C. SEYBOLD.

CLAMP FOR PAPER CUTTERS.

APPLICATION FILED MAY 12, 1916.

1,261,305. Patented Apr. 2, 1918.

Fig. 1

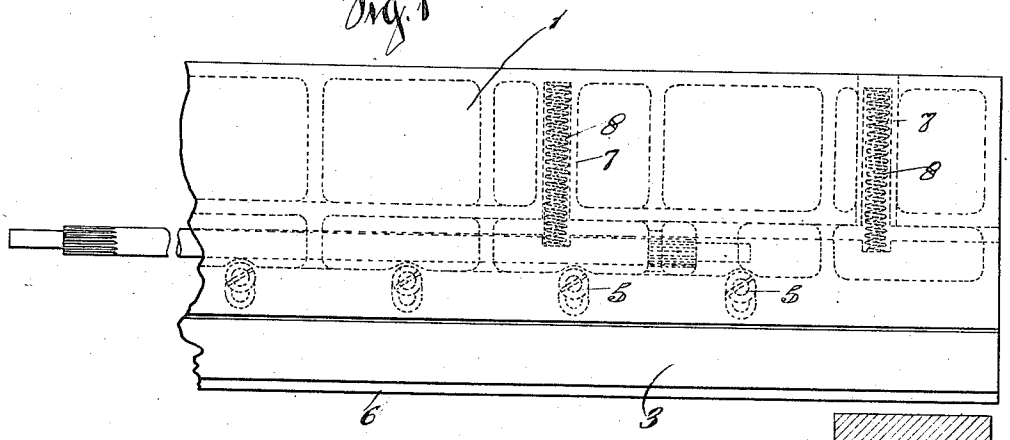
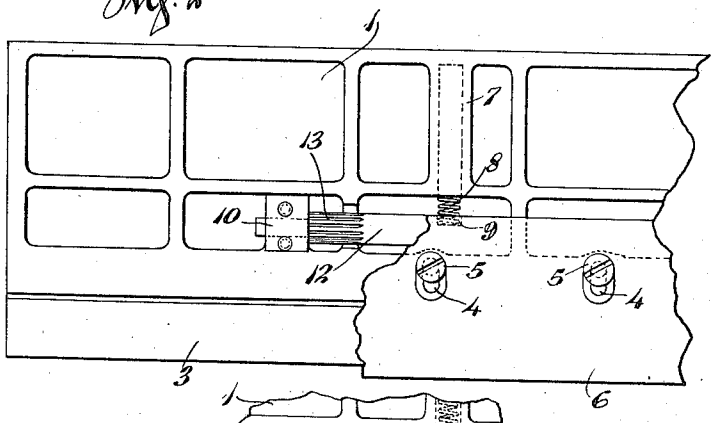


Fig. 2



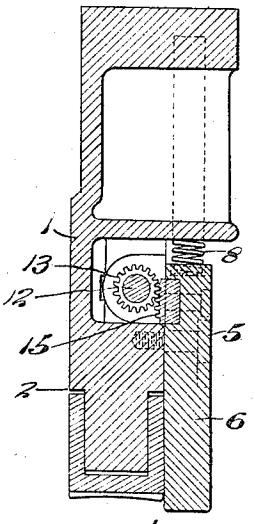


Fig. 3

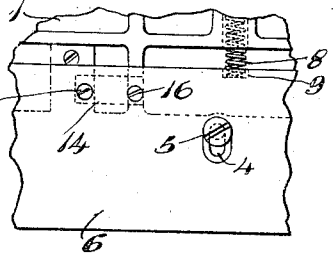


Fig. 5

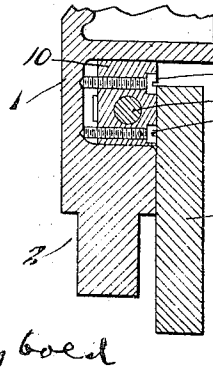


Fig. 4

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CLAMP FOR PAPER-CUTTERS.

1,261,305. Specification of Letters Patent. Patented Apr. 2, 1918.

Application filed May 12, 1916. Serial No. 97,198.

To all whom it may concern:

Be it known that I, CHARLES SEYBOLD, a citizen of the United States, and a resident of the city of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Clamps for Paper-Cutters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

My invention relates to clamps for paper cutters particularly for use in cutters for clamping paper which by the process of manufacture has been made of uneven thickness; such, for example, as plate-calendered paper in which the paper is thinner in the central portions than on the edges. In cutting such paper, as the power clamp compresses the paper prior to the cutting operation, the paper pile is very apt to slip under the unyielding strain. Accordingly it is my object to provide a device auxiliary to the main clamp of a paper cutter or the like, which will prevent the slipping of bundles of paper beneath the main clamp.

In this connection, it is my object to provide that the auxiliary clamp comes into contact with the pile of paper in advance of the main clamp, with a yielding mounting for the auxiliary clamp to permit it to yield as the main clamp comes into play. I also provide in connection with the yielding feature for the auxiliary clamp a means for keeping the clamp in parallelism with the main clamp at all times, so that it cannot tip at one end by reason of its yielding mounting should the paper pile be more unyielding at one portion than another.

It should not be understood that plate calendered paper is the only kind that is to be used with my new device, as it is intended to be used in connection with paper cutters and the like, whenever it is convenient or desirable.

The objects above noted are accomplished by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawing,

Figure 1 is a front elevation of the clamp, partly broken away.

Fig. 2 is a rear elevation showing a part of the auxiliary clamp and the rear of the clamp proper.

Fig. 3 is a vertical section, taken through the toothed portion of the shaft for maintaining parallelism in the auxiliary clamp.

Fig. 4 is a detail vertical section taken through the journal box for the shaft.

Fig. 5 is a rear elevational detail showing the method of attaching one of the racks to the auxiliary clamp bar.

It has not been considered necessary to show any parts of a paper-cutting machine, as the clamp device shown could be applied to any form of machine that should be desired. The clamp 1 has a tenon 2 at the lower end, over which is fitted a shoe 3. This shoe is not a requisite of this invention and could be omitted altogether without affecting the operation of the clamping device.

Mounted by means of slots 4 on heavy screws 5 set into the rear of the clamp 1, is the auxiliary clamp bar 6. The bar is of such length that it will extend beyond the shoe on the base of the main clamp when pressed down on the screws as far as it will go. Mounted in housings 7, 7, set between the webs at the rear of the main clamp are springs 8, 8, of considerable power, which said springs are seated at the base in sockets 9, 9, in the upper end of the clamp member 6.

Thus when the entire clamp is brought down upon a pile of paper, the first member to contact with the pile will be the auxiliary clamp. This will firmly engage the bundle and hold it against slipping until the main clamp has fully compressed the pile, the springs permitting the auxiliary clamp to raise, while still maintaining pressure as the main clamp comes down.

It can be seen that with some piles of paper of different degrees of compressibility, the auxiliary clamp might be held up at one end and tip down at the other, thereby giving an uneven pressure to the entire pile, and thereby tending to shift the bundle before the main clamp comes into play instead of merely holding it firm until full pressure is applied. To prevent this, means are provided to cause the auxiliary bar to remain always in parallelism with the main clamp.

For this purpose, journal boxes 10, 10, are fitted into the space between the horizontal webs of the main clamp bar, near the ends of the bar, and held against slipping laterally by means of set screws 11, 11, that engage in recesses in the main clamp. The auxiliary clamp bears against the rear faces of the

boxes and serves to hold them in place. In these boxes is journaled a shaft 12, which extends lengthwise of the main clamp in the above mentioned space, and this shaft has on its two ends, or elsewhere along its length if desired, longitudinal toothed portions 13, or pinions.

Seated in recesses 14 in the inner side of the auxiliary clamp are rack plates 15, held in place by screws 16. These racks mesh with the toothed portions of the shaft, and thus when the bar is raised at one end, the revolving of the shaft will raise the bar at the other, maintaining a complete parallelism of the auxiliary clamp with the main clamp.

While I have illustrated the auxiliary clamp as mounted on the main clamp as a preferable and convenient construction, it will be understood that the essential feature of my invention is a construction in which an auxiliary clamp is employed to operate in advance of the main clamp for the purposes set forth, and that failure to describe alternative structures coming within the spirit of the invention, and failure to point out all the various uses to which the invention may be put shall not be considered as limitations on the interpretation of the claims that follow.

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

1. In a clamp device for paper cutters and the like, the combination with a main clamp, of an auxiliary clamp, means for yieldingly mounting the same on the main clamp, so as to normally occupy a position beyond the main clamp to first contact with the paper to be acted upon, and means for maintaining the auxiliary clamp in parallelism with the main clamp, comprising a shaft on the main clamp, with racks and pinions intermediate the shaft and the auxiliary clamp, substantially as described.

2. In a clamp device for paper cutters and the like, the combination with a main clamp, springs in the main clamp, an auxiliary clamp pressed downwardly by the springs, means for mounting the latter clamp slidably on the main clamp, so as to be spring-pressed to a position to come into clamping position ahead of the main clamp, and means for maintaining the auxiliary clamp in parallelism with the main clamp, comprising a shaft on the main clamp and means on said shaft meshing with said auxiliary clamp at a plurality of positions.

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Witnesses:
WILLIAM F. KINZELER,
EMMETT E. LEO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."