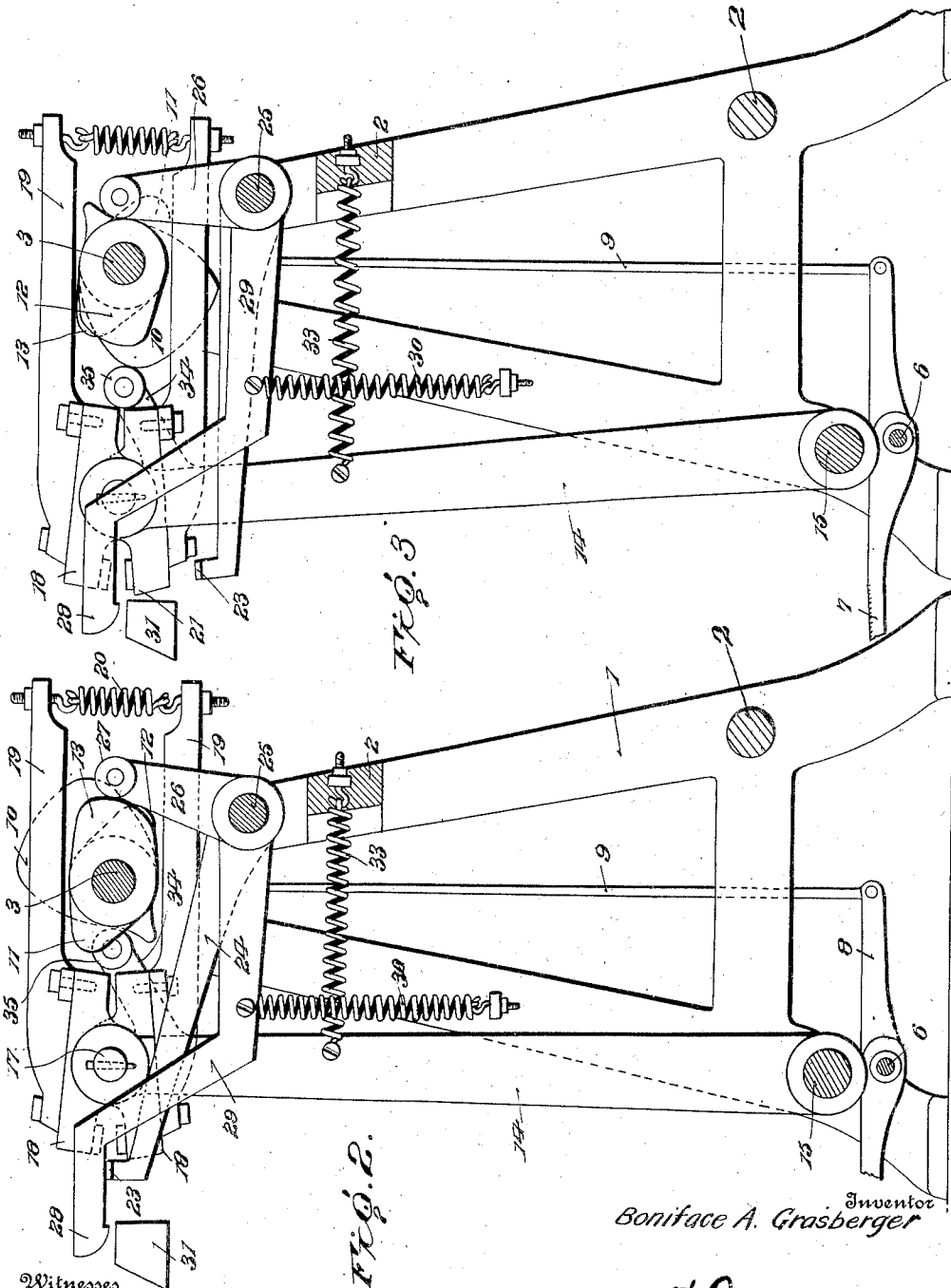


No. 874,184.

PATENTED DEC. 17, 1907.

B. A. GRASBERGER.
CLAMP SETTING MACHINE.
APPLICATION FILED MAY 7, 1907.

3 SHEETS—SHEET 2.



Witnesses

J. M. ...
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Boniface A. Grasberger Inventor

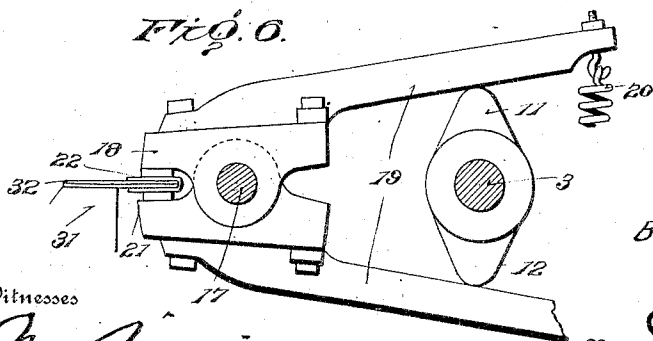
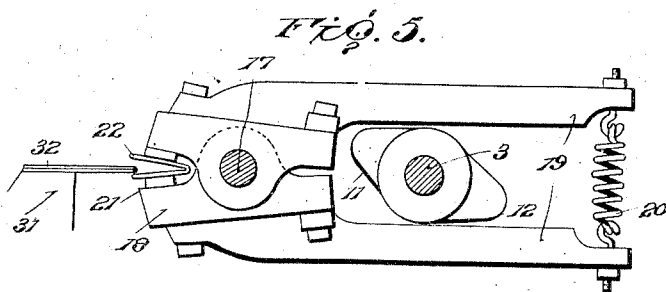
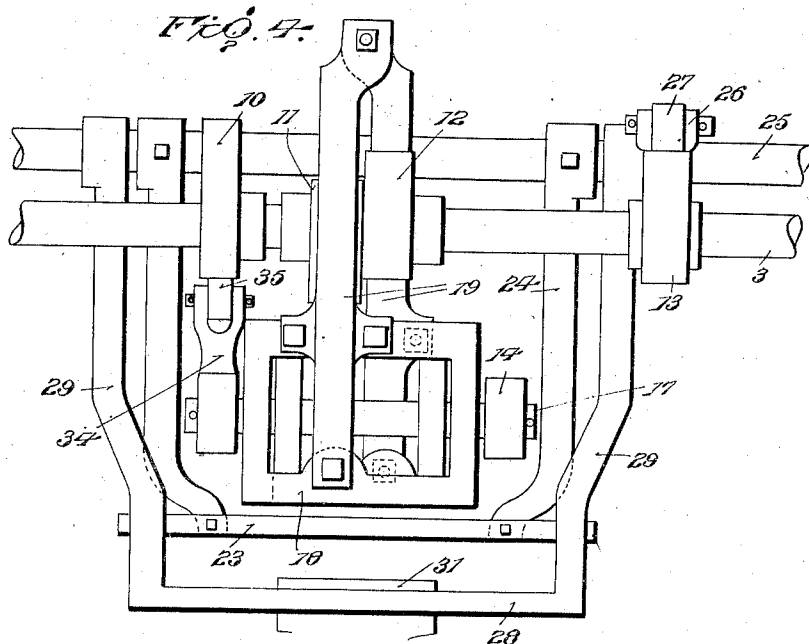
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UNITED STATES PATENT OFFICE.

BONIFACE A. GRASBERGER, OF RICHMOND, VIRGINIA.

CLAMP-SETTING MACHINE.

No. 874,184.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed May 7, 1907. Serial No. 372,350.

To all whom it may concern:

Be it known that I, BONIFACE A. GRASBERGER, citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Clamp-Setting Machines, of which the following is a specification.

The present invention appertains to machinery for applying metallic binding strips to sundry articles, the primary purpose being to devise a machine for fitting metallic binders to edge portions of dishes and kindred receptacles used for receiving butter, lard, preserves and like goods and which dishes or receptacles are formed of a blank bent into shape and have folded portions, the latter being secured by the binding means.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a front view of a clamp setting machine embodying the invention. Fig. 2 is a transverse section on the lines 2—2 of Fig. 1 looking to the left and showing the position of the parts preliminary to starting of the machine. Fig. 3 is a view similar to Fig. 2 showing the relation of the parts after the binding strip has been bent and fitted to the article and preliminary to clamping the same. Fig. 4 is a top plan view of the machine, parts being broken away. Fig. 5 is a detail view of the clamping jaws, their actuating means and the binder held between the jaws after being bent. Fig. 6 is a view of the parts shown in Fig. 5 illustrating the operation of the clamping jaws in setting the binding strip.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The machine comprises a suitable framework for supporting the operating parts, said framework embodying standards 1 and connecting pieces 2. A drive shaft 3 is mounted

in bearings forming a part of the frame-work and is adapted to be intermittently driven being thrown into gear by a suitable starting mechanism and automatically thrown out of gear at each complete revolution. A drive pulley 4 is loose upon the drive shaft and is adapted to be continuously driven from a suitable source of power. A sleeve 5 is keyed to the drive shaft and is adapted to make clutched engagement with the drive pulley and to be automatically thrown out of clutched engagement at each complete revolution of the drive shaft. The drive shaft is thrown into gear for starting the machine by means of a treadle mechanism which embodies a shaft 6, treadle 7, crank 8 and connection 9, the latter engaging with the clutch sleeve 5 to effect movement thereof to throw the same into engagement with the drive pulley upon operating the treadle 7. Cams 10, 11, 12 and 13 are fast to the drive shaft 3 so as to rotate therewith and each performs a special office in the operation of the machine as will be apparent from the subjoined description.

A frame 14 is mounted to swing and normally occupies an approximately vertical position and carries the clamping jaws at its upper end and is pivotally mounted at its lower end. A shaft or rod 15 is supported at or near its ends near the lower ends of the standards 1 and receives the frame 14 which is mounted thereon and secured in an adjusted position by means of set screws 16. A rod or shaft 17 is supported in the upper portion of the frame 14 and the clamping jaws are mounted thereon. The clamping jaws are of similar formation and comprise frames 18 and levers 19, the latter being by preference bolted to the frames and arranged so as to clear each other and avoid interference with the respective cams 11 and 12. The clamping jaws are mounted upon the rod or shaft 17 and the rear ends of the levers 19 are deflected laterally towards each other so as to come in a vertical line and thereby admit of direct inward pull being exerted thereon by means of a spring 20 which normally tends to draw the rear ends of the levers 19 together and hold the jaws separated. The cam 11 is arranged in the plane of the lever of the upper clamping jaw, whereas the cam 12 is arranged in the plane of the lever of the lower clamping jaw. The lower clamping jaw has a projection 21 adapted to form a support for the binder 22 when placed in

position preliminary to the operation of the machine.

The bending blade 23 is supported by means of arms 24 which are secured to a shaft 25 mounted in bearings of the framework. An arm 26 secured to the shaft 25 projects in the path of the cam 13 to be actuated thereby to normally hold the bending blade in proper position for folding the binding strip 22 as indicated in Fig. 2. An anti-friction roller 27 applied to the end of the arm 26 reduces the friction between said arm and the cam 13 to the smallest amount possible. An article holder is loosely mounted upon the shaft 25 and comprises a pressure bar 28 and arms 29, the latter being mounted upon the shaft 25. The bending blade when elevated or in normal position engages with the article holder and lifts the same clear of the article, but when the bending blade drops out of the way, the article holder is drawn downward by means of a spring 30 interposed between it and the main framework, thereby bringing the pressure bar 28 in firm engagement with the article, whereby it is retained in proper position.

The article support 31 may be of any form and is arranged beneath the pressure bar 28 of the article holder so as to secure the article 32 when placed in position thereon. In the event of the article being a dish formed of sheet material such as veneer or paper, the folds of the blank resulting from shaping the same are confined between the support 31 and the pressure bar 28, and when the bending blade drops out of the way and the spring 30 comes into play, the pressure bar is drawn downward with such force as to compress the folds and admit of the binder passing readily thereover.

The swinging frame 14 carrying the clamping jaws is drawn rearward by means of springs 33 which are interposed between the standards 1 and the members of the swinging frame. An arm 34 projected rearward from the upper portion of the swinging frame is adapted to cooperate with the cam 10 to control the movements of the swinging frame and the proper advance and retraction of the clamping jaws. The arm 34 is provided with an anti-friction roller 35 which makes direct connection with the cam 10.

In the operation of the machine, the article 32 is placed upon the support 31 between the latter and the pressure bar 28 of the article holder after which the machine is started by operating the treadle mechanism to throw the clutch in gear. Preliminary to starting the machine, the binding strip 22 is placed in position between the bending blade 23 and the front ends of the clamping jaws. As the drive shaft 3 begins to rotate, a portion of the cam 10 exerts a forward pressure upon the arm 34 and swings the upper end of the frame 14 forward, carrying with it the

clamping jaws, and the latter coming in contact with edge portions of the binding strip 22 above and below the bending blade 23, fold said strip about the bending blade, and after the strip has been bent, the projecting portion of the cam 10 clears the arm 34 and permits the upper portion of the frame 14 to be drawn rearward, the bent strip held between the clamping jaws being moved rearward and clearing the bending blade. At this time, the cam 13 clears the arm 26 and permits the bending blade to drop as indicated in Fig. 3, said bending blade being moved downward out of the way by gravity as well as by the action of the downward pull of the springs 30 upon the article holder. As the bending blade drops and releases the article holder, the pressure bar 28 thereof grips the article 32 and prevents displacement thereof during the application of the binder thereto. As soon as the bending blade drops out of the way of the clamping jaws, the latter are advanced by the action of the cam 10 which exerts a forward pressure on the arm 34, thereby swinging the upper end of the frame 14 forward with the result that the binder slips upon the projecting edge of the article as indicated in Fig. 3. After the frame 14 advances the clamping jaws to the limit of their forward movement, the cams 11 and 12 come into play and move the levers 19 of the clamping jaws apart, thereby closing said jaws and setting the binder or clenching the same upon opposite sides of the article. To prevent possible displacement of the binding strip when set, the jaws may be roughened, fluted or otherwise formed to indent opposite portions of the binder and cause the same to positively interlock with the article so that the binder cannot be withdrawn or stripped from the article. After the clamping jaws have been pressed together and released, they are separated by the action of the spring 20 and an instant later, the arm 34 is released from forward pressure of the cam 10 and is drawn rearward by the action of the springs 33 and when the drive shaft has made a complete revolution, it is automatically thrown out of gear by the shipping of the clutch sleeve 5 and the parts returned to normal position preliminary to a repetition of the operation in the application of the next binding strip.

The opposing portions of the pulley 4 and clutch sleeve 5 are provided with teeth or clutch elements which when in engagement cause the parts to rotate together. A spring 35 mounted upon the shaft 3 and interposed between the clutch sleeve and the proximal standard normally exerts a pressure upon said clutch sleeve to force it outward towards the pulley 4. A cam 36 is formed on the side of the clutch sleeve facing the pulley 4 and is adapted to be engaged by a stop at the outer end of a pivoted hook 37 to which the

upper end of the rod or bar 9 is connected. As shown in Fig. 1, the stop at the outer end of the hook 37 is in engagement with the cam 36 and holds the clutch sleeve away from the pulley, thereby compressing the spring 35. Upon depressing the treadle 7, the hook 37 is thrown upward at its free end, thereby releasing the clutch sleeve 5 which is thrown outward into clutched engagement with the pulley 4 by means of the spring 35. When pressure is removed from the treadle 7, the hook 37 moves downward at its outer or free end to project its stop into the path of the cam 36, and when the shaft completes its revolution the clutch sleeve is moved inward or away from the pulley 4, thereby throwing the machine out of gear.

Having thus described the invention, what is claimed as new is:

1. In a machine for applying a binder to an article, the combination of an article support, an article holder cooperating therewith to secure the article, a bending blade arranged in the path of the article holder to support the same, means for bending and setting the binder, and means to admit of the bending blade clearing the binder setting mechanism in advance of the operation thereof and releasing the article holder, whereby the same may secure the article substantially as set forth.

2. In a machine of the character specified, the combination of an article support, an article holder adapted to cooperate therewith, a bending blade adapted to hold the article holder away from the article support, means for sustaining the bending blade in operative position, a mechanism for bending and setting the binder, the bending blade clearing the binder setting mechanism immediately after the bending of the binder and preliminary to the application and setting of the same.

3. In a machine of the character specified, the combination of a bending blade, clamping jaws, means for advancing the clamping jaws to effect a bending of the binding strip about the said bending blade, other means for retracting the clamping jaws and permitting the bending blade to clear the same,

means for again advancing the clamping jaws to apply the folded binding strip to the article, and means for actuating the jaws to clamp the binding strip upon the article and set or fix the position thereof.

4. In a machine of the character set forth, the combination of a bending blade, a movable support, clamping jaws mounted on said movable support, operating means for said movable support to advance the clamping jaws to effect a folding of the binding strip about the bending blade, other means for operating said movable support for retracting the clamping jaws, means for again advancing the clamping jaws to apply the binding strip to the article, and actuating means for the clamping jaws to effect a setting or clamping of the binding strip upon the article.

5. In a machine of the character set forth, the combination of a swinging frame, a bending blade, clamping jaws carried by said swinging frame, a drive shaft, and independent cams upon the drive shaft for actuating the swinging frame and the said clamping jaws.

6. In combination, a swinging frame, clamping jaws mounted thereon, a bending blade, a drive shaft, and a series of cams fitted to said drive shaft, one for actuating the swinging frame, another for operating the bending blade, and separate ones for the respective clamping jaws.

7. In a machine of the character set forth, the combination of an article support, an article holder adapted to cooperate therewith, a bending blade adapted to hold said article holder away from the article support, a swinging frame, clamping jaws mounted upon said frame, a drive shaft, and a series of cams fitted to said drive shaft and adapted to cooperate with the bending blade, swinging frame and clamping jaws in the manner substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

BONIFACE A. GRASBERGER. [L. s.]

Witnesses:

E. G. SCOFFIN,
GEO. C. GREGORY.