

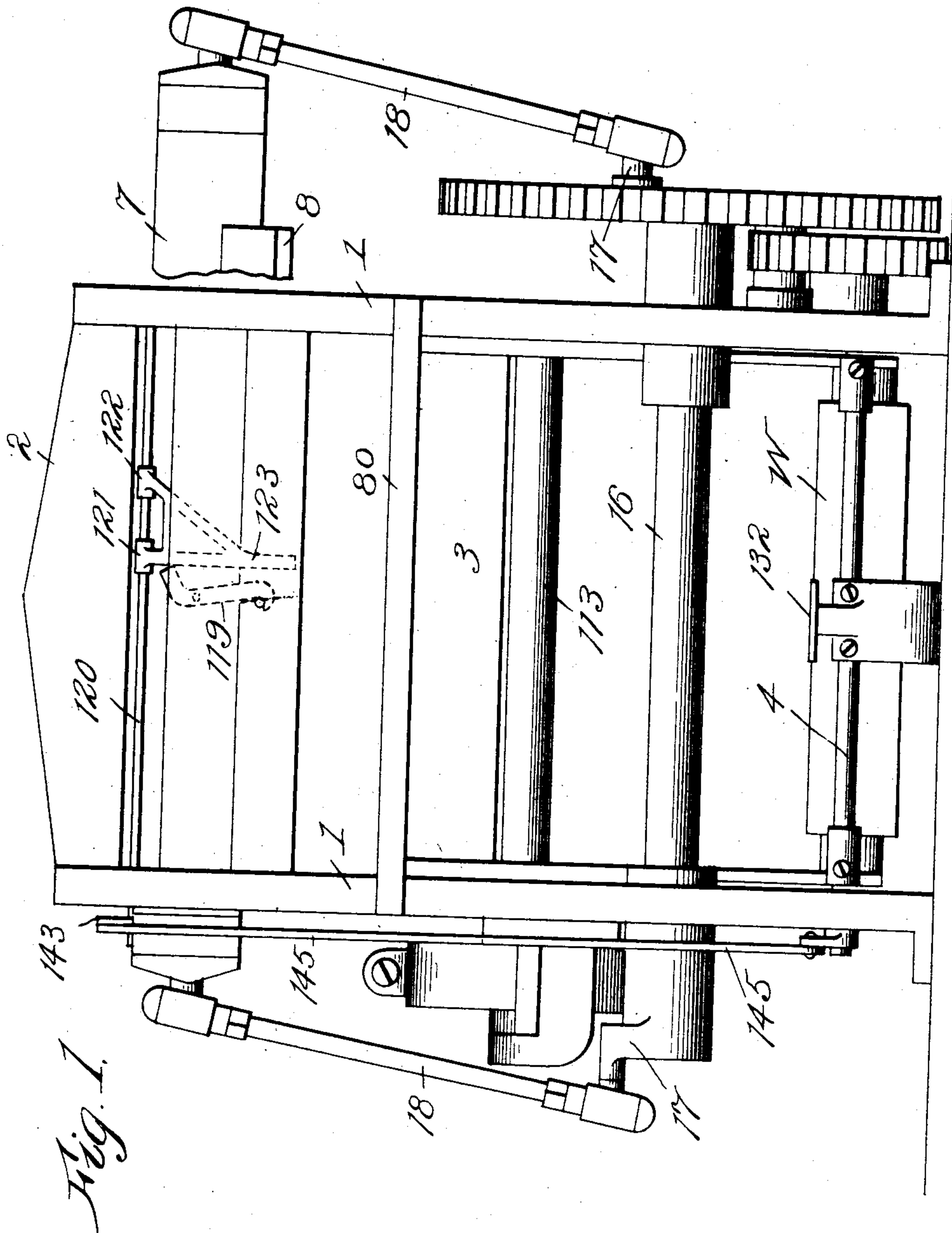
No. 871,573.

PATENTED NOV. 19, 1907.

T. C. DEXTER.  
PAPER CUTTING MACHINE.

APPLICATION FILED AUG. 24, 1907.

2 SHEETS—SHEET 1.



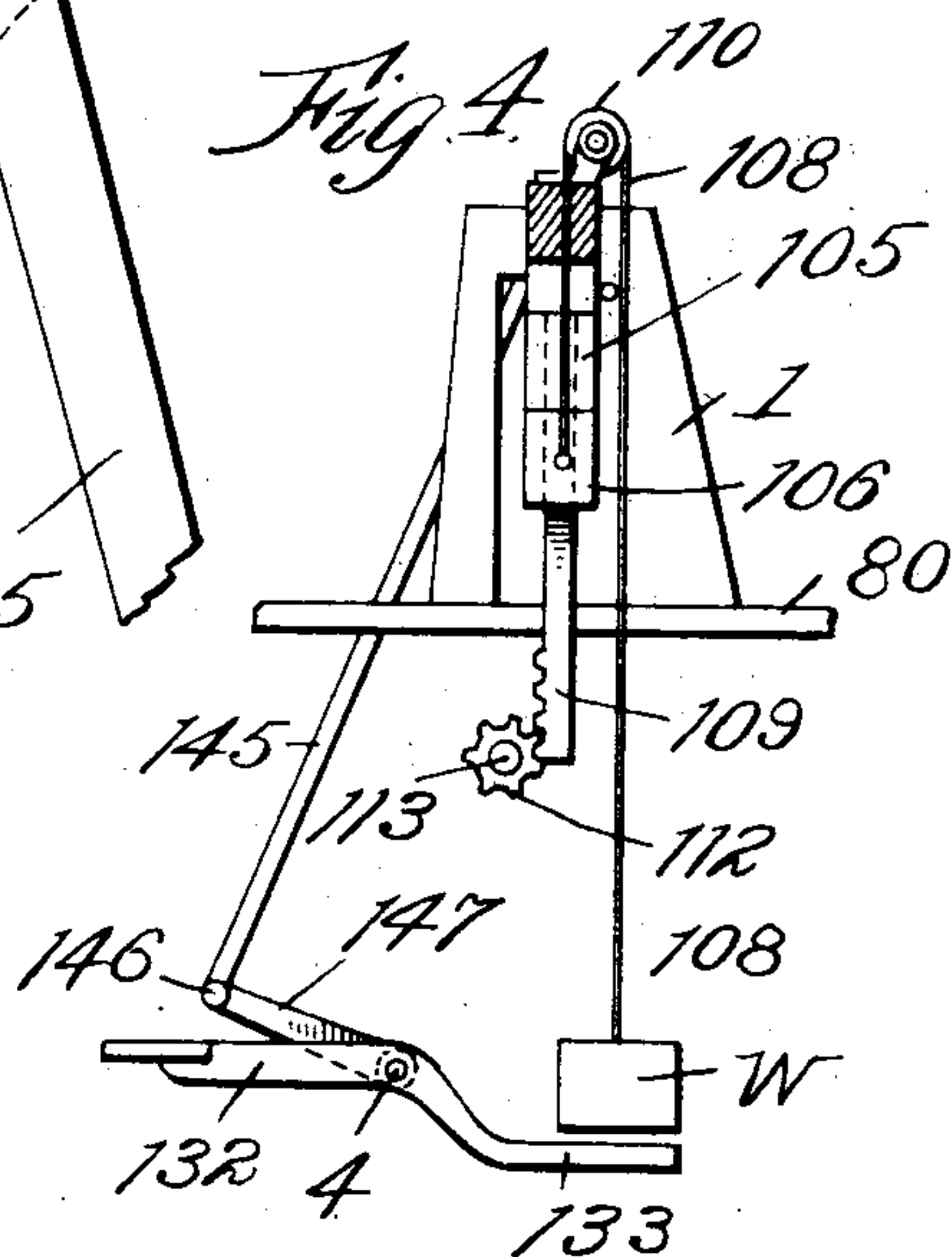
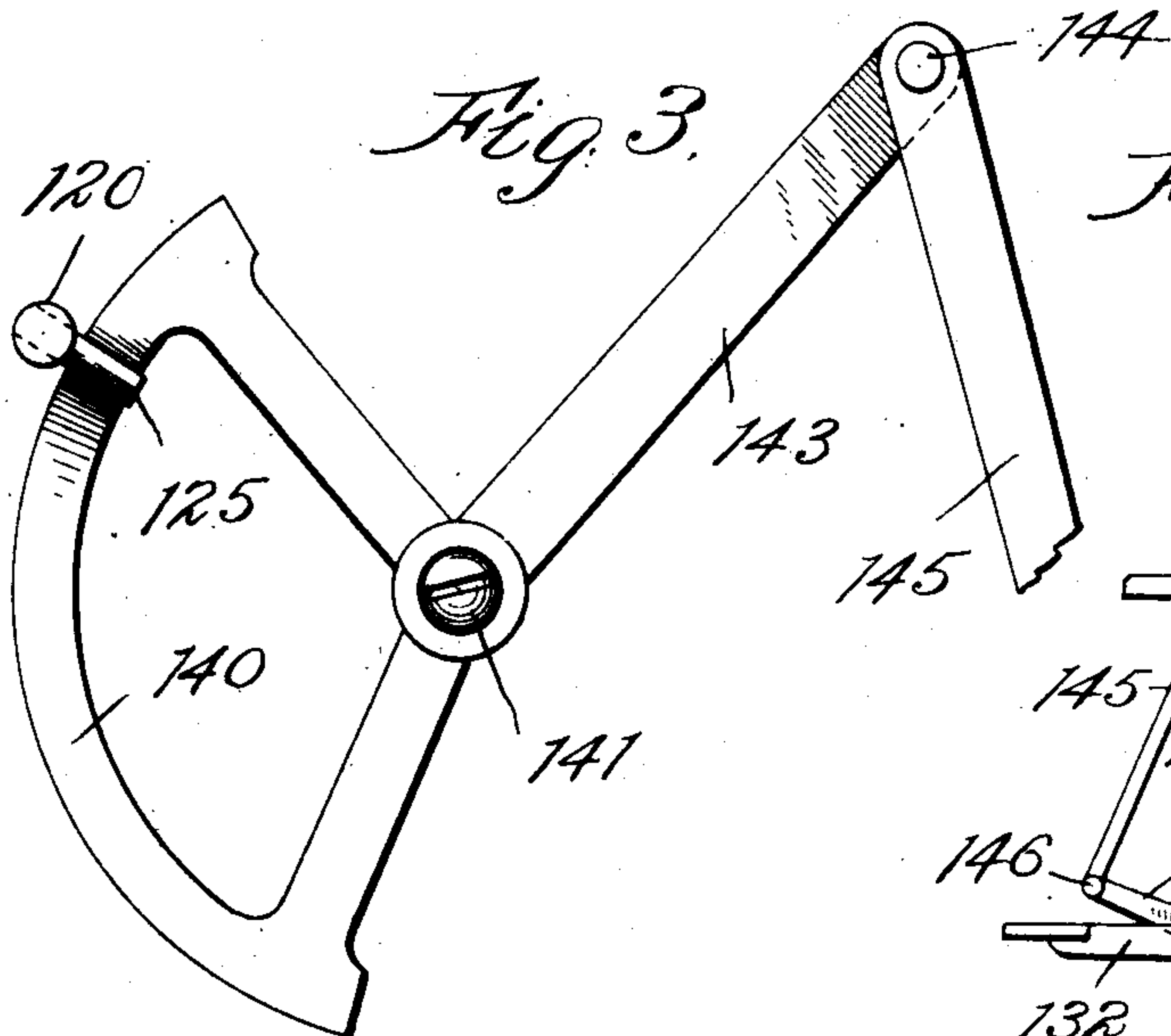
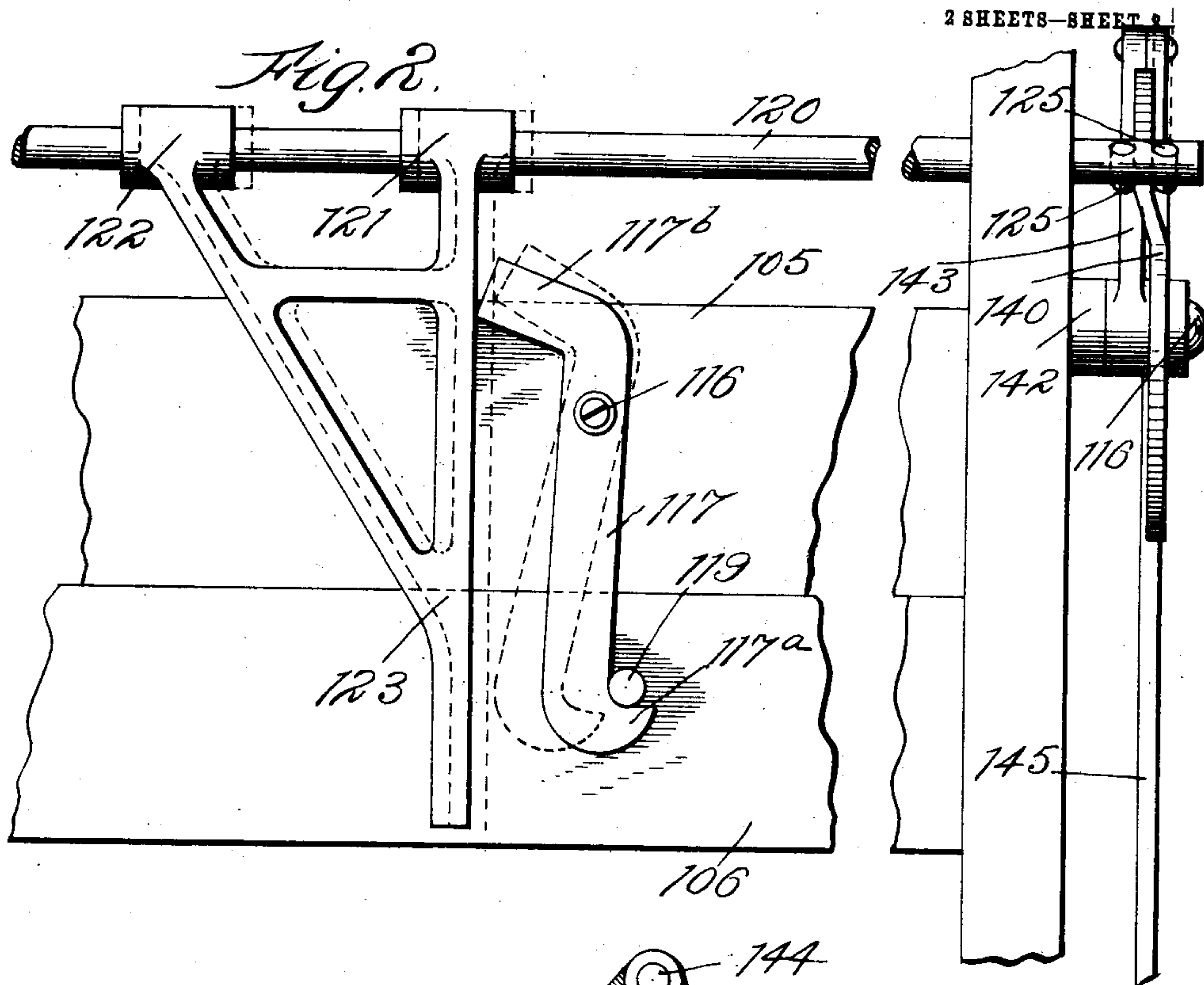
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# UNITED STATES PATENT OFFICE.

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## PAPER-CUTTING MACHINE.

No. 871,573.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed August 24, 1907. Serial No. 389,986.

*To all whom it may concern:*

Be it known that I, TALBOT C. DEXTER, a citizen of the United States, residing at Pearl River, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Paper-Cutting Machines, of which the following is a specification.

My invention relates to improvements in the type of power operated guillotine paper cutting machines, in which the paper holding clamp is formed in two parts, one of which is movable independently of the other to permit the manual lowering of said part into engagement with the pile of sheets upon the table while the other of which has connected to it the power operated mechanism by which the clamp is operated.

The present invention is an improvement upon the mechanism covered by an application for patent filed by me August 7th, 1907, Serial No. 387,400, and the main purpose of my present invention is the same as that of the structure covered by said application, namely, to produce a simple and effective latching device which will automatically couple the two parts or sections of the clamping bar to cause them to operate in unison when operating by power, and at the same time permit the manual operation of the lower part or section independently of the upper part or section.

In the present invention the coupling hook is normally in coupled position and remains in its position until actuated by suitable mechanism under the control of the manually operated lever by which the lower part or section of the clamp is actuated independently of the upper part or section.

In order that my invention may be fully understood, I will first describe the same with reference to the accompanying drawings, and afterwards point out the novelty in the annexed claims.

In said drawings Figure 1 is a front elevation of the main parts of a paper cutting machine having my improvement applied thereto. Fig. 2 is a detail rear elevation of the upper portion of the machine showing the main parts of my invention on a larger scale. Fig. 3 is a detail side elevation of part of the same. Fig. 4 is a detail vertical longitudinal sectional view on a smaller scale, indicating the means for connecting the respective clamping members with the power mechanism and manually operated mechanism.

For the purpose of illustrating my invention I have shown it applied to the paper cutting machine set forth in Patent No. 807,730, granted to me December 19th, 1905. It will be understood, however, that I do not intend to limit my invention to its application to this particular form of paper cutting machine, since it can with equal advantages be applied to many other forms of paper cutting machines in which the clamp is made in two parts or members arranged for either power operation or manual operation at the will of the operator.

The side frames or standards 1 are firmly braced and connected by the top rail or cross-head 2, the center rail 3, the bottom rock shaft 4, the cutter operating shaft 16, clamp operating shaft 113 and the main power shaft of the machine (not shown).

80 is a paper supporting table or platform.

The reciprocating cross-head 7, carrying the cutting blade 8, is mounted to slide vertically and transversely of the machine in the vertical guide slots formed in the side frames or standards 1, said cross-head 7 being suitably anchored to the top rail 2 by means not shown, and connected through links 18 with the cranks 17 mounted upon the knife operating shaft 16.

The paper holding clamp is formed of two parts or members 105 and 106 which are in effect two transversely arranged bars resting one above the other and operating in suitable vertical slots or guide-ways formed on the inner faces of the side frames or standards 1. The upper part of member 105 of the clamp has secured to its opposite ends the depending rack bars 109 which are in constant mesh with gears 112 mounted upon the opposite ends of the clamp operating shaft 113 which is freely journaled in the side frames of the machine. These rack bars 109 rest in vertical slots or guides formed in the opposite ends of the lower part or member 106 of the clamp, so that said lower member can move freely vertically upon the upper portions of rack bars 109.

Attached to the opposite ends of the lower clamping member 106 are the ends of ropes or chains 108 which pass up over the grooved pulleys 110 and are connected at their lower ends beneath the paper supporting platform with a counterbalance weight W which balances the weight of the clamping members and the attached parts.

132 is a centrally arranged foot lever se-



cured to the rock shaft 4 and having formed integral with it a rearwardly projecting rock arm 133 which rests centrally beneath the counterweight W for raising the weight and  
 5 lowering the member 106 of the clamp independently of the power mechanism.

117 is a gravity coupling hook freely journaled upon a pin or bolt 116 projecting from the rear face of the upper clamping part or  
 10 member 105, and formed with a lower hook end 117<sup>a</sup> and an upper angularly bent end or portion 117<sup>b</sup>. The lower clamping part or member 106 has projecting from its rear face a pin or lug 119 with which the gravity hook  
 15 117 is normally in engagement.

120 is a rod or bar extending transversely of the machine above the clamping member 105 (when said member is in its elevated position) and freely supported in openings in  
 20 the side frames or standards 1 of the machine so as to move freely longitudinally therein transversely of the machine. This longitudinally movable rod or bar 120 has rigidly secured to it at 121 and 122 a downwardly  
 25 projecting bracket arm 123 which rests directly behind the sectional clamp 105, 106, adjacent to the gravity hook 117.

One end of the rod or bar 120 projects beyond one of the side frames 1 and has secured  
 30 to it the laterally projecting pins 125 separated sufficiently to receive the cam segment 140 which is journaled upon the pin or bolt 141 secured to the boss 142 upon one of the side frames 1. This cam segment 140 has a  
 35 rearwardly projecting rock arm 143 formed integral with or rigidly secured to it to which is pivoted at 144 the upper end of a rod or pitman 145 which is pivotally connected at its lower end 146 with a forwardly presented  
 40 rock arm 147 secured to the treadle operated rock shaft 4.

The knife operating shaft 16 and clamp operating shaft 113 may be driven in any suitable manner from the main power shaft  
 45 of the machine, such for instance by the mechanism described and illustrated in my above named patent No. 807,730.

The drawings show in dotted lines in Fig. 1, and in full lines in Fig. 2, the normal posi-  
 50 tion of the parts.

It will be observed that the gravity hook 117 is normally in position to couple the two parts 105 and 106 of the clamp. If the clamp is operated by power, the two parts of  
 55 the clamp, coupled together by hook 17, are lowered and raised in unison by the power operated mechanism. This power operation of a paper cutting machine with my improvements is practically the same as described in  
 60 my above-named patent No. 807,730. If it is desired to manually lower the clamp, or to retain the lower member of the clamp in engagement with the pile after it has been lowered by power, the operator presses upon the  
 65 treadle 132 which will actuate the cam seg-

ment 140 for moving the rod or bar 120 longitudinally and causing the depending bracket 123 to engage the bent end portion 117<sup>b</sup> of the hook to move the hook into the po-  
 position shown in dotted lines in Fig. 2. This  
 70 action uncouples the two parts or sections of the clamp. Simultaneously with this operation the rock arm 133 will engage and raise the weight W, to cause the lower member 106  
 75 to be lowered upon the pile of sheets, if the operation takes place when the clamp is in raised position, or cause said lower member of the clamp to remain in engagement with the pile, if said operation takes place while the clamp is in engagement with the pile after  
 80 having been actuated by the power mechanism.

It will be observed that the bracket 123 extends downwardly sufficiently to always be in position to engage the heel end of the  
 85 gravity hook 117, so that said hook can be moved into disengaged or uncoupled position whether the clamp is in raised or lowered position.

It will be understood that any of the usual  
 90 forms of manually operated clamping mechanisms may be employed in connection with my invention for applying clamping pressure to the lower clamping member independently of the power mechanism. I have not thought  
 95 it necessary to illustrate any of these common forms of manually operated clamping mechanisms, but have limited the illustration to the form of mechanism which is particularly useful in moving the lower clamping  
 100 member into engagement with the pile to test the adjustment of the parts.

What I claim is:

1. The combination, in a paper cutting machine, of a paper holding clamp compris-  
 105 ing two vertically movable parts or members, independent operating means for each of said parts or members, a gravity coupling hook pivotally mounted upon one of said  
 110 members normally engaging the other of said members, and manually operated means adapted to engage said hook and move it into released or uncoupled position.

2. The combination, in a paper cutting machine, of the upper and lower clamping  
 115 bars or members, means for operating said clamping bars or members, a coupling hook pivotally mounted upon one of said members and movable upon its pivot transversely of the machine, a pin or lug upon the other  
 120 of said members with which said hook engages, and a manually operated bracket arm movable transversely of the machine to engage and uncouple said hook.

3. In a paper cutting machine, the combi-  
 125 nation of the upper and lower clamping bars or members, means for operating said clamping bars or members, a coupling hook pivotally mounted upon one of said members and normally engaging the other of said members,  
 130



and a bracket arm suspended from a point above the clamping bars or members and projecting downwardly in operative relation to said hook.

5 4. In a paper cutting machine, the combination of the upper and lower clamping bars or members movable vertically in the machine frame, a coupling hook pivotally mounted upon one of said members for normally engaging the other of said members, a heel portion projecting from said hook, a bracket arm supported above said clamping bars or members and projecting downwardly into operative relation with said heel portion, and of sufficient length to engage said heel portion when the clamping members are in lowered position, and means for moving said bracket arm transversely of the machine for uncoupling said hook.

20 5. In a paper cutting machine, the combination of the upper and lower clamping bars or members, operating means for said clamping bars or members, a coupling hook mounted upon one of said members and normally engaging the other of said members, a transversely movable rod or bar mounted in the machine frame and supporting a depending bracket arm in operative relation to said hook, and a manually operated device for actuating said rod or bar.

30 6. In a paper cutting machine, the combination of the upper and lower clamping bars or members, operating means for said clamping bars or members, a coupling hook mounted upon one of said members and normally engaging the other of said members, a transversely movable rod or bar mounted in the

machine frame and supporting a depending bracket arm in operative relation to said hook, a cam segment engaging said rod or bar and a manually operated arm or lever suitably connected with said cam segment.

7. In a paper cutting machine, the combination of the upper and lower clamping bars or members, operating means for said clamping bars or members, a coupling hook mounted upon one of said members and normally engaging the other of said members, a transversely movable rod or bar mounted in the machine frame and supporting a depending bracket arm in operative relation to said hook, spaced pins or lugs projecting from said rod or bar, a pivotally mounted cam segment engaging between said pins or lugs and adapted to shift said rod or bar transversely of the machine, and a manually operated arm or lever suitably connected with said cam segment.

8. In a paper cutting machine, the combination of the upper and lower clamping bars or members arranged to move vertically into and out of clamping position, a coupling hook mounted upon one of said members and engaging the other of said members, and a transversely movable bracket arm supported above and projecting downwardly parallel with said clamping bars or members and movable into and out of engagement with said coupling hook.

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Witnesses:

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