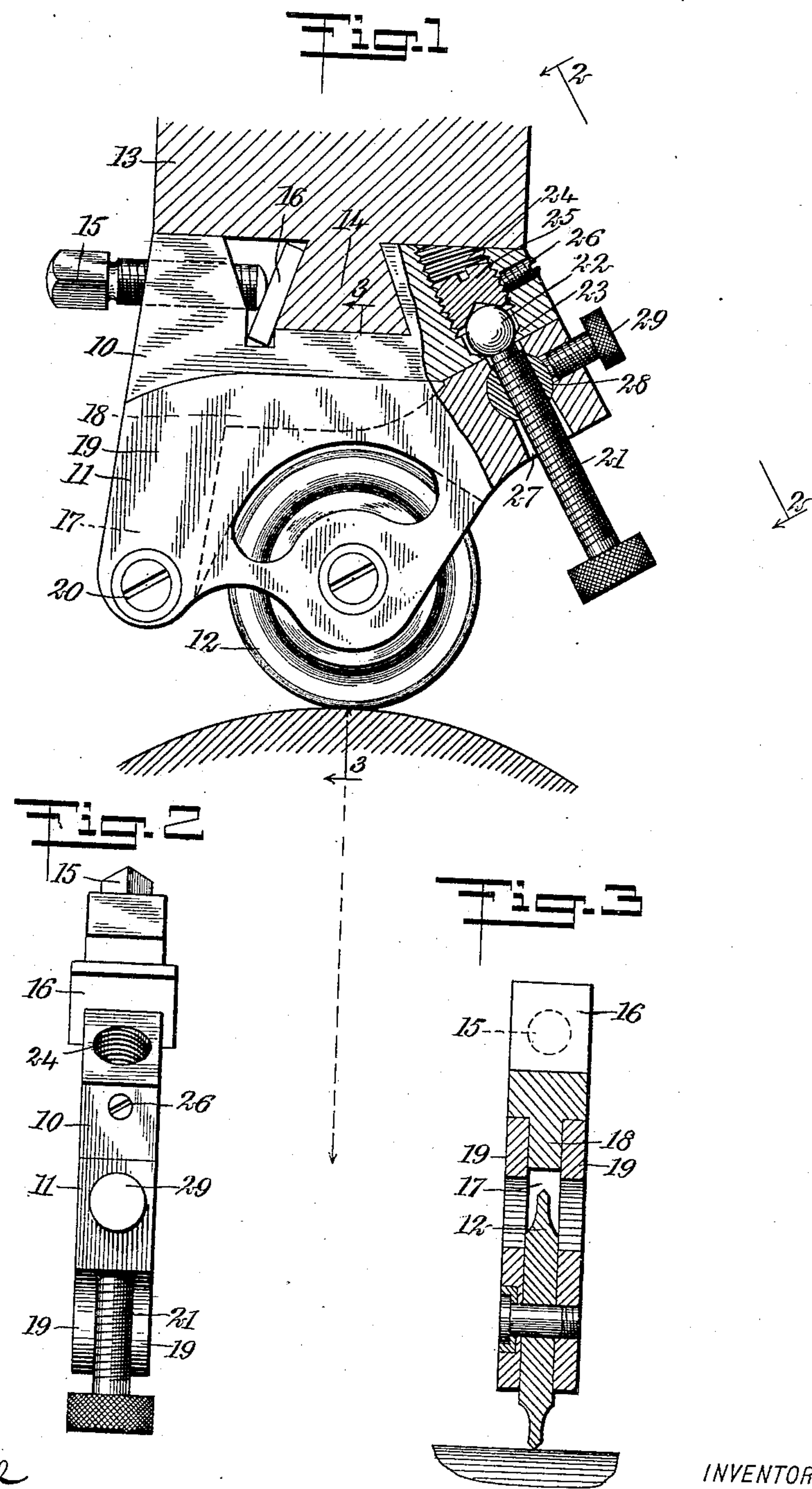


908,284.

S. M. LANGSTON.
CUTTER AND SCORER.
APPLICATION FILED JUNE 12, 1908.

Patented Dec. 29, 1908.



WITNESSES
F. D. Sweet
C. W. Fairbank

INVENTOR
Samuel M. Langston
BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL M. LANGSTON, OF CAMDEN, NEW JERSEY.

CUTTER AND SCORER.

No. 908,284.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed June 12, 1908. Serial No. 438,076.

To all whom it may concern:

Be it known that I, SAMUEL M. LANGSTON, a citizen of the United States, and a resident of Camden, in the county of Camden and State of New Jersey, have invented a new and Improved Cutter and Scorer, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in attachments for machines adapted for use in subdividing cardboard, strawboard or the like, or in providing the same with weakened lines, whereby it may be readily folded.

The invention relates more particularly to that type of attachment in which there is employed a clamping block adapted to be secured to the machine, a frame adjustably secured to the clamping block, and a cutting or scoring disk or wheel carried by the frame.

The object of my invention is to provide certain improvements in the means employed for securing the frame to the clamping block and permitting of a ready and accurate adjustment of the former in respect to the latter without permitting of any lost motion.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is an end view of an attachment constructed in accordance with my invention and showing a portion of the supporting bar or beam and the coacting roller; Fig. 2 is an edge view of the attachment *per se* viewed in the direction of the arrows on the line 2—2 of Fig. 1; and Fig. 3 is a section of the attachment on the line 3—3 of Fig. 1.

The body portion of my improved cutting and scoring attachment is formed of two members, one, a clamping block 10, and the other a frame 11 for the cutting or scoring disk 12. The clamping block 10 is adapted to be secured to a cross beam or bar 13 of the machine. The means employed for securing the clamping block to the beam or bar 13 and permitting of its longitudinal movement along said beam or bar, may be of any desired type common in the art.

Preferably, the beam or bar is provided with a dovetailed flange or track 14 extending into a recess in the upper side of the clamping block and held therein by a set screw 15, the inner end of which engages with a movable plate 16.

The clamping block is provided with a downwardly-extending arm 17 at the rear portion thereof, and extending along the under side of the block from the arm is a downwardly-extending flange or rib 18 of the same thickness and in the same plane as the arm 17. The frame for supporting the cutting or scoring disk 12 is provided with two leaves or plates 19, which engage with opposite sides of the arm 17 and the rib 18, so that lateral movement of the frame is positively prevented and the movement restricted to the plane of the disk. At the lower end of the arm 17, the side plates 19 and the arm 18 are secured together by a suitable pivot 20, and directly in front of the pivot and below the flange or rib 18 and between the two plates 19, 19, is rotatably mounted the cutting or scoring disk 12, the latter being of substantially the same thickness as the rib or flange 18 and the arm 17.

At the front end of the attachment there is provided means for moving the frame in respect to the clamping block and about the pivot 20. This means includes an adjusting bolt 21, one end of which is pivoted to the clamping block and held against longitudinal movement in respect thereto, while the opposite end is threaded to cause a movement of the frame in respect to the clamping block when said bolt is rotated. As shown, the upper end of the bolt is in the form of a ball 22 of slightly larger diameter than the diameter of the body of the bolt and fitting against a seat 23 at the lower end of an aperture 24 extending into the block. Within the aperture is a screw 25 recessed upon its under surface to engage with the ball and movable within the recess to hold the ball against lateral or longitudinal movement but permitting of a rotation thereof. The screw 25 may be adjusted to take up wear on the ball and may be locked in position by a small set screw 26. The ball and its securing means permits a slight swinging of the bolt 21 about the

ball as a pivot, but positively prevents any longitudinal movement of the bolt.

The bolt extends through an opening 27 in the frame 11, adjacent the front end of the latter, and this aperture is somewhat larger than the bolt, so that the bolt may have a lateral movement within the aperture as the bolt and frame are moved in respect to each other. Within the aperture is a split roller nut 28, having a threaded aperture therethrough fitting the threads of the bolt 21 and capable of slight rotation but prevented against lateral or longitudinal movement. The nut 28 is formed of two halves and in engagement with one of them I mount a set screw 29, by the tightening of which the two halves may be forced so tightly against the bolt 21 as to prevent rotation of the latter.

In the use of my improved device, the clamping block is rigidly secured to the beam or bar 13 at any desired point along the length of the latter, and the disk 12 is adjusted to move it the desired distance from the coacting roller over which the material operated upon passes, so as to either cut the material into separate strips or to score it to the desired depth. To bring about this adjustment, the set screw 29 is loosened and the bolt 21 rotated to swing the cutter frame upon the pivot 20 as a center. There is absolutely no lost motion of the bolt 21 in respect to the clamping block or in respect to the split roller nut 28, and the latter closely fits a circular aperture in the frame. By rotating the bolt 21, the position of the disk may be adjusted with absolute accuracy and positively and permanently held in adjusted position. Even though the parts become greatly worn through long usage, the tightening of the screw 25 and of the screw 29, locks the parts against any accidental movement in respect to each other and prevents any lost motion.

The bolt 21 is at the opposite end of the frame from the pivot 20, and extends substantially tangentially of the path of movement of the outer end of the frame. The cutter disk comes intermediate the pivot 20 and the bolt 21, and the pivot 20 and the center of the disk are at approximately the same distance from the periphery of the roller. Thus in adjusting the position of the disk it moves at substantially right angles to the surface of the roller, and the point of engagement of the roller is substantially the same irrespective of variations in the size of the disk or its adjustment.

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

1. A paper cutting or scoring attachment, having in combination with two mem-

bers, one of which is adapted to be secured to a support and the other of which carries a cutting or scoring disk, means for adjusting the second-mentioned member in respect to the first-mentioned member, said means comprising pivotal connections between the two members at one side of the disk, and an adjusting bolt connecting the two members at the opposite side of the disk and extending substantially tangentially of the disk.

2. A paper cutting or scoring attachment having, in combination with two members, one of which is adapted to be secured to a support and the other of which carries a cutting or scoring disk, of means for adjusting the second-mentioned member in respect to the first-mentioned member, said means comprising pivotal connections between the two members at one side of the disk, an adjusting bolt rotatable in respect to both members and having the upper end thereof held against longitudinal movement in respect to the first-mentioned member, and a member threaded to said bolt and carried by the second-mentioned member and movable in respect thereto.

3. In combination, two members, one of said members comprising a clamping block and the other of said members comprising a disk-carrying frame, an adjusting bolt having one end thereof pivotally connected to one of said members and held from longitudinal movement in respect thereto, and a roller nut threaded on said bolt and rotatable but otherwise held against movement in respect to the other member.

4. In combination, two members, one of said members comprising a clamping block and the other of said members comprising a disk-carrying frame, one of said members having an opening therethrough presenting a seat adjacent one end thereto and the other of said members having an opening therethrough, an adjusting bolt extending through the opening of the second-mentioned member and having an enlarged substantially spherical head held in engagement with the seat of the first-mentioned member, and a roller nut having threaded engagement within said bolt and extending transversely of the opening of the second-mentioned member and rotatable in respect to said member.

5. In combination, two members, one of said members comprising a clamping block and the other of said members comprising a disk-carrying frame, one of said members having an opening therethrough presenting a seat adjacent one end thereof and the other of said members having an opening therethrough, an adjusting bolt extending through the opening of the second-mentioned member and having an enlarged substantially spherical head held in engage-

ment with the seat of the first-mentioned member, a split roller nut having threaded engagement within said bolt and extending transversely of the opening of the second-
5 mentioned member and rotatable in respect to said member, and means for locking said split roller nut against rotation.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL M. LANGSTON.

Witnesses:

ROBERT JENNETT,
B. E. MARSH.