Aug. 2, 1932. F. J. KLINE 1,869,972

FILING DEVICE

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Fig. 1,

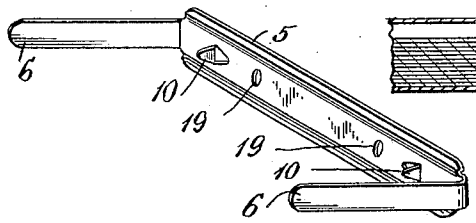


Fig. 2,

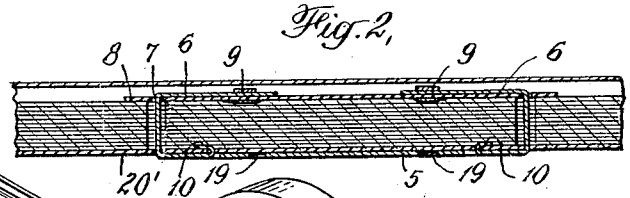


Fig. 3,

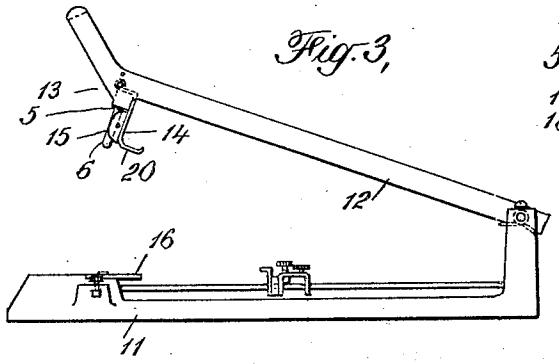


Fig. 4,

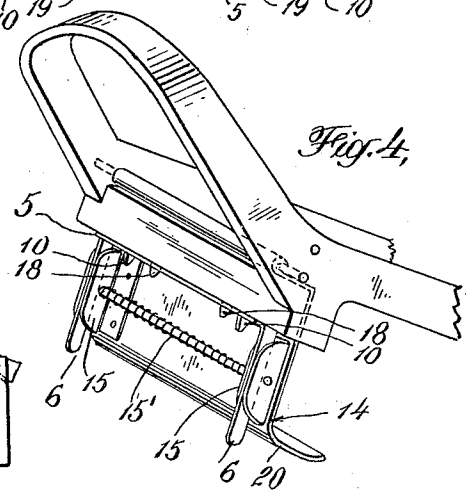


Fig. 6,

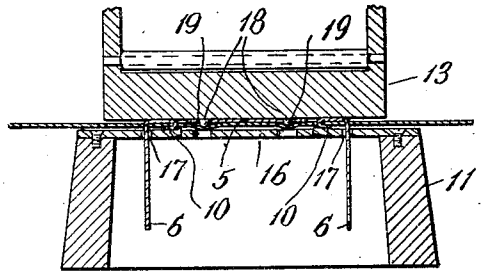
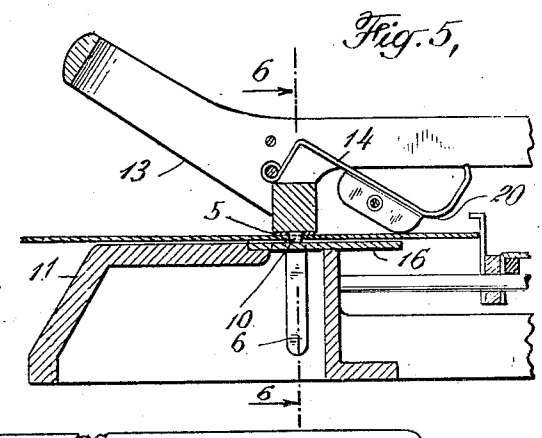


Fig. 5,



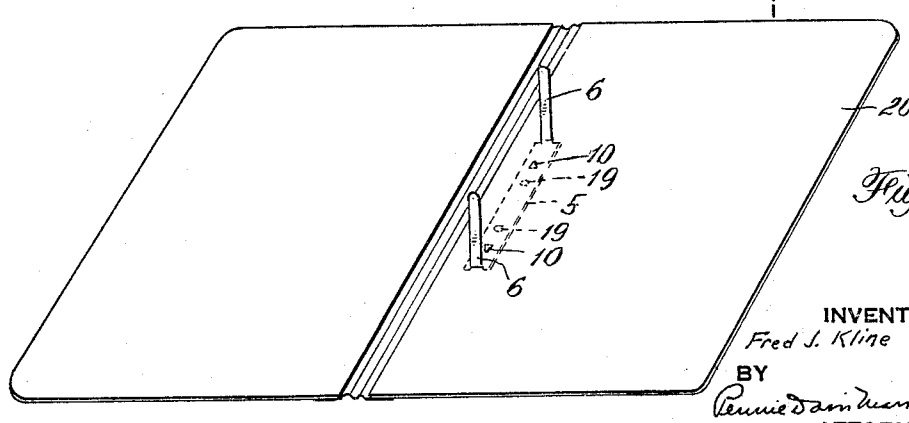


Fig. 7,

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FILING DEVICE

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Fig. 8

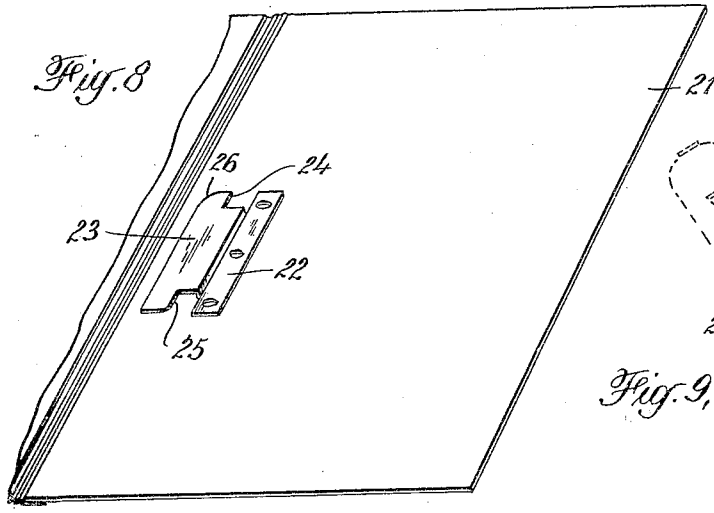


Fig. 9,

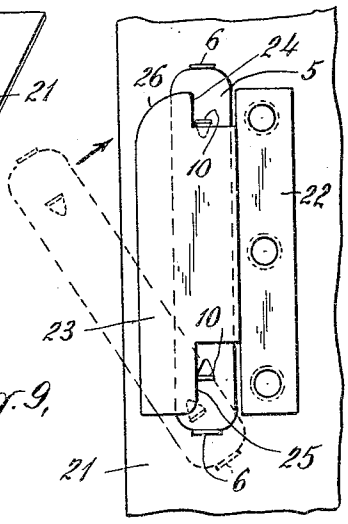


Fig. 10,

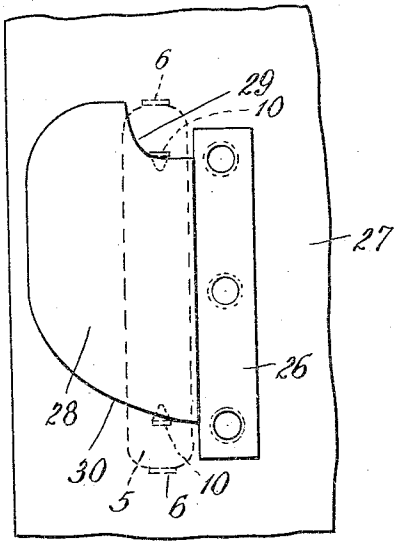


Fig. 11,

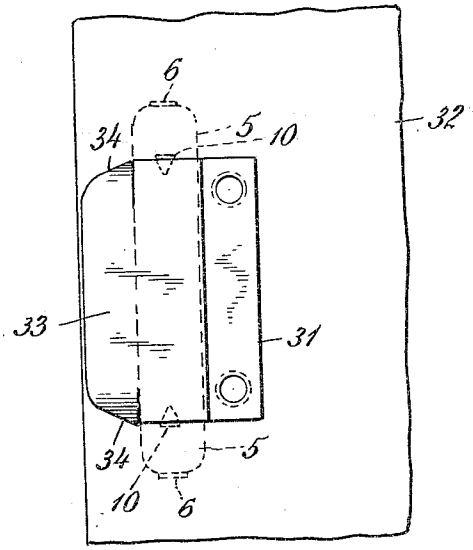
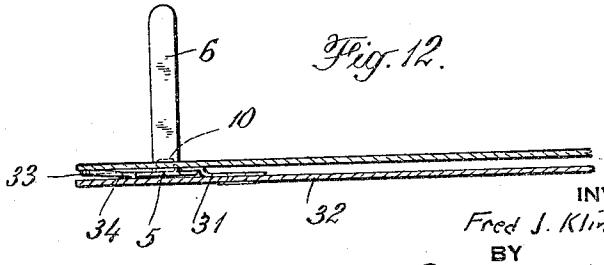


Fig. 12.



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Patented Aug. 2, 1932 1,869,972

UNITED STATES PATENT OFFICE

FRED J. KLINE, OF BAYVILLE, NEW YORK, ASSIGNOR TO ACCO PRODUCTS, INC., OF LONG ISLAND CITY, NEW YORK, A CORPORATION OF NEW YORK

FILING DEVICE

Application filed March 7, 1931. Serial No. 520,788.

This invention relates to filing devices and more particularly to an improved fastener, a machine for applying the fastener, and holders whereby such fasteners and material secured thereby can be detachably held in suitable folders and the like. This application is a continuation in part of my co-pending application Ser. No. 381,368 filed July 26, 1929.

Fasteners for papers, documents and similar material having prongs which pass through suitable perforations in such material and engage a compressor or locking device to securely bind the material are now in common use. When such fasteners are used to hold the material in a folder, the prongs pass through perforations in the folder or suitable holders are secured to the folder to engage and hold the fastener.

It is the object of the present invention to provide an improved fastener which is adapted to be permanently fastened to a folder or back, an improved and simplified machine for applying the fasteners, and an improved holder whereby the fastener may be secured detachably to the folder or similar support.

Other objects and advantages of the invention will be apparent as it is better understood by reference to the following specification and accompanying drawings, in which

Fig. 1 is a view in perspectve of the improved fastener;

Fig. 2 is a sectional view showing the fastener secured to a back or folder;

Fig. 3 is an elevation of a machine for securing the fasteners to supporting sheets;

Fig. 4 is a view in perspective of a portion of the machine;

Fig. 5 is a sectional view of a portion of a machine;

Fig. 6 is a section on the line 6—6 of Fig. 5;

Fig. 7 is a view in perspective of a folder with the fastener applied thereto;

Fig. 8 is a perspective view of a holder secured to a back or folder;

Fig. 9 is a plan view illustrating the engagement of the fastener with the holder;

Fig. 10 is a plan view of a modified form of holder;

Fig. 11 is a plan view of another form of holder; and

Fig. 12 is a sectional view of the holder and fastener.

Referring to the drawings, 5 indicates the base of a fastener having prongs 6 which are adapted to pass through perforations in the papers or other material to be secured. The prongs may also engage perforations 7 in a compressor 8 which is adapted to rest upon the material above the fastener. When the prongs 6 are bent over the compressor, the material is securely bound. The compressor may be provided with locking means such as the slides 9 which engage the prongs after they are bent, thereby binding the material in the fastener more securely.

The base 5 is provided with two upwardly projecting spaced lugs 10 struck preferably from the metal forming the base. The lugs are preferably pointed so that they will easily pass through even relatively stiff material. One function of the lugs is to permit securing the base to any suitable material forming a back or folder. Thus, for example, if the fastener is to be mounted on a back of relatively stiff material such as card- or pressboard, the prongs 6 and lugs 10 can be driven through the back by means of a suitable apparatus such as that described in my co-pending application above identified. The lugs 10 are clinched to secure the fasteners in place.

This machine (Figs. 3, 4, 5 and 6) comprises a base 11 and a pivoted arm 12 having a head 13. The head carries a pivoted guide 14 with spaced clips 15 which are resiliently held by a spring 15′ adapted to receive one of the fasteners with the prongs 6 and lugs 10 depending. A die plate 16 on the base has openings 17 to receive the prongs. A pair of pins 18 on the head engage openings 19 in the

base 5 of the fastener and hold it in proper position until it is released. A cam plate 20 on the guide 14 engages the die plate 16 when the head descends and the guide then swings rearwardly to clear the fastener.

When a sheet of any suitable material 20′ is placed on the die plate and the head is caused to descend, the prongs 6 and lugs 10 are forced through the material and the lugs are bent by engagement with the die plate to securely hold the fastener in place. The head is then lifted and when another fastener has been inserted is ready for the succeeding operation.

The lugs 10 serve another function in connection with the holders which can be secured to a back or folder to permit detachable connection of a fastener and the material carried thereby. In Figs. 8 and 9, such a holder is shown on a back 21 to which it is secured by rivets or other fastening means. The holder comprises a plate 22 with a portion 23 thereof struck up from the body thereof. It may be of metal or any other suitable material. The portion 23 which is raised slightly above the level of the back to which it is applied has oppositely disposed notches 24 and 25 and preferably a rounded corner 26.

The base 5 of the fastener is slipped under the portion 23 of the holder with one of the lugs 10 engaging the notch 25. By swinging the base of the fastener the opposite lug 10 can be brought into engagement with the notch 24 and the fastener. By moving the base in a longitudinal direction the fastener is secured until released. The lugs 10 may be bent slightly to overlie the portion 23. If the fastener is secured to a back, the portion 23 is slipped between the base 5 and the back and the latter is thus secured by the holder.

In the device as shown in Fig. 10, the holder 26 is secured to a back 27 as in the preceding embodiment and is provided with a portion 28 raised slightly above the back. It is provided with a notch 29 and a rounded edge 30. The fastener is slipped under the portion 28 with one of the lugs 10 in the notch and the other engaging the rounded edge.

In Fig. 11 of the drawings, the holder 31 is secured to a back 32 as in the preceding embodiments and is provided with a raised portion 33 with depressed lips 34. The base 5 of the fastener is slipped under the portion 33. The lips 34 engage the edge of the base 5 and hold it in position from which it can, however, be released readily when desired.

The fastener and holder as described provide a simple and effective arrangement for detachably securing files of papers and the like on backs or on folders. The fastener may also be secured directly to a back or in a folder, and the apparatus described permits the application of the fastener to any suitable support to which it is secured by the lugs. These lugs serve to secure the fastener permanently to the support or back and also cooperate with a holder or similar support or back or in a binder.

The devices as described are inexpensive and can be applied to a variety of filing equipment affording a safe and satisfactory binding means for letters, documents and other papers or material in sheet form.

Various changes can be made in the details of construction and arrangement of the parts without departing from the invention or sacrificing any of the advantages thereof.

I claim:

1. In an apparatus for securing fasteners to a support therefor, a movable head, a swinging guide thereon adapted to receive a fastener, spaced pins on the head to engage openings in the fastener and a die plate co-operating with the head.

2. In an apparatus for securing fasteners to a support therefor, a movable head, a swinging guide thereon adapted to receive a fastener and having cam plates, spaced pins on the head to engage openings in the fastener and a die plate co-operating with the head.

3. In an apparatus for securing fasteners to a support therefor, a base, a die plate thereon, a movable head above the die plate, a swinging guide on the head having means to engage and hold the prongs of a fastener, and spaced pins on the head to engage openings in the fastener.

4. In an apparatus for securing fasteners to a support therefor, a base, a die plate thereon having openings to receive the prongs of the fastener, a movable head above the die plate, a swinging guide on the head having means to engage and hold the prongs of a fastener and spaced pins on the head to engage openings in the fastener.

5. In an apparatus for securing fasteners to a support therefor, a base, a die plate thereon, a movable head above the die plate, a swinging guide on the head having means to engage and hold the prongs of a fastener and cam means to engage the die plate when the head is depressed whereby the guide is shifted to release the fastener, and spaced pins on the head to engage openings in the fastener.

6. In an apparatus for securing pronged fasteners to a support therefor, a movable head, a guide thereon adapted to engage the prongs of the fastener, means for moving the guide substantially transversely of and away from the prongs, spaced pins on the head to engage openings in the fastener and a die plate cooperating with the head.

7. In an apparatus for securing fasteners to a support therefor, a base having a die plate, a head movable toward and away from said base, a swinging guide thereon adapted to receive a fastener, spaced pins on the head to engage openings in the fastener and position the same and means adapted to cause the

guide to swing away from the fastener as the head moves toward the base.

8. In an apparatus for securing fasteners to a support therefor, a base having a die plate, a head movable toward and away from said base, a swinging guide thereon adapted to receive a fastener, spaced pins on the head to engage openings in the fastener and position the same and a cam plate on the swinging guide adapted to engage the base as the head moves toward the base and cause the guide to swing away from the fastener.

In testimony whereof I affix my signature.

FRED J. KLINE.