

No. 653,337.

Patented July 10, 1900.

D. M. CAMPBELL.
BALE BAND FASTENING.

(Application filed May 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

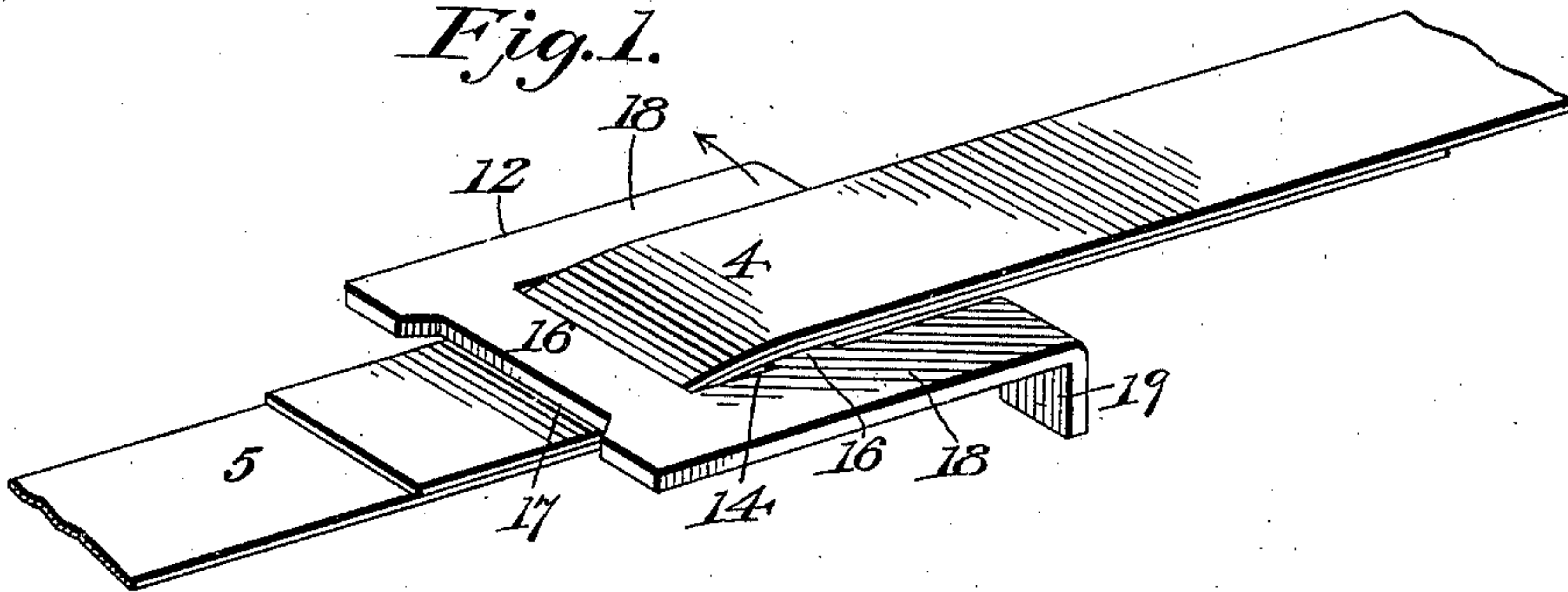


Fig. 2.

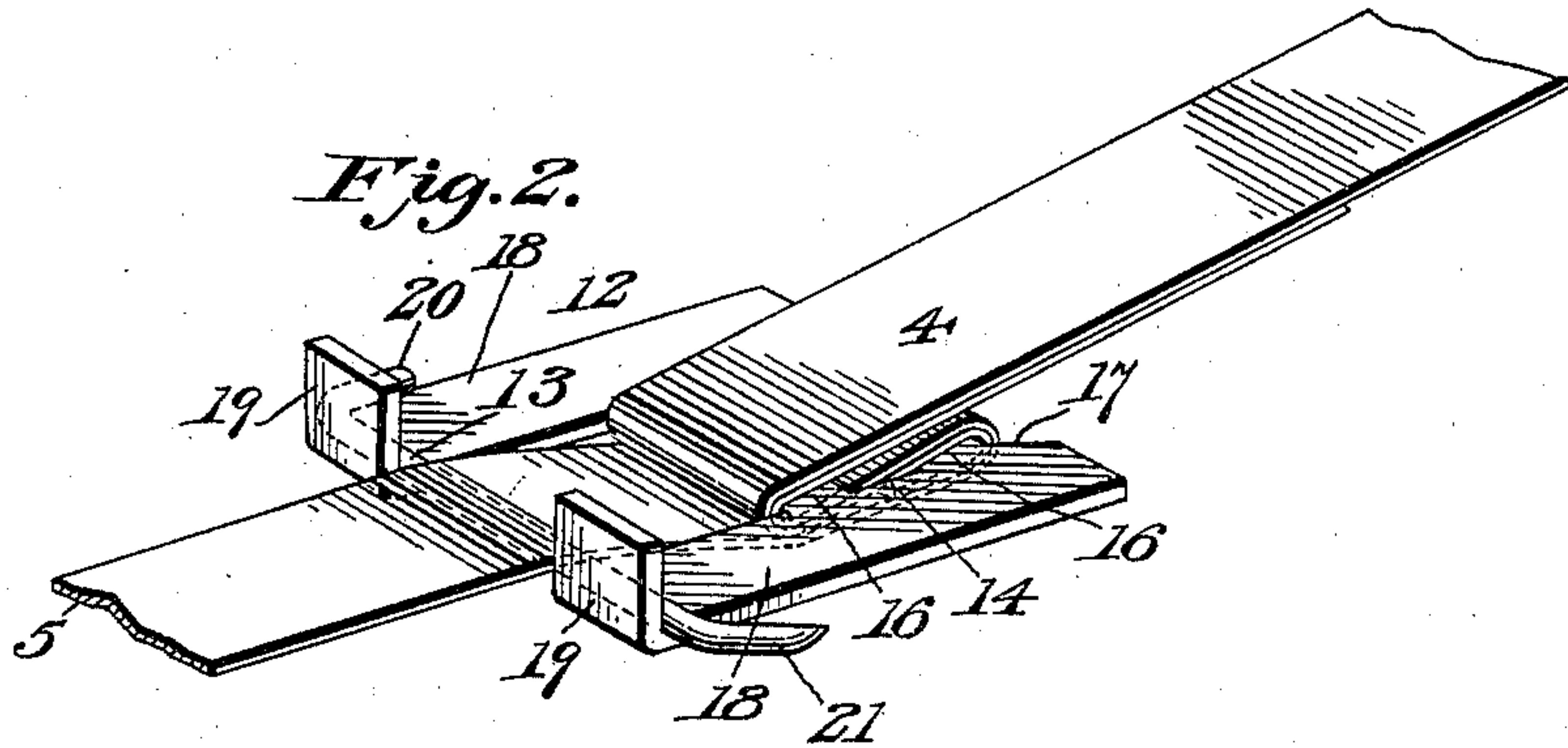


Fig. 3.

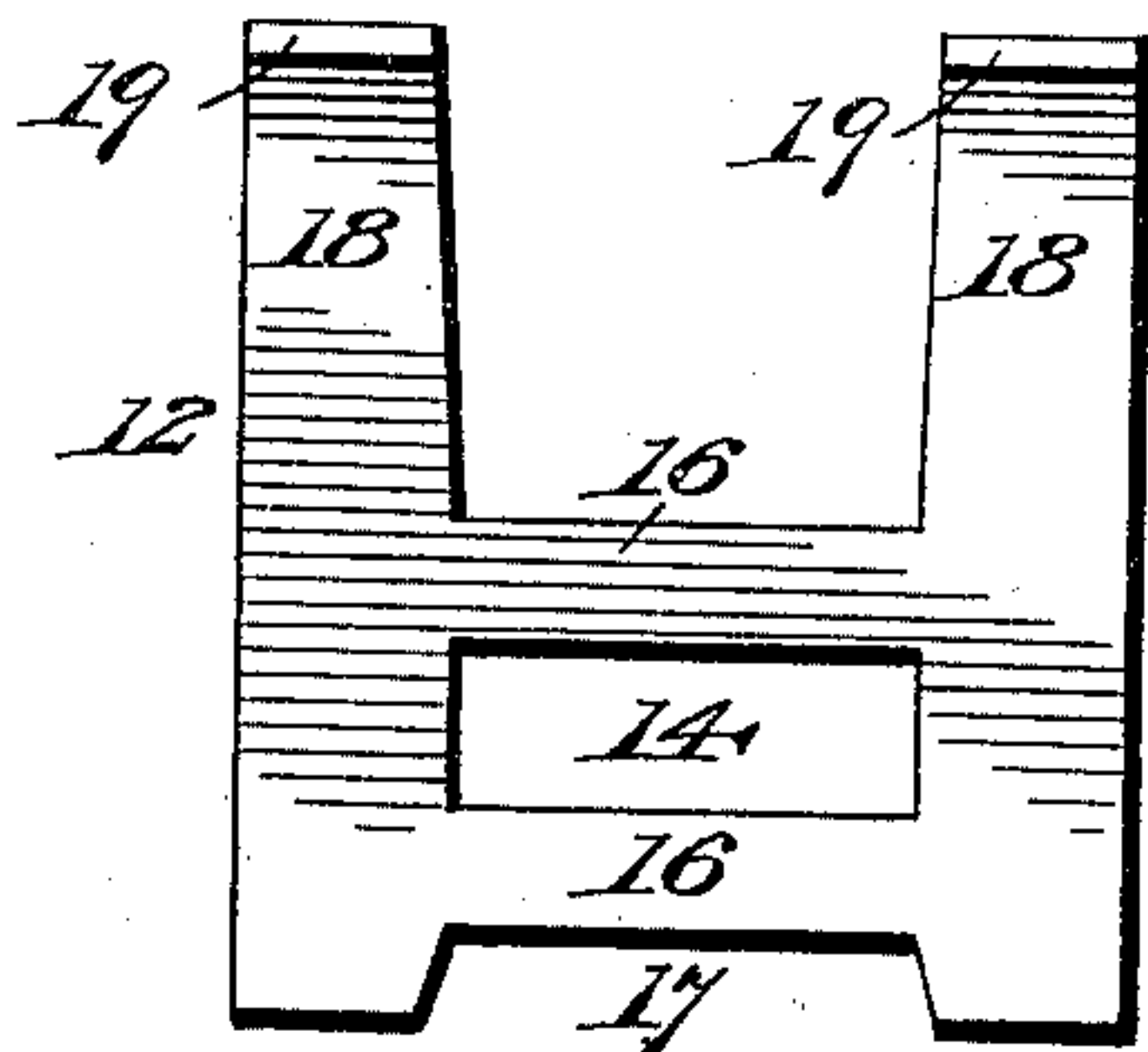
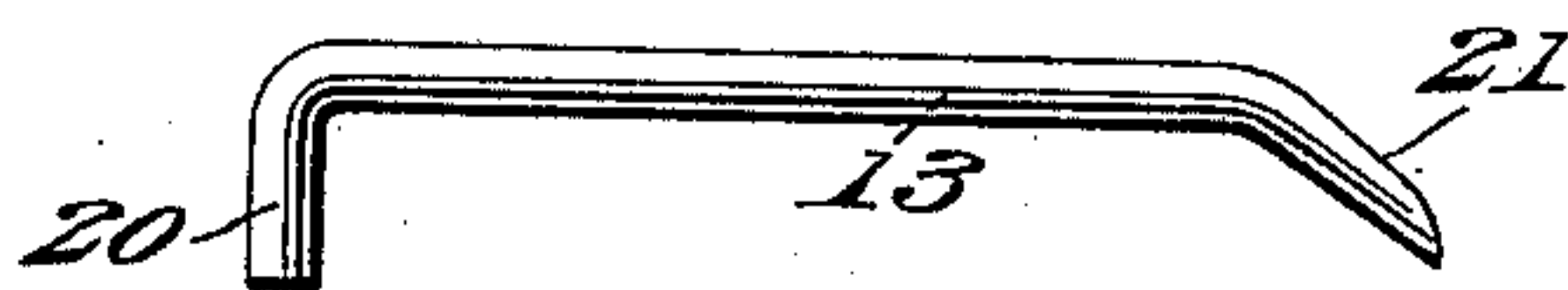


Fig. 4.



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Fig. 5.

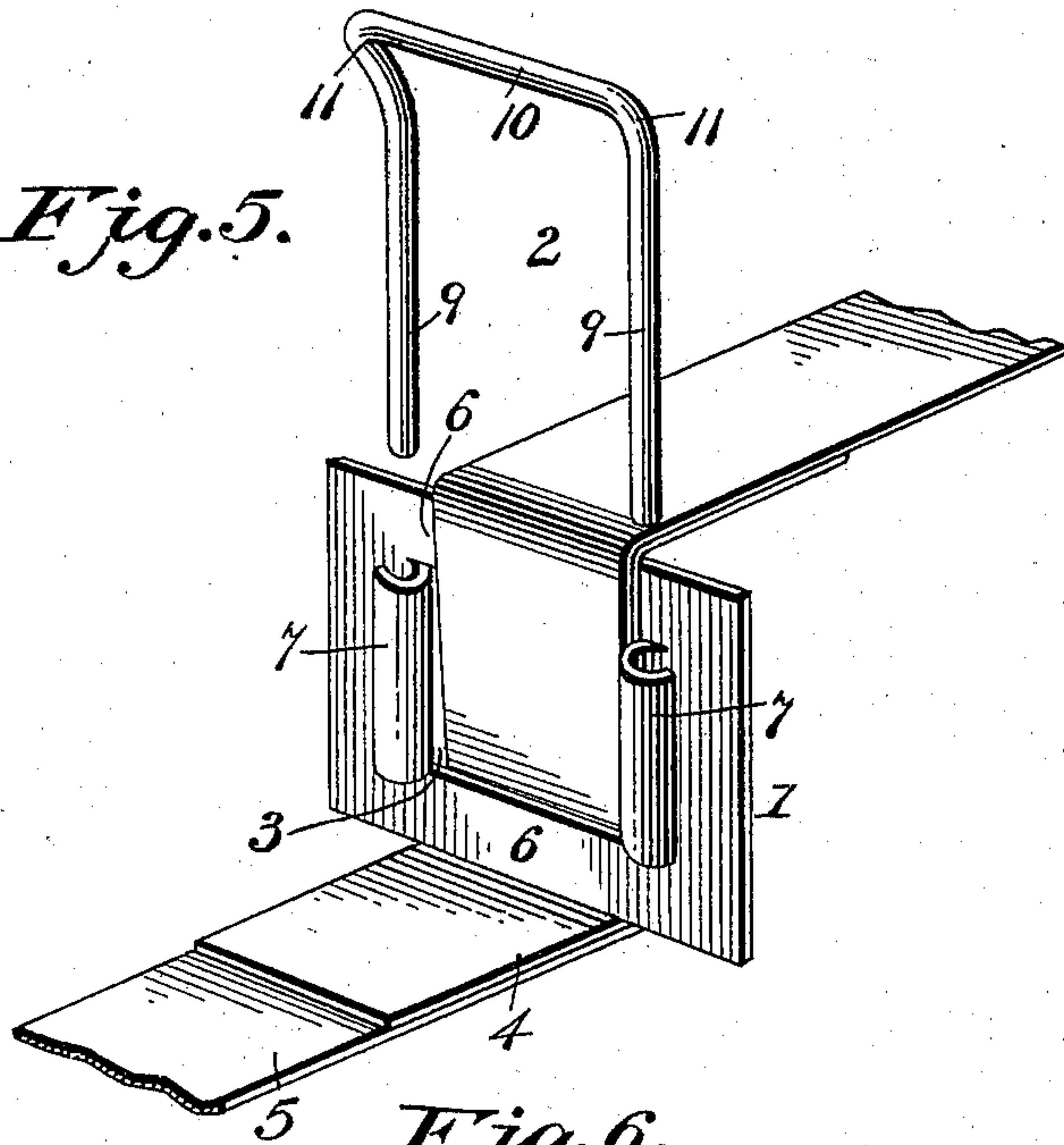


Fig. 6.

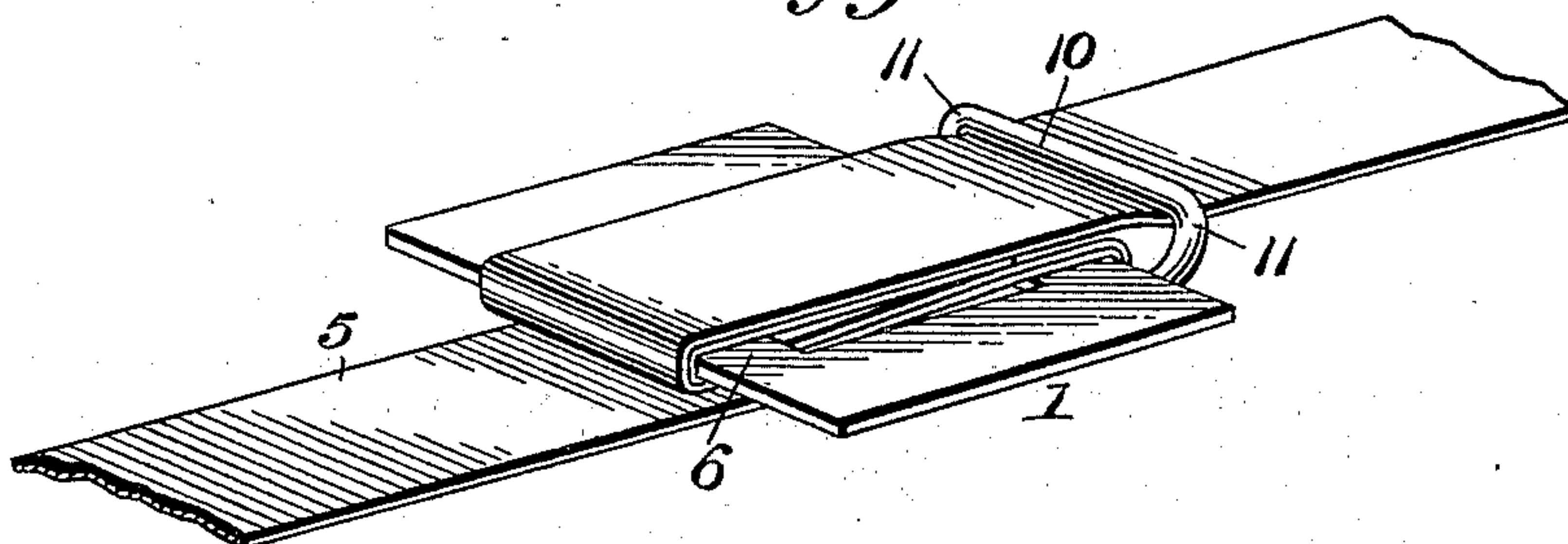
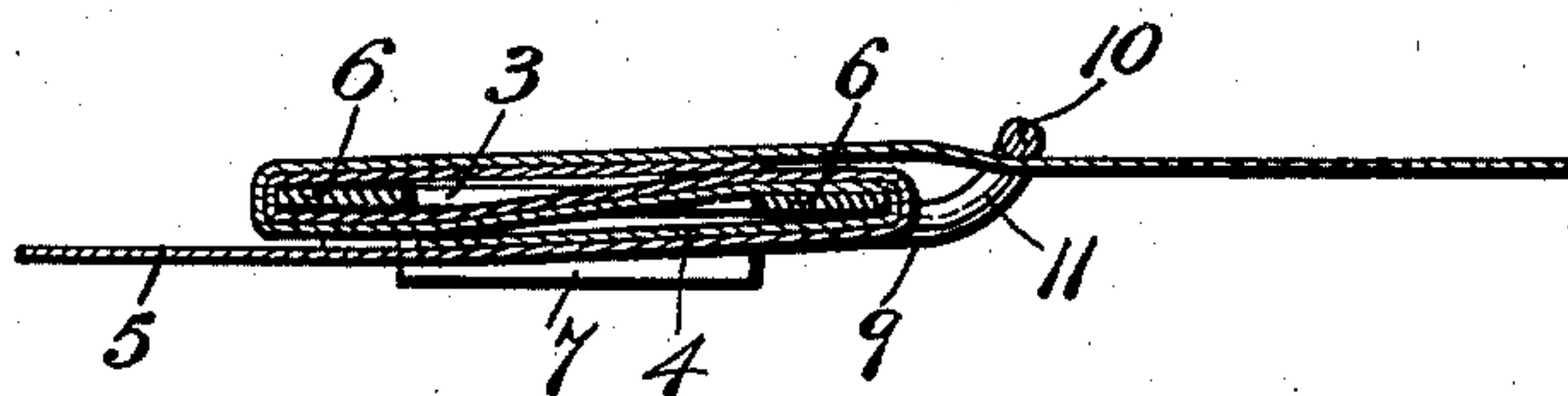


Fig. 7.



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UNITED STATES PATENT OFFICE.

DOUGLAS M. CAMPBELL, OF HOUSTON, TEXAS, ASSIGNOR OF ONE-HALF TO
SINCLAIR TALIAFERRO, OF SAME PLACE.

BALE-BAND FASTENING.

SPECIFICATION forming part of Letters Patent No. 653,337, dated July 10, 1900.

Application filed May 7, 1900. Serial No. 15,792. (No model.)

To all whom it may concern:

Be it known that I, DOUGLAS M. CAMPBELL, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented a new and useful Bale-Band Fastening, of which the following is a specification.

This invention relates to a bale-band fastening or bale-tie; and it has for an object to provide a simple and efficient device of this character having means for taking up a maximum amount of slack in the band with a minimum movement, while at the same time serving to tightly secure the band about the bale and preventing the same from loosening or the ends thereof from rending apart.

A further object of the invention is to construct the fastening or tie with a minimum number of parts, readily assembled and separated, to provide for fastening and unfastening the bale-band.

With these and other objects in view the invention consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The essential features of the invention, involving the special relation of the catch-hooks offset from one side of the buckle-plate and the locking member associated therewith, are necessarily susceptible to some modification without departing from the spirit or principle of the invention; but the preferred embodiment of the improvements is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a bale-band fastening constructed in accordance with the present invention, showing the buckle-plate in its initial position with the ends of the band threaded therethrough. Fig. 2 is a perspective view showing the buckle-plate completely turned and the locking member or key engaged therewith and also with the bale-band. Fig. 3 is a detail in perspective of the buckle-plate. Fig. 4 is a detail elevation of the locking member or key. Fig. 5 is a perspective view showing a modified form of the invention, illustrating the buckle-plate partially turned and the locking member or key disconnected therefrom. Fig. 6 is a perspective view of the modified form, illustrating the

buckle completely turned and the parts locked together. Fig. 7 is a sectional view of the construction shown in Fig. 6.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

The bale-band fastening or bale-tie constituting the present invention essentially comprises a buckle-plate and a locking member or catch, which are adapted to engage with each other and also with the band to provide for securing the latter tightly about the bale after the slack in the band has been taken up in the manner to be presently explained. In the preferred embodiment of the invention, represented in the drawings, the buckle-plate is designated by the reference-numeral 12 and the locking member or key by the reference-numeral 13. The buckle-plate 12 constitutes the winding member of the device, and preferably consists of an approximately-rectangular plate provided therein with a band-receiving eye or opening 14, which is sufficiently large to freely and loosely receive therein the lapped ends 4 of an ordinary bale-band 5, and at this point it may be noted that while the device is essentially designed for use as a slack take-up and fastening for the bands of cotton-bales the same is necessarily capable of general application to bands used for analogous purposes.

The said open-center winding member or buckle-plate 12 of the preferred form of the invention, by reason of the band-receiving eye or opening 14 therein, is formed at opposite sides of the opening with what may be properly termed fulcrum-bars 16, which constitute integral parts of the plate and are adapted to impinge upon the lapped ends of the bale-band and provide fulcrum-points upon which the band bends. On account of these oppositely-located fulcrum-bars 16 the bends in the band will be close and sharp, thus insuring a firm engagement of the plate with the band, so as to reduce the slipping of the parts to a minimum while the plate is being turned to take up the slack in the band.

At one edge, contiguous to a fulcrum-bar 16, the flat buckle-plate 12 is provided with a retaining-notch 17, which receives therein the lapped ends of the band and prevents

lateral slipping or displacement thereof, and upon the opposite edge or side thereof the said buckle-plate 12 is provided with a pair of parallel holding-arm extensions 18, lying within the plane of the body of the plate and projecting a material distance beyond the adjacent fulcrum-bar 16 to insure a proper locking of the parts, and at their terminals the said straight holding-arm extensions 18 are provided with laterally-projecting catch-hooks 19. These catch-hooks 19 are turned outward from the same side of the plate and are disposed, respectively, at opposite sides of the space between the holding-arm extensions 18, and the said catch-hooks 19 are adapted to be engaged by an insertible and detachable locking member or key 13. The locking member or key 13 essentially consists of a substantially-straight bar provided at one end with a right-angled arm 20 and at its opposite end with an inclined inserting prong 21, disposed at an obtuse angle to the straight body portion of the key and adapted to facilitate the insertion of the key beneath the band when the winding member or buckle-plate is to be locked in position. The right-angled arm 20 at one end of the key facilitates the handling thereof in inserting or removing the same.

In applying the device to a bale-band one end of the band 5 is threaded through the eye or opening 14 from one direction, while the other end of the band is threaded through the said eye or opening from the opposite direction, so as to overlap the opposing end. After thus threading the ends of the band through the eye of the buckle-plate, as plainly shown in Fig. 1 of the drawings, the same is engaged at one or both edges by a suitable hand-wrench or tool of the type disclosed in my former patents, Nos. 609,872 and 639,695, or by any other equivalent device capable of exerting the necessary leverage. By means of this hand-wrench or turning device the buckle-plate 12 is turned bodily upon one edge as a fulcrum, thereby winding up upon itself the slack of the band. The turning movement or leverage is applied to the buckle-plate until the catch-hooks 19, projecting from one side thereof, have their bends or loops carried or pressed below the plane of the band, and by then inserting the inclined prong 21 of the locking-key 13 beneath that portion of the band lying beneath the holding-arms 18 the straight portion of the key may be readily passed transversely beneath the band, so as to engage thereunder and within the hooks 19, as plainly shown in Fig. 2 of the drawings, thereby securing or locking the buckle-plate 12 against turning backward and holding the slack that has been taken up. It will also be observed that the locking-key 13 can be readily withdrawn from engagement with the hooks 19 and from beneath the band should it be desired to loosen the band and retighten the same and also to carry out the operation of rebanding a bale. This is quite

an important advantage of the present construction, as by the old methods of rebanding it is difficult and sometimes impossible to replace a band that will stay on without repressing the bale in the press.

In the fastening just described it will be observed that the lapped band is wrapped (double-looped) about the buckle, and the parts—namely, the band and the buckle—are firmly held in twisted position by the holding-arms 18, being carried a little at one side of the axis of rotation and secured beneath the band by the locking-key 13, so that after the bale is taken out of the press the entire expansive pressure or force serves to compact and solidify the band-fastening. It will be observed that by reason of the arms 18 being carried at one side of the plane of the axis of rotation or turning the opposite portions of the band are thrown in a straight line, so that the tension is exerted upon the main portion of the buckle, so that it is practically unbreakable.

In connection with the construction described it is to be observed that the shape of the locking-key 13 facilitates the locking of the parts, besides preventing the lateral slipping of the key.

From the foregoing it will be observed that the essential feature of construction resides in the buckle-plate having a pair of hooks offset from the same side thereof, in combination with the locking member or key adapted to engage with said pair of hooks and also to engage transversely across the band at one side of the plane of the plate. This construction may be embodied in different forms—such, for instance, as shown in Figs. 4, 5, and 6 of the drawings, which represent one of the simplest modifications of the idea. Referring particularly to this modification, the numeral 1 designates the buckle-plate, and the numeral 2 designates the locking member or key. The said buckle-plate 1 is provided therein with a band-receiving eye or opening 3, in the opposite edges of which are located the fulcrum-bars 6, performing the same function as the fulcrum-bars 16 in the construction already described. In addition to the band-receiving eye or opening 3 and the oppositely-located fulcrum-bars 6 the flat buckle-plate 1 is illustrated as being provided with a pair of oppositely-located catch-hooks 7, struck up from the body of the plate and turned outward from the opposite side edges of the said eye or opening 3. The said catch-hooks 7 are arranged in parallelism and are of a length equaling the width of the eye or opening 3, and, furthermore, the said hooks are projected laterally from the same side of the buckle-plate and are curved in reverse directions, so as to slidably and detachably receive therein the side arms 9 of the locking member 2. The locking member 2 for the buckle-plate is preferably in the form of a U-shaped key bent from a single length of stout wire and provided at the terminals of its cross-bar 10 with the offset bends 11, which

deflect the said cross-bar to a position at one side of the longitudinal plane of the side arms 9, so that the cross-bar of the locking member may span across the lapped ends of the bale-band, and thereby prevent the buckle-plate from turning backward after the band ends have been wound or folded thereon. The deflection of the cross-bar 10 from the longitudinal plane of the side arms 9 is plainly shown in Figs. 5 and 6 of the drawings. After turning the buckle-plate and bringing the same to the position shown in Figs. 5 and 6 of the drawings the side arms 9 of the locking member 2 are slipped into the catch-hooks 7 at one side of the buckle-plate, so as to permit the cross-bar 10 of the locking member to be carried to a position in which it extends across the outer side of the band at the opposite side of the plate, thus securing the latter against backward movement. By withdrawing the locking member 2 from its engagement with the hooks 7 of the buckle-plate the latter is released, so as to permit the band to spring loose.

In carrying out the invention with the construction shown in Figs. 4, 5, and 6 it is preferable that the catch-hooks 7 be arranged so as to lie next to the bale when the buckle-plate has been turned to its locked position, thereby presenting a smooth outer surface when the fastening is locked.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be readily apparent to those skilled in the art without further description, and it will be understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A bale-band fastening comprising a flat buckle-plate adapted to turn bodily upon one edge as a fulcrum, and provided with a band-receiving eye or opening, said plate being further provided with a pair of offset catch-hooks projecting laterally from the same side of the plate, and a separate locking-key arranged flat against and wholly upon the side of the plate from which the hooks project, and having opposite portions engaging said hooks and the portion between the latter engaging transversely across the band, substantially as set forth.

2. A bale-band fastening comprising a flat buckle-plate adapted to turn bodily upon one edge as a fulcrum and provided with a band-receiving eye or opening, said plate being further provided with a pair of parallel holding-arm extensions having terminal hooks projecting laterally from the same side thereof, and a separate locking-key consisting of a substantially-straight body portion provided at one end with an inserting-prong, said key being adapted to be arranged flat against and wholly upon the side of the holding-arm extension from which the hooks project, and having its end portions engaging said hooks and the portion between the latter extending transversely beneath the band, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DOUGLAS M. CAMPBELL.

Witnesses:

FRANK B. KING,
B. T. PERKINS.