No. 627,336.

Patented June 20, 1899.

P. KEIL, JR.

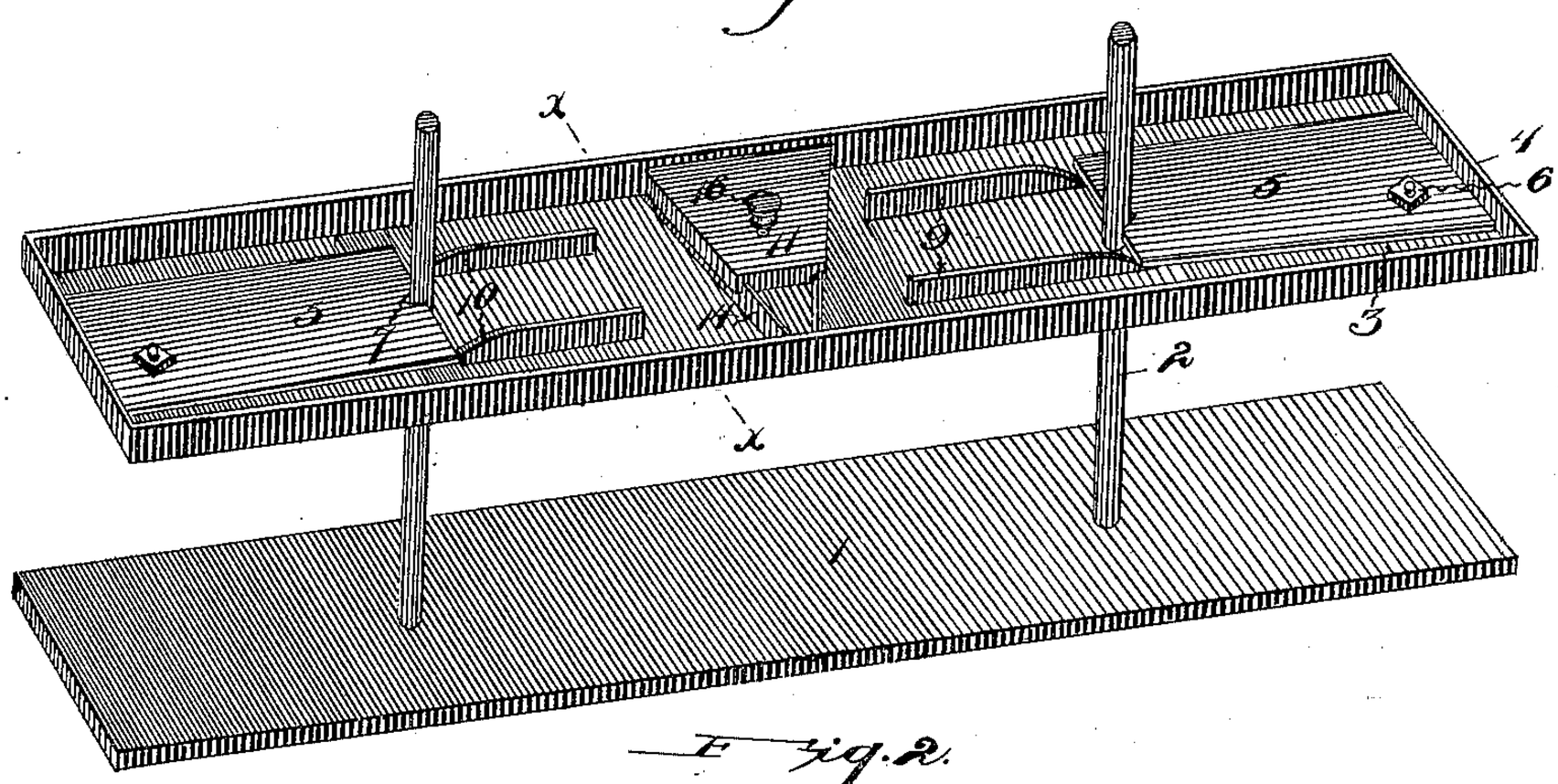
ORDER BLANK BINDER.

(Application filed Mar. 12, 1898.)

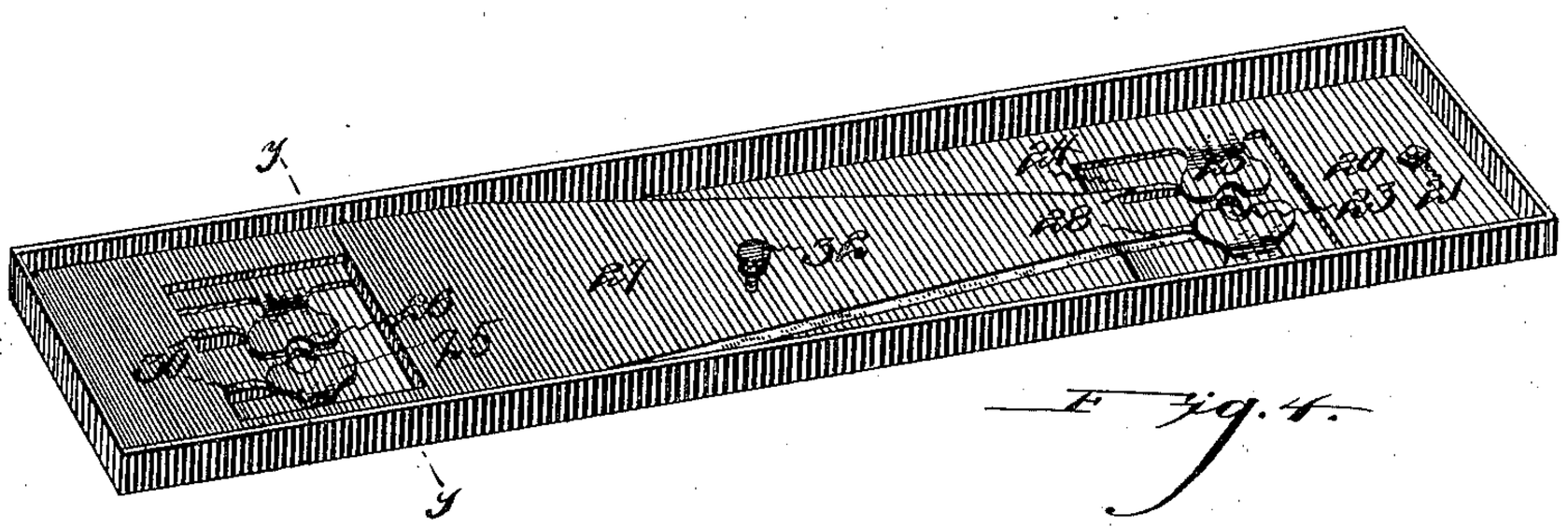
(No Model.)

3 Sheets—Sheet 1.

F Fig. 1

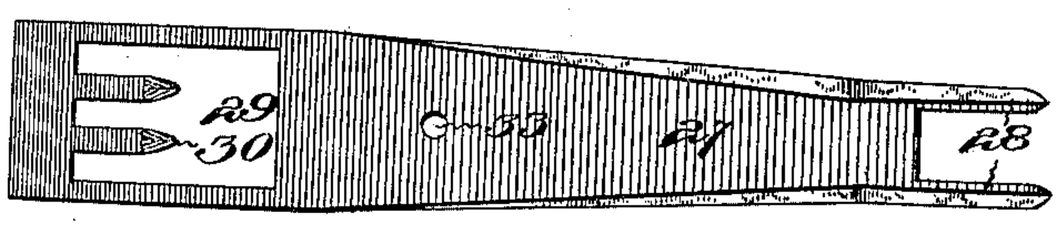


F Fig. 2.

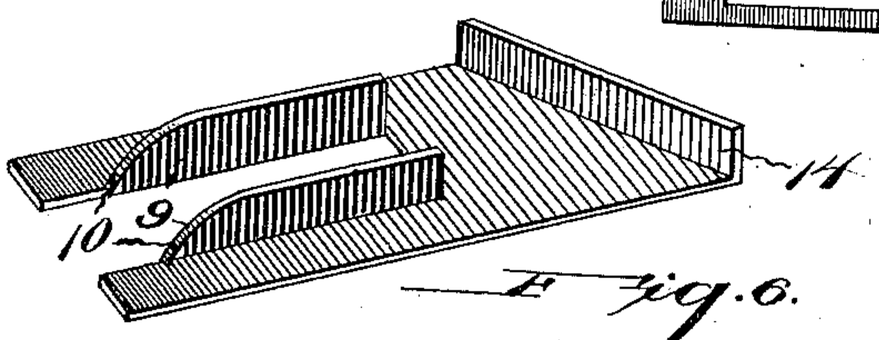


F Fig. 4.

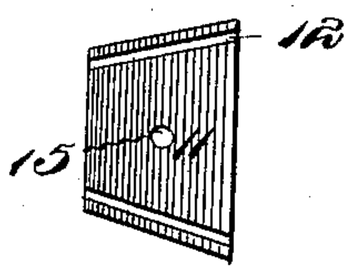
F Fig. 3



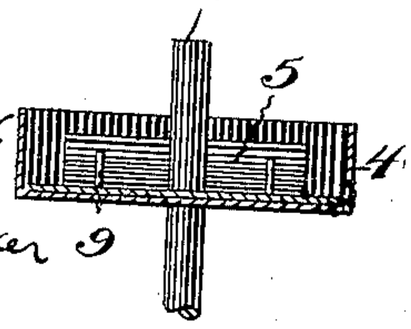
F Fig. 5.



F Fig. 6.



F Fig. 7.



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(No Model.) 3 Sheets—Sheet 2.

Fig. 8.

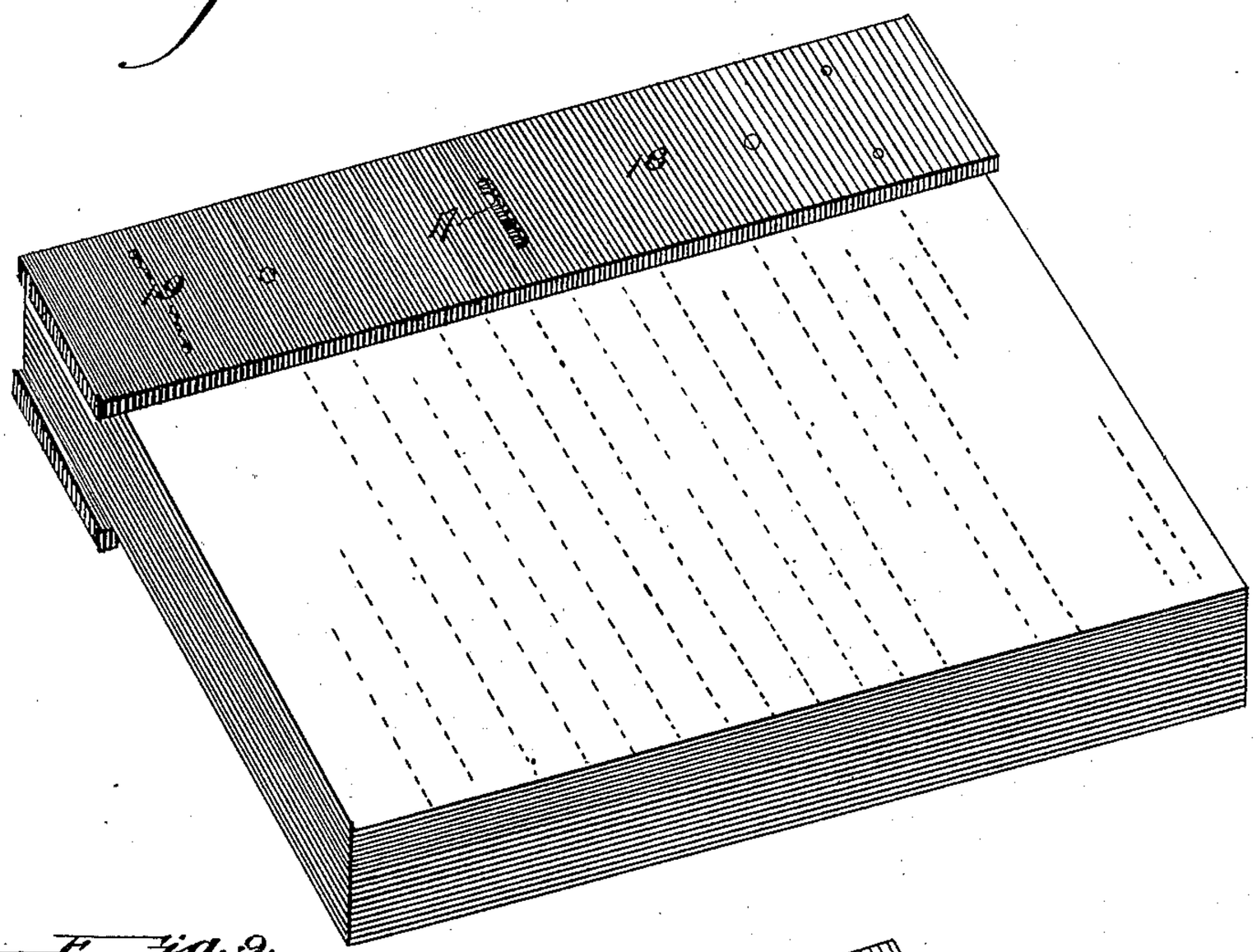


Fig. 9.

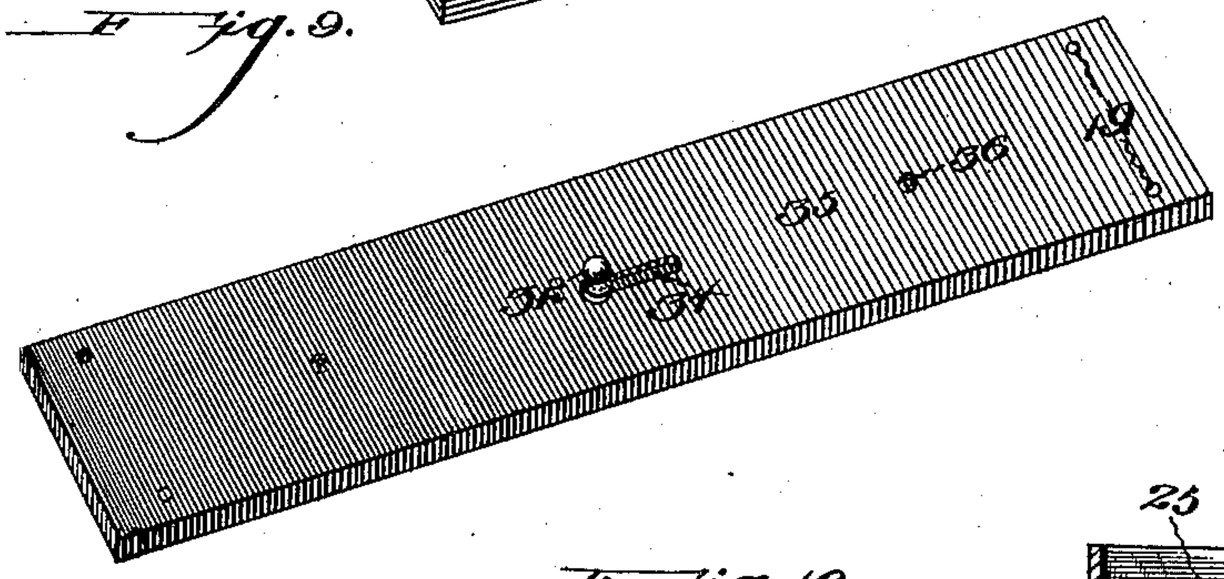


Fig. 10.

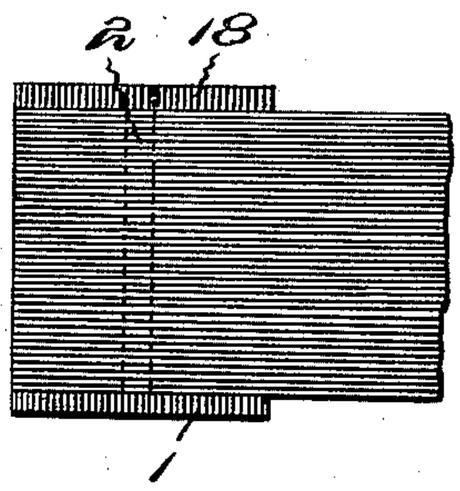
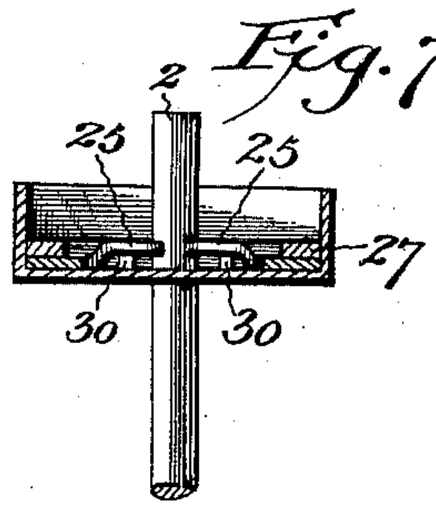


Fig. 7.



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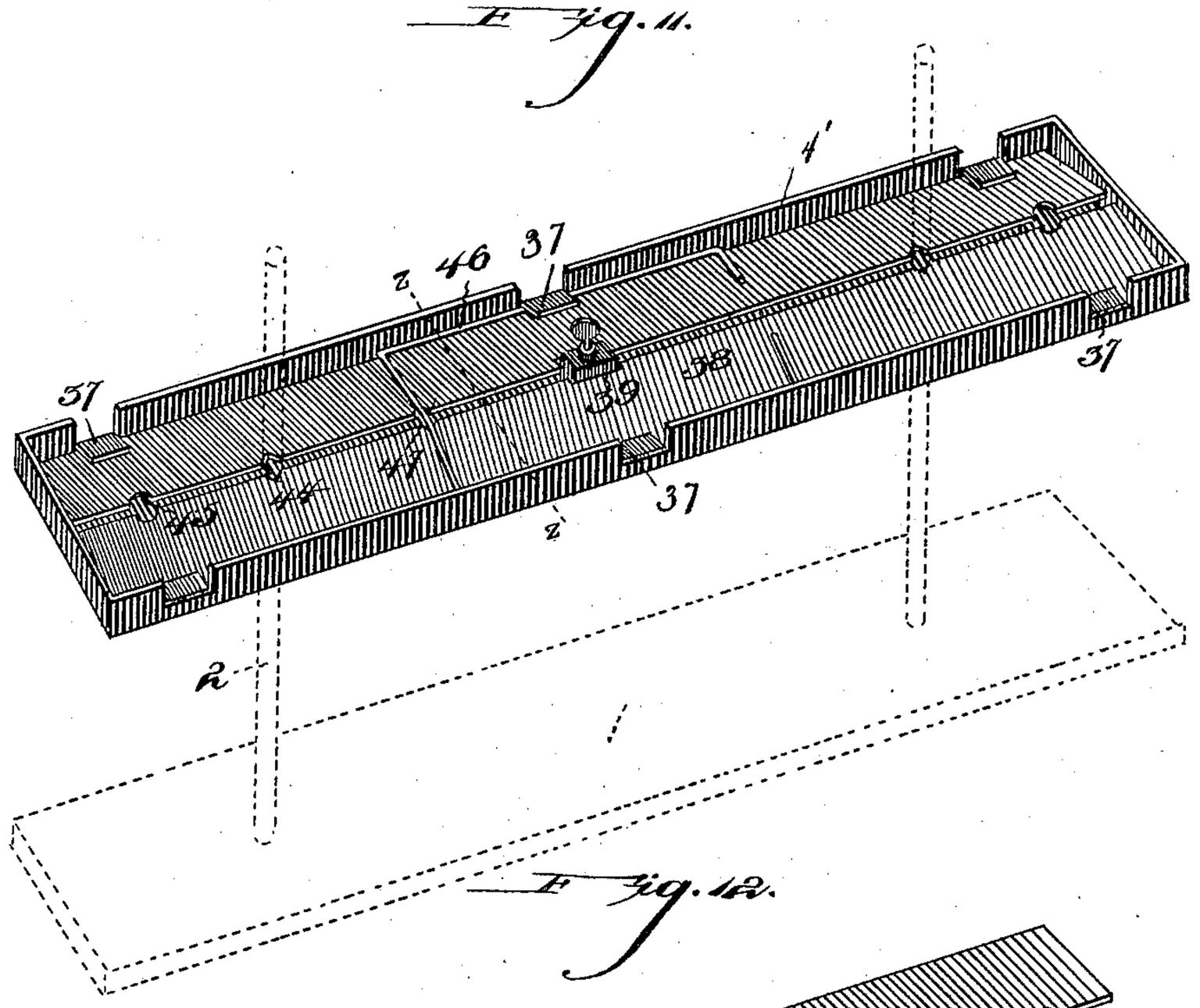
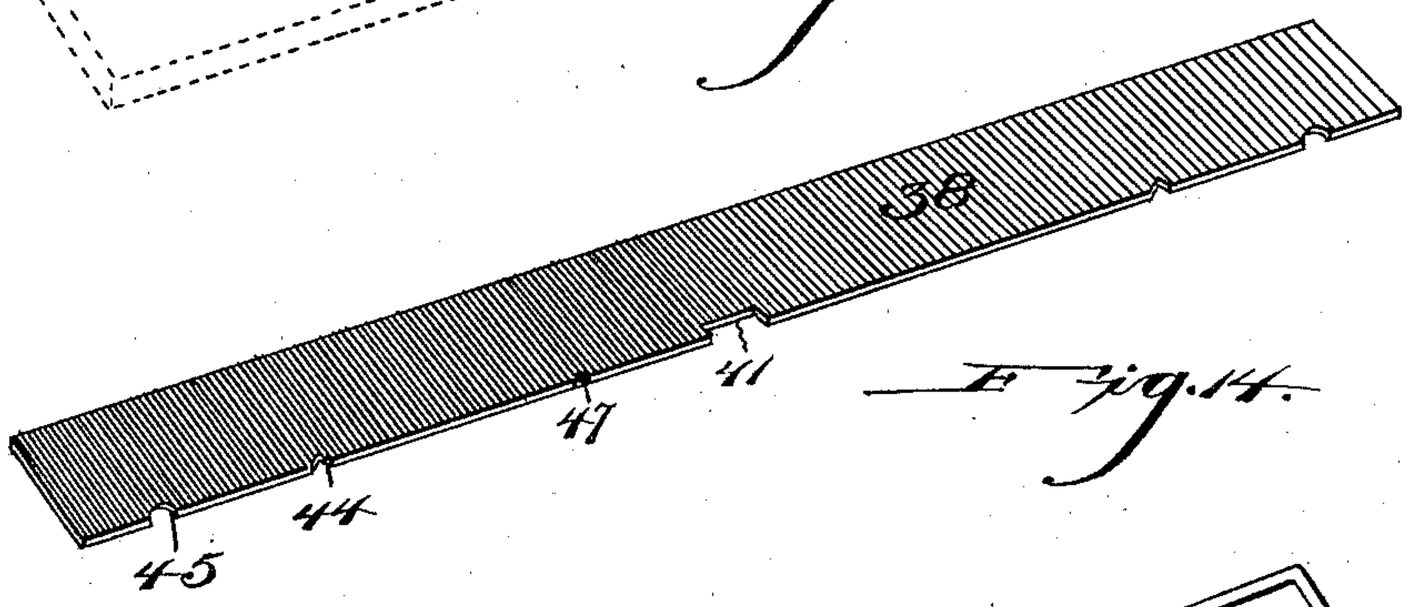
(No Model.) 3 Sheets—Sheet 3.

F fig. 11.

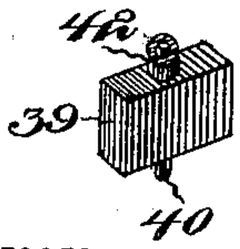


F fig. 12.

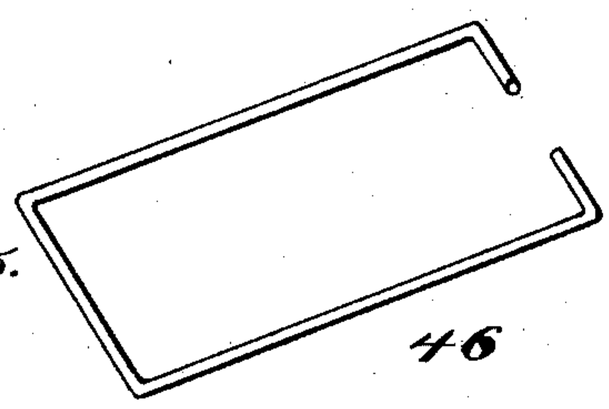


F fig. 14.

F fig. 13.



F fig. 15.



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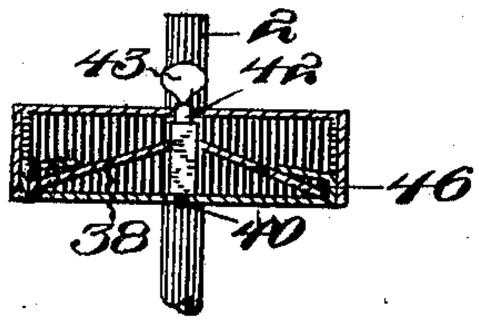

INVENTOR

Peter Keil Jr.

BY

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UNITED STATES PATENT OFFICE.

PETER KEIL, JR., OF PITTSBURG, PENNSYLVANIA.

ORDER-BLANK BINDER.

SPECIFICATION forming part of Letters Patent No. 627,336, dated June 20, 1899.

Application filed March 12, 1898. Serial No. 673,561. (No model.)

To all whom it may concern:

Be it known that I, PETER KEIL, Jr., a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Order-Blank Binders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in binders, and may be more particularly referred to as "order-blank binders," for which purpose they are specifically designed. The binders may of course be employed for the binding of any loose sheets of paper; and the invention has for its object to provide means whereby these loose sheets may be firmly compressed at the point where they are placed upon their standards or retaining-rods and to also provide means for locking the binders at any desired position upon their standards or retaining-rods.

The principal features of my invention comprise the base or bed plate, in which are secured the upwardly-extending standards or securing-rods which receive the loose sheets of paper, said rods being also adapted to receive the binder which carries the mechanism by means of which the binder is securely locked to the rods at any desired point.

Novel features of construction whereby this is attained will be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like figures of reference indicate similar parts throughout the several views, in which—

Figure 1 is a perspective view of my improved binder with the top plate or cover removed. Fig. 2 is a perspective view of the binder-frame with the top plate or cover removed and showing a modified form of locking device. Fig. 3 is a perspective view of one of the slide-plates which operate the spring-plates to release the same from the upright rod. Fig. 4 is a plan view of the operating-plate for releasing the spring-plates in the form of construction shown in Fig. 2. Fig. 5 is a plan view of the slide-plate for operating the form of plates shown in Fig. 1. Fig. 6 is a transverse vertical sectional view taken on the line $x\,x$ of Fig. 1. Fig. 7 is a like view taken on the line $y\,y$ of Fig. 2. Fig. 8 is a perspective view of the binder, showing loose leaves securely bound therein and the screw removed. Fig. 9 is a perspective view of the top plate or cover for the form of binder shown in Fig. 2. Fig. 10 is an end view of the binder, showing the loose leaves bound therein. Fig. 11 is a perspective view of another modified form of binder. Fig. 12 is a perspective view of one of the binding-plates employed in the construction of binder shown in Fig. 11. Fig. 13 is a perspective view of the key or operating-screw employed on this form of binder. Fig. 14 is a perspective view of the spring which holds the binding-plates in position. Fig. 15 is a transverse vertical sectional view taken on the line $z\,z$ of Fig. 11.

The objections heretofore to this class of binders have been many, one of the principal objections being that the top of the binder did not present a smooth even surface after the same had been filled which would permit the storing of the bound blanks in perfect order. Another objection has been the complicated mechanism, by means of which the binder or, rather, its fastening means was engaged and disengaged from the vertical standards or rods which hold the loose sheets of paper. To overcome these and other objections are the main objects of my invention, and to this end I provide the base or bed plate 1 with the vertical standards or rods 2, these latter passing through the binder-frame in the same manner as those binders which are now in use.

The binder-frame is composed of the plate 3, having an upwardly-extending flange or rim 4 entirely around the same, thereby forming a frame within which the fastening means is located. This fastening means is composed of two spring-actuated plates 5, located one at each end of the frame and preferably secured to the plate 3 by means of bolts or rivets 6. The inner ends of these plates are provided with a centrally-arranged cut-away portion 7, which is or may be V-shaped in form, as shown, or of other desired shape and is adapted to receive the upright standards or rods 2, said groove or cut-away portion registering eccentrically with the aperture in the

plate 3 which receives the aforesaid uprights or standards. Located within this frame, between the two upright standards or rods, are the two operating-plates 8, which are formed with upwardly-extending flanges 9, acting as prongs and having beveled or inclined ends 10 engaging the inner ends of the spring-actuated plates 5. These operating-plates are adapted to slide within the frame in alinement therewith, and they are moved simultaneously either away from each other to release the spring-actuated plates from the rods 2 or toward each other so as to permit the spring-actuated plates to impinge upon the rods 2 by means of the wedge-plate 11, which is adapted to slide transversely of the binder and is provided on its underneath side with ways 12, which are adapted to receive the flanges 14, formed on the inner ends of the plate 8 for this purpose. This wedge-plate 11 is approximately triangular in its shape, and the flanges 14, provided on the ends of the plate 8, are consequently also arranged at a corresponding angle, so that as the wedge-plate 11 is moved transversely of the binder toward the side thereof where the two flanges 14 meet or nearly meet the plates 8 are consequently forced outwardly in unison and the flanges 9 thrust in under the spring-plates 5, thereby lifting the same and removing the said plates 5 from their engagement with the rods 2. When the wedge-plate 11 is moved in the direction toward the widest portion of the space between the flanged ends of the plates 8, the same are consequently drawn toward each other and the flanges 9 are withdrawn from their engagement with the spring-actuated plates 7, and the plates are consequently, by reason of the spring action, caused to impinge upon the rods or posts 2, so as to retain the binder at the position upon the said rods or posts at which it has been placed. For the purpose of moving the wedge-plate 11 so as to produce the operation given above I provide the said wedge-plate 11 with a screw-threaded centrally-arranged aperture 15, adapted to receive a thumb-screw 16, which operates in the centrally-arranged transversely-extending oblong slot 17, that is provided in the top plate or cover 18, inclosing the fastening mechanism. This top plate or cover 18 is of course provided with apertures registering with those in the plate 3 to receive the posts or rods 2. Said plate is or may be secured to the plate 3 by rivets 19 or other suitable means, as desired.

In Fig. 2 of the drawings I have shown a slight modification of the fastening means, and in this construction I secure on the plate 3 an auxiliary plate 20, which is or may be fastened thereto by bolts or rivets 21 near each end. In this construction both the plate 3 and the auxiliary plate 20 are apertured at 23 to receive the posts or rods 2, and the said plate 20 is provided at a point surrounding these apertures with a cut-away portion 24 and is also formed with the spring clamps or ears 25, which are adapted to impinge upon the aforesaid rods or posts 2. To permit the rod or post passing between these spring clamps or ears, the latter are provided with semicircular cut-away portions or grooves 26. These spring clamps or ears serve the same purpose and impinge upon the posts or rods 2 in the same manner as the spring-plates 5, and they are elevated, so as to release the same from the posts or rods 2, by means of a sliding plate 27, arranged on top of the plate 20 and which is bifurcated at its one end to form the projecting prongs or barbs 28, which act in the same capacity and for the same purpose as the upwardly-extending flanges 9 on the plates 8, said barbs or prongs being beveled or inclined on their engaging face, so as to permit the same passing readily under the spring lugs or ears 25. In order to bring these prongs 28 into engagment with the spring clamps or ears, it is consequently necessary to reduce the plate at its one end, and in order to guide the plate and retain the same in its perfect position within the frame the opposite end of the plate is retained at its normal width and is formed with an open frame 29, into which extend the barbs or prongs 30, formed integral with the said plate and which engage under the spring clamps or ears 25 at this end of the binder. This plate 27 is also moved by means of the thumb-screw 32, which engages in the aperture 33, provided therefor in the said plate 27, and moves in the oblong slot 34 in the top plate or cover 35, said oblong slot extending in alinement with the plate. This plate 35 may also be fastened to the plate 3 by rivets or screws, as may be desired, and is of course also apertured, as shown at 36, to receive the upright posts or rods 2.

In Fig. 11 I have shown another modification, in which the same form of frame is employed, the flange 4′ thereof being slit at the sides of the frame, and the lugs 37 thereby formed are bent inwardly to hold the binding-plates 38 within the frame. In this construction these binding-plates extend the length of the frame and are held at an incline, so as to form, practically, an inverted V, by means of the operating-key. This operating-key comprises an oblong block 39, having a pivot 40 on its underneath face, that engages the plate 3. This block rests in the cut-away portions or recesses 41, provided therefor in the plates 38, and is further provided on its upper face with a screw-threaded socket 42 to receive the thumb-screw 43. The binding-plates 38 are provided with the grooves 44 in their engaging edge to receive the posts or rods 2 and are also provided with recesses or grooves 45 to receive the screws or rivets for fastening the top plate 18 to the plate 3. In order to give the same spring action to these plates as is exerted upon the posts or rods 2 by the plates 5 and ears 25, I provide an oblong spring 46, which is held firmly upon the top of the plates 38 by the two central lugs 37.

This spring may be prevented from moving longitudinally within the frame by providing notches 47, which receive the closed end of said spring and prevent displacement of same. This spring or frame by reason of its being caused to assume the same position as the plates 38 exerts a spring action on the latter at all times to retain them in their impinging engagement with the rods or posts 2. The engaging edges of these plates are lifted, so as to remove the binder from the posts or shift its position thereon, by turning the oblong block 39 by means of the thumb-screw 43 and simultaneously lifting the binder. When the pressure required to release the plates from their impinging engagement is relieved from the thumb-screw, the spring 46 returns the plates again into their engagement with the said rods or posts.

In the two forms of construction shown in main views, Figs. 1 and 2, it will be observed that the fastening is accomplished by the same means—viz., by the impinging of the spring-actuated plates against the upright posts or rods 2, said plates being released from their impinging engagement by means of prongs or flanges, which engage underneath the same and are permitted to reëngage the posts or rods by the withdrawing of the said prongs or flanges. In the one form of construction the operating-plate is moved transversely of the binder to attain this end, while in the other form of construction the operating-plate is moved in alinement with the binder. In the form of binder shown in Fig. 11 the fastening is also accomplished by means of spring-actuated plates, which impinge upon the posts; but the prongs used for operating the plates to release them from their engagement are dispensed with and a key substituted for this purpose. In each form shown the action of the plates upon the posts or rods 2 is identical.

After the binder has been filled it will be observed that the thumb-screw in either form of construction may be removed and the smooth even surface will thereby be presented, which will permit the storing of the filled binders in a neat and perfect manner.

It will also be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. A binder of the type described, comprising in combination with rods secured in the base or bed plate, the frame which has secured therein spring-actuated plates adapted to be normally in impinging engagement with the rods, operating-plates moving longitudinally of the frame to release the spring-plates from the rods, and a sliding plate moved transversely of the frame to operate the aforesaid longitudinally-moving plates, substantially as shown and described.

2. In a binder of the type described, the combination of the posts or rods carried by the bed or base plate, a binder-frame having secured thereon spring-actuated plates adapted to engage said posts or rods, a slidable wedge-shaped operating-plate, and elevating means operated by said plate whereby the spring-actuated plates are released from their engagement with the rods or posts, substantially as herein set forth.

3. In a binder of the type described, the combination with the base or bed plate carrying upwardly-extending posts or rods, of a frame provided with apertures to receive said rods, spring-actuated plates arranged within the frame to impinge upon said rods, a sliding plate arranged within the frame and carrying means for elevating the aforesaid spring-plates, means for operating said sliding plate, and a top plate or cover secured to the frame for inclosing the spring-plates and operating mechanism, substantially as shown and described.

4. In a binder of the type described, the combination of the posts or rods carried by the bed or base plate, a binder-frame mounted on said posts or rods, a pair of spring-actuated plates mounted in said frame and adapted to impinge on the said rods or posts and secure the said frame in position, and a slidable wedge-shaped operating-plate operating elevating means for releasing the said frame, substantially as shown and described.

5. A binder comprising a pair of posts or rods carried by the bed or base plate, a binder-frame mounted thereon, a pair of spring-actuated plates mounted in said frame and adapted to impinge on the said posts or rods for securing the said frame in position, a wedge-shaped operating-plate, and elevating means operated by the said operating-plate to release the spring-actuated plates from their impingement with the posts or rods to allow of the removal of the binder-frame, substantially as shown and described.

6. In a device of the character described, the combination of the posts or rods, spring-actuated securing-plates engaging said posts or rods, a wedge-shaped operating-plate, and means operated by said wedge-shaped plate for elevating the spring-actuated securing-plates.

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

PETER KEIL, JR.

Witnesses:
A. M. WILSON,
WILLIAM E. MINOR.