

No. 830,561.

PATENTED SEPT. 11, 1906.

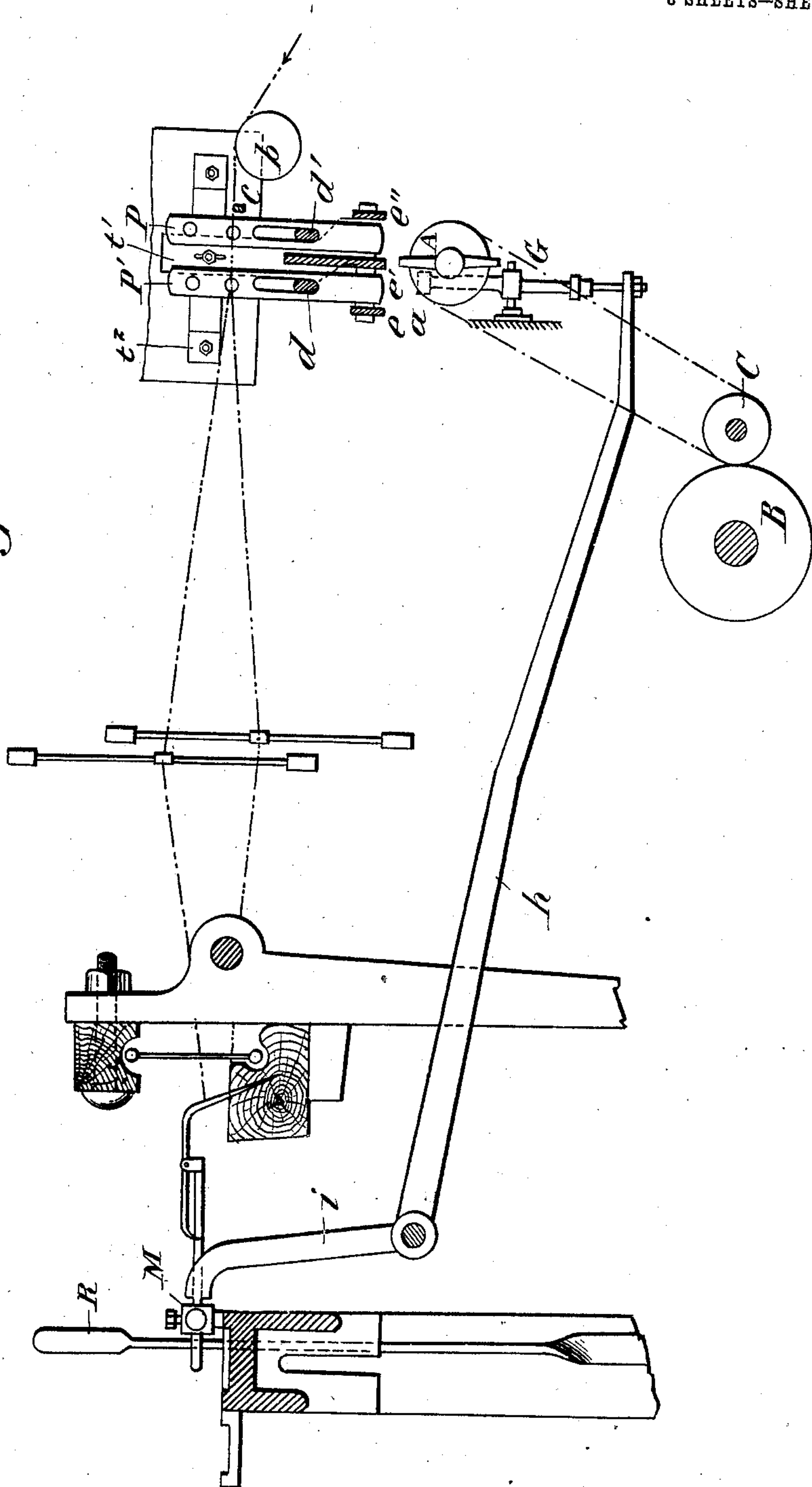
J. F. BLUMER.

AUTOMATIC STOP MOTION MECHANISM FOR POWER LOOMS.

APPLICATION FILED JAN. 8, 1904.

3 SHEETS—SHEET 1.

Fig. 1.



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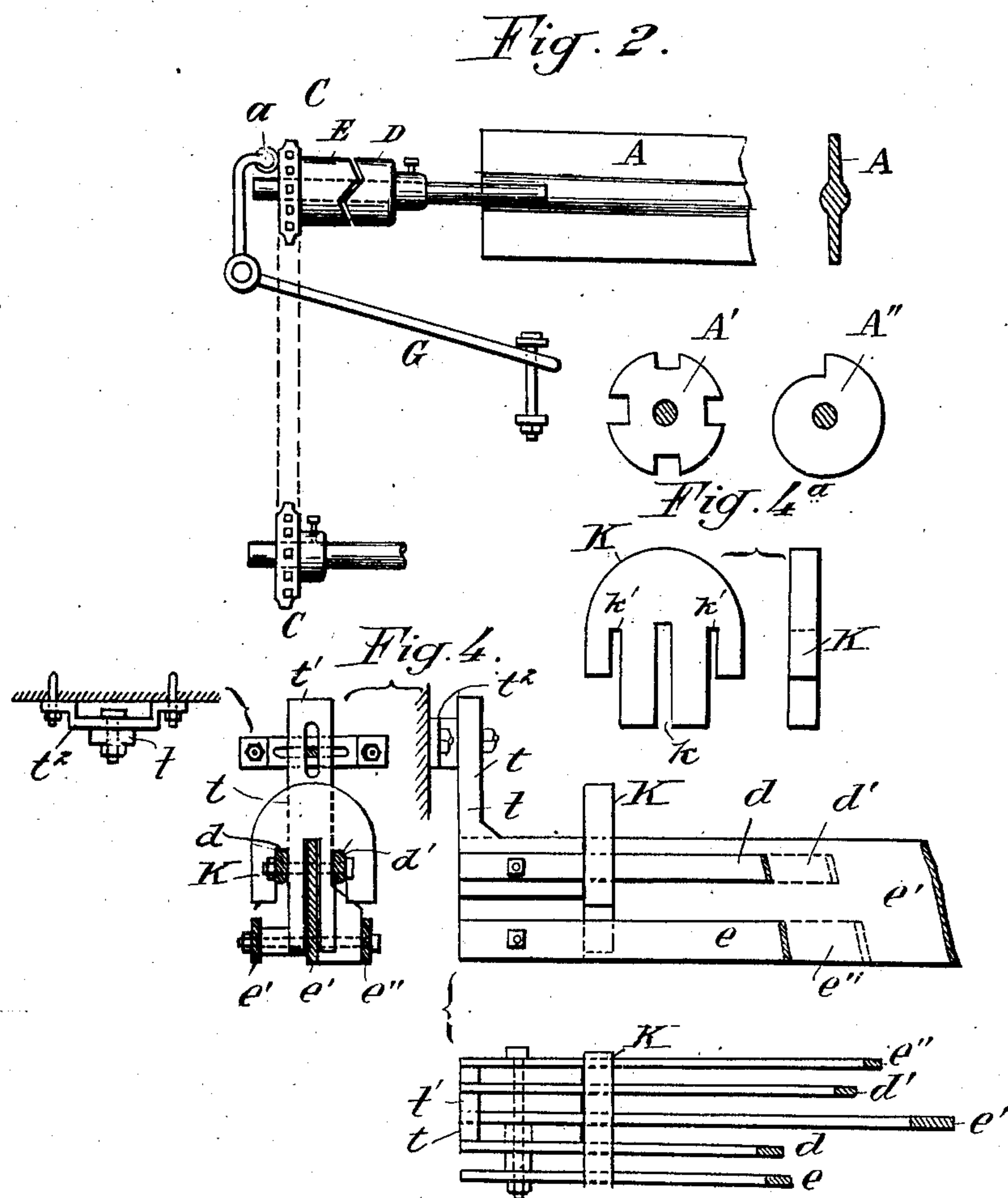
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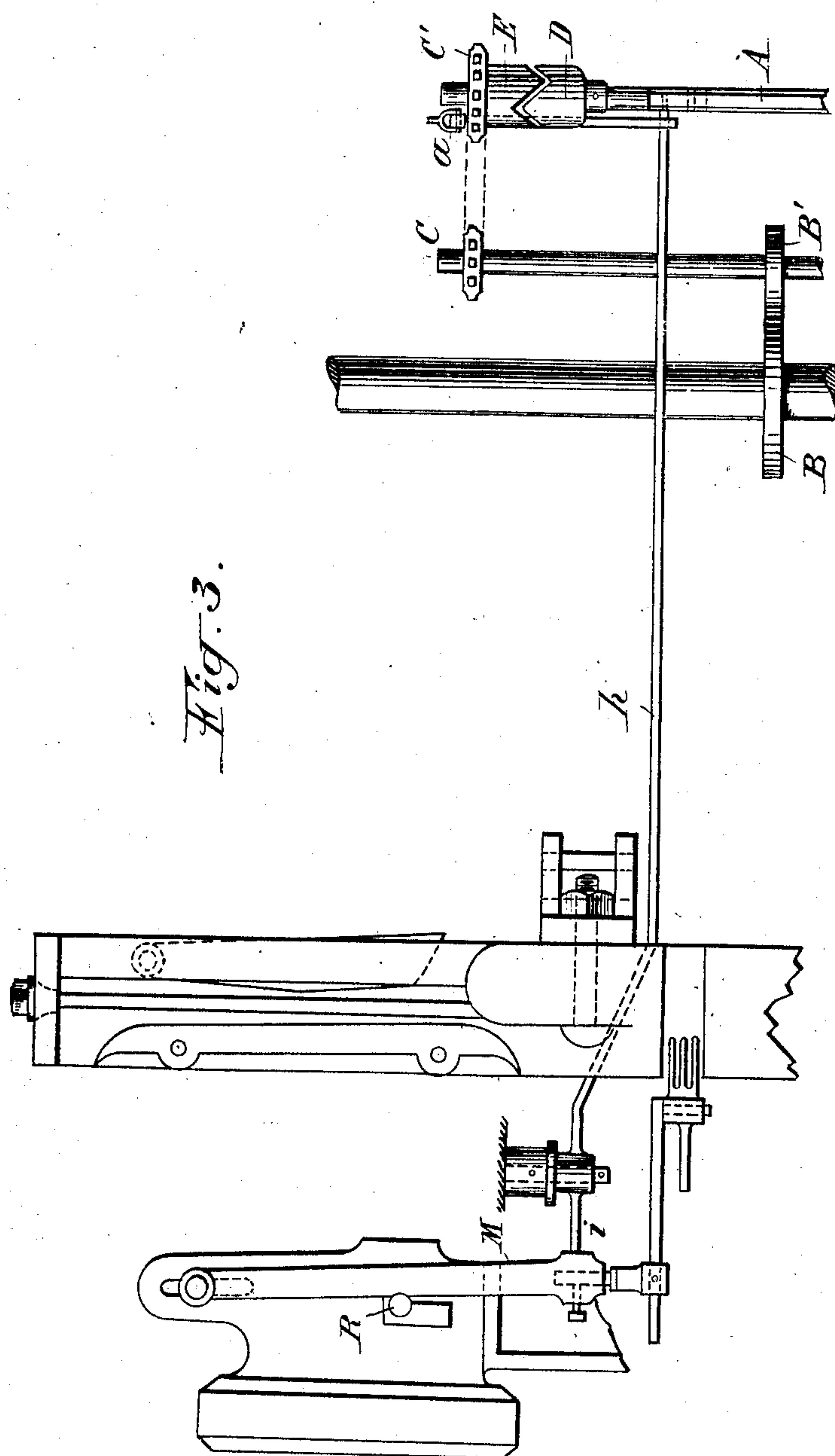
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# AUTOMATIC STOP MOTION MECHANISM FOR POWER LOOMS.

APPLICATION FILED JAN. 8, 1904.

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# UNITED STATES PATENT OFFICE.

JEAN FRITZ BLUMER, OF ENGI, SWITZERLAND.

## AUTOMATIC STOP-MOTION MECHANISM FOR POWER-LOOMS.

No. 830,561.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed January 8, 1904. Serial No. 188,223.

*To all whom it may concern:*

Be it known that I, JEAN FRITZ BLUMER, a citizen of the Swiss Federancy, and a resident of Engi, Canton of Glarus, Switzerland, have  
5 invented a certain new and useful Improvement in Automatic Stop-Motion Mechanism for Power-Looms, of which the following is a specification.

This invention relates to improved automatic stop mechanism for power- looms adapted when a thread of the warp breaks to act upon shipping mechanism or disconnecting-gear to automatically stop the loom.

The annexed drawings illustrate my invention diagrammatically.

Figure 1 is a longitudinal elevation of my device with an improved form of detector-plates arranged in separate rows, each plate being provided at its upper end with two  
20 warp-thread holes and at its lower end with an oblong slot. Fig. 2 is a side view of an improved clutch mechanism. Fig. 3 is a plan view of the parts shown in Fig. 1 omitting the detector-plates. Figs. 4 and 4<sup>a</sup> include different views of details of construction hereinafter described.

The warp-threads coming from the warp-beam pass, as usual, over a guide bar or rail *c*, fixed in any desired manner on the loom-frame, which bar serves as a support for the  
30 warp-threads. The said threads pass, according to the requirements of the web and as shown, through the lower eyes of detector-plates *P P'*, which are formed with guide-slots and are held in place by guide-bars *d d'*, passing through said slots.

In order to guide and hold the detector-plates *P P'* together, three bars *e e' e''* are provided, the middle one being considerably  
40 wider than the others. The two guide-bars *d d'* and the bars *e' e''* are bolted at each end to supporting-braces *t*, which are adjustably fixed to the two sides of the loom-frame, as shown, by way of example, in Figs. 1 and 4,  
45 so as to permit them to be easily adjusted longitudinally or vertically. The said braces *t* are provided with slotted extensions *t'*, adapted to be bolted to U-shaped slotted supports *t<sup>2</sup>*, secured to any stationary part of  
50 the loom-frame. The slots in the extension *t'* and supports *t<sup>2</sup>* are angularly disposed with respect to each other, as shown in Fig. 4, to afford adjustment of the braces *t* in the manner set forth. In order to prevent lateral  
55 movement of the ends of the rows of detector-plates *P P'* on the guide-bars, I provide two

stops *K*, which engage said guide-bars at points adjacent the end braces *t*, as shown in Figs. 4 and 4<sup>a</sup>. Said stops *K* are recessed at  
60 *k k'* to receive guide-rails *e'*, *d*, and *d'*, as clearly shown in Figs. 4 and 4<sup>a</sup>. Below this combination of bars and detector-plates or detectors *P P'*, I mount a rotary feeler *A*, provided with a plurality of radiating wings, or,  
65 as in *A'*, wherein a cylinder is provided with a plurality of longitudinally - disposed grooves, or, as in *A''*, where the cylinder is cut away to form a longitudinal shoulder. The feeler is driven from a suitable counter-shaft *B*, Fig. 3, by means of an intermediate  
70 chain driving device.

Upon the end of the shaft of the feeler *A* is fitted a clutch device *D E*, the part *D* being fixed upon the shaft, while the part *E*, provided with the chain-wheel *C'*, is loosely  
75 mounted thereon. The part *E* is engaged with *D* by the weight of a lever *G*, the effect of which is to transmit rotary motion of the chain-wheel *C'* to the feeler *A*. The lever *G* is connected to the disconnecting-lever *h i*,  
80 which acts upon the disconnecting-fork *M* and the shipper-handle *R*.

The guide-bars *d* and *d'* are located so that when the warp-threads have been threaded singly, according to the requirements of the  
85 web, through the lower holes of the detector-plates *P* or *P'* and the warp is ready said plates are supported by the threads themselves. When a thread breaks, the corresponding detector-plate *P* or *P'* drops down  
90 and bears upon the corresponding guide-bar *d* or *d'*. The descending plate arrests the feeler *A*, and the part *E* of the clutch device is disengaged from the part *D*, owing to the cam action of the clutch members. The lever  
95 *G* is consequently raised at its lower end, and likewise the lever *h*, causing the lever-arm *i* to thrust the disconnecting-fork *n* against the shipper-handle *R*, and thus stop the loom.

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

1. The combination in a loom, of the detector-plates and the rigid frame composed of bars *d, d', e, e', e''* and braces *t*, bodily removable from the machine with said plates, and a  
105 suitable rotary feeler, with the clutch on the flier-shaft.

2. The combination with the detector-plates, of a rotary feeler with which said  
110 plates directly engage when released, means for continuously rotating the shaft of said



feeler, a clutch arranged on the shaft of said feeler and adapted to become disengaged when a detector-plate drops and checks the feeler, the shipper-handle R, and the intermediate levers G, *h*, *i*, operatively connected with said handle and clutch.

3. The combination with the detector-plates, of a rotary feeler with which said plates directly engage when released, means  
10 for continuously rotating the shaft of said feeler, a clutch arranged on the shaft of said feeler and adapted to become disengaged when a detector-plate drops and checks the feeler, the shipper-handle R, the intermediate levers G, *h*, *i*, operatively connected with  
15 said handle and clutch and means for regulating the strokes of said levers.

4. The combination with a rotary feeler, detector-plates supported by the warp-  
20 threads adapted to drop and directly engage the feeler, means for continuously rotating the shaft of said feeler, a clutch arranged on the shaft of said feeler, a bell-crank connected by one limb with one member of said  
25 clutch, a second bell-crank lever actuated by

the remaining limb of said first-mentioned lever, and a disconnecting-fork actuated by said second bell-crank lever.

5. The combination with slotted detector-plates, of a rotary feeler adapted to be di- 30 rectly engaged by said plates, a guiding-frame consisting of bars extending through and laterally adjacent the plates, and stops for said bars.

6. The combination with slotted detector- 35 plates, of a rotary feeler adapted to be directly engaged by said plates, an adjustably-mounted guiding-frame consisting of bars extending through and laterally adjacent the plates, and stops for said bars. 40

7. The combination with slotted detector-plates, of a rotary feeler, and a stationary guide-frame consisting of bars guiding said plates on either side of said member.

In testimony whereof I have hereunto set 45 my hand.

JEAN FRITZ BLUMER.

Witnesses:

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HAEMMERLI AEBLE.