C. G. WYATT.

FORM FOR PAPER BOX COVERING MACHINES.

APPLICATION FILED JUNE 24, 1910.

972,974. **Patented Oct. 18, 1910.**

2 SHEETS—SHEET 1.

FIG. 1.

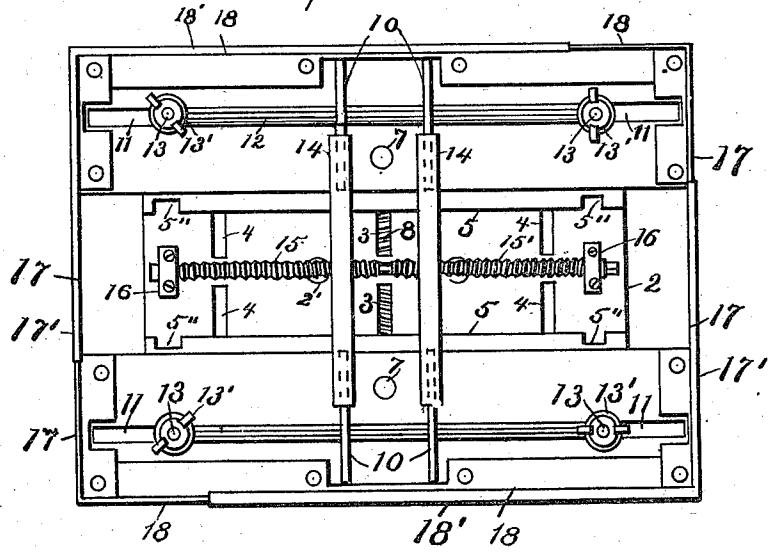
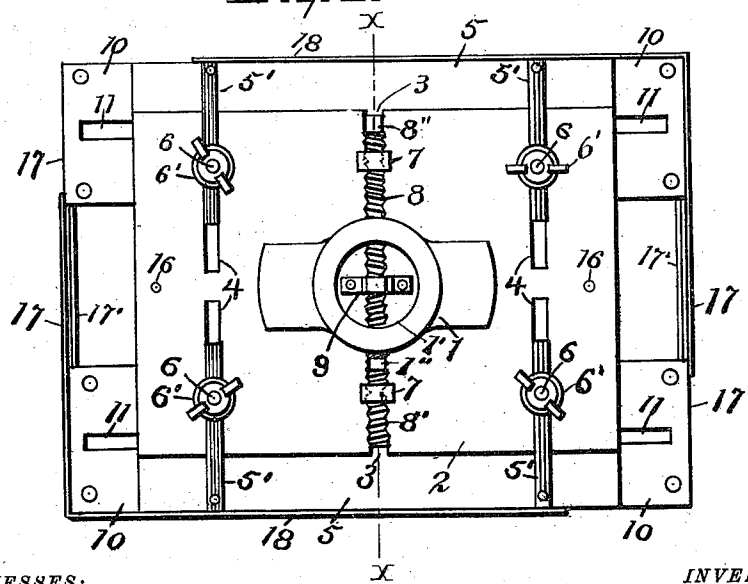


FIG. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

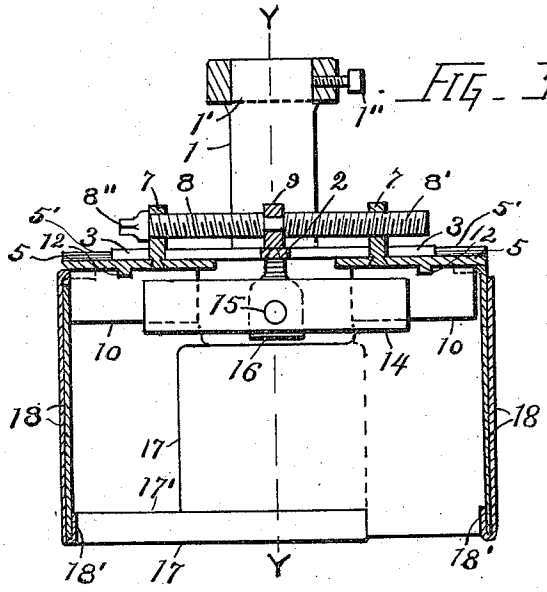
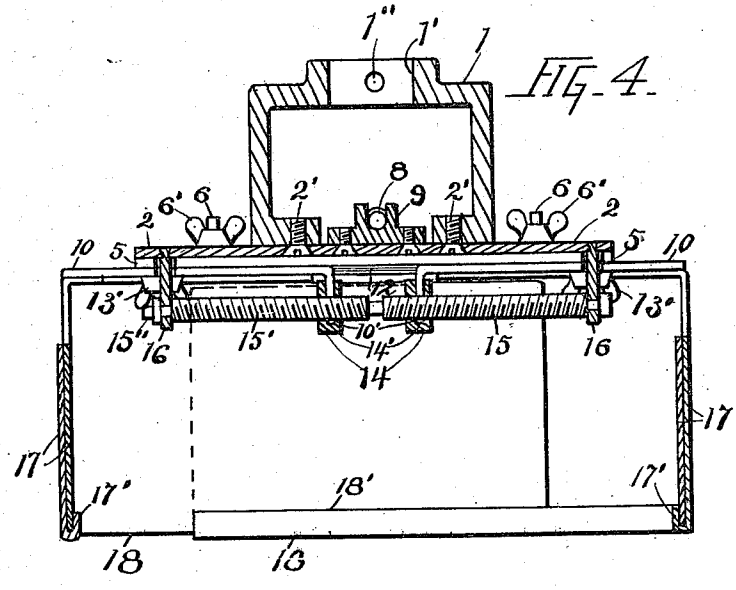


FIG. 4.



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FORM FOR PAPER-BOX-COVERING MACHINES.

972,974. Specification of Letters Patent. Patented Oct. 18, 1910.

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To all whom it may concern:

Be it known that I, CHARLES G. WYATT, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Forms for Paper-Box-Covering Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in that class of forms which are designed for use on paper box covering machines and the objects of my improvements are, first: to provide a simple, substantial and durable form of rectangular shape which can be easily and quickly secured and adjusted on the form shaft of a paper box covering machine; and which can be easily and quickly adjusted to fit paper boxes of various widths and lengths; without removing the form from said form shaft, second; to so construct a form of this character, that the sides of the same shall synchronously move outward and inward from and toward one common center, for adjustment of the width of said form, and so that the ends of said form move in the same manner, independent of the movement of said sides, for adjusting the length of said form, third; to so arrange the parts of an adjustable form of this character; that the rectangular form of the same shall be self maintained throughout the various adjustments of the ends and sides of the form, fourth; to provide adjustment securing means, whereby the parts of the form are rigidly secured in their various adjustments. I attain these objects by the mechanism illustrated in the accompanying drawing, in which:—

Figure 1 is a front elevation of the form. Fig. 2 is a rear elevation. Fig. 3 is a transverse section, on the line X X, seen in Fig. 2, looking toward the right. Fig. 4 is a longitudinal section of the entire form, on the line Y Y, seen in Fig. 3; looking toward the right.

The form comprises a holder 1, having opening 1′ therethrough adapted to receive an end portion of a form shaft, (not shown,) on which said holder is rotatable and is adjusted in its rotation at any desired point, by set screw 1″. Holder 1 is secured to boss plate 2, by screws 2′, seen in Fig. 4.

Referring to Figs. 1 and 2, boss plate 2 has the two central drive slots 3 and the four guide slots 4, formed therein and extending transversely from near the center thereof to the edges of said boss plate. The two width plates 5 are provided with guide splines 5′, secured thereon, and slidable in guide slots 4, (see Fig. 2,) provided with thumb screws 6, secured to said splines having thumb nuts 6′, whereby width plates 5 are secured to boss plate 2 at any desired point along said slots. Said width plates have cut outs 5″ formed therein and are each provided with a drive boss 7, secured thereon and extending through drive slot 3 and beyond boss plate 2. The extended portions of said drive bosses, each have a threaded aperture therethrough. Left threaded widening screw 8 is rotatably mounted in open bearing 9, secured on boss plate 2, and has right threaded screw 8′ formed integral therewith. Said screw has the square end portion 8″ formed thereon, adapted to have a socket, wrench, (not shown,) applied thereto for rotating said screw. Screw 8 is screwed through said threaded aperture, through one of the drive bosses 7, while screw 8′ is in like manner screwed through the other one of said drive bosses. Thus providing guiding and screw driving means, whereby said width plates are guided and driven from and toward bearing 9, for width adjustment of same. Carried by each of said two width plates, and slidable and adjustably secured thereto, are two length plates 10, and since said length plates are identically alike in their construction and operation, a detailed description of one is sufficient. Referring to Fig. 1, length plate 10 has guide slot 11, formed therethrough, slidable on spline 12, secured on width plate 5, and provided with thumb screw 13, secured to said spline, said thumb screw being provided with thumb nut 13′ whereby length plate 10 is secured to width plate 5 at any desired point along slot 11. The inner end of said length plate is turned downward at a right angle, forming a deep spline 10′, slidable in channel 14′, in the channeled drive bar 14, having a screw threaded aperture through the central portion thereof, through which is screwed one end portion of lengthening screw 15, while the opposite end portion of said screw is in like manner screwed through another channeled drive bar 14, which is identically like the bar 14 described, in construction and operation, and therefore is not described in detail. One of said end portions of screw

15 is right threaded, while the other one of said end portions of said screw, seen at 15′ is left threaded. Said screw has the square portion 15″ formed on one extremity thereof, adapted to have said socket wrench applied thereto, for rotating said screw, which is rotatably mounted in bearings 16, secured to boss plate 2. Thus providing lateral guiding and screw driving means, whereby said channeled drive bars 14 are guided and driven toward and from each other, for length adjustment of length plates 10, two of which are thus driven by each of said two bars 14. Each of said length plates 10, carries secured thereto by one edge thereof, an end portion 17 and a side portion 18, of the described form which lap past similar portions 17 and 18, carried by opposite length plates 10. Said form portions are preferably formed of sheet metal. The free edge of one of said end portions 17, has a return bend 17′ formed on the free edge thereof, in which the free edge of another end portion 17 is slidably guided. The free edge of one of said side portions 18 is similarly formed and slidably guides the free edge of another side portion. Both of said form ends are identically alike in their construction and operation, and both sides of said form are identically alike in like manner.

In operation, holder 1 is rotatably adjusted and secured on the form shaft, (not shown,) as described. An ordinary socket wrench is applied to portion 8″ of screw 8, which is thereby manually rotated, which, by the parts as described, moves side portions 18 to the desired width of form, after which thumb nuts 6′ are tightened, thereby securing the parts in their width adjustment; said wrench is then applied to end 15″ of screw 15, which is thereby manually rotated, which by the parts described, moves end portions 17 to the desired length of form; after which thumb nuts 13′ are tightened, thereby securing the parts in their length adjustment; after which, the thus adjusted and secured form is ready to receive paper boxes of a given size thereon.

The described form is readjusted, as described, for any other sizes of paper boxes.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a form for paper box covering machines having a form shaft therefor, a holder adapted to be rotated on said shaft; holder securing means, adapted to secure said holder on said shaft; a boss plate, secured to said holder; a width adjusting screw, adapted to be rotated by a wrench, said screw being rotatably mounted at the center thereof, in a bearing, secured on said boss plate, and having a right threaded one half portion and a left threaded other half portion; a pair of width plates, slidably guided by said boss plate; securing means, on each of said width plates, whereby the same are secured to said boss plate, at various distances from each other; screw engaging means, whereby one of said width plates is engaged with the right threaded portion of said screw; other screw engaging means, whereby the other width plate is engaged with the left threaded portion of said screw; a pair of length plates, adjustably secured to each of said width plates, and a side portion of said form, secured at one edge thereof to each of said length plates; the whole adapted to slidably guide and move said side portions of said form, from and toward each other; and to secure the same at any desired points of said movements.

2. In a form for paper box covering machines, a boss plate, provided with adjusting and securing means, whereby said boss plate is adapted to be adjusted and secured on an end portion of a shaft; a pair of width plates; provided with transversely arranged guiding means, whereby the same are guided; securing means, for securing said width plates to said boss plate; a screw, adapted to be rotated by a wrench; said screw being rotatably mounted on said boss plate, and having a right threaded portion of same engaged with one of said width plates, and a left threaded portion engaged with the other one of said width plates, whereby said width plates are moved from and toward each other; a longitudinally arranged lengthening screw adapted to be rotated by a wrench, said screw being rotatably mounted in bearings, secured to said boss plate, and having a right threaded one half portion, and a left threaded one half portion formed thereon; a pair of transversely arranged drive bars, each having a channel formed therein, one of said bars having the right threaded portion of said screw screwed through the central part thereof, the other one of said drive bars having the left threaded portion of said screw, screwed through the central part thereof; a pair of length plates, each provided with a spline on the inner end thereof, inserted in the channel in one of said drive bars, said length plates being slidably secured; one to each of said width plates; a side portion and an end portion of a box form secured to each of said length plates, and another pair of length plates similarly engaged with the other one of said drive bars, said other length plates each having the remaining side portion and end portion of said box form secured thereto.

3. In a form for paper box covering machines, a holder, adapted to be adjusted and secured on an end portion of a shaft; a boss plate, secured to said holder; a width plate, slidably secured to said boss plate; width

screw driving means, mounted transversely on the rear side of said boss plate whereby said width plate is slidably moved; a length plate, slidably secured to an end portion of said width plate; a lengthening screw, secured longitudinally to the front side of said boss plate; length driving means, arranged transversely to said screw, and driven thereby; and slidable engaging means, whereby one end of said length plate is slidably engaged with said driving means.

4. In a form for paper box covering machines, a boss plate, provided with adjusting and securing means, for adjusting and securing the same on an end portion of a shaft; a width plate; slidable guiding and securing means, adapted to slidably guide and secure said width plate transversely to said boss plate; width screw driving means, mounted transversely on the rear side of said boss plate, across the central portion thereof, whereby said width plate is slidably driven; a length plate, provided with slidable guiding and securing means, whereby said length plate is slidably guided longitudinally and secured to said width plate at one end portion thereof, another length plate, similarly guided and secured to the other end portion of said width plate; separate length plate driving means, one for each of said length plates; slidable engaging means, whereby each of said length plates is slidably engaged with its said driving means; a lengthening screw, rotatably secured to the front side of said boss plate, and adapted to move said two length plate driving means toward and from each other; a side portion of a box form, having the rear edge thereof secured to one of said length plates, and having the front edge portion extended inward and a return bend formed on the front edge thereof, adapted to act as a guide; another side portion of a box form, having the rear edge thereof secured to said other length plate, and the front edge thereof extended and guided in said return bent portion of the first mentioned portion of said box form.

5. In a box form, a side portion and an end portion of said form, secured together, and adapted to form a corner of said box form; a length plate, having the rear edge of said box form portions secured thereto, a width plate; longitudinal guiding and securing means, whereby said length plate is longitudinally guided and secured to said width plate; driving means whereby said length plate is driven; slidable engaging means whereby said length plate is slidably engaged with said driving means; a boss plate; a lengthening screw, for moving said driving means; said lengthening screw being rotatably secured to the front side of said boss plate; transverse guiding and securing means, whereby said width plate is guided and secured to said boss plate; and width screw moving means, mounted on the back of said boss plate, whereby said width plate is slidably moved.

6. In a form for paper box covering machines, a holder, adapted to be adjusted and secured on an end portion of a shaft; a boss plate, secured to said holder; a width plate, slidably secured to said boss plate; width driving means, mounted on the rear side of said boss plate, whereby said width plate is slidably moved; a length plate, adapted to carry a corner portion of a box form, said length plate being slidably secured to an end portion of said width plate; length moving means, secured to the front side of said boss plate; length driving means, arranged transversely to said width plate, and engaged with said length moving means, for moving said driving means, and slidable engaging means, whereby said length plate is slidably engaged at one end thereof, with said driving means.

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

CHARLES G. WYATT.

Witnesses:
ALBERT FOLWELL,
ROY W. ELAM.