

April 10, 1928.

1,665,730

F. W. CHASE

MACHINE FOR BUNDLING PAPER CURRENCY

Filed Feb. 1, 1922

6 Sheets-Sheet 1

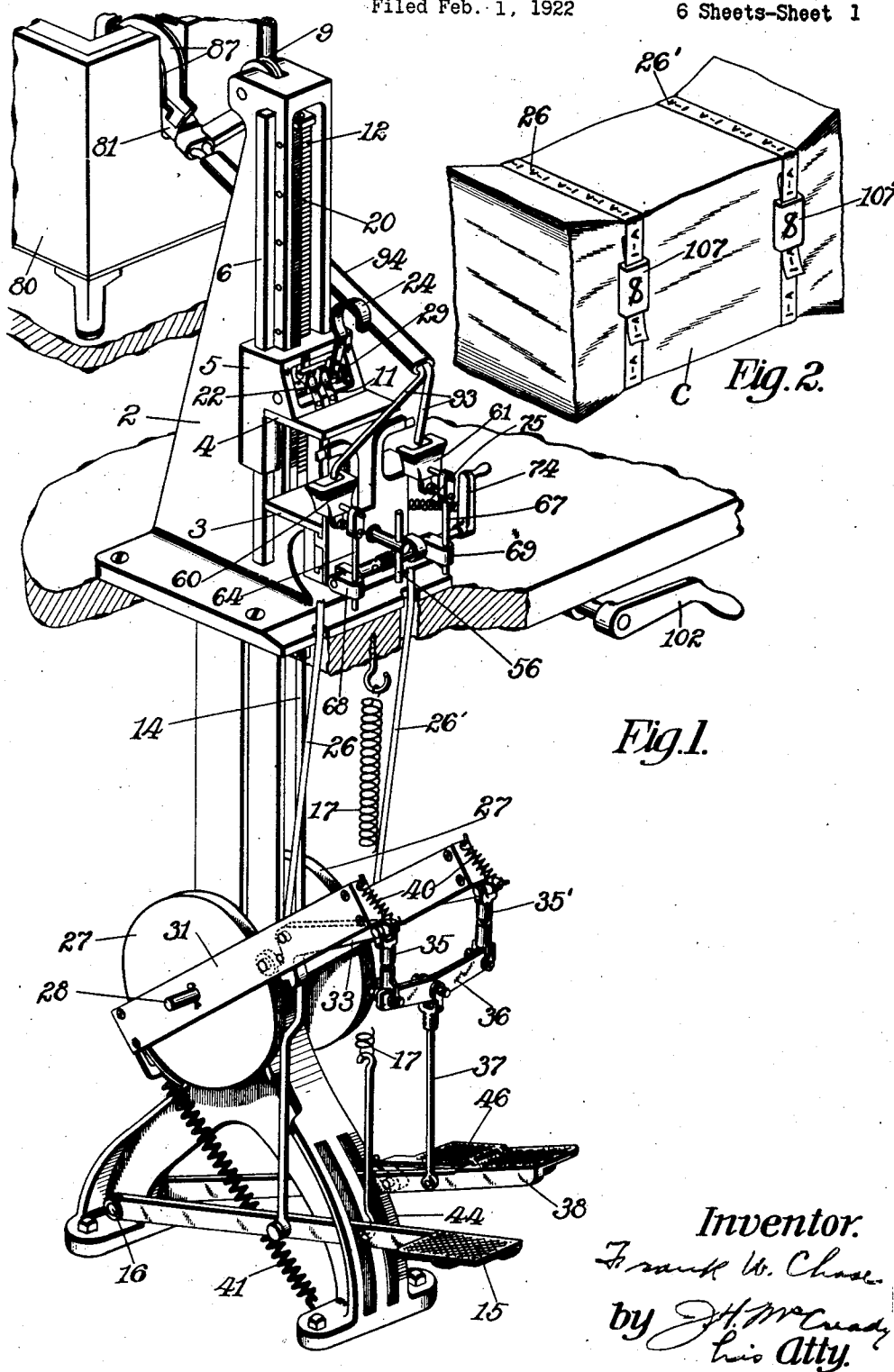


Fig. 1.

Fig. 2.

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April 10, 1928.

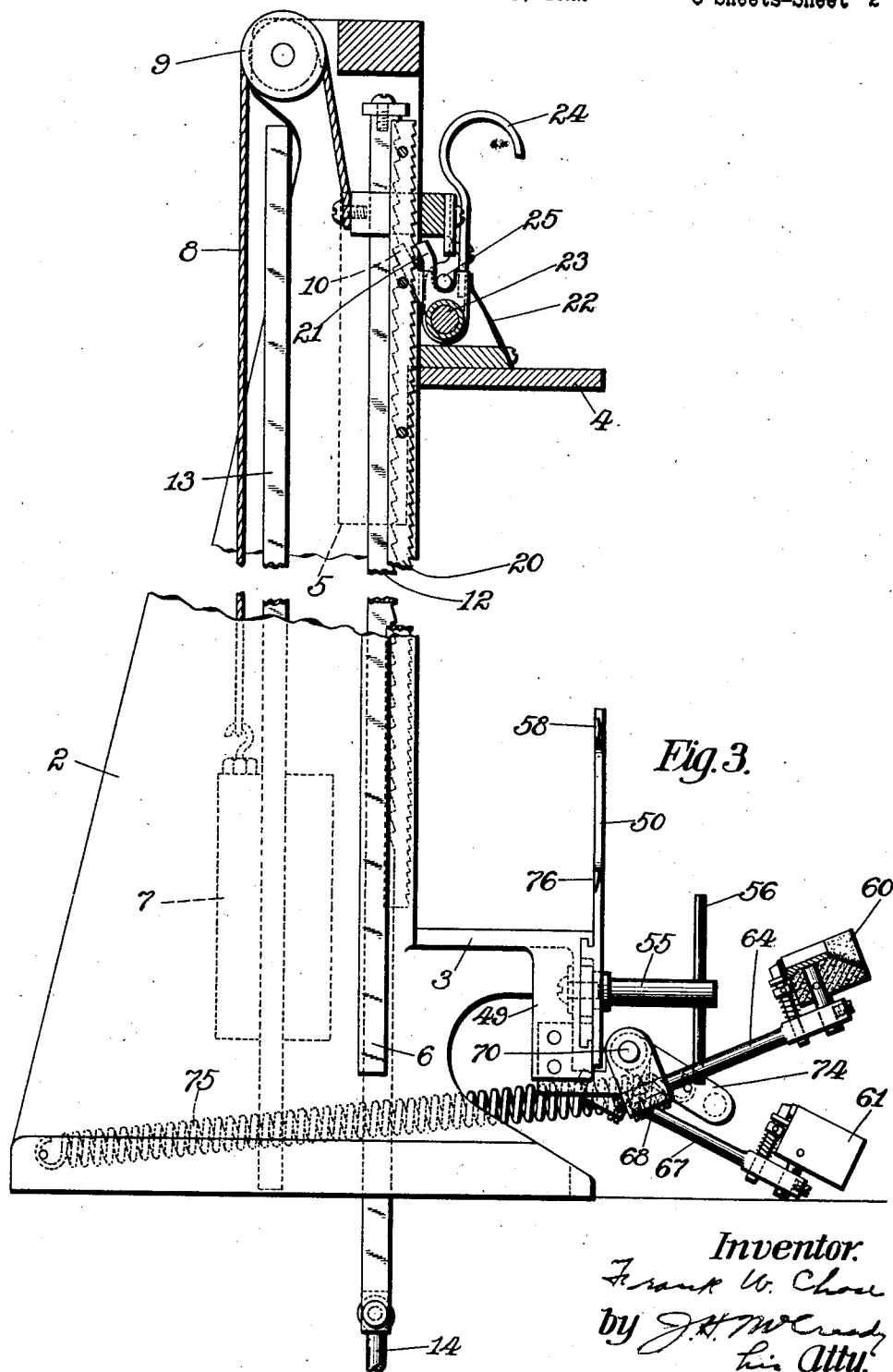
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6 Sheets-Sheet 2



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6 Sheets-Sheet 3

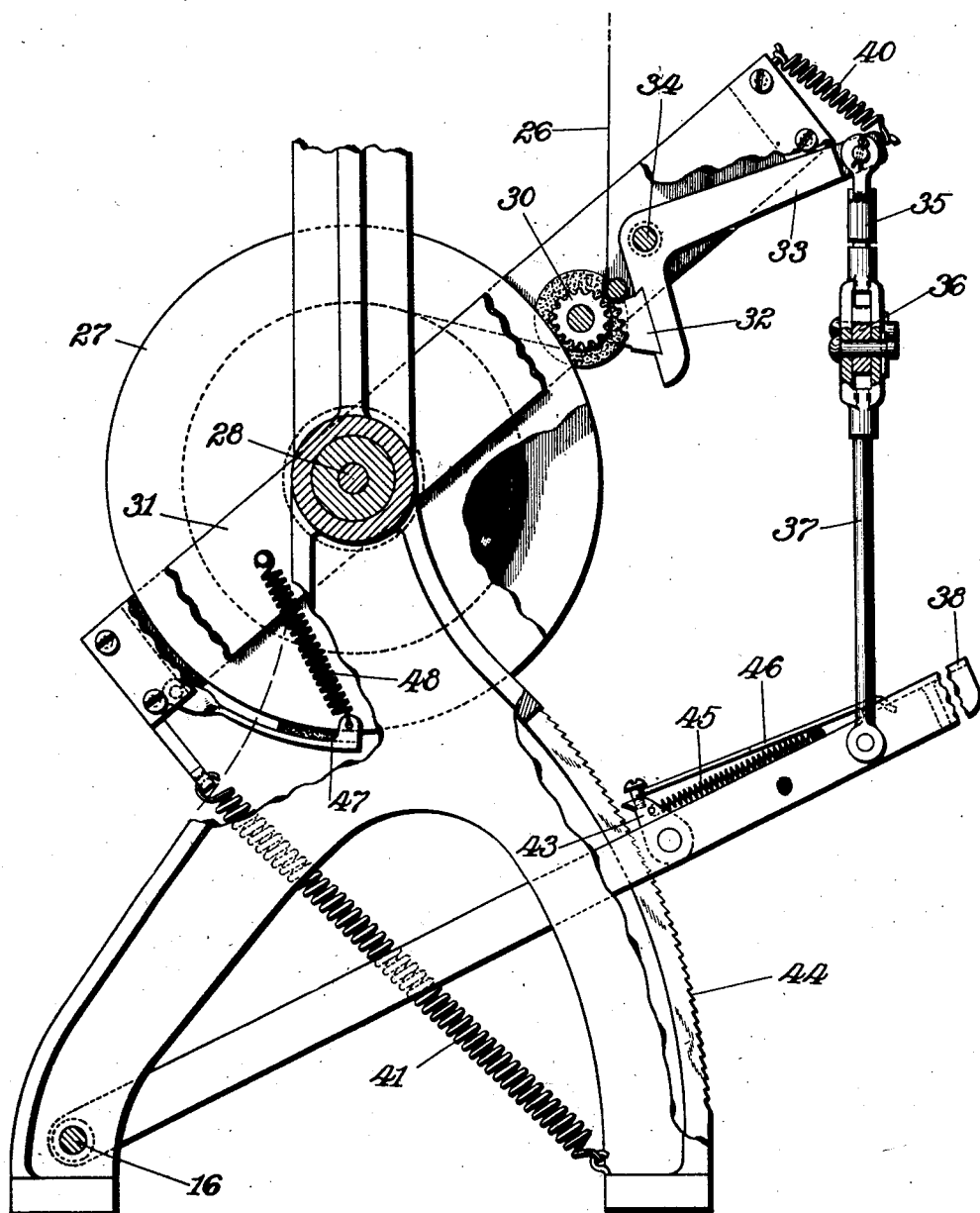


Fig. 4.

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6 Sheets-Sheet 4

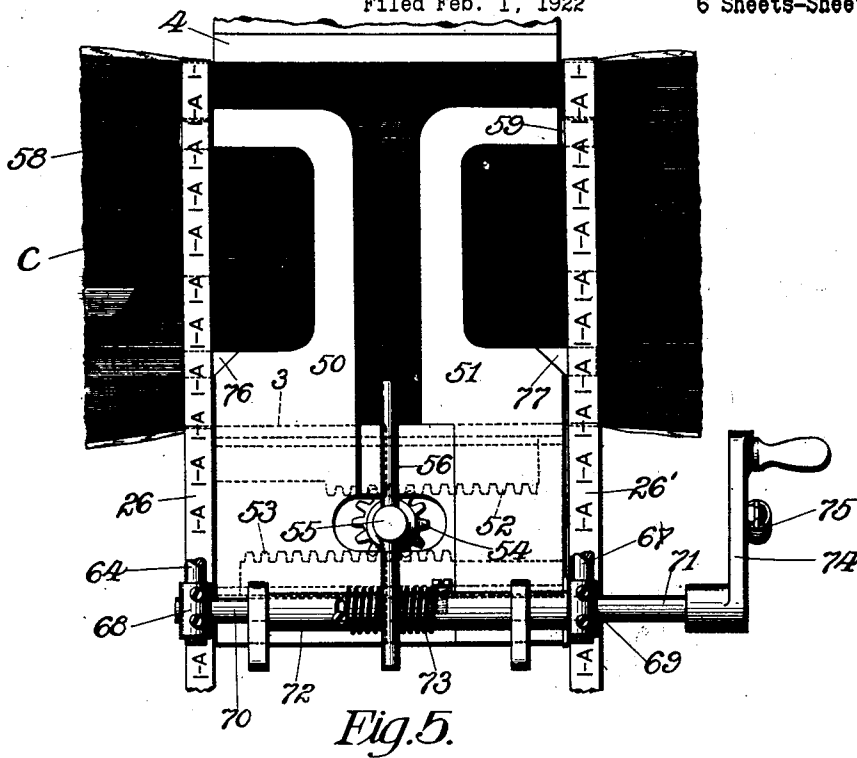


Fig. 5.

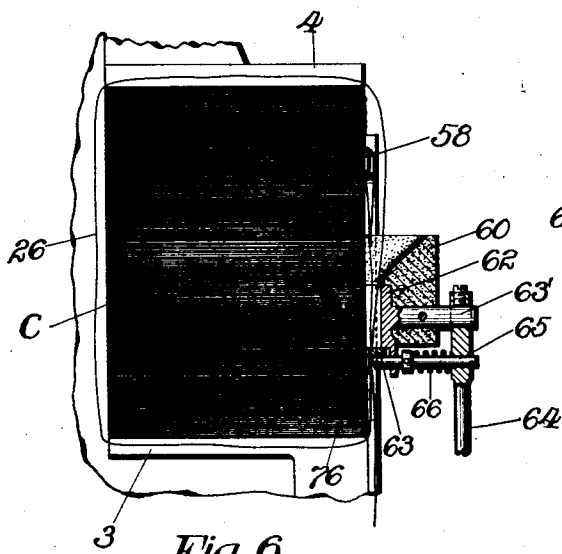


Fig. 6.

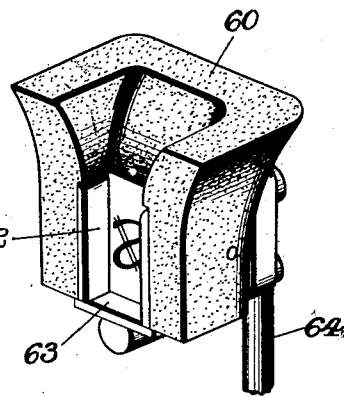


Fig. 7.

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MACHINE FOR BUNDLING PAPER CURRENCY

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6 Sheets-Sheet 5

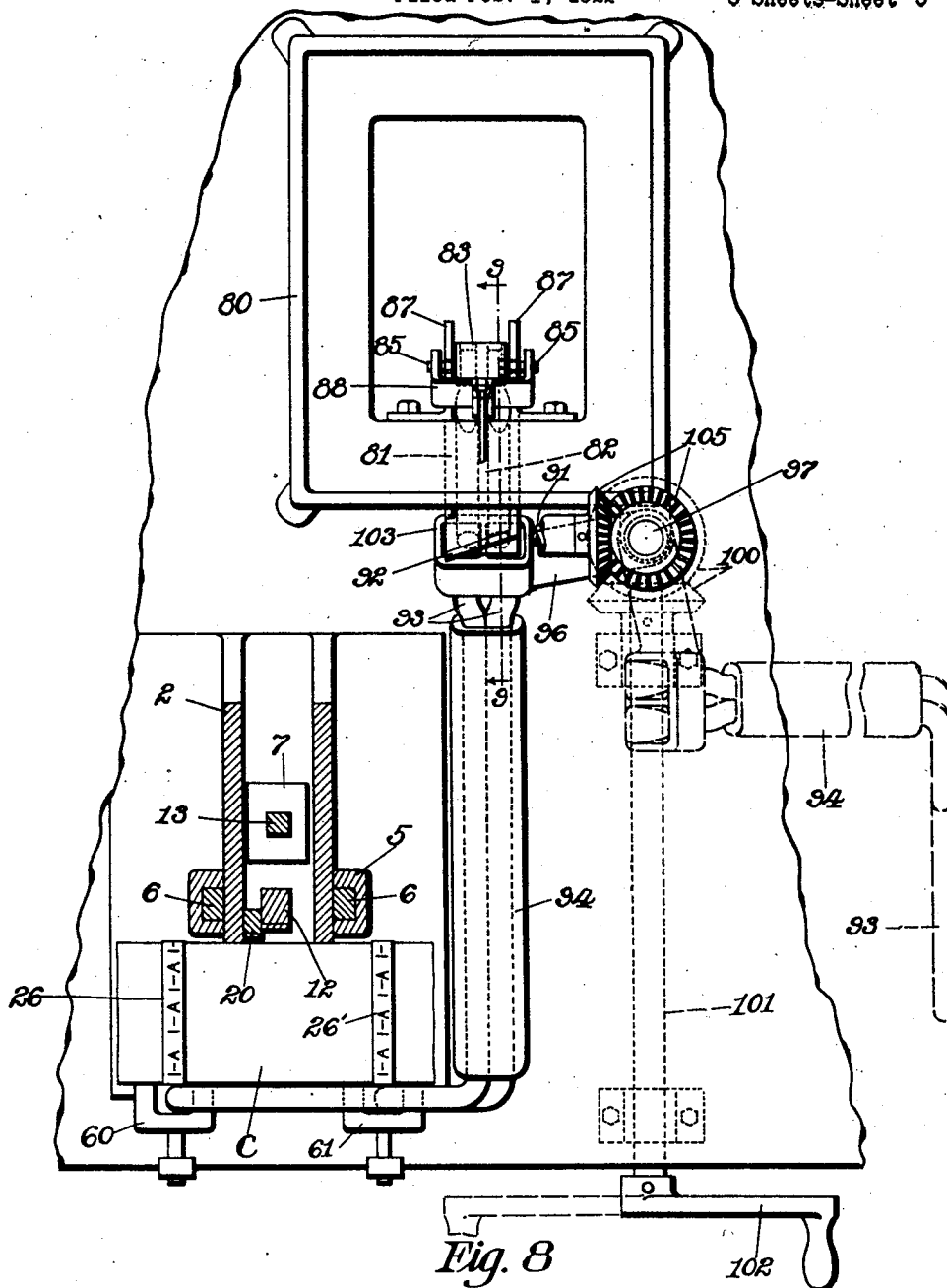


Fig. 8

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MACHINE FOR BUNDLING PAPER CURRENCY

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6 Sheets-Sheet 6

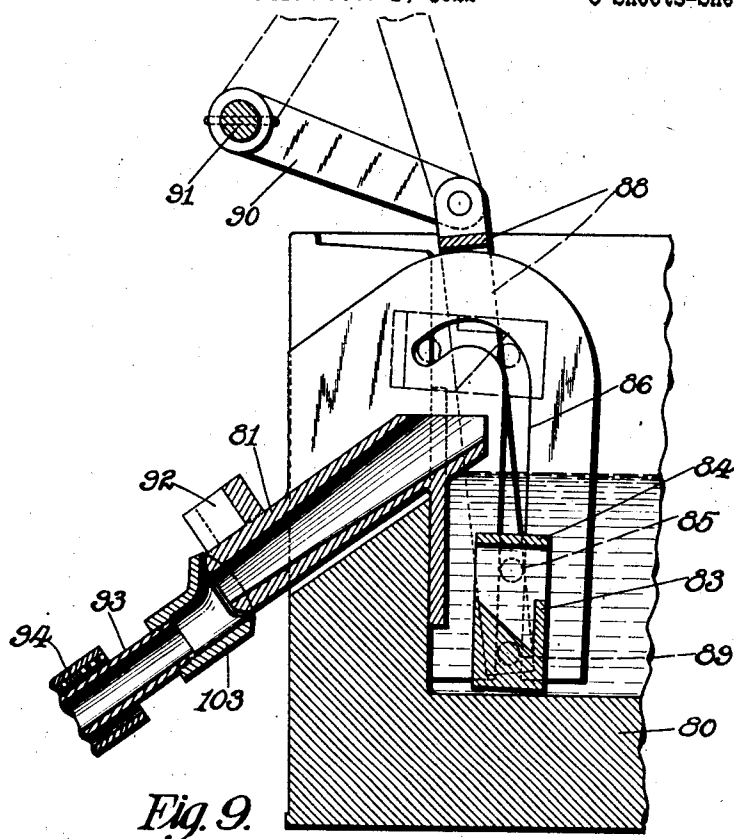


Fig. 9.

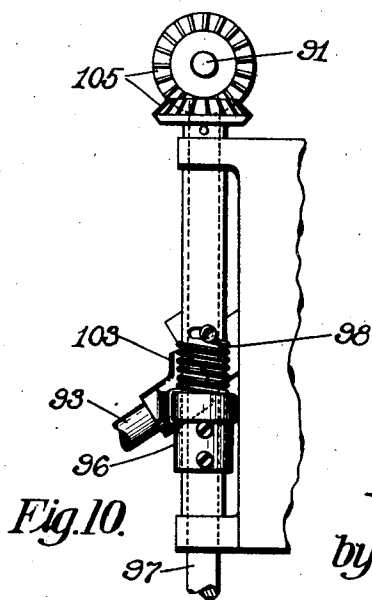


Fig. 10.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR BUNDLING PAPER CURRENCY.

Application filed February 1, 1922. Serial No. 533,474.

This invention relates to machines for bundling currency and other materials.

In the larger institutions that distribute currency, such as the United States Treasury and the Federal reserve banks, it is customary to stack paper currency in packages of a given number, say a thousand pieces, and to hold the units of such a stack together with a binder of some description. Such a package or bundle usually bears a label giving the number and denomination of the pieces of currency of which it is composed, and usually, also, additional information such as the initials of the verifier and the name of the institution issuing the package. It is also customary to bundle worn out paper currency in this manner for shipment back to the United States Treasury to be destroyed.

The currency is bundled, as above described, chiefly for convenience in handling, and it is shipped in this manner by the Federal reserve banks and other distributing agencies to member banks and other financial institutions, and it may in turn be distributed by these receiving institutions to smaller banks, corporations, and the like, while still in the original package. Currency in this form thus is subjected to a great many handlings from the time that it is packaged until the packages are finally broken and the currency distributed.

The usual processes of bundling paper currency produce packages of such a character that it is entirely possible for an employee to remove one or more pieces of currency from such a package without such removal being detected until the package is broken and the currency counted. In many cases such a count never is made, and there is every reason to believe that loss of currency in this manner often is never detected. In other cases such a loss is discovered but it is almost impossible to trace it.

With these considerations in view it is a very important object of the present invention to devise a currency bundle or package, and a method of bundling currency, which will prevent the removal of a piece of currency from the package. It is also an important object of the invention to devise a machine for making a package of the character just mentioned. The invention further is directed to the provision of a machine with which the bundling operation

can be performed more expeditiously and economically than has been possible with the apparatus heretofore available.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a perspective view of a machine embodying the invention in the form at present preferred;

Fig. 2 is a perspective view of a package produced by this machine;

Fig. 3 is a view partly in side elevation and partly in vertical cross section, showing on a larger scale certain parts of the mechanism for compressing the stack and the parts adjacent thereto;

Fig. 4 is a view partly in side elevation and partly in vertical cross section of the mechanism for gripping and tightening the binders;

Fig. 5 is a front elevation of a stack of currency showing the manner in which the binders are applied thereto;

Fig. 6 is an end view of the parts shown in Fig. 5, and also showing one of the molds in its operative or sealing position;

Fig. 7 is a perspective view of one of the molds;

Fig. 8 is a view, partly in plan and partly in horizontal cross section, designed to show more particularly the mechanism for handling the melted sealing material;

Fig. 9 is a cross sectional view on the line 9-9, Fig. 8; and

Fig. 10 is a side elevation showing certain details of the mechanism for handling the sealing material.

Preliminary to a detailed description of the machine shown, it may be stated that this machine comprises, briefly stated, a mechanism for compressing a stack of bills or currency and holding the stack in a compressed condition, means for tightening a pair of binding tapes about the stack while it is so compressed, a pair of molds for holding melted metal or other sealing material in position to seal together adjacent portions of the binders so tightened, and means for delivering charges of said sealing metal to the molds. The detailed description of the various mechanisms that compose the ma-

chine will be taken up in substantially the order in which they have just been mentioned.

Referring first to Figs. 1 and 3, it will be seen that the machine includes a frame 2 designed to be secured to a bench or other suitable support. Mounted fast on this frame and forming a part of it, is a plate or platform 3 designed to support a stack of bills or currency to be bound and sealed. Usually, as above stated, such a stack contains one thousand pieces. Another plate 4 which is carried by a slide or head 5 is arranged to be brought down on top of the stack supported on the platform 3. The slide 5 is guided on vertical ways 6—6, Figs. 1 and 3, these ways being secured to opposite sides of the upper part of the machine frame, and the slide is counter-balanced by a weight 7, Fig. 3, which is guided on the rod 13 and is connected to the slide by means of a cord 8 running over a pulley 9. This slide carries a pawl 10 normally held by means of a leaf spring 11 in contact with the teeth of a rack 12 which is slidably mounted in the machine frame. A rod 14 pivoted to the lower end of the rack 12 connects this rack with a treadle lever 15 fulcrumed at 16 on one of the legs of the machine. A coiled spring 17, Fig. 1, holds the treadle 15 normally in its uppermost position.

It will thus be evident that when the treadle 15 is depressed, this movement will be transmitted through the rack 12 and pawl 10 to the slide 5, thus moving the slide downwardly and pressing the plate 4 against the stack of bills. In order to enable this operation to be repeated and thus to progressively compress the stack, a holding rack 20 is secured to the frame 2 and cooperates with a pawl 21 pivoted on the slide 5 to hold the slide in its depressed condition, the pawl being normally held in contact with the teeth of the rack by a spring 22.

Both of these pawls are mounted on a pivot pin 23, Fig. 3, which extends transversely through the slide 5, and a finger piece 24 also is pivoted on the pin 23 and carries a stud 25 extending parallel to the pin 23 and located in notches formed in the upper parts of the pawls 10 and 21. By swinging this finger piece outwardly, both pawls may be disengaged from their respective racks and the slide may then be moved up or down by hand, as desired. A spring 29 normally holds this finger piece in its backward position.

As best shown in Fig. 5, the platform 3 and plate 4 are only wide enough to cover the central portions of the stack C of currency, leaving the end portions of the stack projecting beyond these parts. After the stack has been compressed in the manner above described, and while it is still held compressed by the holding pawl 21 and the

rack 20, two metal bands or tapes 26—26' are looped around the stack, as shown in Figs. 5 and 6. These tapes are drawn from supplies carried by reels 27—27 both mounted to turn freely on a shaft 28 supported horizontally in the lower part of the machine frame. This tape supporting mechanism is arranged in duplicate and consequently only one of these mechanisms need be described in detail.

Referring to Fig. 4 it will be seen that as the tape 26 is drawn from the reel 27 it passes over a gear 30 mounted on a shaft supported in a lever 31 which is fulcrumed on the shaft 28. The tape passes between the gear 30 and a toothed segment 32 carried by a bell crank lever 33 which is fulcrumed at 34 on the lever 31 and is connected by a link 35 to one end of a yoke or cross bar 36, to the other end of which is connected the corresponding link 35' of the opposite tape supporting mechanism. A link 37 pivoted to the center of the yoke 36 connects it with a treadle 38 fulcrumed on the stub shaft 16. A spring 40 connecting the bell crank lever 33 with the lever 31, tends to hold the segment 32 away from the gear 30, as clearly shown in Fig. 4, while a stronger spring 41 connecting the machine frame with the rearward end of the lever 31 acts normally to hold the latter lever in the position shown in said figure, and consequently, holds the treadle 38 in its raised position.

When this treadle is depressed, however, the first effect is to swing the segments 32 of both tape supporting mechanisms into engagement with the tapes and grip them firmly against the teeth of the gears 30, this action taking place because of the fact that each spring 40 is weaker than its spring 41. A further depression of the treadle 38 swings the lever 31 in a clockwise direction, Figs. 1 and 4, about the shaft 28, thereby carrying the gears 30 and segments 32 bodily downward and thus drawing downwardly on the tapes 26—26'.

In order to lock the treadle in its depressed condition, a dog 43, Fig. 4, is pivoted on the treadle 38 and is arranged to engage a toothed portion 44 of one leg of the machine. A spring 45 normally holds the dog in its inoperative position but a plate 46 pivoted on the treadle 43 in position to be engaged by the toe portion of the foot during the act of depressing this treadle, is arranged to bear against the dog and force it into engagement with the teeth 44. It will then hold the treadle depressed, due to the action of the spring 41 and also to the pull of the tapes, but in order to release the treadle it is merely necessary to depress it slightly without touching the plate 46 when the spring 45 will release the dog 43 from the teeth 44. The treadle may then be eased back to its initial position.

The mechanism just described is utilized to draw the binding tapes tightly about the stack of currency. For the purpose of anchoring the free ends of the binders while this operation is performed, two slides or plates 50 and 51, Fig. 5, respectively, are mounted to slide horizontally in guideways formed in a portion 49, Fig. 3, of the frame. These slides have rack portions, as indicated at 52 and 53, respectively, to engage simultaneously with opposite sides of a pinion 54 carried by a short shaft 55 which is provided with a handle 56. By turning this handle the slides 50 and 51 may be moved toward or from each other. These slides have fingers 58 and 59, respectively, and the ends of the tapes 26 and 26', respectively, Fig. 5, are looped about these fingers, in a manner shown very clearly in Fig. 6. Consequently, when the tapes are tightened by depressing the treadle 38, as above described, the result will be to draw both tapes very tightly about the stack of bills C.

Preferably metal tapes are used to bind the stack of currency, and these tapes may conveniently be embossed with some distinctive design such, for instance, as the symbol, monogram or the like of the particular bank issuing the currency. Each reel 27 is equipped with a brake 47 held against the reel by a spring 48, the brake serving to exert sufficient drag on the reel to prevent the tape from unwinding under the momentum of the reel.

While these tapes are thus held in their tightened condition, they are each sealed by flowing melted metal around adjacent or overlapping portions of the tapes. For this purpose two molds 60 and 61 are mounted to be moved into and out of position to hold charges of sealing material in sealing relationship to the tapes. The detailed construction of the mold 60 is best shown in Figs. 6 and 7, and the mold 61 is exactly like it. Referring to these figures, it will be seen that the mold consists of a receptacle 62, open at its rearward side, and having a bottom 63 that is slidable backward and forward. The receptacle 62 has a rearwardly extending shank 63' that is secured in the upper end of an arm 64, while the bottom member 63 is mounted on a pin 65 which is slidable in an aperture formed in the arm 64 and is normally pressed forward by a spring 66. The mold preferably includes a casing in which the receptacle 62 is embedded, this casing being made of some molded composition such as asbestos, cork or other refractory material. The mold 61 is mounted similarly to the mold 60 on an arm 67. The two arms 64 and 67 are supported in holders 68 and 69, respectively, secured to shafts 70 and 71, Fig. 5. These two shafts are coaxial and are mounted end to end in a sleeve 72 supported in ears that project forward

from the frame. A spring 73 coiled about the sleeve 72 is connected at its ends to the two shafts 70 and 71 so that while these shafts normally move in unison they can have a differential angular movement. A handle 74 is connected with the end of the shaft 71 and a spring 75 acts on this handle, as best shown in Fig. 4, to hold the handle in either its up or down position.

It should be noted that the slides 50 and 51 are provided with fingers 76 and 77 that extend between the binders 26 and 26' to the stack C. When the handle 74 is swung into its upper position, as shown in Fig. 5, thus carrying both of the molds into their sealing positions and holding them there yieldingly, the bottom 63 of the mold 60 will press the overlapping lengths of tape 26 against the finger 76. The bottom of the mold 61 similarly presses the tape 26' against the finger 77. If a suitable quantity of melted metal, such as lead or solder, is now introduced into each of the molds, this metal obviously will flow around the tapes and when it cools off will seal them securely together. The fingers 76 and 77 cooperate with the yielding bottoms of the respective molds to confine the sealing metal to the desired location. This metal will flow against the edges of the bills, but it has been demonstrated that this does no harm.

It is contemplated that the charges of sealing metal may be supplied to the molds by hand, but in order to facilitate the handling of this material and to expedite the bundling operation, a metal handling mechanism preferably is employed. This mechanism comprises a pot 80 in which the sealing metal may be melted and which preferably, but not necessarily, is heated electrically. An inclined spout 81 projects through the front wall of this pot and has a partition 82 extending longitudinally therethrough and dividing it into two parallel ducts or passages. A dipper 83, Fig. 9, is mounted in the pot and is designed to hold the proper charge for the sealing of a single package, this dipper also being divided laterally to correspond with the division of the spout 81. This dipper has a closed top 84. Normally the dipper rests at substantially the bottom of the body of metal in the pot, as shown in Fig. 9, and it is provided with two pins 85—85 projecting from opposite sides thereof and entering guideways or slots, one of which is shown at 86, Fig. 9, formed in plates 87—87 that are secured rigidly in the pot at opposite sides of the dipper. A bail 88 is connected to the dipper 83 by pivots 89 projecting from opposite sides thereof and located close to the bottom of the dipper. The upper end of this bail is pivoted to the end of an arm 90 pinned to a rock shaft 91. Consequently, when this rock shaft is turned in a counter-clockwise direction, Fig. 9 the con-

nections 90 and 88 will lift the dipper out of the metal and the pins 85 running in the slots 86 will cause the dipper to tip as it reaches the upper limit of its movement and dump its contents into the spout 81. The fact that the top of the dipper is covered or closed, as shown at 84, will prevent the entrance of sludge or dross into the dipper in any substantial quantity. Any dross picked up on the cover 84 will be dumped on the upper surface of the spout 81 where it will be diverted to one side by the inclined flange 92.

The charges of sealing material so delivered to the spout are conveyed to the respective molds 60 and 61 by two tubes 93—93 which preferably are jacketed by an electric heater 94. These two tubes are supported by a bracket 96 so that they may be swung into and out of their operative positions. The bracket 96 is mounted loosely on a vertical shaft 97, Figs. 8 and 10, and is connected therewith through a coiled spring 98 so that it normally turns with said shaft, but the shaft can have an angular movement relatively to the bracket. This shaft has a bevel gear connection 100 with a shaft 101 extending forwardly and provided with a handle or crank 102. Consequently, when this handle is turned in the proper direction the bracket 96 and the tubes 93 will be swung from their full line position, Fig. 8, into their dotted line position, thus removing them from the vicinity of the stack of currency. A reversal of these operations will return the tubes again to their normal or operative positions. It will be noted that the bracket 96 has a mouth piece 103, Figs. 8, 9, and 10 to fit against the delivery end of the spout 81. A bevel gear connection 105 between the shafts 97 and 91 causes the rock shaft 91 to turn with the shaft 97 and thus to raise the dipper 83 and dump it. A single crank thus operates both the dipper and the tubes. The movement of the parts is so timed that the tubes 93—93 are swung into their operative positions, as shown in Fig. 8, while the dipper is making the vertical part of its movement. After the tubes have reached said position and can move no further, the dipper dumps its charge into the spout 81, this action being produced by a further turning movement of the handle 102 which winds up the spring 98.

In using the machine the operations are substantially as follows: A stack C of currency which has been counted is placed on the platform 3 behind the slides 50 and 51, these slides at this time being in their inner positions. The operator next compresses the stack C by depressing the treadle 15 as many times as may be necessary. The dog 21 and rack 20 hold the stack in its compressed condition. The operator next turns the handle 56 to move the slides 50 and 51 outwardly, or away from each other. He

then grasps the ends of the tapes 26 and 26' which are projecting through holes or slots at the front of the machine table, and he loops these tapes completely around the fingers 58 and 59, respectively. The position of the tape 26 at this time is clearly shown in Fig. 6, and the tape 26' is in the same position at the other side of the presser plate 4. The operator then steps on the treadle 38 and the plate 46, thus drawing both tapes tightly about the stack, the act of stepping on the plate 46 serving to engage the dog 43 with the teeth 44 and thus lock the treadle in its depressed condition. The molds 60 and 61 are next swung into their operative or sealing positions by turning the handle 74 upwardly and the spring 75 holds them yieldingly in said positions. During all of these operations the tubes 93—93 have been occupying their inoperative positions, as indicated in dotted lines in Fig. 8. They are now swung into their operative positions by turning the handle 102, and a further turning movement of this handle results in dumping a charge of sealing metal into the spout 81, as above described, this metal being conducted by the tubes 93—93 to the molds 60 and 61. The metal cools almost immediately thus sealing the tapes securely in their tightened condition about the stack of bills.

The operator next releases the treadle 38, swings the tubes 93—93 into their inoperative positions again through a proper movement of the handle 102, and then swings the crank 74 downwardly thus returning the molds 60 and 61 to their inoperative positions. He then turns the handle 56 to withdraw the fingers 58, 59, 76 and 77 laterally from behind the tapes. He clips off the tapes in front of the seal with a pair of shears and removes the package from the machine.

The appearance of the completed package is shown in a general way in Fig. 2, the seals being shown at 107 and 107'. Attention is particularly directed to the fact that the sealing metal flows around all four sides of each length of tape with which it comes in contact and it also flows between the tapes due to the fact that the tapes are held apart by the raised or embossed figures or letters. Consequently, even if the sealing metal does not stick to the tapes, it does flow into the depressions in the tapes and locks them securely together mechanically. Usually, however, the sealing metal will stick to the tapes and form a secure molecular seal as well as a mechanical seal. If desired, the molds 60 and 61 may have some symbol, letter, monogram, or the like cut in them, as shown in Fig. 7, so that each seal will bear such symbol or monogram.

The package produced in this way is bound so tightly that it is impossible for a person to extract a piece of currency from

it without breaking the tapes. The seals are of such a nature that it would be impossible for a person to remove them and replace them again without special apparatus 5 and an ample opportunity to use such apparatus. The bundling of currency in this manner, therefore, makes it impossible, as a practical matter, to remove a piece of currency from such a package without breaking 10 the seals or the tapes. Furthermore, with the aid of the machine herein shown and described the bundling operation can be performed very rapidly and with a great saving in time over former processes. While 15 I prefer to use metal tapes and seals, as above described, it is contemplated that other forms of binders and sealing material can be used in the machine shown. The form of tape usually found preferable is a 20 tin plated steel tape, the plate assisting in making a good union between the tape and the seal.

In order to avoid the possibility of tearing out a bill or piece of currency at the 25 top or bottom of the stack and then pasting the torn parts together again, I prefer to use a label at the top and bottom of the package. This label may bear a distinctive design and it should contain the name of 30 the institution issuing the currency, the number and denomination of the pieces in the package, and the initials of the verifier. Any other suitable information also can be added. The parties receiving the currency 35 bundled in this manner will be accustomed to look for the top and bottom labels and if they do not find them their suspicions will immediately be aroused. It will readily be appreciated that the simple expedient of 40 using labels of this character avoids any possibility of removing bills from either end of the stack by tearing them out with any hope of success in piecing such bills together again and redeeming them.

The invention has been herein disclosed 45 as concerned especially with the bundling or packaging of currency, but it will be evident that it can also be used to advantage in the bundling of bonds or valuable papers 50 and various articles or goods, and these are regarded for the purposes of this application as the equivalent of currency. For example, it is contemplated that essentially the same machine may be used in the bundling 55 of shingles, the strapping of boxes, and for analogous work.

It will be appreciated that while I have herein disclosed the process provided by this invention as practiced with the aid of the 60 machine above described, the process is, nevertheless, independent of any special form of machine, and that it may be practiced with other forms of apparatus or by hand. It will also be understood that while I have 65 herein shown and described the best form

of machine which I have so far devised, the invention is susceptible of embodiment in other forms differing in many particulars from the specific construction shown. I do not desire to be limited, therefore, to the 70 precise details of construction of the machine shown.

Having thus described my invention, what I desire to claim as new is:

1. In a machine for bundling paper cur- 75 rency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said stack while the stack is held so compressed, and a mold mounted to be positioned against 80 said binder and operative to hold a quantity of melted material in position to seal overlapping portions of the binder together.

2. In a machine for bundling paper cur- 85 rency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said stack while the stack is held compressed, and means for delivering a quantity of 90 melted sealing material to overlapping portions of the binder to secure the binder in its tightened condition.

3. In a machine for bundling paper cur- 95 rency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said stack while the stack is held compressed, a mold for holding a quantity of melted seal- 100 ing material in position to secure adjacent portions of the binder together and thereby hold the binder in its tightened condition, a pot for holding a supply of said material, and means for conveying a charge of said material from said pot to said mold.

4. In a machine for bundling paper cur- 105 rency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said stack while the stack is held compressed, a mold for holding a quantity of melted seal- 110 ing material in position to secure adjacent portions of the binder together and thereby hold the binder in its tightened condition, a pot for holding a supply of said material, means for conducting said material to said 115 mold, a dipper for conveying a charge of said material from said pot to said means, and operating means for said dipper.

5. In a machine for bundling paper cur- 120 rency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said stack while the stack is held compressed, a mold for holding a quantity of melted seal- 125 ing material in position to seal together adjacent portions of said binder and thereby secure the binder in its tightened condition, and means supporting said mold for move- 130 ment into and out of said position.

6. In a machine for bundling paper cur-

rency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said stack while the stack is held compressed, a
 5 mold for holding a quantity of melted sealing material in position to seal together adjacent portions of said binder and thereby secure the binder in its tightened condition, and supporting means for said mold enabling it to be swung into and out of said
 10 position.

7. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said
 15 stack while the stack is held compressed, a mold for holding a quantity of melted sealing material in position to seal together adjacent portions of said binder and thereby secure the binder in its tightened condition,
 20 means supporting said mold for movement into and out of said position, and mechanism including a spring for yieldingly holding said mold in its operative position.

8. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said
 30 stack while the stack is held compressed, a mold for holding a quantity of melted sealing material in position to seal together adjacent portions of said binder and thereby secure the binder in its tightened condition,
 35 means supporting said mold for movement into and out of said position, said mold including a bottom supported to yield backwardly upon engagement with said binder.

9. In a machine for bundling paper currency, the combination of a stationary platform on which a stack of said currency may be placed, a slide, a plate carried by said
 40 slide to bear on said stack, a rack mounted to move past the slide parallel therewith, a pawl carried by said slide and arranged to engage the teeth of said rack, and means
 45 for sliding said rack.

10. In a machine for bundling paper currency, the combination of a stationary platform on which a stack of said currency
 50 may be placed, a slide, a plate carried by said slide to bear on said stack, two pawls carried by said slide, a stationary rack with which one of said pawls engages, a slidable rack with which the other pawl engages,
 55 a treadle for moving the latter rack, and means for disengaging said pawls from their respective racks.

11. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, means
 60 for holding a supply of binding tape, a finger for anchoring one end of a length of said tape drawn from said supply and looped around the stack, a gear located between said supply and stack and over which

the tape is drawn, a segment for pressing said tape against said gear, a lever carrying said gear, a second lever fulcrumed on the first lever and carrying said segment, and a
 70 treadle connected with said second lever, whereby the depression of said treadle is operative to press the segment against the gear and to swing the first lever about its fulcrum, thus gripping said tape and drawing it tightly about said stack.

12. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said
 80 stack while the stack is held compressed, a mold for holding a quantity of melted sealing material in position to secure adjacent portions of the binder together and thereby hold the binder in its tightened condition, a device mounted for movement into and out
 85 of position between said binder and stack to cooperate with said mold in confining the flow of said sealing material, and means supporting said mold for movement into and out of its sealing position.

13. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, a device for anchoring one end of a binder looped around the stack, mechanism for
 95 drawing said binder to tighten it about the stack and hold the stack compressed, a mold mounted to be positioned against said binder and operative to hold a quantity of melted sealing material in position to seal adjacent
 100 portions of the binder together, and a device cooperating with said mold to confine said sealing material, said devices being connected for movement into and out of their operative positions in unison.

14. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a pair of binders
 110 around said stack near opposite ends thereof, two molds mounted to be positioned against the respective binders and each operative to hold a quantity of melted sealing material in position to seal adjacent portions of the binders together, and means for
 115 moving said molds into and out of their sealing positions in unison.

15. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a pair of binders
 120 around said stack near opposite ends thereof, two molds mounted to be positioned against the respective binders and each operative to hold a quantity of melted sealing material in position to seal adjacent portions of the binders together, connecting
 125 means supporting said molds for movement substantially in unison to and from their sealing positions, said connections including
 130

a spring enabling the molds to have a differential movement, and an additional spring for holding both molds in their sealing positions.

5 16. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a pair of binders around said stack near opposite ends thereof, two molds mounted to be positioned
10 against the respective binders and each operative to hold a quantity of melted sealing material in position to seal adjacent portions of the binders together, a melting pot
15 for said sealing material, means for conducting charges of said material to said molds, a dipper for conveying charges of said material from said pot to said conducting means, and operating mechanism for said dipper.

20 17. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, means for holding two supplies of binding tape adjacent to said mechanism and from which
25 lengths of tape may be drawn and looped about said stack near opposite ends thereof, and means for tightening said tapes about said stack simultaneously.

30 18. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, means for holding two supplies of binding tape adjacent to said mechanism and from which
35 lengths of tape may be drawn and looped about said stack near opposite ends thereof, a pair of fingers for anchoring the ends of said lengths of tape, means for gripping
40 said lengths of tape between said stack and said supplies, a treadle for moving said gripping means to tighten the tapes around the stack while the stack is held compressed, a pair of molds for holding sealing material in position to secure together adjacent portions of said tapes and thereby secure them
45 tightly on the stack, and means for delivering charges of sealing material to said molds.

50 19. That improvement in the process of bundling paper currency, which consists in making a stack of said currency, compressing said stack, encircling the stack with a metallic binder, tightening the binder on the stack while the stack is still held compressed, and uniting adjacent portions of
55 said binder by fusing a metal seal about them while the binder is held in its tightened condition.

60 20. That improvement in the process of bundling paper currency, which consists in making a stack of said currency, compressing said stack, encircling the stack with a

metallic binder, tightening the binder on the stack while the stack is still held compressed, fusing a metal seal about adjacent portions of said binder, and holding said
65 portions spaced apart while said seal is fused about them, whereby said seal will lock the binder securely in its tightened condition on the stack.

21. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said
70 stack while the stack is held so compressed, and means for anchoring the end of said binder at a point close beside said stack, said anchoring means being supported for lateral withdrawal from under the binder
75 after the tightening operation has been completed.

22. In a machine for bundling paper currency, the combination of mechanism for compressing a stack of said currency, mechanism for tightening a binder about said
80 stack while the stack is held so compressed, means for anchoring the end of said binder at a point close beside said stack, and means for securing adjacent parts of said binder together to secure the binder in its tightened
85 condition, said anchoring means being supported for lateral withdrawal from under the binder after the tightening operation has been completed.

23. In a machine for bundling currency, the combination of mechanism for compressing
95 a stack of currency, means for anchoring one end of a metal tape at a point closely adjacent to said stack with said tape looped about the stack, mechanism for tightening
100 said tape about said compressed stack with portions of said tape overlapping each other, and means for sealing the overlapping portions of said tape together in their tightened condition, said anchoring means being supported for withdrawal from under the
105 binder after said sealing operation has been completed.

24. In a machine for bundling currency, the combination of mechanism for compressing
110 a stack of currency, means for anchoring one end of a metal tape at a point closely adjacent to said stack with said tape looped about the stack, mechanism for tightening
115 said tape about said compressed stack with portions of said tape overlapping each other, means for sealing the overlapping portions of said tape together in their tightened condition, and means for laterally withdrawing the anchoring means from under said
120 binder after the sealing operation has been completed.

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