

A. J. CHESSON.
BUNDLE FORMING MACHINE.
APPLICATION FILED AUG 13, 1908.

920,541.

Patented May 4, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

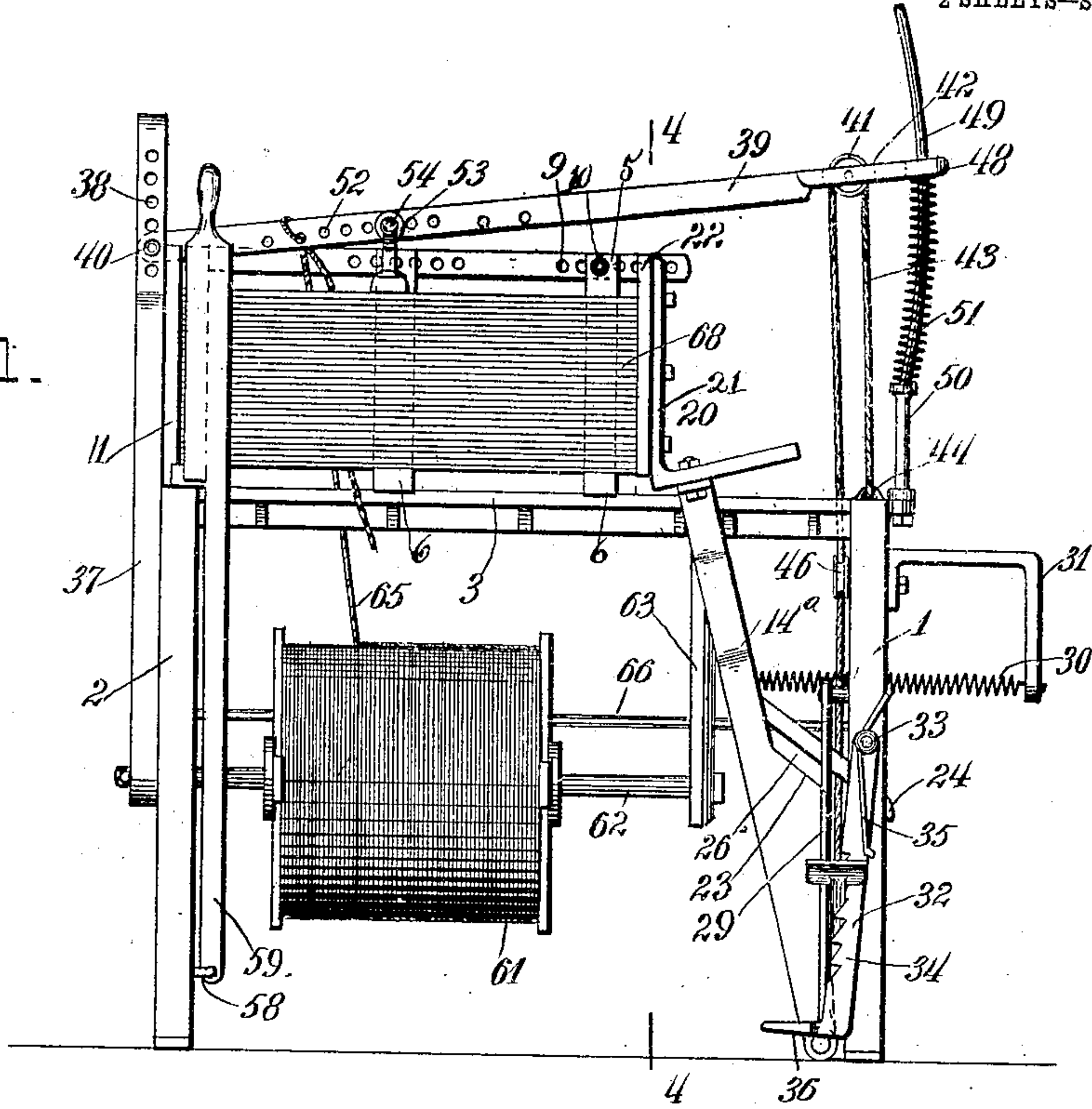
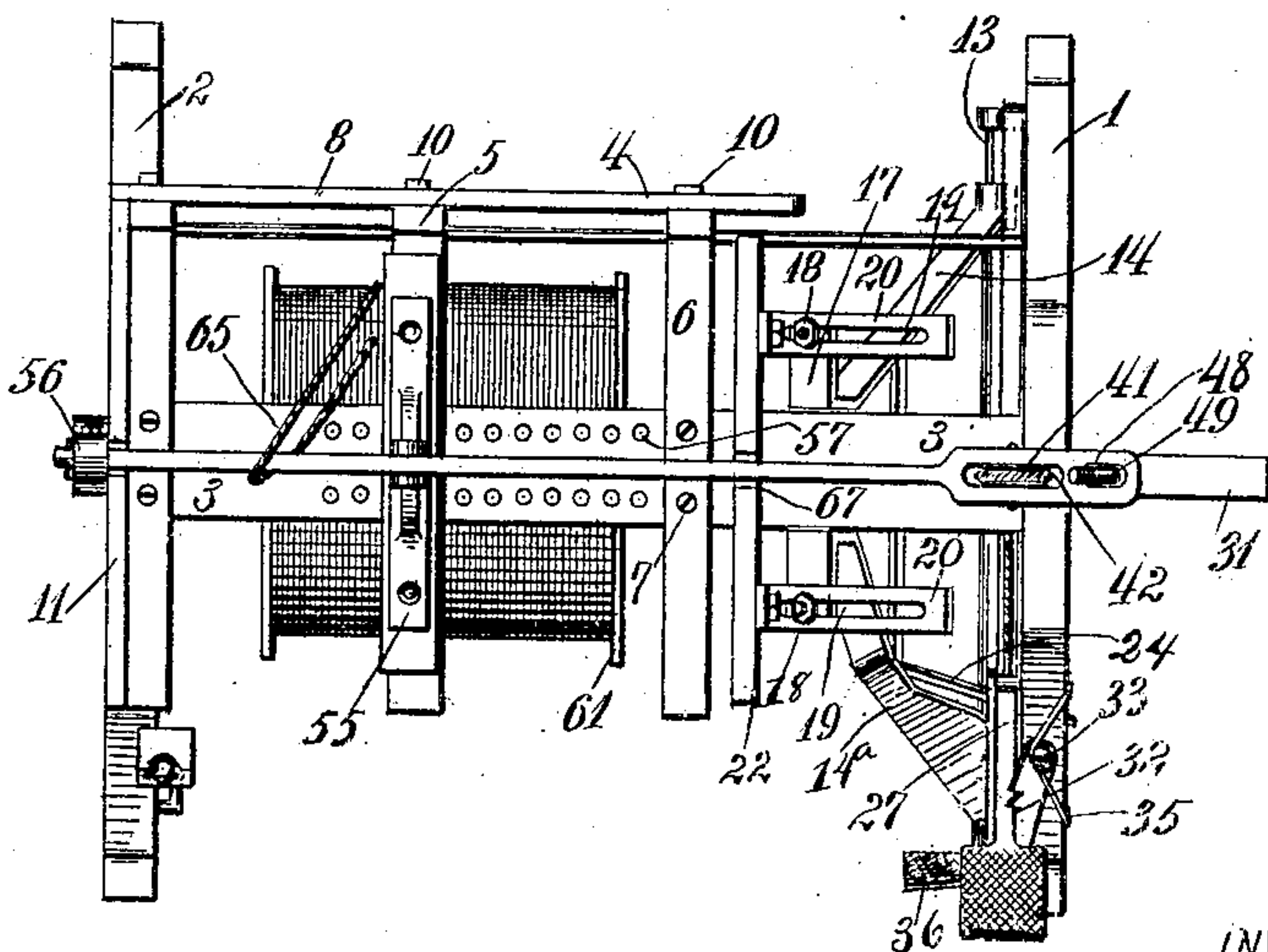


Fig. 2.



WITNESSES

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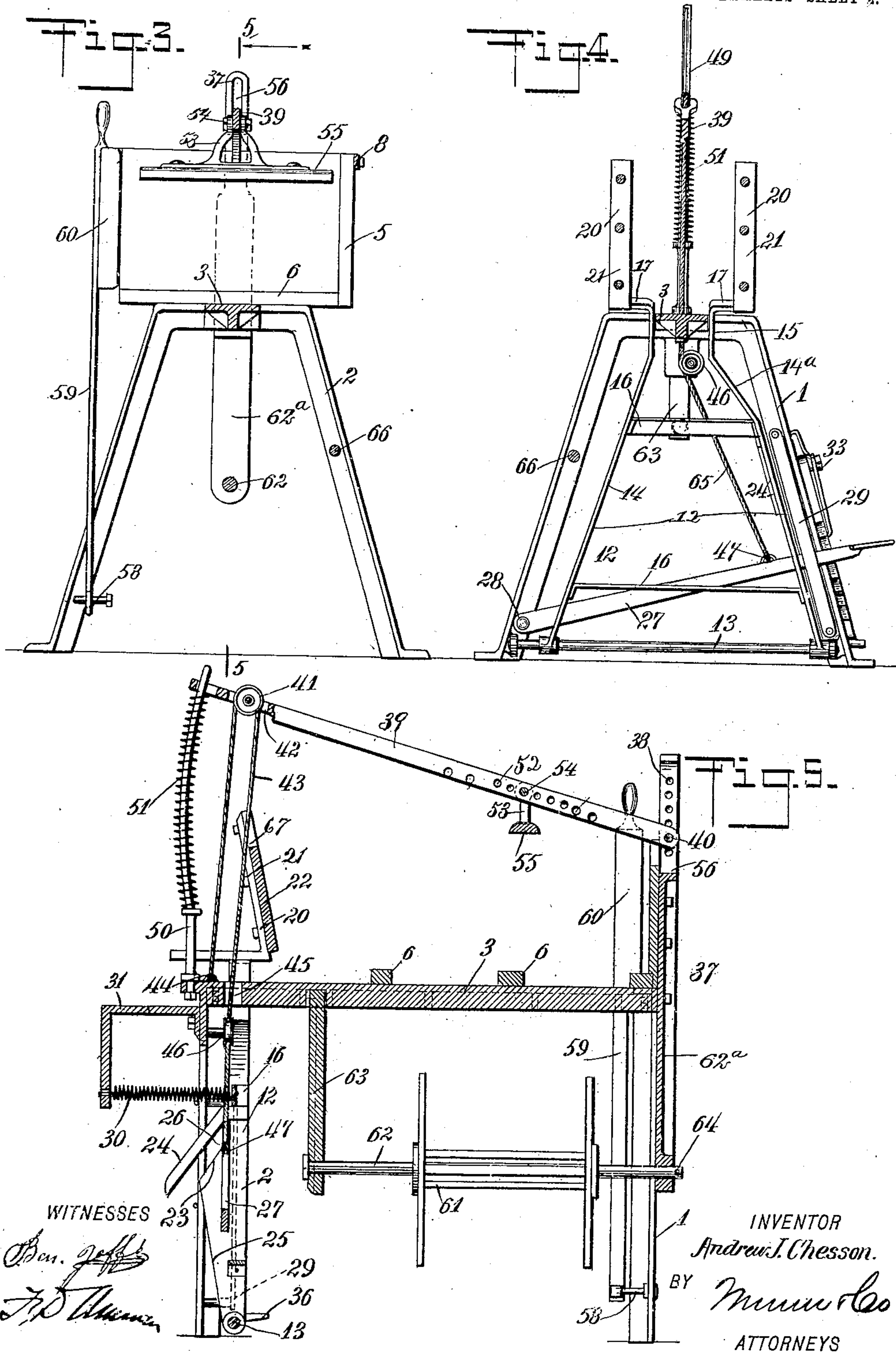
ATTORNEYS

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UNITED STATES PATENT OFFICE.

ANDREW JACKSON CHESSON, OF SUFFOLK, VIRGINIA.

BUNDLE-FORMING MACHINE.

No. 920,541.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed August 13, 1908. Serial No. 448,348.

To all whom it may concern:

Be it known that I, ANDREW JACKSON CHESSON, a citizen of the United States, and a resident of Suffolk, in the county of Nansemond and State of Virginia, have invented a new and Improved Bundle-Forming Machine, of which the following is a full, clear, and exact description.

This invention relates to a machine, the purpose of which is to facilitate the forming of bundles or packages of boards of short lengths, or similar articles. The machine facilitates the forming of the bundle by providing a bed upon which the articles are laid, and the device includes means for bringing the different articles or members which form the bundle into alinement longitudinally and transversely.

The object of the invention is to produce a simple device for the purpose stated.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

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.

Figure 1 is a side elevation of a machine constructed according to my invention; Fig. 2 is a plan of the machine; Fig. 3 is a cross section through the machine taken near its middle point and looking toward the left end of the machine as seen in Fig. 1, in this view the reel is omitted; Fig. 4 is a vertical section through the machine taken on the line 4—4 of Fig. 1 and looking toward the right, in this view certain parts are broken away; and Fig. 5 is a longitudinal central section through the machine taken on the line 5—5 of Fig. 3.

Referring more particularly to the parts, the frame of the machine comprises standards or legs 1 and 2, which are connected above by a horizontal bed bar or bed plate 3. On this bed plate near the left end as viewed in Figs. 1 and 2, a cradle 4 is attached. This cradle presents vertical bars 5 to which horizontal bars 6 are attached, said horizontal bars 6 being attached to the bed plate 3 by bolts 7, as shown. The cradle also comprises an adjusting rail 8 which is disposed in a horizontal position, and to this rail the upper ends of the vertical bars 5 are attached

as indicated, the rail being provided with a plurality of bolt openings 9 through which fastening bars 10 pass, as will be readily understood. In this way it will be seen that the cradle is of skeleton form, presenting a bottom and one side. At the left end of the machine, above the standard 2, a header plate 11 is attached in a vertical position, and this header plate forms the end of the cradle.

At the lower part of the standard 2, as indicated most clearly in Fig. 4, a butt lever 12 is rotatably mounted upon a horizontal shaft 13. This butt lever is formed of two oppositely disposed bars 14 and 14^a, which converge upwardly, the upper ends of said bars having vertical extensions 15 which lie against the side edges of the bed plate 3, as shown. These bars 14 and 14^a are connected by cross braces 16, as indicated in Fig. 4. The extensions 15 of the bars 14 and 14^a are bent laterally in opposite directions so as to form arms 17 and these arms are provided with bolts 18 passed through slots 19 formed in two angle brackets 20. These angle brackets have substantially vertical arms 21 to which a butt plate 22 is attached. The bar 14^a which constitutes a part of the butt lever, is enlarged near its lower end, as indicated in Fig. 1, so as to present an inclined edge or cam edge 23, and parallel with this edge a guide tongue 24 projects downwardly from the middle portion of the bar, as shown. Below the inclined edge 23 the lower part of the bar 14^a is formed with a second inclined edge 25, and between the edge 23 and the tongue 24 an elongated opening or slot 26 is formed. As shown, the tongue 24 projects considerably beyond the edge 25 of the bar.

Referring now to Fig. 4, near the foot of the standard 1, a treadle lever 27 is pivotally mounted on a pin 28. This lever extends over to a point near the bar 14^a and when it is raised or lowered it is adapted to travel along the edges 23 and 25. It is guided along the sides of the standard by a guide bar 29 attached as indicated. As shown in Fig. 1, this treadle lever is in its depressed position, at which time it lies against the edge 25 and holds the butt lever in its advanced position. If, however, the treadle lever is allowed to move upwardly it will engage the lower edge of the tongue 24 and by this means will withdraw the butt lever, that is, it will move the butt lever toward the

right, as viewed in Fig. 1. A coil spring 30 which is attached to the butt lever 12, tends to return the lever to its withdrawn position. This spring is shown in Fig. 1, its rear end 5 being attached to a suitable bracket 31 attached to the standard 1. If the treadle lever is depressed from its uppermost position, it will move downwardly in the slot 26, sliding on the inclined edge 23, and the inclination of this edge will operate to advance 10 the lever, as will be readily understood.

I provide means for latching the lever in a depressed position. For this purpose on the side of the standard 1, as indicated in Fig. 1, 15 a rack or ratchet bar 32 is pivotally attached at 33. This ratchet bar hangs on the side of the standard and is provided with inclined teeth 34 which are adapted to engage the edge of the treadle lever, as indicated. At 20 the pivot 33 a coil spring 35 is provided which presses the rear edge of this ratchet bar. From this arrangement it will be evident that the ratchet bar will permit the depression of the lever and it will operate to 25 hold the lever when released. The lower end of the ratchet bar 32 is provided with a toe 36 which projects laterally, as shown. When this toe 36 is depressed it will swing the ratchet bar 32 to the right so as to release the treadle lever. The treadle lever 30 will then be returned to its elevated position by mechanism which will be presently described.

At the left end of the machine, as viewed 35 in Fig. 1, a post 37 is attached, which post extends upwardly above the level of the cradle and is provided with a plurality of adjusting openings 38, in any one of which a saddle lever 39 is held by a removable pivot bolt 40. 40 This lever extends longitudinally of the machine from one end to the other. The other end of the lever is provided with a pulley 41 mounted in an opening 42, and over this pulley there passes the loop of a cord 43, one 45 end of which cord is anchored at 44 on the frame, the other end of the cord passes downwardly through an opening 45 in the bed plate 3, as indicated in Fig. 5. Below this point the cord passes around a guide pulley 50 46 attached to the standard 1, and from this pulley the cord passes downwardly and is attached to the treadle lever 27 at the point 47, as indicated most clearly in Fig. 4. Beyond the pulley 41 the saddle lever 39 is 55 provided with an opening 48 and through this opening there extends upwardly a curved guide bow or stem 49. The lower end of this guide bow is formed into a post 50 which is rigidly attached to the standard 60 1, as indicated in Fig. 1. On this bow 49 a coil spring 51 is mounted. This spring seats upon the upper end of the post 50 and thrusts at its upper end against the lever 39 so that it tends to hold the lever in an elevated position. When the lever is in an ele-

vated position, the loop of the cord 43 is of course extended upwardly and this condition of the cord maintains the treadle lever 27 also in an elevated position. From this arrangement it will be seen that the spring 70 51 operates to hold the saddle lever 39 and the treadle lever 27 both in an elevated position. At an intermediate point on the saddle lever 39 a plurality of openings 52 are provided, in any one of which a hanger 53 75 may be supported by a removable bolt 54, the said hanger operating to support a saddle plate 55. This plate 55 extends transversely of the cradle in a horizontal position, as shown in Fig. 3. As indicated also in this 80 figure, the upper end of the post 37 is formed with a slot 56 in which the end of the lever 39 is received. On account of the plurality of openings 38 it will be evident that the normal position and elevation of the lever 39 85 may be adjusted as desired so as to suit the size of the bundles being formed in the cradle.

As indicated in Fig. 2, the bed plate 3 is provided with a plurality of openings 57 in 90 which the fastening devices 7 may be attached so as to adjust the position of the bars 6. In this way the length of the cradle may be adjusted to suit the length of the bundles which are being formed. 95

Near the foot of the standard 2 a bent pivot bolt 58 is provided, as indicated in Fig. 3, and on this bolt there is loosely mounted a hammer lever 59. This lever normally extends upward in a substantially 100 vertical position, as shown in Fig. 3. To the upper end of this lever a cheek plate 60 is attached which is adapted to strike against the side of the bundle so as to aline the boards which form the bundle in a longitudinal direction, that is, it pushes the boards 105 laterally against the verticals 5. Just below the cradle a reel 61 is supported upon a horizontal shaft 62, one end of the shaft being supported in a bracket 62^a while the other 110 end is supported in a bracket 63. This reel is adapted to be slid longitudinally along the shaft 62 to any position desired. The shaft 62 may be withdrawn when desired; it is held in position by a split pin 64 which passes 115 through the projecting end thereof, as indicated in Fig. 5. Upon the reel 61 a binding cord 65 is coiled. The end of this cord is carried upwardly and attached in a loose manner to the lever 39 at a convenient point, as 120 shown in Figs. 1 and 2.

In order to increase the rigidity of the standards 1 and 2, they are connected by a horizontal brace rod 66.

The upper edge of the butt plate 22 is provided with a notch 67, as indicated in Fig. 2, 125 just under the lever 39, and this slot or notch receives the lever 39 when it is depressed to an unusually low position.

In Fig. 1 a bundle 68 is represented, which 130

is formed of a plurality of boards of the same length. This view shows the treadle lever depressed so that the butt plate 22 is forced over against the ends of the boards so as to align them and to bring their other ends against the header plate.

The mode of operation of the machine in forming the bundles will now be described: The articles, such as short boards which are to form the bundle are laid upon the horizontal members 6 of the cradle approximately in longitudinal alinement with each other and extending longitudinally of the bed plate 3. The treadle lever 27 is then depressed by the operator's foot, and this advances the butt plate 22 against the ends of the boards so that they will all be aligned together with their left ends against the header plate 11, as indicated in Fig. 1. The hammer lever 59 is then swung out to the right from the position in which it is shown, so that its cheek plate 60 may strike against the side edges of the boards, in this way forcing them over against the verticals 5 of the cradle. In this connection, attention is called to the fact that the manner of attaching the lever at the bolt 58 gives a perfectly free movement of the lever in any direction, that is, it can be swung in a plane substantially longitudinally of the bundle or it may be swung laterally so as to strike the side of the bundle. In this way the boards are all knocked or jostled into position so that they form a shapely bundle. The downward movement of the treadle lever 27 depresses the lever 39 so that the saddle bar 55 descends upon the upper side of the bundle and presses it, as indicated in Fig. 1. It should be understood that the first part of the downward movement of the treadle lever advances the butt plate 22, while the latter part of the movement completes the depression of the lever 39. In this way the saddle is made to press firmly the upper side of the bundle. The ratchet bar 32 will lock this lever in its depressed position so that the boards which form the bundle are held close together and tightly packed, the operator can then release the cord 65 forming the binding band about the bundle and re-attach the cord 65 to the lever 39. After the bundle has been tied in this way, by pushing the ratchet bar 32 to the right the treadle lever 27 will be released and the parts will return to their normal position, that is, the spring 51 will return the saddle lever 39 and the treadle lever, and as soon as the treadle lever has moved upwardly sufficiently, the spring will act to return the butt plate to its normal withdrawn position. On account of the slots 19 it will be evident that the butt plate 22 may be attached to the butt lever in a more or less advanced position. In this way the butt lever can be adjusted to adapt it for forming bundles of different lengths.

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

1. In a machine of the class described, in combination, a frame, a cradle mounted thereupon in which a bundle may be formed, a butt plate moving longitudinally with respect to said cradle, means for advancing said butt plate when forming the bundle, and a hammer lever mounted at the side of said cradle and adapted to engage the side of the bundle.

2. In a machine of the class described, in combination, a frame, a cradle open at one end and at one side, a butt plate moving longitudinally of said cradle at the open end thereof, means for advancing said butt plate to form a bundle, and a hammer lever mounted on said frame and moving along the open side of said cradle, said hammer lever being adapted to strike the side of the bundle when forming the same.

3. In a machine of the class described, in combination, a frame, a cradle mounted on said frame in which a bundle is formed, said cradle having a side and a header plate, a butt plate removably mounted and adapted to advance toward said header plate, and a hammer lever attached to said frame and moving opposite to the said side of said cradle, said hammer lever being adapted to force the bundle against the side of said cradle.

4. In a machine of the class described, in combination, a frame, a cradle mounted thereupon having a header plate and a side, a butt plate mounted to move toward said header plate, a treadle lever for actuating said butt plate, and a hammer lever mounted on said frame on the opposite side of said cradle from said side, said hammer lever being adapted to swing longitudinally of said cradle and transversely thereof, the transverse movement of said lever affording means for forcing the bundle against the side of said cradle.

5. In a machine of the class described, in combination, a frame, a cradle mounted thereupon for forming a bundle, a butt plate mounted to move longitudinally of said cradle, a saddle lever, a saddle carried thereby adapted to move downwardly upon said cradle when said lever is depressed, and means for advancing said butt plate and depressing said saddle lever.

6. In a machine of the class described, in combination, a frame, a cradle mounted thereupon for forming a bundle, a butt plate mounted to move longitudinally of said cradle, a saddle lever, a saddle carried thereby adapted to move downwardly upon said saddle when said lever is depressed, means for advancing said butt plate and depressing said saddle lever, and means for latching said saddle lever in a depressed position.

7. In a machine of the class described, in

combination, a frame having a bundle forming cradle, a butt lever, a butt plate carried by said lever and adapted to advance longitudinally of said cradle, a saddle lever mounted over said cradle, a saddle carried thereby, and a lever engaging said butt lever and connected with said saddle lever and affording means for advancing the same.

8. In a machine of the class described, in combination, a frame having a bundle forming cradle, a butt lever, a butt plate carried by said lever and adapted to advance longitudinally of said cradle, a saddle lever mounted over said cradle, a saddle carried thereby, a lever engaging said butt lever and connected with said saddle lever and affording means for advancing the same, and means for normally holding said saddle lever in an elevated position.

9. In a machine of the class described, in combination, a frame having a bundle forming cradle mounted thereupon, a butt lever mounted to swing longitudinally of said cradle, a butt plate carried by said lever, said butt lever having cam edges, a treadle lever engaging said butt lever on said cam edges and adapted to advance the same, a saddle lever mounted over said cradle, a saddle carried thereby, and means for connecting said treadle lever with said saddle lever for depressing the same.

10. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing longitudinally of said cradle, having an inclined slot, a treadle lever adapted to move in said slot to control the said butt lever, a saddle lever disposed over said cradle, a saddle carried thereby, and means connecting said treadle lever with said saddle lever for depressing said saddle lever.

11. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing longitudinally of said cradle, a butt plate carried thereby, said butt lever having inclined edges, a treadle lever engaging said butt lever on said inclined edges and controlling the movement thereof, a saddle lever disposed over said cradle, a saddle carried thereby, and means connecting said treadle lever with said saddle lever for depressing the same.

12. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing longitudinally of said cradle, a butt plate carried thereby, said butt lever having inclined edges, a treadle lever engaging said butt lever on said inclined edges and controlling the movement thereof, a saddle lever disposed over said cradle, a saddle carried thereby, means connecting said treadle lever with said saddle lever for depressing the same,

and means for normally holding said butt lever in a withdrawn position.

13. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing longitudinally of said cradle, a butt plate carried thereby, said butt lever having inclined edges, a treadle lever engaging said butt lever on said inclined edges and controlling the movement thereof, a saddle lever disposed over said cradle, a saddle carried thereby, means connecting said treadle lever with said saddle lever for depressing the same, means for normally holding said butt lever in a withdrawn position, and means for normally holding said saddle lever in an elevated position.

14. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing longitudinally of said cradle, a butt plate mounted upon said butt lever, a treadle lever engaging with said butt lever and controlling the movements thereof, a spring tending to withdraw said butt lever, a saddle lever mounted over said cradle, a cord connecting said treadle lever with said saddle lever and adapted to depress said saddle lever, a saddle carried by said saddle lever, and means tending to hold said saddle lever in an elevated position.

15. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing toward said cradle, a butt plate carried by said butt lever, a treadle lever engaging with said butt lever for advancing the same, a saddle lever disposed over said cradle, a saddle carried thereby, means connecting said saddle lever with said treadle lever for depressing said saddle lever, and a ratchet bar adapted to hold said saddle lever in a depressed position.

16. In a machine of the class described, in combination, a frame, having a bundle forming cradle thereupon, a butt lever mounted to swing toward said cradle, a butt plate carried by said lever, a treadle lever, means for advancing said butt lever with the first movement of said treadle lever, a saddle lever, and means for depressing said saddle lever through said treadle lever.

17. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt plate, means for mounting said butt plate to advance toward said cradle, a saddle lever over said cradle, a saddle carried thereby, means connecting said treadle lever with said saddle lever for depressing the same, means tending to hold said saddle lever in an elevated position, and means tending to hold said butt plate in a withdrawn position.

18. In a machine of the class described, in

combination, a frame having a bundle forming cradle, a saddle lever, means for pivotally mounting said saddle lever over said cradle, a butt plate moving longitudinally on said cradle, means for advancing said butt plate and depressing said saddle lever, a saddle carried by said lever, and means for adjusting the height of said lever.

19. In a machine of the class described, in combination, a frame having a bundle forming cradle thereupon, a butt lever mounted to swing toward said cradle, a butt plate adjustably mounted on said butt lever, a saddle lever adjustably mounted over said cradle, and a treadle lever connected with said butt lever and said saddle lever for advancing both.

20. In a machine of the class described, in combination, a frame having a bundle forming cradle mounted thereupon, a reel mounted in said frame and carrying a binding cord, a movable butt plate adapted to be advanced at the end of said cradle, and a hammer lever mounted at the side of said cradle.

21. In a machine of the class described, in combination, a frame having a bundle forming cradle mounted thereupon, a reel mounted in said frame and carrying a binding cord, a movable butt plate adapted to be

advanced at the end of said cradle, a hammer lever mounted at the side of said cradle, a saddle lever over said cradle, a saddle carried thereby, and means for depressing said saddle lever and advancing said butt plate.

22. In a machine of the class described, in combination, a frame, a cradle having bars on the sides and bottom, an adjusting bar extending longitudinally of said cradle, and means for adjustably attaching said first bars to said adjusting bar.

23. In a machine of the class described, in combination, a frame having a bundle forming cradle mounted thereupon, a saddle lever pivotally mounted over said cradle, means for guiding the free end of said saddle lever, a saddle carried by said lever, a butt plate, means for advancing said butt plate longitudinally of said cradle, and means for depressing said saddle lever.

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

ANDREW JACKSON CHESSON.

Witnesses:

G. A. TURNER,
J. P. WHITE.