No. 875,670. PATENTED DEC. 31, 1907.

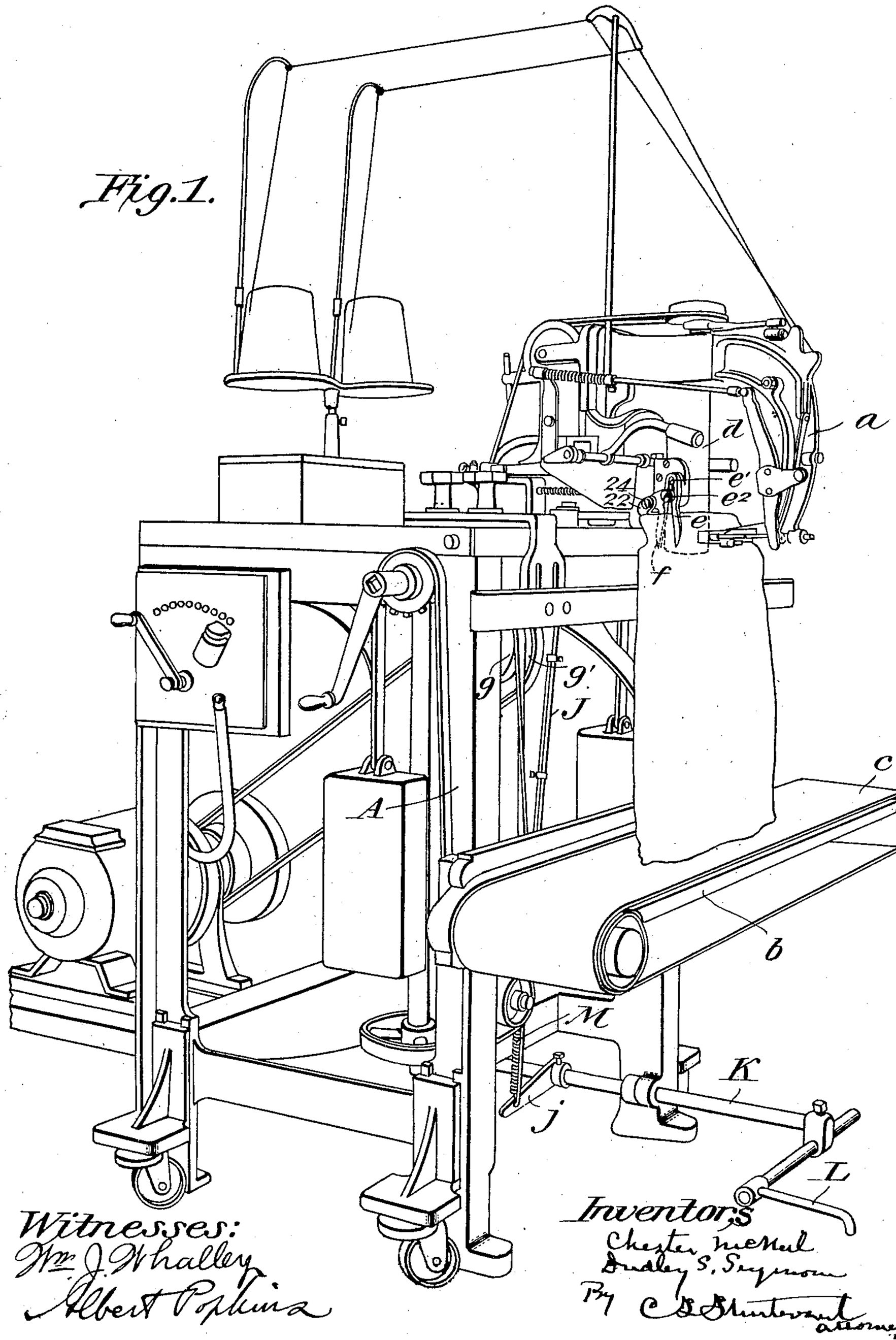
C. McNEIL & D. S. SEYMOUR.

CUTTING APPARATUS FOR FILLED BAG MACHINES.

APPLICATION FILED NOV. 21, 1905.

5 SHEETS—SHEET 1.

Fig. 1.



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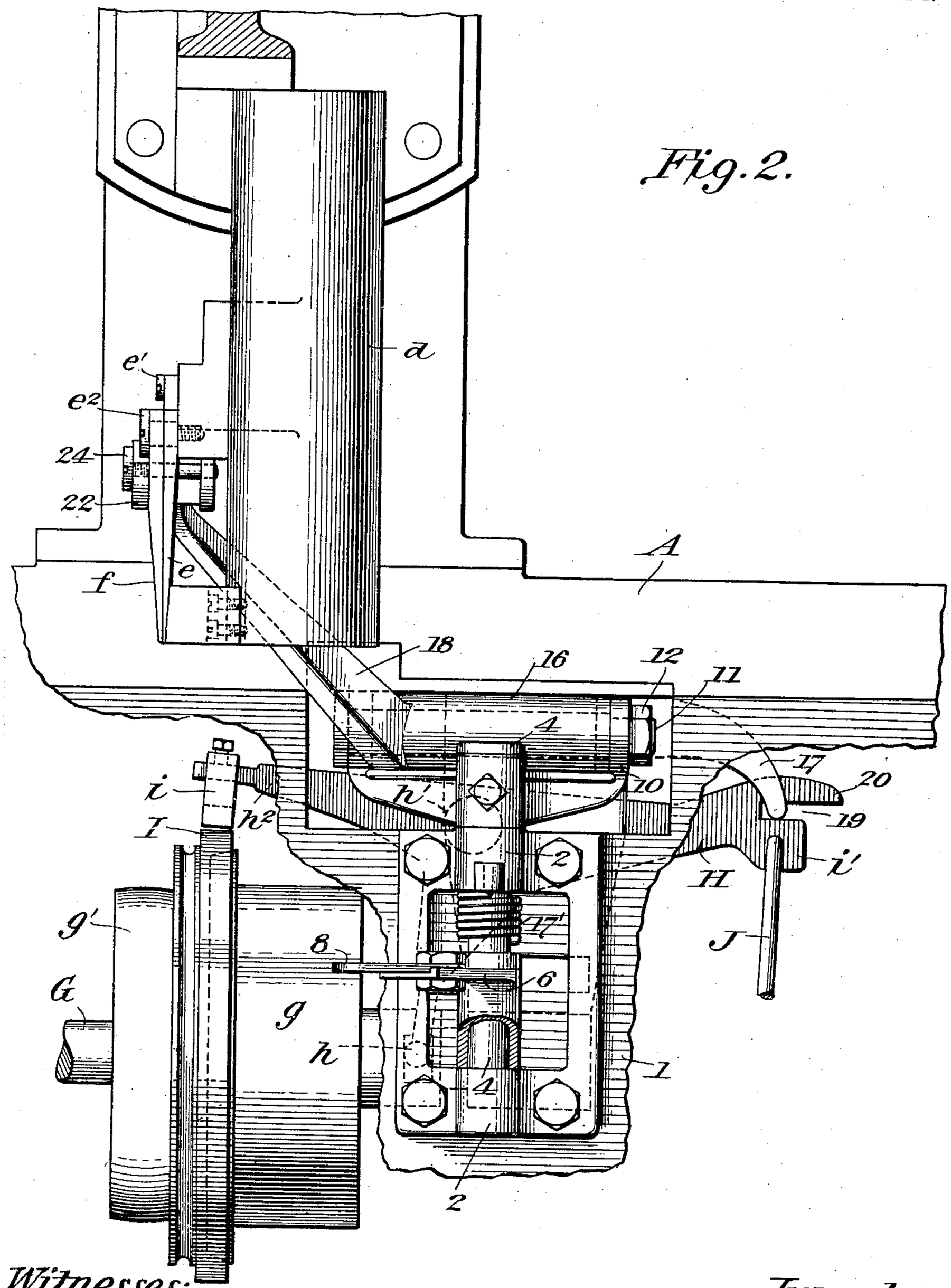
6 SHEETS—SHEET 2.

Fig. 2.



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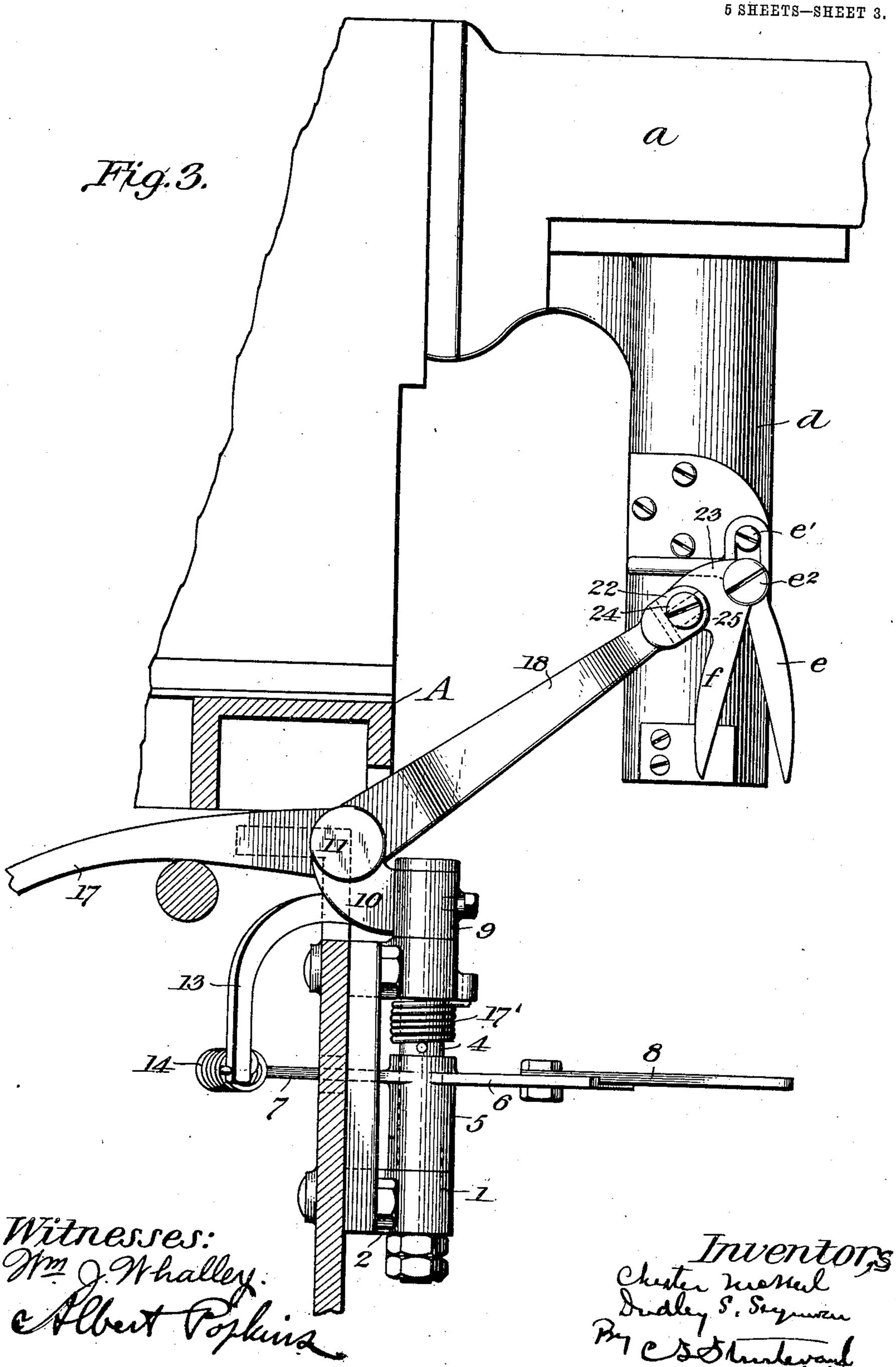
5 SHEETS—SHEET 3.

Fig. 3.



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5 SHEETS—SHEET 4.

Fig. 5.

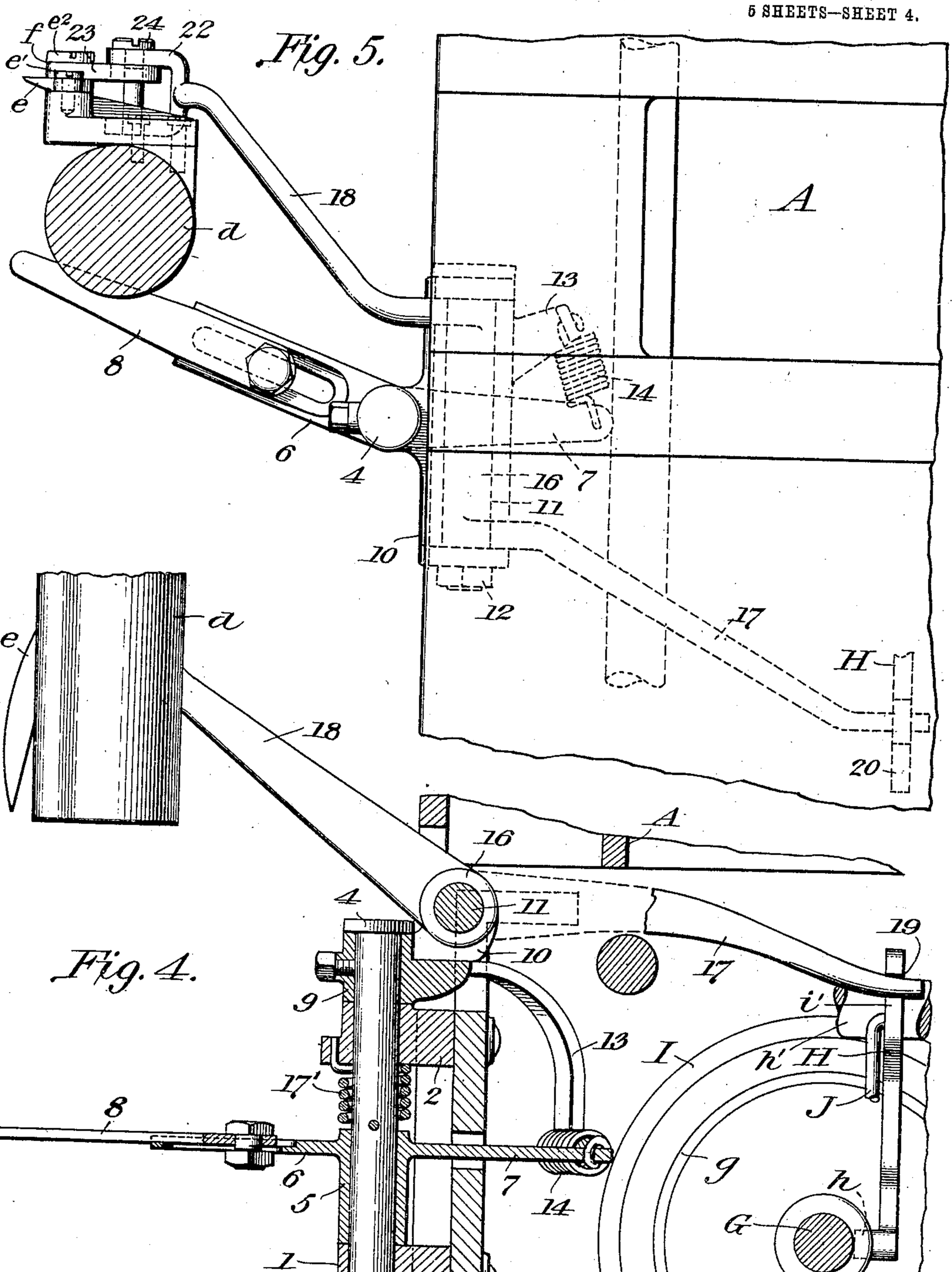

Fig. 4.

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5 SHEETS—SHEET 5.

Fig. 6.

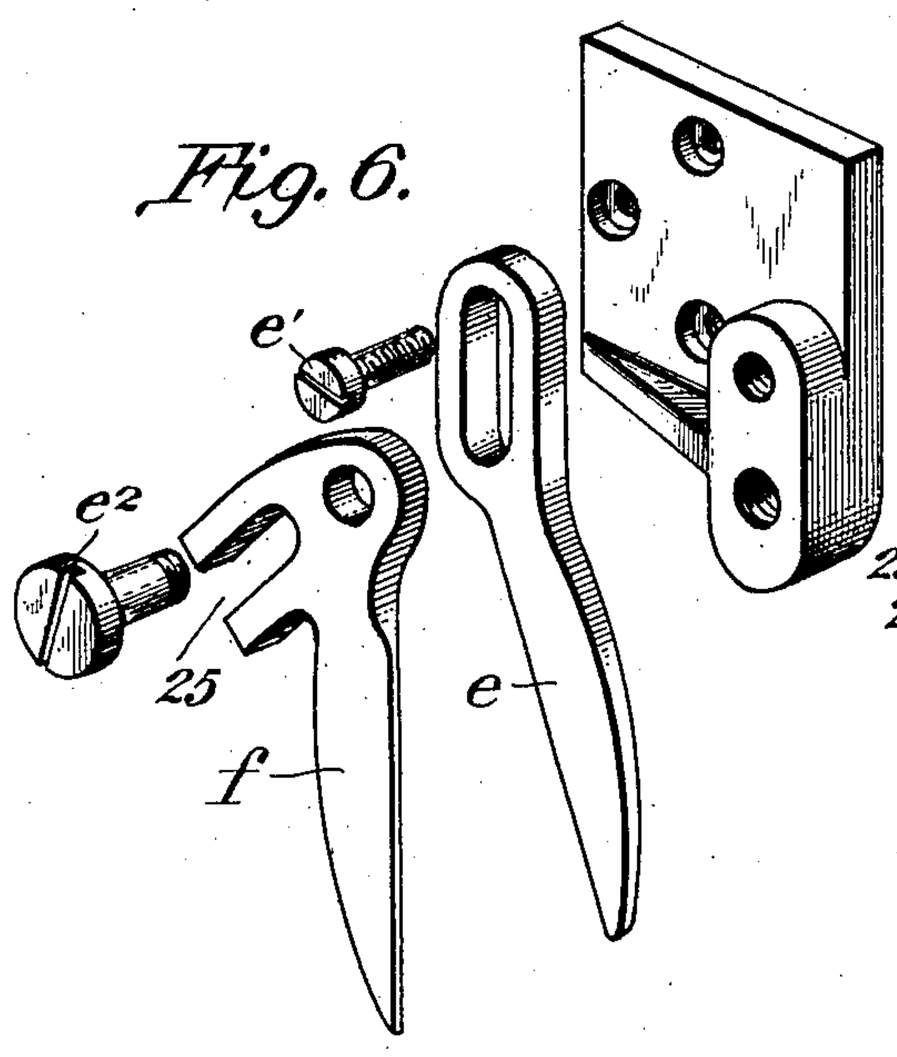

Fig. 9.

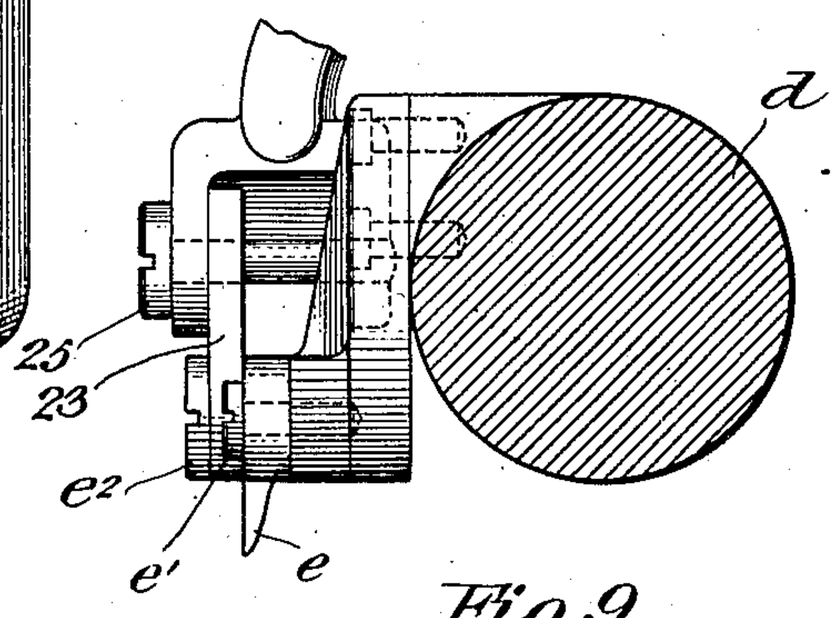

Fig. 7.

Fig. 8.

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UNITED STATES PATENT OFFICE.

CHESTER McNEIL AND DUDLEY S. SEYMOUR, OF CHICAGO, ILLINOIS, ASSIGNORS TO UNION SPECIAL MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CUTTING APPARATUS FOR FILLED-BAG MACHINES.

No. 875,670. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed November 21, 1905. Serial No. 288,467.

To all whom it may concern:

Be it known that we, CHESTER McNEIL and DUDLEY S. SEYMOUR, citizens of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Cutting Apparatus for Filled-Bag Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

My invention relates to an improvement in filled bag sewing apparatus, and particularly to an arrangement for severing the chain of stitching between two successive sacks.

The object of the invention primarily is to provide a cutting apparatus which shall be incapable of operation while a bag is being sewed, so that if for any reason the operator stops the machine by releasing her foot from the treadle, while a bag is beneath the sewing head, the cutter cannot operate to mutilate the bag.

The invention relates to that class of filled bag sewing and delivering apparatus now well known, in which an endless carrier delivers filled bags in succession to a sewing head which overhangs the edge of a table or supporting framework, and in which a cutting device while normally kept from operation while the foot of the operator is on the treadle yet is operated when the operator raises his foot from the treadle.

In an apparatus where some positive manipulating action of the operator is necessary to perform the cutting, or in devices where the movement of the bag beyond a certain point trips a mechanism to operate the cutter, it is not necessary to safeguard against the cutting of the bag by accidental operation of the cutter; but in an apparatus where the stopping of the machine when a bag is being sewed, either by accident or by design as when the threads break, would result in the operation of the cutter, automatically, it is desirable to provide means to prevent such.

The invention, therefore, consists broadly in the combination with a filled bag sewing and delivering apparatus, in which the stopping of the sewing mechanism causes the operation of the device for cutting the chain of stitching between the bags, of means controlled by the movement of the bag, for preventing the action of the cutting device while a bag is in engagement with the sewing head.

Secondly, the invention consists in the combination with a filled bag sewing and delivering apparatus, in which the cutting apparatus is caused to operate by the release of the manual means controlling the starting and stopping of the sewing mechanism, of means controlled by the movement of the bag for preventing the action of the cutting device, while a bag is engaged by the sewing head.

Again, the invention consists in the combination with a filled bag sewing and delivering apparatus, in which the cutting apparatus is caused to operate by the release of the manual means controlling the starting and stopping of the sewing mechanism of a lever in the path of the bag connected with the cutting apparatus to break the connections between said cutting apparatus and the said manual means, so long as the lever is in engagement with the bag.

Finally, the invention consists in the various matters hereinafter described and referred to in the appended claims.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a perspective view of a filled bag sewing apparatus embodying my invention; Fig. 2 is a front elevation, illustrating my improved cutting apparatus and the parts pertaining thereto; Fig. 3 is an end elevation; Fig. 4 is a similar view, not so complete, from the opposite side from Fig. 3, partly in section; Fig. 5 is a plan view certain parts being shown in section; Fig. 6 is a detail of the cutter blades and supports; Fig. 7 is a detail view of the cutter; Fig. 8 is a sectional view of the parts shown in Fig. 7. Fig. 9 is a detail view of the yoke.

The working parts of the machine are supported on a suitable frame A, to the top of which is secured an overhanging sewing head *a*, carrying the usual mechanism operated in the manner common to machines of this type Below the sewing head is a vertically adjustable table *b*, over which runs an endless feed belt *c*, which is fed forward to carry the bags under the sewing head.

To the vertical arms *d*, which carries the looper shaft, looper and associated mechanisms, is secured a cutting blade *e*, held in place by two screws e', e^2, the latter screw forming a pivotal support for a cutting blade

f, which co-acts with the cutter *e*, in severing the chain of stitching between successive bags.

In one type of bag sewing machines, the movable blade *f*, is connected to and operates with the stopping and starting mechanism, and is under the control of a pedal or similar member, so arranged that when the foot of the operator is removed the pedal rises; the mechanism is stopped and the cutter moves to sever the chain. This general mechanism and its connections are clearly illustrated in Figs. 1 and 2, wherein G designates a driven shaft, on which is mounted a loose pulley *g*, and a tight pulley *g'*, the pulleys being provided with suitable clutching faces and pulley *g'* being movable into engagement with the pulley *g*, by means of the lower arm *h* of a three armed lever H pivoted on a stud *h'*, carried by the fixed frame. A second arm h^2 of this lever carries a brake block *i* adapted to engage against a friction rim I on pulley *g*, and check its rotative movement.

The third arm *i'* of the lever is connected by a rod J to a rocker arm *j* on a pedal rock shaft K, that is supported in bearings near the base of the machine, and carries a pedal L within convenient reach of the operator.

The loose pulley *g*, carries suitable belts through which motion is imparted to the stitching and feeding mechanisms, so that when the pedal is held depressed all parts of the machine operate, and when the operator's foot is removed, the pedal is raised by a spring M, and the sewing and feeding operations cease, and at the same time operative movement is imparted to the movable cutter *f*.

It will be seen that the mechanism will operate satisfactorily so long as the pedal is held depressed, while a bag is on the machine, and is only allowed to rise after a bag has passed the sewing head. Should the pedal rise while a bag is still under the head, the bag will be mutilated, and it is this operation which the present invention seeks to prevent.

To the front of the machine frame, above the bag-receiving platform, is secured a bracket or plate 1, having a pair of lugs 2, provided with vertically alined openings for the reception of a pin 4, on which is loosely mounted a collar 5, having arms 6 and 7, projecting in opposite directions respectively. The arm 6 extends over the bag support, and is provided with an adjustable finger 8, arranged in the path of movement of the bags.

To the upper end of the pin 4, is rigidly secured a frame 9, having oppositely directed and rearwardly extending arms 10, having openings for the passage of a pivot bolt 11, that is securely locked in place by a nut 12. Projecting from the rear of the frame 9 is a downwardly curved arm 13, which is connected to the arm 7 by a tension spring 14, and when this spring is placed under stress it tends to draw the arm 13 after it, and turn the frame 9 and pin 4. This movement, however, is resisted by a torsion spring 17', extending around the pin, and having one end secured thereto, and the opposite end to one of the lugs 2.

On the pivot bolt 11 is mounted a collar or hub 16, carrying oppositely directed arms 17 and 18, the rearward extending arm 17 being arranged to enter a notch 19, formed in the end of the arm *i'*, of lever H, and said arm has an overhanging lip 20, to insure proper engagement with the arm 17. The forward and upwardly extending arm 18, terminates in a yoke 22, between the two arms or ears of which is arranged a lug 23 carried by the movable cutter *f*. The arms of the yoke are connected by a pin 24, which extends through a slot 25 formed on the lug to permit the necessary play in operating the cutter.

In operation, a bag traveling on the feed belt will engage the projecting finger 8, and tend to move it inward toward the frame, and the finger will be retained in this position so long as any part of the bag is beneath the sewing head. This movement is transmitted through the arm 7, and spring 14, to the arm 13, and the frame 9 and pin 4 are turned against the resistance offered by the spring 17', and as a result the end of arm 17 is held out of notch 19 and remains disconnected from the controlling lever H and the pedal, until the bag being operated upon passes beyond the sewing head, whereupon the finger 8 is released, and the parts move to normal position, the end of arm 17 entering the notch 19, and then, when the pedal is released, operative movement will be transmitted to the cutter.

Free movement of the arm 18 with respect to the cutter is permitted by the construction of the yoke 22, previously described.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. In an apparatus for sewing and delivering filled bags, a cutting apparatus controlled by the means for starting and stopping the sewing mechanism, means controlled by the movement of the bag for preventing the action of the cutting device while a bag is in engagement with the sewing head; substantially as described.

2. In an apparatus for sewing and delivering filled bags, having manual means for controlling the starting and stopping of the sewing mechanism, a cutting device controlled by said manual means, and means controlled by the movement of said bag for keeping the connections between the manual means and the cutter broken, while a bag is in engagement with the sewing head; substantially as described.

3. In an apparatus for sewing and delivering filled bags, having manual means for controlling the starting and stopping of the sewing mechanism, a cutting device controlled by said manual means, and a lever in the path of movement of said bag with connections between it and the cutting device, to keep the latter out of operative engagement with the manual means, while the bag is in engagement with the sewing head; substantially as described.

4. In an apparatus for sewing and delivering filled bags, means under control of the operator for stopping and starting the machine, a cutting device normally brought into action when the machine is stopped, a lever in the path of movement of the bag, and operatively connected with the cutting apparatus for preventing the normal operation of the cutting apparatus while a bag is in engagement with the sewing head; substantially as described.

5. In an apparatus for sewing and delivering filled bags, manual means under the control of the operator for permitting stopping and starting of the machine, a cutting device and means for normally operating said device when the machine is stopped, a pivoted lever in the path of the bag, connections between said lever and the cutter operating means whereby said cutter may be rendered inoperative, substantially as described.

6. In apparatus for sewing and delivering filled bags, sewing mechanism, a stop mechanism, means for manually controlling said stop mechanism and a cutting apparatus comprising a spring-pressed movable member brought into normal operation by the operator in stopping the machine, a pivoted lever in the path of the bag, for preventing the normal action of the cutter when the bag is in engagement with the sewing head; substantially as described.

7. In an apparatus of the character described, a cutting device comprising a pivoted member carrying a cutting blade means for operating said blade, an arm normally engaging the means for operating the cutting blade, a lever in the path of the bag for swinging the said arm out of engagement with the means for operating it; substantially as described.

8. In an apparatus of the character described, a swiveled framework, and a lever in the path of the bag, for operating the same, an arm pivoted on said framework on an axis transverse to the swiveling axis a cutting blade at one end of said arm and means for operating said cutting blade adapted to engage the opposite end of said arm; substantially as described.

9. In an apparatus of the character described, a swiveled framework, and a lever in the path of the bag, for operating the same, an arm pivoted on said framework on an axis transverse to the swiveling axis and carrying at one end a cutting blade and at the opposite end adapted to engage the means for operating the cutting blade, and means for permitting sidewise play of the cutting blade operating means with respect to the cutting blade; substantially as described.

10. In an apparatus of the character described, the swiveled framework, the lever secured thereto in the path of the bag, the lever pivoted to said framework on an axis transverse to the swiveling axis, a treadle rod having an open-ended slot adapted to receive one end of said pivoted lever, whereby said pivoted lever may be disengaged from the treadle rod and a cutting blade operated by said pivoted lever; substantially as described.

11. In an apparatus of the character described, the swiveled framework, the lever secured thereto in the path of the bag, the lever pivoted to said framework on an axis transverse to the swiveling axis, a treadle rod having an open-ended slot adapted to receive one end of said pivoted lever, whereby said pivoted lever may be disengaged from the treadle rod, a cutting blade the opposite end of the pivoted lever being formed with a yoke having a sliding engagement with the cutting blade, substantially as described.

12. In an apparatus of the character described, a vertically arranged pivot pin, means for supporting the same, a lever mounted loosely on the pin and having one arm in the path of movement of the bags, a frame secured to the pin, means for connecting the frame to the second arm of the lever, a cutting blade, means for operating the same carried by said frame; substantially as described.

13. In an apparatus of the character described, a cutting device, a treadle rod, a vertically disposed pivot pin, means for supporting the same, a frame rigidly secured to said pivot pin, a lever carried by the frame and means for connecting said lever to said cutting device and means whereby said lever may be connected to said treadle rod, a second lever mounted loosely on said pin and having one arm in the path of movement of the bag, and means for connecting said lever to said frame; substantially as described.

14. In an apparatus of the character described, a cutting blade, a treadle operated lever having a notch or recess, a vertically disposed pivot pin, a frame rigidly secured thereto, a lever carried by the frame, and connected at one end to the blade and arranged at the opposite end to enter said notch, a torsion spring tending to prevent rotative movement of the pin, a lever mounted loosely on the pin and having one arm in the path of movement of the bag, and a spring connecting the second arm of the lever to the frame; substantially as described.

15. A machine for sewing and severing the

thread connecting sewed articles including in combination sewing mechanism, stop mechanism, means for manually controlling said stop mechanism, a cutting device, means for operating said cutting device from said stop mechanism actuating means, and means controlled by the article being sewed for connecting and disconnecting the cutter operating means with the stop actuating mechanism; substantially as described.

16. In a machine for sewing and severing the threads connecting sewed articles, a cutting device and means to operate it, and means acted directly upon by the article being sewed for preventing cutting action of said device, while the material is in engagement with the sewing mechanism.

17. In a machine for sewing and severing the threads connecting sewed articles, means for starting and stopping of the sewing mechanism, a cutting device controlled by said means, and means controlled by the material being sewed for keeping connections between the means for starting and stopping and the cutting device broken, while the material is in engagement with the sewing mechanism.

In testimony whereof we affix our signatures, in presence of two witnesses.

CHESTER McNEIL.
DUDLEY S. SEYMOUR

Witnesses:
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A. CLOTHIER.