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Filed March 21, 1923

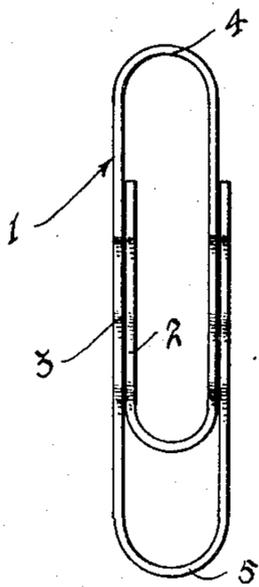


Fig. 1.



Fig. 2.

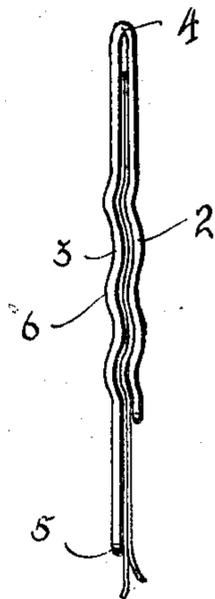


Fig. 3.

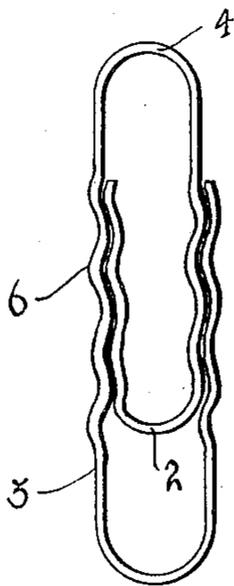


Fig. 4.



Fig. 5.

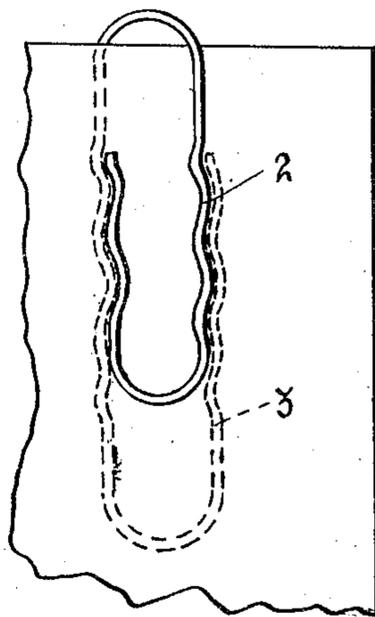


Fig. 6.

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## PAPER CLIP.

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*To all whom it may concern:*

Be it known that we, MAXIMILIAN J. HUBENY and HERMAN A. FRAHM, both citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Paper Clips, of which the following is a full, clear, and exact description.

Our invention relates to improvement in paper clips and consists in the constructions, combinations and arrangements of parts herein described and claimed.

An object of our invention is to provide a paper clip of the character described in which the cooperating gripping members are rendered more effective in a novel and simple manner.

A further object of our invention is to provide a paper clip of the character described which will not slip longitudinally when placed in position as in binding together two or more pieces of paper or the like, and ultimately slip from engagement with the paper or other objects bound together thereby. The ordinary type of paper clip which does not pierce the paper has been found to possess the disadvantage of moving relative to the paper and slipping therefrom.

A further object of our invention is to provide a paper clip of the character described which actually interlocks the adjacent plies of paper held together thereby without mutilation to the paper.

A further object of our invention is to provide a paper clip of the character described which is simple in construction, durable and which is thoroughly practical for the purpose intended.

Other objects and advantages will appear in the following specification, and the novel features will be particularly pointed out in the appended claims.

Our invention is illustrated in the accompanying drawings, forming a part of this application, in which—

Figure 1 is a front elevation of an embodiment of our invention,

Figure 2 is a side elevation of the device illustrated in Figure 1,

Figure 3 is a side elevation of the device shown in Figure 1 operatively applied,

Figure 4 is a front elevation of a modified form of our invention,

Figure 5 is a side elevation of the device illustrated in Figure 4, and

Figure 6 is a side elevation of the device shown in Figure 4 operatively applied.

In carrying out our invention we make use of a paper clip comprising a metal wire 1 bent laterally in the manner shown in Fig. 1, so that two cooperating portions or loops 2 and 3 are provided. The loop 2 is disposed within the loop 3 and is shorter than the loop 3. These loops we choose to term the cooperating gripping members of the paper clip.

So far the structure is identical to the structure of paper clips well known in the art.

The wire of which the clips are constructed is of a substantially resilient quality so that the clips tend to hold their shape after limited distortion.

Our improved paper clip differs from the ordinary type of paper clip however in that the intermediate portion of the clip, i. e. that portion between the upper end 4 and the lower end 5 is provided with a plurality of uniform convolutions all in the same plane and transverse to the plane of the loops or gripping portions 2 and 3. These convolutions are indicated at 6 in the drawings. See Fig. 2.

The convoluted portion of the clip is not only uniform in the separate convolutions thereof but is also uniform as to the four portions of the wire 1 which lie in the same plane and serve to form parts of the loops 2 and 3. This uniformity of the four portions of the wire 1 is perhaps most clearly illustrated in Fig. 2.

In Fig. 2 it will be noted that only the convolutions in the adjacent portion of the loop 3 may be seen. This is because the convolutions of the other three portions of the wire 1 comprising the remainder of the loop 3 and the loop 2 are exactly in line with the adjacent portion of the loop 3 as seen in Fig. 2.

From the foregoing description of the various parts of the device, the operation thereof should be readily understood. In Fig. 3 we have shown one of our improved paper clips applied to two superimposed

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pieces of paper. It will be noted that the paper has assumed the same shape between the adjacent and cooperating loops or gripping portions 2 and 3, that the clip itself  
5 possesses.

The adjacent pieces of paper have therefore actually interlocked with one another and it would take a pull sufficient to flex the paper through the convoluted path in which  
10 it is disposed to separate the pieces of paper.

There is very small possibility that the paper clip will become dislodged from the paper unintentionally, since the movement of the clip from the paper must also cause  
15 the paper to flex.

In Fig. 4 we have shown a modified form of our invention, in which form we reverse the plane in which the convolutions of the intermediate portion of the clip, is disposed.

20 The clip shown in Fig. 5 therefore is the one illustrated in Fig. 4 viewed from the side.

The operation of this modified form of our invention is precisely the same as the ordinary type of paper clip. The results  
25 accomplished however are somewhat different. This form of our invention provides an enlargement of the paper contacting surface of the paper clip and therefore

a more secure grip of the clip on the paper. The ordinary type of paper clip may be  
30 drawn off of the paper by moving the clip longitudinally away from the paper. In our present invention, both in the preferred form and the modified form illustrated in  
35 Figs. 4, 5 and 6, the clip is constructed in such a manner as to resist the movement tending to remove the clip from the paper to which it is attached or engaged with.

We claim:

1. A paper clip of the character described  
40 comprising a pair of loop members forming an integral part of said clip, said loop members being disposed one within the other and substantially in one plane, the intermediate  
45 portion of said clip including in part said loop members, being convoluted in a plane transverse to the plane of said clip.

2. A paper clip of the character described  
50 comprising a pair of cooperating gripping members arranged to receive sheets of paper or the like therebetween, said gripping members having convolutions in their work  
55 engaging surfaces transverse to the plane of the work engaging surfaces.

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