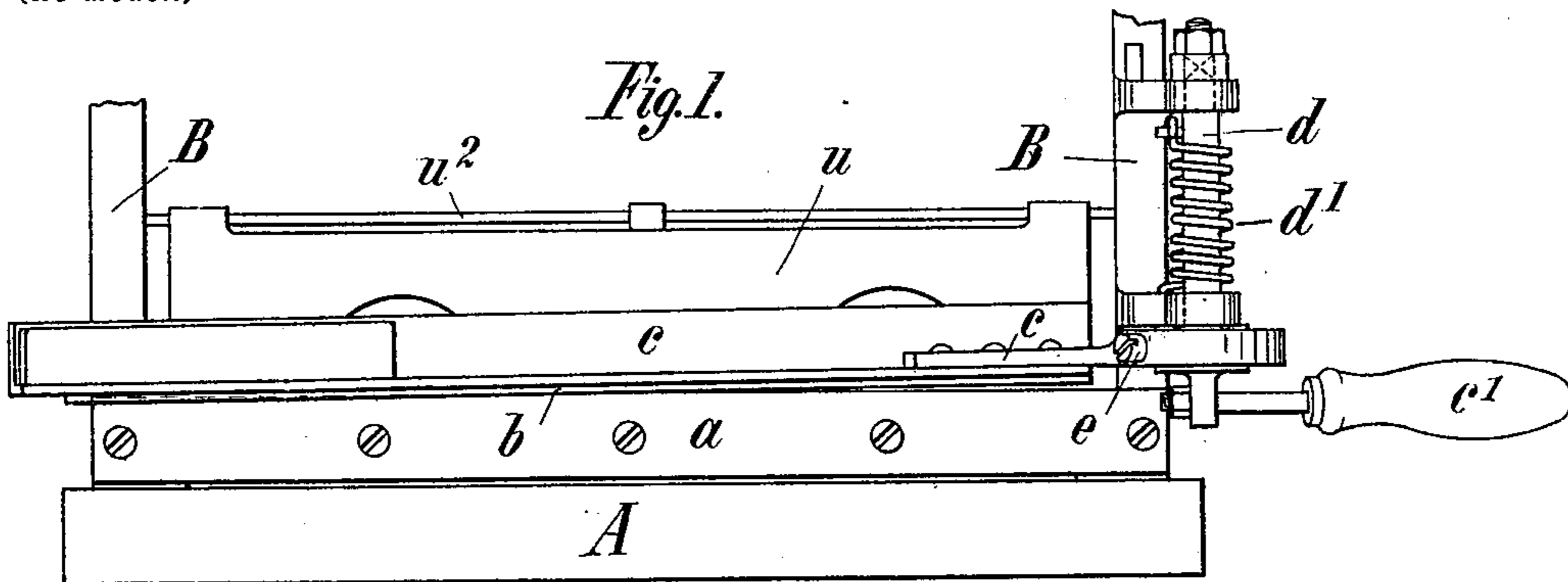
Patented Aug. 22, 1899.

F. G. J. POST.
PAPER CUTTER.

(Application filed May 9, 1899.)

(No Model.)

2 Sheets—Sheet 1



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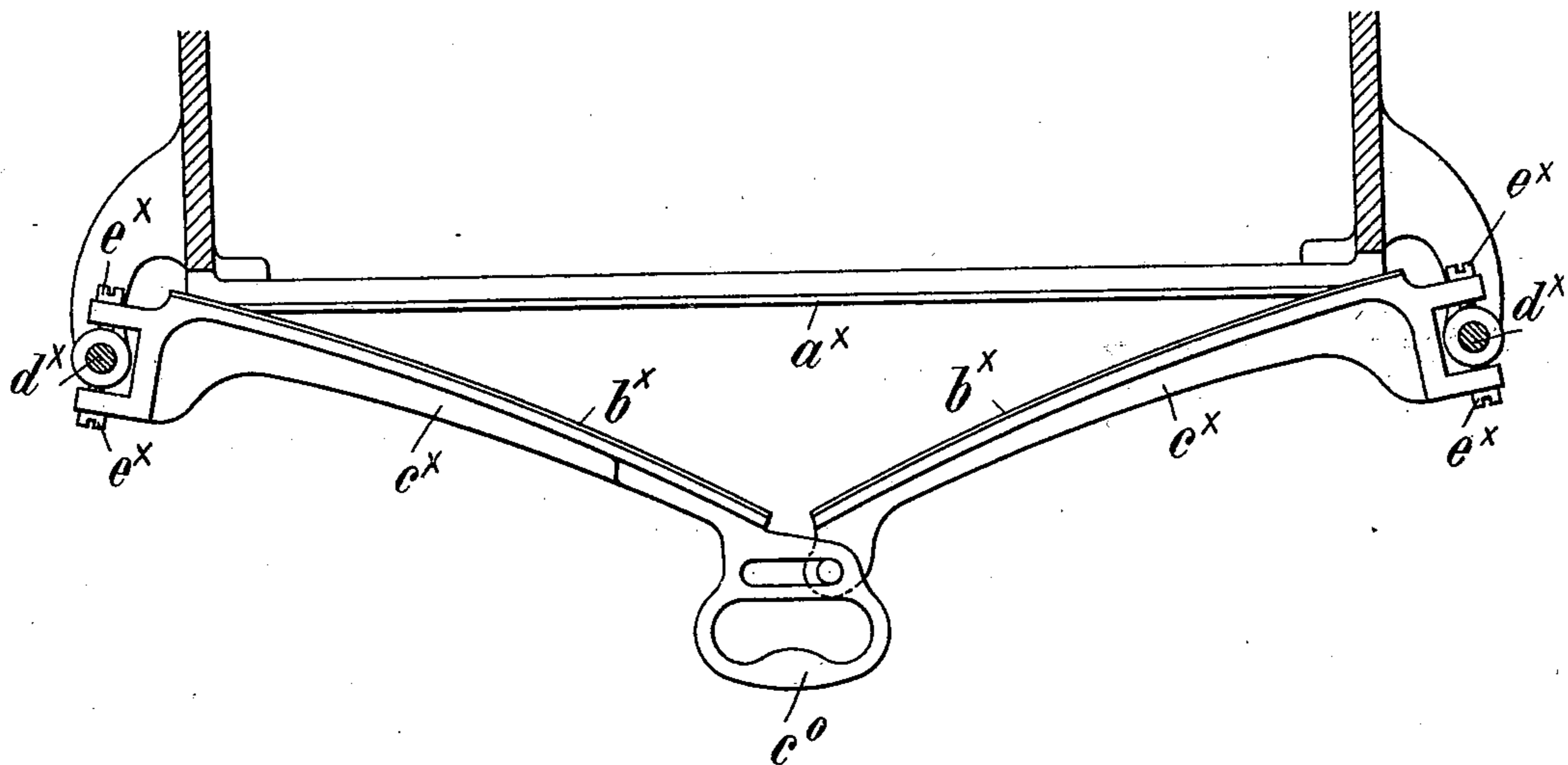
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(No Model.)

2 Sheets—Sheet 2.

Fig. 5.



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UNITED STATES PATENT OFFICE.

FRIEDRICH GUSTAV JULIUS POST, OF HAMBURG, GERMANY.

PAPER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 631,475, dated August 22, 1899.

Application filed May 9, 1899. Serial No. 716,139. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH GUSTAV JULIUS POST, a subject of the German Emperor, and a resident of Hamburg, in the German Empire, have invented certain new and useful Improvements in Cutting Knives or Shears, of which the following is a specification.

My invention relates to improvements in cutting knives and shears, and more particularly to the construction of a cutting device designed for dividing extraordinary thin and moistened silk paper, such as used for copying letters, documents, or other writings. This new cutting device has for its object that the shear-blades forming the cutting device intersect one another while in action, not only in the line of section, but also in a direction transversely to the same. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical front elevation of the main part of a cutting device provided with my invention; Fig. 2, a top view of the same; Fig. 3, a vertical cross-section of the entire apparatus on the line 1 2, Fig. 2; Fig. 4, a like vertical cross-section of a part of the apparatus as it appears after removal of the movable cutting-blade, and Fig. 5 a modification of the arrangement of the movable shear-blades.

Similar letters refer to similar parts throughout the several views.

In the apparatus illustrating my invention by way of an example a stationary blade *a* is firmly fixed to a bar *a'*, fitted in the rabbeted face of the main frame or standards B B, and a movable blade *b*, operated by a handle *c'*, is fixed to a lever *c*, hinged by means of a vertical pivot *d* to the one standard B. The lever *c* is secured on the pivot *d* by means of two pointed set-screws *ee*, which admit of the lever swinging about their horizontal axis, so that the blade *b* may be moved in a horizontal as well as in a vertical plane—that is to say, by the aid of the pivot *d* in line with the cutting edge of the stationary blade *a* and by the aid of the joint *ee* transversely thereto.

The handle *c'* may be attached to the free end of the lever *c*, as indicated by dotted lines, Fig. 2, or it is firmly fixed to the pivot *d*, which is surrounded by a torsional spring *d'*,

having the tendency to retain the movable blade in or bring the same back into the position in which the shear is partly or entirely open, Fig. 2.

When the pivot *d* is turned by means of the handle *c'* in such a manner that the lever *c*, with the blade *b*, travels along the cutting edge of the stationary blade *a*, the blade *b* is automatically adjusted in consequence of its dead-weight and of the mutual position of the two blades to one another in such a manner that the cutting edges of the two blades are always kept in contact only in a point which is traveling during the movement of the blade *b* from the pivot away along the cutting edge, whereby the material held between the cutting edges of the blades is sharply and neatly cut. For this reason the cutting effect of the shears is such a prominent one that even the thinnest silk paper, and notwithstanding of its being moistened, may be divided in a most perfect manner not hitherto available.

The paper or other material to be divided may be wound upon an arbor *z*, which is journaled in suitable bearings at the upper part of the standards B, and a weighted or otherwise actuated flap *u* be employed, which is designed to grasp below the free end of the web *w*, drawn off from the roll *w'*, and to hold the web above the stationary shear-blade *a*, so that after severing the free end of the web is at any time ready to be grasped by the hand of the attendant in order that any length of the web may be unwound from the roll *w'*. The flap *u* is to this end attached to an arbor *u²*, the ends of which are journaled in fixed bearings of the lateral standards B B, supported by a common base-plate A. A weighted lever *u'* is conveniently secured to the said arbor *u²* and adjusted in such a manner that it tends to swing the flap *u* outward or to bear with its outer edge against the face of the movable blade *b* of the shears. When not in action, the blade *b* occupies the position shown in Fig. 2, to which corresponds the position of the flap, Fig. 4, in which the weighted lever rests on a stop *s*, limiting the amplitude of the flap *u*.

It will be understood from the foregoing that the gist of my present invention comprises the suspension of the movable shear-blade by a universal joint, which of course

may be replaced by a ball-and-socket joint or the like without departing from this invention.

In Fig. 5 I have shown a modification of the cutting device hereinbefore described which is applicable in case material of extraordinary breadth is to be severed. In this case instead of one single movable blade I prefer to employ a pair of movable blades $b^x b^x$, fixed to a pair of levers $c^x c^x$, the outer ends of which are swiveled by universal joints $d^x d^x e^x e^x$ to the frame of the cutting device carrying the stationary blade a^x , while the free ends of the levers meeting one another may be connected in such a manner that the blades are admitted to occupy a stretched or oblique position or while being operated to move from the one position into the other.

It is obvious that the handle or handles c_0 for operating the movable blades $b^x b^x$ may be attached either to the one or the other lever c^x at the meeting end of the blades or, as in the aforesaid construction, connected to the swivel d^x of the levers c^x .

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

1. In a paper-cutter, the combination with a fixed cutter-blade; of a cutter-blade pivoted to swing across the cutting edge of said fixed blade and to gravitate toward said cutting edge, for the purpose set forth.

2. In a paper-cutter, the combination with a fixed cutter-blade, of a revoluble spindle, a second cutter-blade, a gimbal connection between said second blade and the spindle, and a spring antagonizing the rotation of the spindle in one direction, for the purpose set forth.

3. In a paper-cutter, the combination with the cooperating cutter-blades, of a paper-deflecting plate having motion across the cutting edge of one of said blades to deflect the paper therefrom, for the purpose set forth.

4. In a paper-cutter, the combination with a vertical fixed cutter-blade, and a movable cutter-blade arranged to swing in a horizontal plane across the cutting edge of the fixed blade; of a deflecting-plate moving automatically across the said cutting edge of the fixed blade when the movable blade is moving from said cutting edge, for the purpose set forth.

5. A paper-cutter comprising a support for a reeled web of paper, a vertical fixed cutting-blade, a vertical revoluble spindle, a horizontal cutting-blade, a gimbal connection between the last-named blade and the spindle and a spring coiled about said spindle and antagonizing its rotation in one direction, for the purpose set forth.

6. A paper-cutter comprising a support for a reeled web of paper, a fixed vertical cutter-blade, a revoluble vertical spindle, a horizontal cutter-blade, a gimbal connection between the last-named blade and spindle, and a spring coiled about said spindle and antagonizing its rotation in one direction; in combination with a deflecting-plate pivoted in rear of the fixed blade, and means for swinging said plate automatically across the cutting edge of such fixed blade when the horizontal blade is moving away from it, for the purpose set forth.

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