

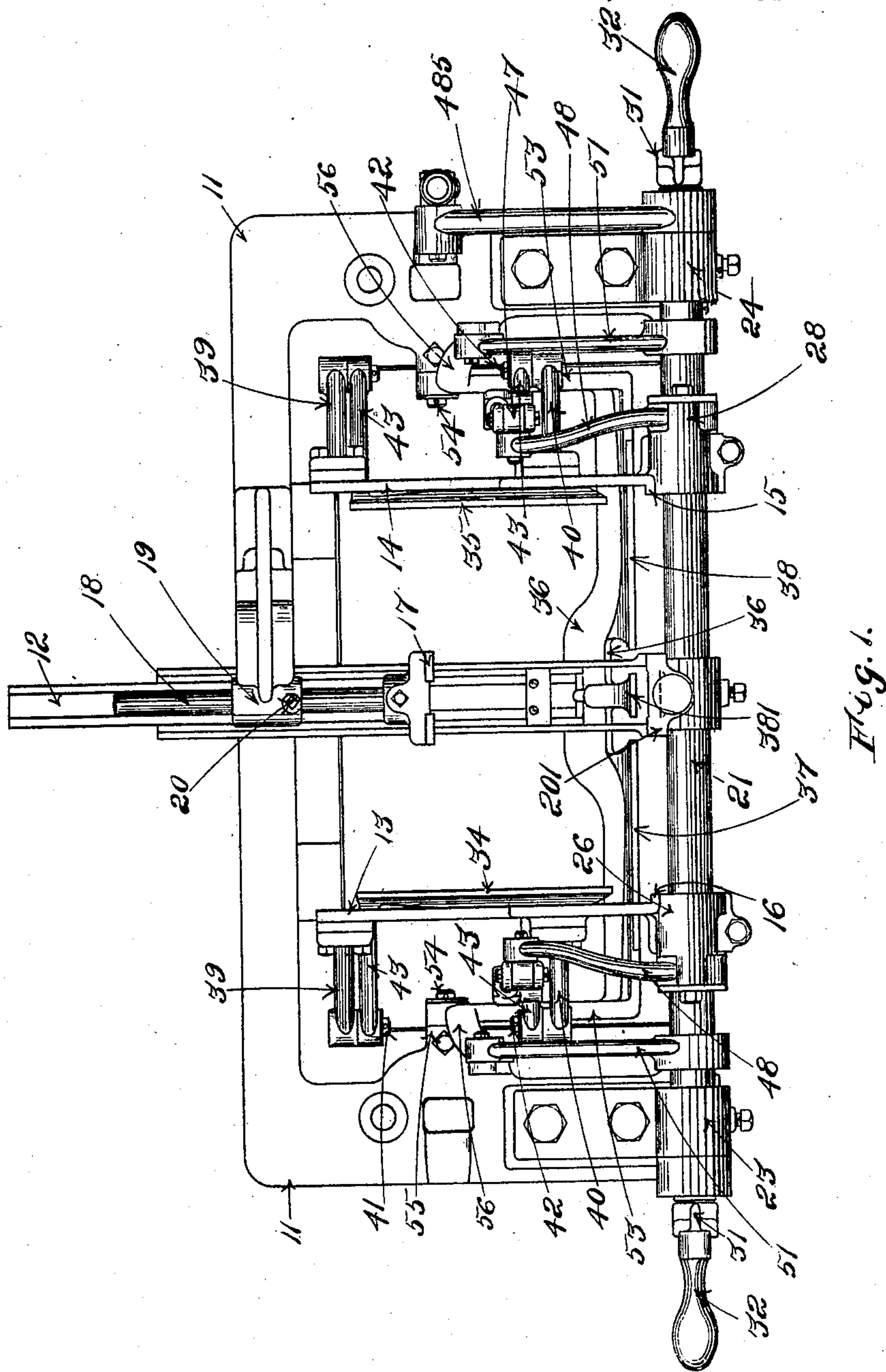
No. 862,031.

PATENTED JULY 30, 1907.

E. H. TAYLOR.
PASTER FOR PAPER BOX MACHINES.

APPLICATION FILED MAY 17, 1906.

3 SHEETS—SHEET 1.



Witnesses:
Alvin Tarr
John H. Parker

Inventor:
Eugene H. Taylor
by Macdonald, Calver, Copeland & Dike,
Attorneys.

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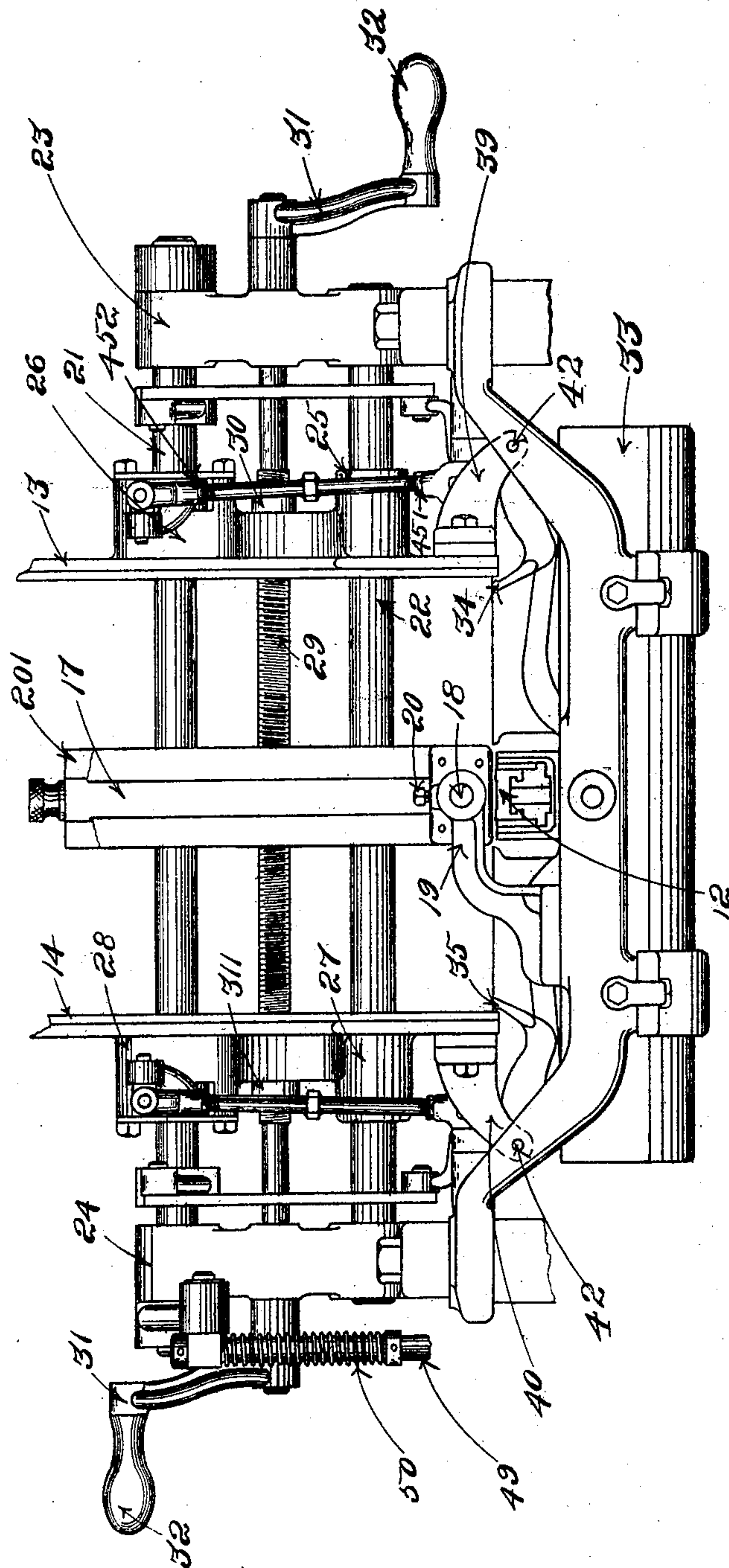


Fig. 2.

Witnesses:
Calvin Farr
John H. Parker

Inventor:
Eugene H. Taylor
by Machod, Calver, Copeland & Dike,
Attorneys.

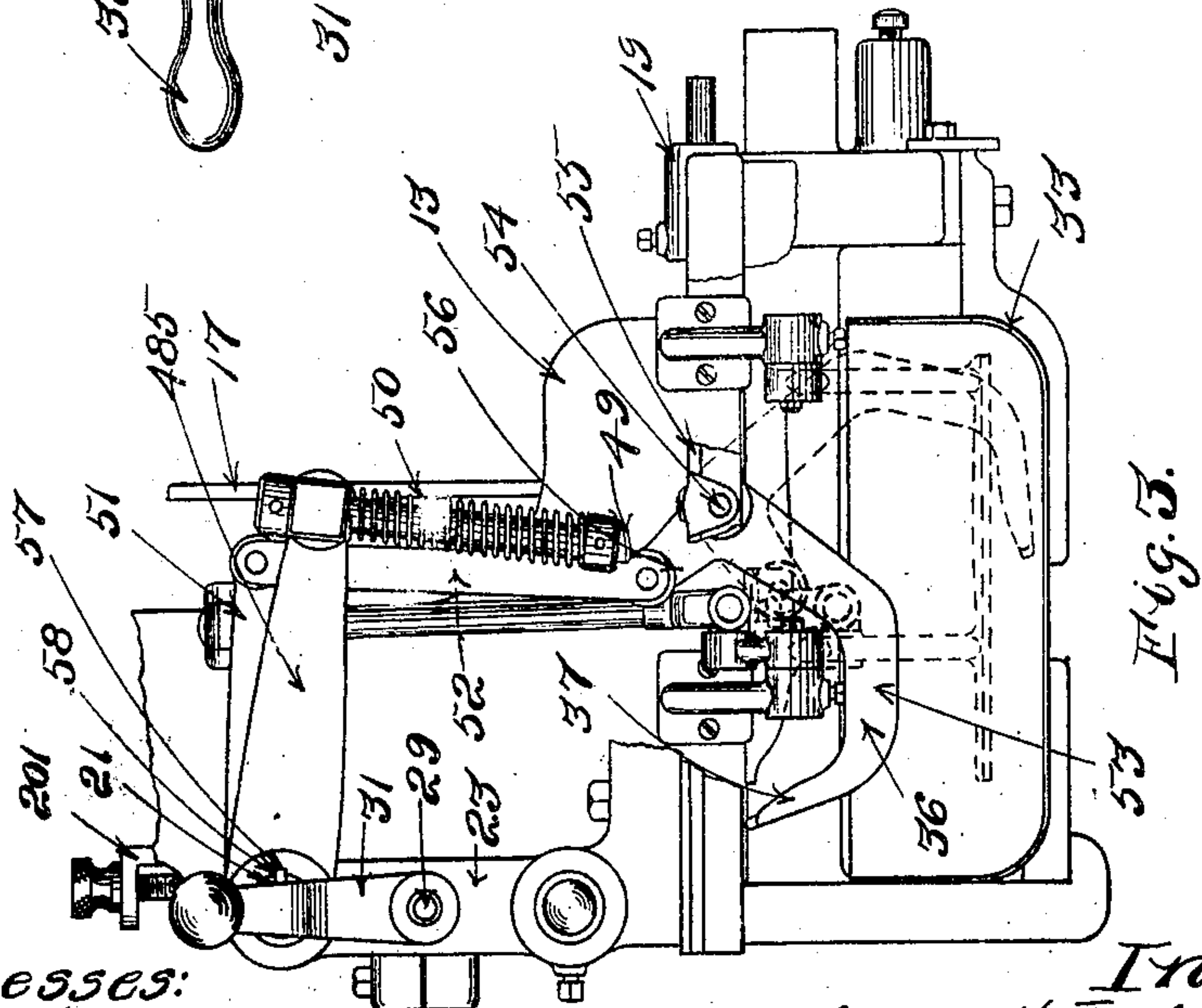
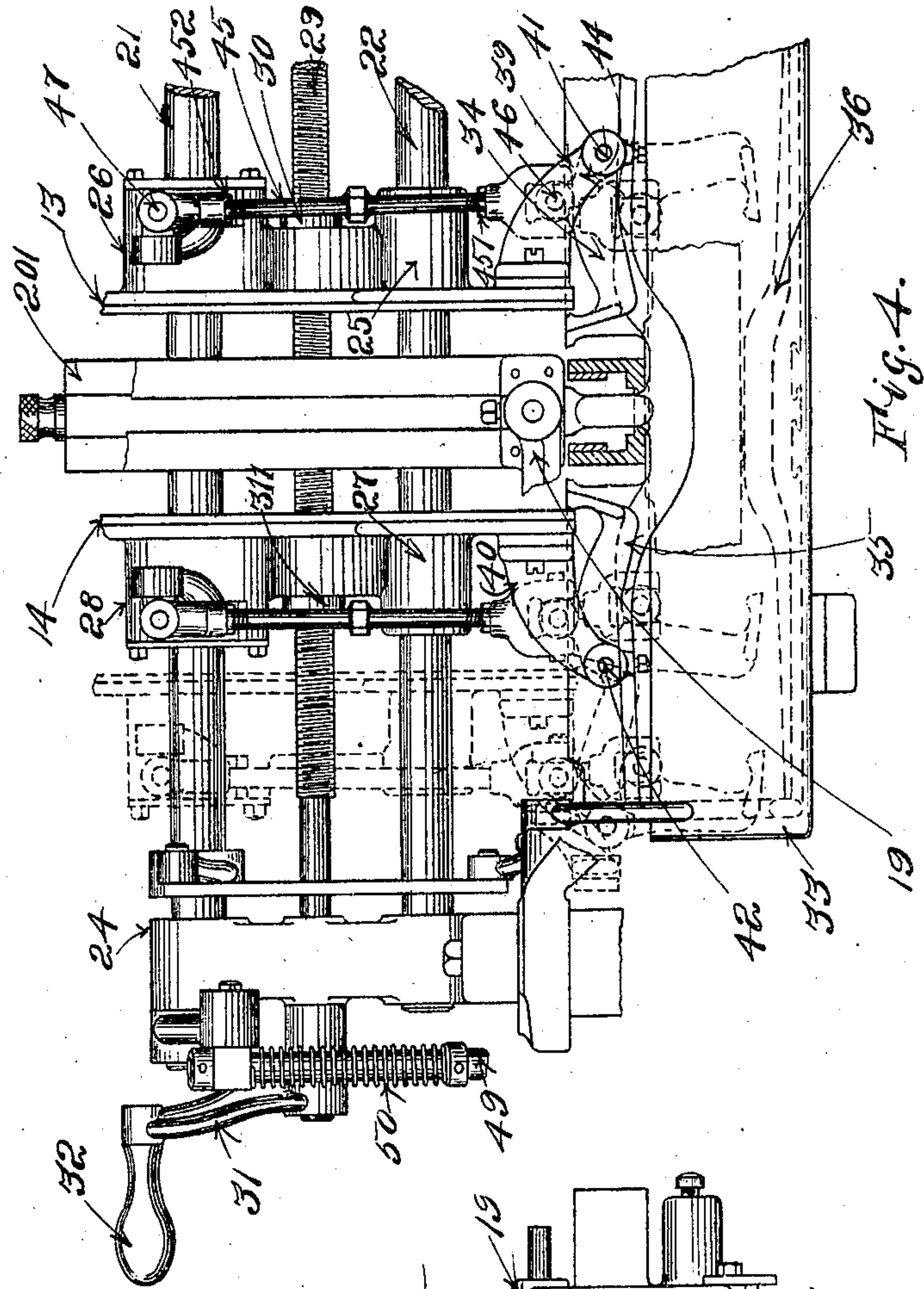
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Attorneys.

UNITED STATES PATENT OFFICE.

EUGENE H. TAYLOR, OF HYDE PARK, MASSACHUSETTS.

PASTER FOR PAPER-BOX MACHINES.

No. 862,031.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed May 17, 1906. Serial No. 317,607.

To all whom it may concern:

Be it known that I, EUGENE H. TAYLOR, a citizen of the United States, residing at Hyde Park, county of Norfolk, State of Massachusetts, have invented a certain new and useful Improvement in Pastors for Paper-Box Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to machines for the manufacture of paper boxes, and particularly to those machines known as box-ending or end-setting machines, which are employed to attach end blanks to the inturned flanges of a folded body blank. A machine of this kind is shown in my previous patent 590,652, dated September 28, 1897.

My present invention has for its object to provide a new and improved mechanism for the application of paste to the proper portions of the end blanks before they are fed forward to the pressing mechanism and are attached to the flanges of the folded body blank.

While I have described the invention in connection with an end-setting machine, I believe my improved paster to be equally applicable to other varieties of machines which require pasters.

The invention will be fully understood from the following specification taken in connection with the accompanying drawings, and the novel features thereof will be pointed out and clearly defined in the claims at the close of the specification.

In the drawings,—Figure 1 is a plan view of the portion of the head of an end-setting machine embodying my invention. Fig. 2 is a back elevation of this portion of the machine shown in Fig. 1. Fig. 3 is a side elevation of this portion of the machine. Fig. 4 is a view in elevation of the portion of the machine shown at the left hand end of Fig. 2, showing the manner of adjusting the parts for different sizes of boxes, and the movements of the pasters, certain parts being broken away for clearness of illustration.

Referring to the drawings,—at 11, there is shown the table or head of the machine, upon which the parts embodying the present invention are supported. The feeder or carrier, by means of which the end blank is transferred from the pasting position to the pressing position is designated 12. The end blanks to be attached to the body blanks are placed in a pile in the hopper which is composed of two side walls 13 and 14, which are slightly curved, as shown at 15 and 16, the back piece or back wall 17 which is mounted on a rod 18 and is slidable in a bracket 19 on the table 11, and a gate or front wall 20 of well-known construction which also prevents more than one end blank being fed forward at a time. A set screw 20 serves to fix the said back wall in the desired position. A pair of guide rods 21 and 22, one of which also acts as a rock shaft, as will be later described, supported on brackets 23 and 24 on

the table 11 of the machine serve to support the two side walls 13 and 14 of the hopper and permit them to slide sidewise in bored bosses 25, 26, 27 and 28 forming a part of said side walls 13 and 14 of the hopper. The two side walls 13 and 14 of the hopper and attached parts may be adjusted sidewise by means of a right and left screw 29 supported in the said brackets 23 and 24 and acting upon tapped nuts 30 and 31 in the said side walls 13 and 14. At each end of the right and left screw 29 is provided a crank 31 and handle 32 by means of which the said right and left screw 29 may be rotated from either side of the machine and the side walls of the hopper thus drawn together or separated, as is desired. The upper guide rod or shaft 21 is splined for a portion of its length, but is free to rotate in its bearings in the brackets 23 and 24 and serves to operate the pasters, as will be hereinafter described, while at the same time it serves to guide the side walls 13 and 14 of the hopper in their sidewise movement. The pitch of the two parts of the right and left screw 29 is the same, and consequently the movement of the said side walls caused by the rotation of the said right and left screw in each direction is the same and uniform.

Beneath the table 11 and supported in any suitable manner is a paste pan 33 in which is contained the paste to be applied to the margins of the end blanks by means of the movable pasters and operating mechanism therefor which will now be described.

The various elements thus far described in this specification are old and well-known to those skilled in the art, and form no part of my invention except in so far as they are elements in new combinations.

As is well-known to those skilled in the art, paste is required to be applied to three edges of the end blank, that is, to the two side edges and the bottom edge which is the front edge of the end blank when the end blank is in the hopper and the machine is viewed as in Fig. 1. The paste is applied to the proper marginal portions of the end blank by a pair of side pasters 34 and 35 and by a long front paster 36 whose paste applying edge is broken into three sections 37, 38 and 38¹, so that it does not interfere with the operation of the feeder or carrier 12. The said front paster 36 is arranged so that it may extend beyond the side edges of the end blank when the machine is being used for end blanks of small size while at the same time the two side pasters 34 and 35 extend rearwardly a sufficient distance for the largest blank which will be used.

Attached to the lower portion of each of the side walls 13 and 14 of the hopper are a pair of brackets 39 and 40 to which are pivoted at 41 and 42 the side pasters 34 and 35. These side pasters consist of the long bevel edged portions seen in Figs. 1 and 2 which apply the paste to the marginal portions of the end blank and a pair of arms 43 upon which the paster swings about the pivots

41 and 42 said pivots 41 and 42 being located outside the margin of the box blank to be pasted. On one of the arms is formed a projection or lug 44 to which is connected a pitman rod 45 by means of a universal joint 46.

5 The upper end of the said pitman rod is connected by a second joint 47 to the rearwardly extending arm 48 which is fast to the shaft 21 previously described as one of the guide rods upon which the two side walls of the hopper slide. The said pitman rod 45 is made slightly adjustable in length by means of right and left screw threads formed at each end. Check nuts 451 and 452 serve to maintain the parts in place after they have been adjusted. At the right hand end of the machine as seen in Fig. 1, the rock shaft 21 is provided with a rearwardly extending arm 485 to which is connected the upper end of the paster-operating connecting rod 49, part of which is seen in Figs. 2, 3, and 4. The upper end of this paster-operating connecting rod 49 is provided with the usual cushion 50 and its lower end is connected to a moving part of the machine, so that the rock shaft 21 and the pasters 34 and 35 are given an oscillation for each stroke of the machine, each oscillation of the said pasters serving to apply paste to the side and front edges of a single end blank.

25 While in the foregoing description I have explained the mode of operation and the construction of one of the side pasters only, it is obvious that both side pasters are operated in the same manner and simultaneously, the elements for operating the other paster being duplicated on the other side of the machine.

30 The front paster 36 (see particularly Figs. 1 and 3) is operated from the said rock shaft 21 by a pair of arms 51 fast thereon, and is provided at each end with rearwardly extending arms 53 which carry the paste applying portions 37, 38 and 381. These rearwardly extending arms 53 are pivoted at 54 to lugs 55 on the table 11 of the machine, and are each provided with an upwardly extending arm 56 to which is pivotally connected the lower end of the connecting link 52, to the upper end of which is connected the rear end of the rearwardly extending arm 51 on the rock shaft 21.

40 It will be seen from the foregoing that the oscillatory movement of the rock shaft 21 which causes the pasters 34 to contact with the marginal portions of the sides of the end blank also causes the front paster 36 to contact with the front marginal portion of the said end blank.

45 The arms 48 which operate the side pasters are mounted on the bosses 26 upon which the sides of the hoppers slide on the rock shaft 21 and the rock shaft 21 is provided with a spline or feather 57 which engages a corresponding groove 58 in the arms 48 which cause the arms 48 to oscillate with the rock shaft 21, but permit lateral movement of the said arms 48 upon the said rock shaft 21. The arms 48 and 51 which operate the side and front pasters respectively are of different lengths so proportioned that the said pasters contact with the end blanks simultaneously. It will be seen from Fig. 1 that the front ends of the side pasters 34 and 35 do not extend forward far enough to interfere with the operation of the front paster 36. The radial distance from its center of the paste applying edge of the front paster 36 is somewhat greater than the corresponding distance on the side pasters. This arrangement permits the paste applying surfaces of the end paster and side paster to be nearer together at the front corners, at the in-

stant when they are in contact with the under side of the box blank, because the side paster swinging in an arc of less radius than the end paster will not collide with the end of the end paster at the point where the end paster extends beyond the side paster. The front paster goes very close to the bottom of the paste pan at the extreme of its stroke, thus insuring that paster gets a suitable amount of paste even when the paste in the pan is low. This is accomplished by the peculiar form of the pasters, one portion of which is bent at an angle with the remainder of the paster, so that in end view the paster is somewhat L-shaped. The said paster is pivoted at a height above the bottom of the paste pan greater than the distance from the center of the pivot 54 to the extreme edge of the arm at the point where it is bent at an angle, see Fig. 3, so that the extreme edge of the angle swings clear of the bottom of the pan as shown in dotted lines and the paste applying edge goes substantially to the bottom of the pan.

It will also be clear that since the operating mechanism for the side pasters and the side pasters themselves are mounted upon the sides of the hopper, the said side pasters are adjustable sidewise with the said sides of the hopper and constantly maintain the same relation thereto, so that the line of paste is always applied to the box blank at the same distance from its edge.

What I claim is:

1. The improved pasting mechanism comprising hopper side walls movable sidewise, side pasters, an end paster, a pivot for the said side pasters parallel to the said side walls, and a pivot for the end paster at right angles to the said side walls.
2. The improved pasting mechanism comprising side pasters located outside the margin of the box blank to be pasted, and an end paster pivoted back of the front line of said margin.
3. The improved pasting mechanism comprising hopper side walls, movable side pasters pivoted to said hopper side walls and movable therewith, said side pasters being located outside the margin of the box blank to be pasted, and a pivoted end paster the paste applying portion of which extends beyond the said side pasters.
4. The improved pasting mechanism comprising hopper side walls movable sidewise, pivoted side pasters carried by said side walls, a pivoted end paster for the front line of the margin of the box blank to be pasted extending beyond the lines of paste applied by the side pasters, the radius of the path of movement of the side pasters being less than the corresponding radius of the end paster.
5. The improved pasting mechanism comprising a paste pan, and a pivoted paster composed of a paste applying surface and an arm bent at an angle, the said paster being pivoted at a distance above the bottom of the pan greater than the distance from the center of the pivot to the extreme edge of the arm at the said angle whereby the paste applying surface of the paster is permitted to take paste from the very bottom of the pan.
6. The improved paster for box machines, comprising a pair of hopper sides movable sidewise, side pasters, pivots therefor carried on the said side walls and parallel therewith, and operating means for the said pasters, comprising a splined rock shaft, arms slidable lengthwise of the said splined rock shaft and connecting means between the said splined rock shaft and the said pasters, so that the pasters and operating means therefor are adjustable sidewise with the said hopper sides.
7. The improved paster for box machines, comprising hopper sides movable sidewise, side pasters, pivots therefor parallel with the said side walls, a front paster pivotally mounted on the frame of the machine, a pivot therefor parallel with the line of motion of the hopper sides, and operating means for said side and front pasters, comprising a splined rock shaft, one of its arms being connected with the front paster and two other arms being

connected with the said side pasters, said last two mentioned arms being movable sidewise with the hopper sides on the said splined rock shaft.

5 8. The improved paster for box machines comprising
hopper sides movable sidewise, side pasters pivotally
mounted thereon, a front paster pivotally mounted on the
frame of the machine, a splined rock shaft to operate the
said pasters, one arm of the said splined rock shaft being
10 connected with the said front paster, two other arms of
the said splined rock shaft being connected with the said

side pasters, said last two mentioned arms and pasters being movable sidewise with said hopper sides on the said splined rock shaft, and a right and left screw to move the said hopper sides and parts supported thereon.

In testimony whereof I affix my signature, in presence 15
of two witnesses.

EUGENE H. TAYLOR.

Witnesses:

GEORGE P. DIKE,
J. HENRY PARKER.