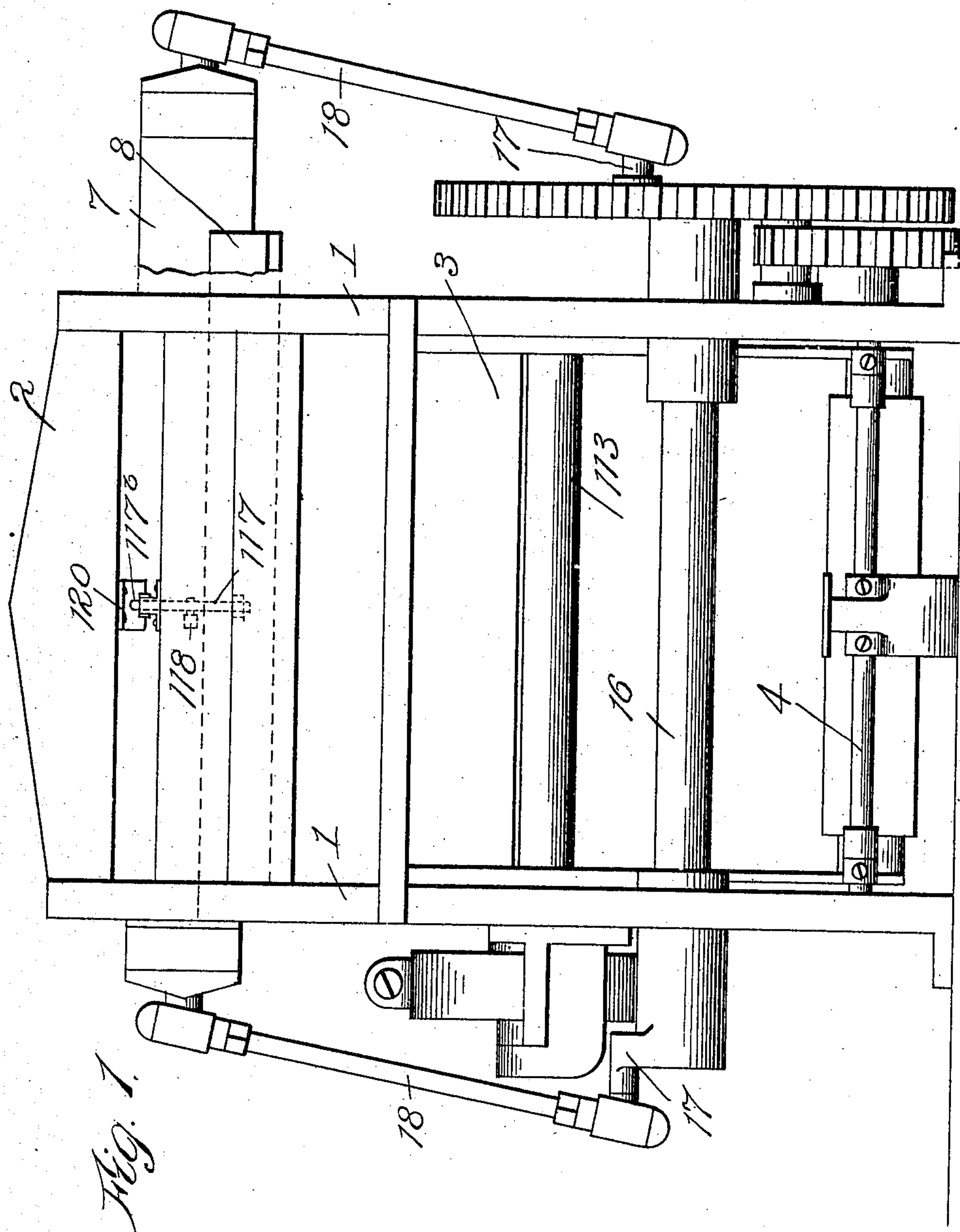


No. 871,572.

PATENTED NOV. 19, 1907.

T. C. DEXTER.  
PAPER CUTTING MACHINE.  
APPLICATION FILED AUG. 7, 1907.

2 SHEETS—SHEET 1.



Witnesses  
G. L. Griffin  
A. A. Bromberg

T. C. Dexter  
Inventor,  
By his Attorneys Knight & Co.

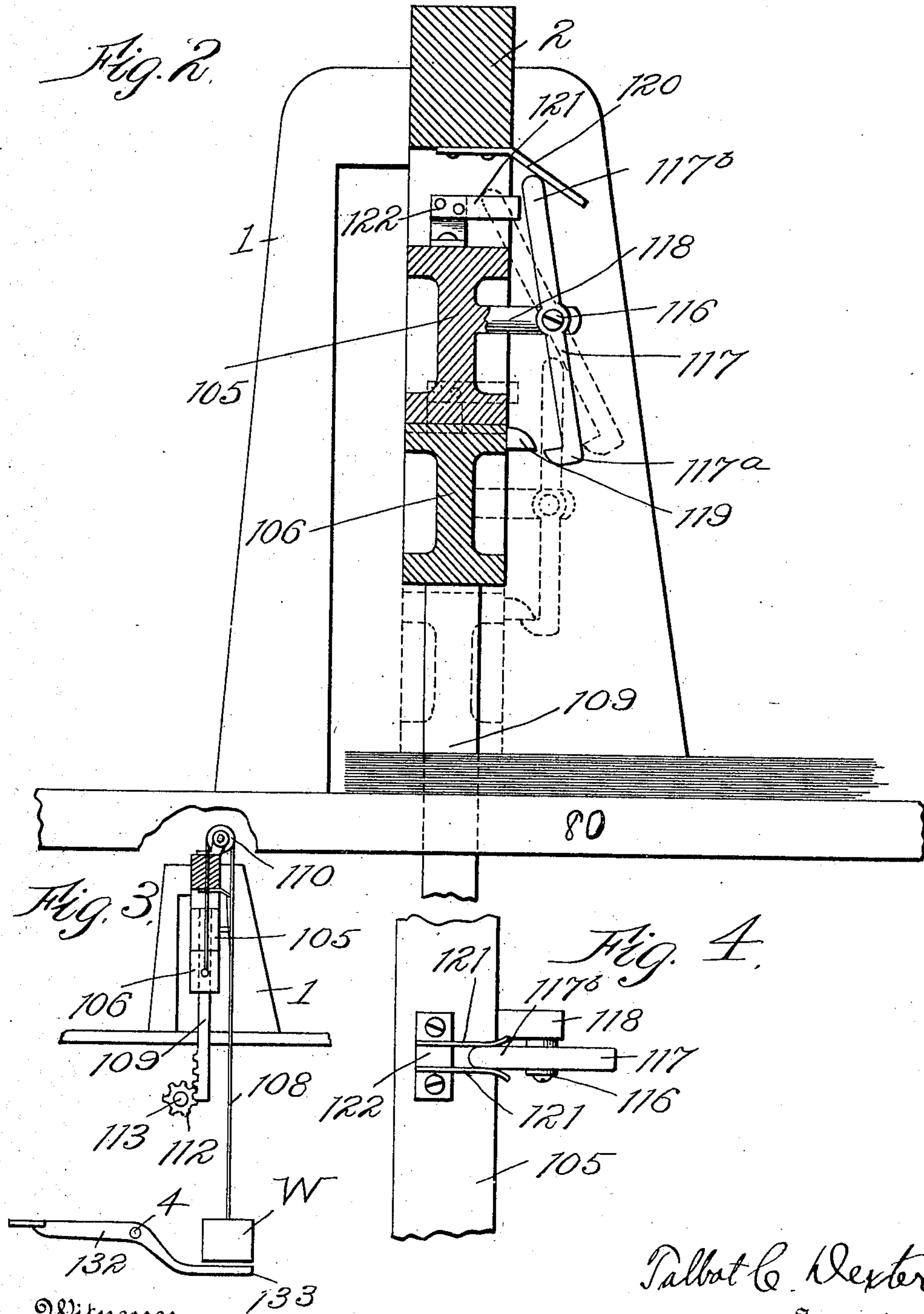
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Witnesses  
A. S. Bromberg  
J. H. Griffin

Thos. C. Dexter,  
Inventor,  
By his Attorney *Smith & Prop.*



# UNITED STATES PATENT OFFICE.

TALBOT C. DEXTER, OF PEARL RIVER, NEW YORK.

## PAPER-CUTTING MACHINE.

No. 871,572.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed August 7, 1907. Serial No. 387,400.

*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 object of my present invention is to provide a simple and effective latching device which will automatically couple the two parts or sections of the clamping bar when the clamp is operated by power, so that the two parts of the clamp will travel as one in their movements toward and away from the pile, and at the same time will normally leave the two parts of the clamp uncoupled so that the lower part of the clamp may be moved into engagement with the pile by manual means. To accomplish this in a simple and convenient manner I mount upon the upper part or section of the paper clamp, a gravity hook which is adapted to automatically engage a lug or shoulder upon the lower part or section of the clamp, and I arrange upon the cross-head of the cutting machine a bracket arm which projects into the path of the upper end of the coupling hook so that when the clamp is raised away from the pile said bracket arm will operate the coupling hook for disconnecting it from the lower clamp member to leave the two members of the clamp in uncoupled condition to permit the lower clamping member to be operated by manual means at the will of the operator, and without any previous manipulation of the coupling device. This arrangement is such that upon operating the clamp by the power mechanism, the initial downward movement of both clamping members will move the coupling hook away from the releasing bracket arm and allow it to fall into coupled position for connecting the two clamping members, so that they will move as one.

In addition to the automatically operated

coupling hook, I provide upon the upper clamping member a spring clip into engagement with which the coupling hook may be forced by hand for retaining the hook in released position to enable the operator to operate his machine continuously with the manually operated lower member of the clamp, permitting the upper clamping member to remain in its elevated position. With this arrangement the operator may also hold the lower member of the clamp in engagement with the paper until the knife has reached its elevated position after a cut, no matter whether the clamp has been operated by power or manually.

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 vertical longitudinal sectional elevation of the upper portion of the machine. Fig. 3 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. Fig. 4 is a detail plan view of a section of the upper clamping member and the coupling hook.

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 of 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). 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 secured 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 lowering the member 106 of the clamp independently of the power mechanism.

Projecting rearwardly from the upper clamping member 105 is a rigid post or bracket arm 118 upon which is journaled at 116 a gravity coupling hook 117 formed with a lower hook end 117<sup>a</sup> and an upper controlling end 117<sup>b</sup>.

The lower clamping member 106 has secured to its rear face a latching shoulder or lug 119 with which the hook 117 is adapted to engage.

Projecting rearwardly and downwardly from the under face of the top rail or cross-head 2 is an inclined bracket arm 120 supported in the path of the upper end 117<sup>b</sup> of the hook 117 so that when the clamping members are in their elevated position, the engagement of bracket arm 120 with the upper end of the hook 117 will hold the hook out of engagement with the shoulder or lug 119, so that the lower clamping member 106 may be operated without moving the upper member 105.

Secured to the upper edge of the upper clamping member 105 is a spring clip formed of two approximately parallel spring arms 121 secured to a supporting bracket 122,

which is mounted upon the clamp rail 105. The rearwardly presented ends of the spring arms 121 are flared outwardly slightly to guide the upper end of hook 117 into engagement with the spring clip.

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

When operating a paper cutting machine equipped with my improvement, the parts will normally rest in the position shown in Fig. 2 of the drawings, in which it will be observed that the hook 117 is held out of engagement with the lug or shoulder 119. If the clamp is lowered by power through the mechanism which acts upon shaft 113, both clamping members will be pulled down upon the pile of sheets upon the table or platform through the pinions 113 and rack bars 109. As the two clamping members move downwardly toward the paper, the hook 117 is disengaged from the bracket arm 120 and allowed to fall by gravity into hooked engagement with the shoulder 119, for coupling the two members of the clamp, so as to cause them to operate as a unit. At the completion of the cutting operation when the clamp is raised, the upper end 117<sup>b</sup> of the hook 117 will again engage the bracket arm 120 and uncouple the two clamp members. If it is desired to manually lower the clamp, the operator presses upon the treadle lever 132 which will effect the lowering of the clamp member 106 without moving clamp member 105. If it is desired to operate the machine continuously with manual clamping, the operator pulls the upper end 117<sup>b</sup> of hook 117 over into engagement with the spring clip 121, which will hold the hook out of operation. This spring clip may also be used when for any reason the operator desires to apply the clamping pressure by power and retain the lower clamping member in engagement with the pile while the upper power operated member is moved back by the power mechanism. This is important in cutting very narrow piles of paper, when it is frequently desired to manually hold the clamp in engagement with the pile until after the knife has reached its upper position following a cutting stroke.

It will be understood that any of the usual 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 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 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 comprising two vertically movable parts or members, power operating mechanism for one of said parts or members, manually operated mechanism for the other part or member, and a gravity coupling hook freely journaled upon one member and adapted to engage the other member.

2. In a paper cutting machine, the combination of the upper and lower clamping bars or members, independent operating means for said clamping bars or members, a coupling hook freely journaled upon one of said members and adapted to automatically engage the other of said members, and a controlling bracket arm projecting from the machine frame and adapted to engage said hook for moving it into released or uncoupled position.

3. In a paper cutting machine, the combination of the upper and lower clamping bars or member arranged to move vertically toward and away from the pile upon the supporting table, a vertically arranged hook

freely journaled upon the upper bar or member, a latching shoulder upon the lower bar or member with which said hook is adapted to engage, and a controlling arm mounted upon the machine frame above said hook and adapted to engage the hook when the clamp bars or members are in their elevated position to move said hook into released position.

4. In a paper cutting machine, the combination of the upper and lower clamping bars or members, a coupling hook pivotally mounted upon the upper member and adapted to engage the lower members, and means upon the upper member adapted to hold the hook in disengaged position.

5. In a paper cutting machine, the combination of the upper and lower clamping bars or members, a coupling hook pivotally mounted upon the upper member and adapted to engage the lower member, and a spring clip mounted upon the upper member and adapted to engage the hook and retain it in released position.

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Witnesses:

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