

No. 874,987.

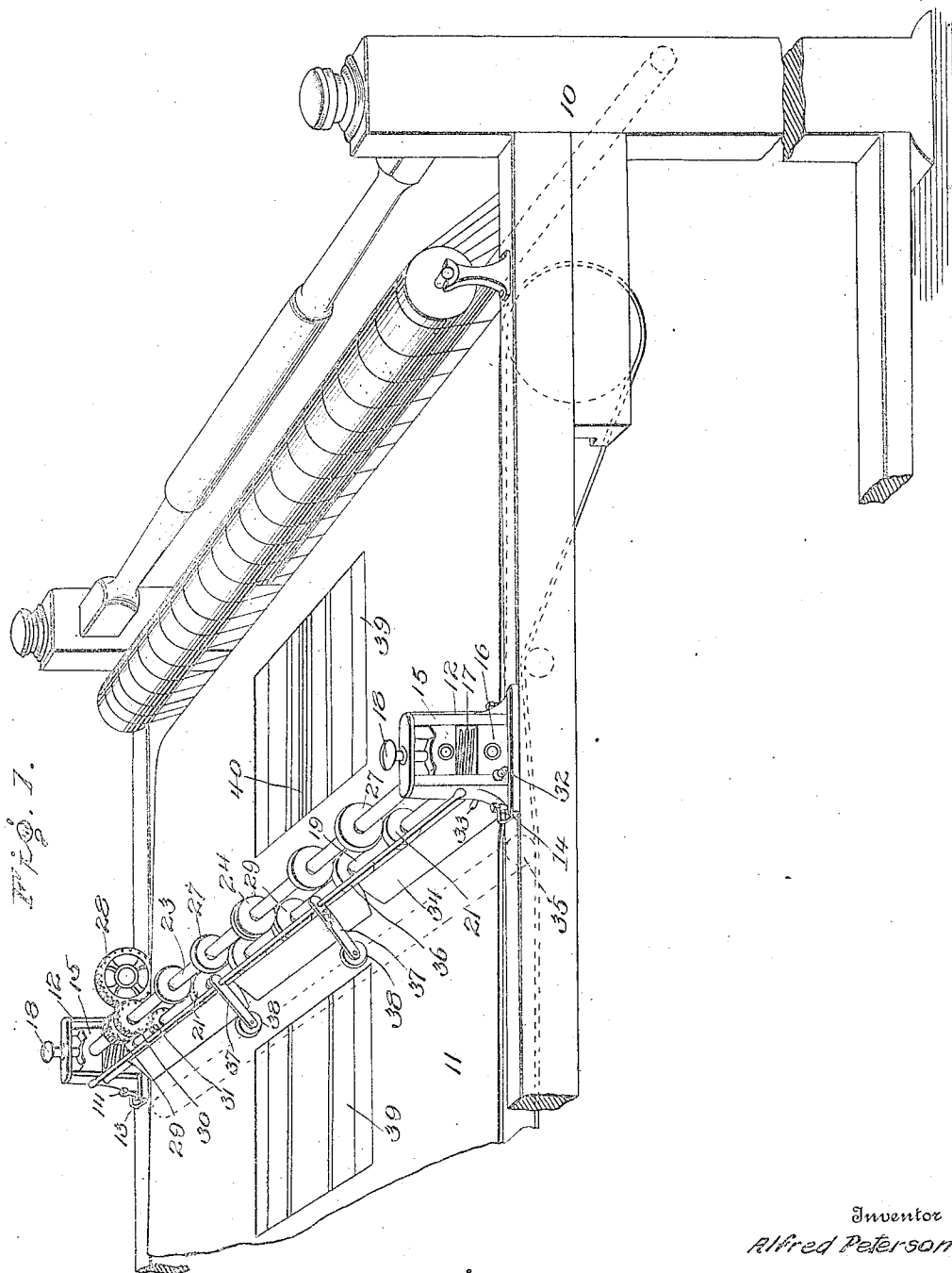
PATENTED DEC. 31, 1907.

A. PETERSON.

CRIMPING ATTACHMENT FOR RULING MACHINES.

APPLICATION FILED APR. 6, 1907.

2 SHEETS—SHEET 1.



Inventor  
Alfred Peterson

Witnesses

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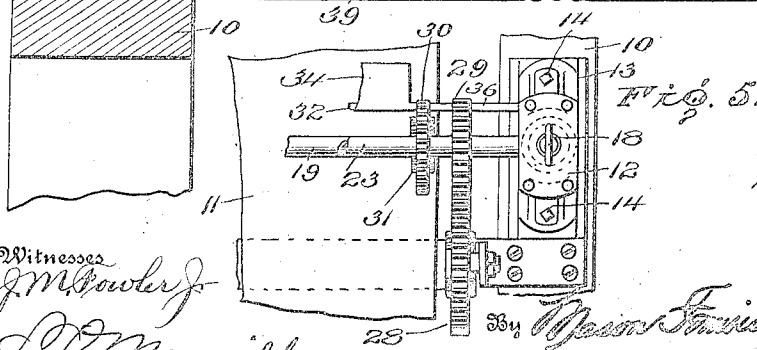
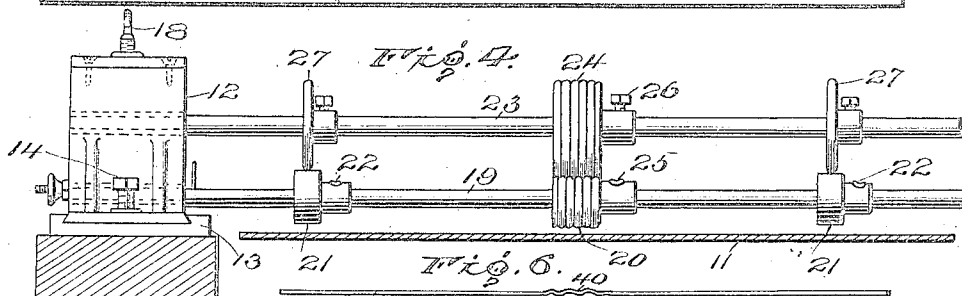
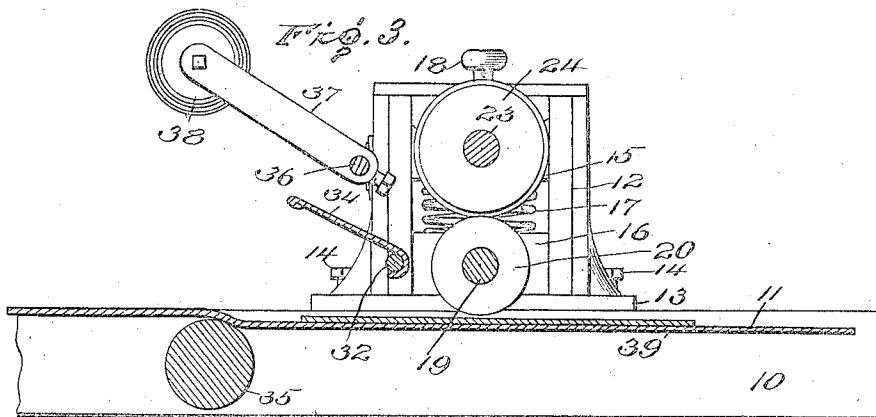
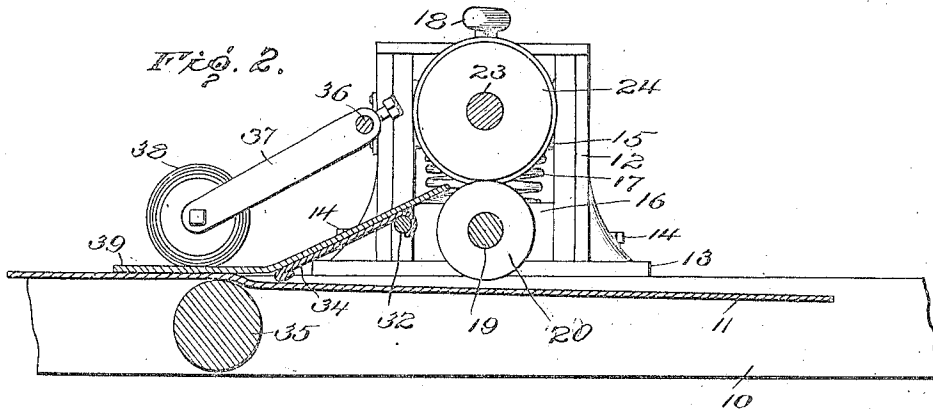
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# UNITED STATES PATENT OFFICE.

ALFRED PETERSON, OF DENVER, COLORADO, ASSIGNOR OF ONE-FOURTH TO FRANK J. DUNST, OF DENVER, COLORADO.

## CRIMPING ATTACHMENT FOR RULING-MACHINES.

No. 874,937.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed April 3, 1907. Serial No. 386,702.

*To all whom it may concern:*

Be it known that ALFRED PETERSON, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, has invented certain new and useful Improvements in Crimping Attachments for Ruling-Machines; and he does hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to crimping devices for ruling machines and has for an object to provide a device embodying improved means for crimping loose sheets in the same operation in which the sheets are ruled.

A further object of the invention is to provide in a ruling machine an apparatus bearing upon the upper surface of the traveling felt and adapted to receive the ruled sheet traveling thereupon and to produce crimps of any desired form at any desired and approved part of the sheet.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a perspective view of a fragment of a conventional ruling machine with the crimping attachment applied thereto in operative position. Fig. 2 is a view in longitudinal section of the crimping device in operative position. Fig. 3 is a view in longitudinal section through the machine showing the crimping attachment in transverse section and thrown out of operative position. Fig. 4 is a view in side elevation of one end of the crimping attachment. Fig. 5 is a view in top plan of the gear operating the improved crimping attachment. Fig. 6 is a view in edge elevation of a sheet of paper with the crimps applied thereto.

Like characters of reference designate corresponding parts throughout the several views.

The crimping attachment forming the subject-matter of this application is adapted to be attached to a ruling machine of the usual and ordinary type, the frame of which is shown at 10 and with the usual and ordinary traveling felt 11 movable thereupon.

At any approved position upon the frame 10 of the machine are erected bearings 12 in alignment transversely of the machine and

movable longitudinally of the frame in guide-ways 13, and with any approved means as the set screws 14 for maintaining the bearing boxes at a secured adjustment. The bearing boxes 12 are provided with spaced journal blocks 15 and 16 spaced and held yieldingly apart by means of springs 17 interposed therebetween and controlled by means of tension screws 18 bearing upon the upper journal block 16.

Extending between and journaled in the journal blocks 15 is a shaft 19 having mounted thereupon a cylindrical, corrugated mandrel 20 provided with any approved configuration produced in its periphery and with disks 21 spaced at any convenient and approved distances along the said shaft and secured adjustably in position in any usual manner as by the set screws 22.

Extending between and journaled in the bearing block 16 is a shaft 23 disposed above the shaft 19 and provided with a corrugated mandrel 24 having its periphery provided with corrugations complementary to the corrugations in the mandrel 20. The mandrels 20 and 24 are mounted for adjustment upon the shafts 19 and 23, respectively, and are maintained in such adjusted position in any approved manner as by the set screws 25 and 26. Upon the shaft 23 are also mounted a plurality of resilient disks 27 intended to coact with the disks 21 to form a feed device to feed the paper sheets through between the corrugated mandrels 20 and 24.

The shafts 19 and 23 and their associated feed mechanism and mandrels are rotated in any approved manner as by a gear 28 receiving motion from any approved source and intergeared with a gear or pinion 29 upon the shaft 23. The shaft 23 is also provided with a gear 30 intergeared with a gear 31 upon the shaft 19 by the employment of which a rotary motion imparted to the shaft 23 is transmitted to the shaft 19, the said shafts, therefore, rotating in unison.

Extending across between the bearing blocks 12 is a rod 32 rotatable by means of a short handle or lever 33 and carrying rigidly secured thereto an apron 34 adapted to bear upon the felt 11 adjacent to a roller 35 positioned beneath and supporting the felt.

Above the rod 32 is mounted a rod 36 also rotatable in the bearing block 12 and provided with a plurality of arms 37 carrying at their extremities resilient rollers 38 adapted,

when the arms 37 are swung downwardly, to bear upon the felt 11 immediately above the roller 35. It will be seen that a paper sheet, as 39, passing along upon the surface of the felt 11 will pass beneath the roller 38, and, by reason of the tension of the said roller upon the felt, will serve to feed the sheet upwardly upon the apron 34 and between the feed disk 21—27 and the crimping mandrel 20—24. As the crimping mandrels are adjustable upon the shafts 19 and 23 it is obvious that the crimping may be produced in the sheet 39 at any desired and approved location by simply moving the mandrels to such position upon the said shaft that they will engage the said sheet at the desired point.

In the drawing the crimping rolls are shown with regular corrugations which, when operating upon the sheet 39, will produce the corrugations, as shown at 40, particularly in Fig. 6. When the sheets are to pass through the ruling machine without the application of crimping thereto, the apron 34 and the arms 37 are raised as shown particularly in Fig. 3 which permits the sheet 39 to pass beneath the roller 20 without being engaged thereby. It will be understood that by a manipulation of the screws 18 corrugations of varying magnitude may be produced in the sheet 39 varying from a very slight waving to a very decided crimping.

The mechanism above described is desirably used in association with the ruling machine described for the reason that a ruling machine employs a traveling felt, and furthermore because crimping as applied to paper sheets is usually and ordinarily employed with ruled leaves as for blank books and the like.

What I claim is:—

1. In a device of the class described, the combination with a ruling machine having a traveling felt, of shafts extending transversely of the machine, crimping rolls carried by the shafts, and means engaging the felt and adapted to lift a sheet therefrom and feed it to the crimping rolls.

2. In a device of the class described, the combination with a ruling machine having a traveling felt, of crimping rolls journaled above and intermediate the sides of the felt, an apron engaging the felt and adapted to direct the sheet to the rolls, and means to feed the sheet upon the apron.

3. The combination with a ruling machine having a traveling felt, of crimping rolls journaled above and intermediate the sides of the felt, an apron adapted to bear at one edge

upon the surface of the felt, and with its opposite edge adjacent the rolls, and feed rollers bearing normally upon the felt, and adapted to feed a sheet upon the apron.

4. The combination with a ruling machine having parallel shafts, means to rotate the shafts, and crimping rolls carried and adjustable longitudinally upon the shafts, and feed disks mounted upon opposite sides of the crimping rolls, and adjustable longitudinally of the shafts.

5. The combination with a ruling machine having parallel shafts disposed one above the other, interengaging rolls carried by the shafts and provided with corrugated peripheries, and feed disks mounted upon opposite sides of the rolls and adjustable longitudinally of the shafts.

6. In a device of the class described, the combination with a ruling machine having a traveling felt, of crimping rolls disposed above the felt, an apron normally bearing at one edge upon the felt and directed toward the rolls, and means to raise the apron out of engagement with the felt.

7. In a device of the class described, the combination with a ruling machine having a traveling felt, of crimping rolls disposed above the felt, an apron having one edge normally bearing upon the felt, and directed toward the rolls, feed rollers bearing normally upon the felt adjacent the edge of the apron, and means permitting the raising of the feed rollers out of operative position.

8. The combination with a ruling machine having a traveling felt, of crimping rolls disposed above the felt, an apron having one edge bearing normally upon the felt and its opposite edge directed toward the rolls, feed rollers bearing normally upon the felt adjacent the edge of the apron, means permitting the moving of the feed rollers out of operative position, and means to move the apron out of operative position.

9. The combination with a ruling machine having a traveling felt, of bearing boxes erected upon opposite sides of the machine, shafts journaled in the bearing boxes and extending transversely of the machine above the felt, crimping rolls carried by the shafts and interengaging, and means carried by the bearing boxes adapted to exert varying tensions upon the crimping rolls.

In testimony whereof he has affixed his signature in presence of two witnesses.

ALFRED PETERSON.

Witnesses:

ISABEL M. STRONG,  
CARLE WHITEHEAD.