

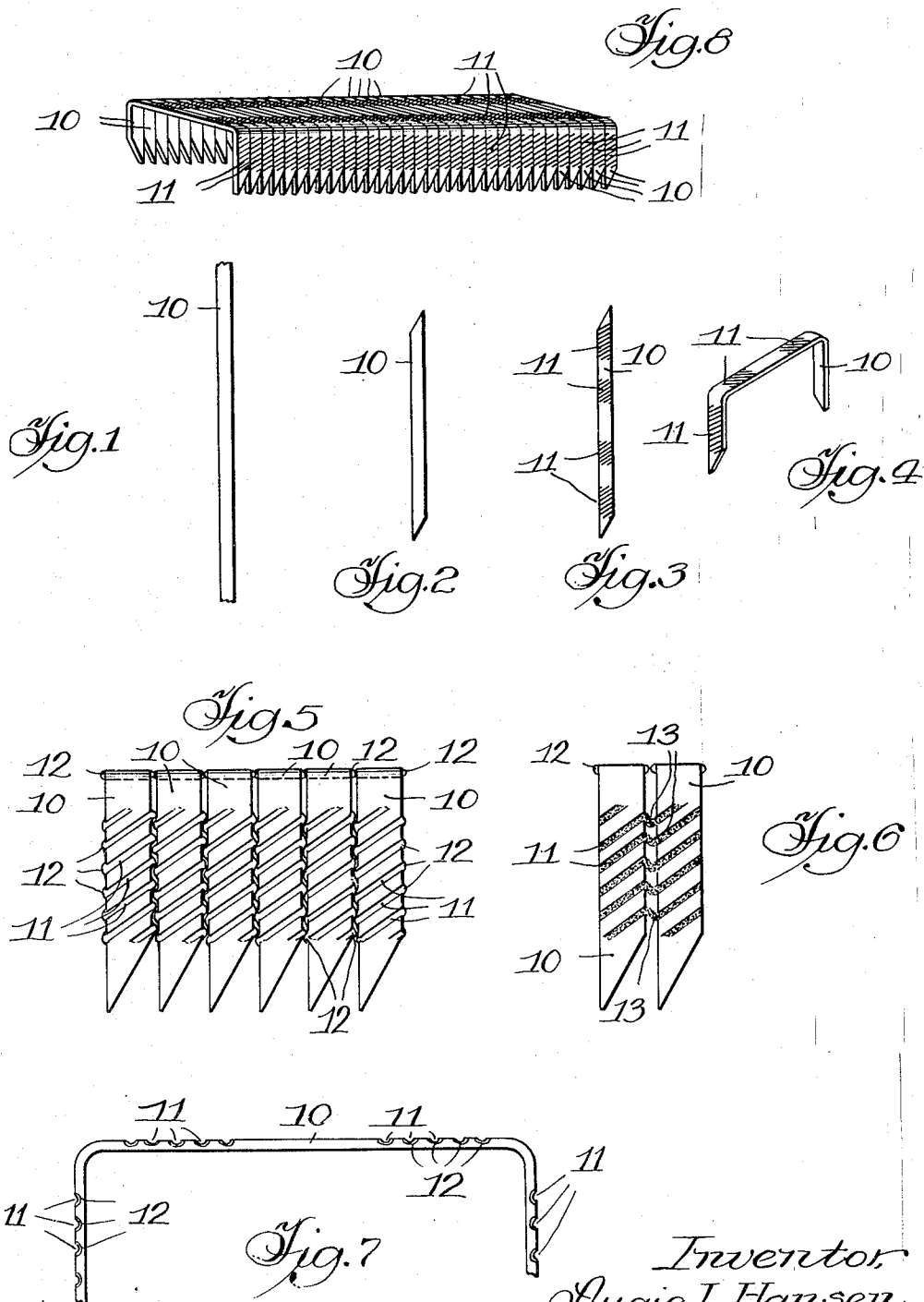
July 5, 1938.

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2,122,814

ADHERED GANG OF WIRE STAPLES

Filed May 18, 1936



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UNITED STATES PATENT OFFICE

2,122,814

ADHERED GANG OF WIRE STAPLES

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Application May 18, 1936, Serial No. 80,388

2 Claims. (Cl. 1—56)

This invention relates to an improved adhered gang of wire staples, and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

In the process of forming wire staples and adhering them together in a gang or strip as heretofore;—after the wire has been flattened and cut to length and bent to a staple form and as the staples are fed in a closely pressed assembled relation in a continuous gang or strip, a thin coating of cellulose adhesive is applied by a wiper along the legs and top of the staple. The staples are thus adhered or frozen together as the adhesive dries or sets into comparatively wide ribbons connecting them in a long gang or strip which is ready then to be broken into units of predetermined length to be packed and later inserted in whole or in part into the feed channel of a stapling machine.

It has been found that the ribbons of adhesive thus formed are more or less left intact as the staples are detached in succession from the gang unit and driven one by one in the operation of the stapling machine and will tend to and do actually clog the staple driving passageway, so as in time to seriously interfere with the proper operation of the stapling machine. In some cases the result has been to jam the staples in the passageway, which may require disassembling and cleaning the parts involved before the stapling machine may be again used.

The object of the present invention is to provide a staple, gang or strip adhered or frozen together by filaments or threads of adhesive rather than by comparatively wide ribbons, whereby not only the amount of adhesive required is greatly reduced but the amount of adhesive left after the driving of the staples, to clog the staple passageway in the stapling machine, is reduced to a minimum.

The advantages of the invention will more clearly appear as I proceed with the description of my invention.

In the drawing:—

Figure 1 shows a section of the wire for forming the staple after it has been flattened;

Figure 2 shows a blank cut to staple length;

Figure 3 shows the staple blank after it has been provided with transverse grooves, later to be described;

Figure 4 indicates the formed staple;

Figure 5 is a view representing in side elevation a part of a staple gang or strip;

Figure 6 is a view in side elevation, to be referred to later;

Figure 7 is an end view of the staple gang;

Figure 8 is a perspective view on the scale of the parts shown in Figures 1 to 4, inclusive, of a frozen strip of staples in gang or strip form.

In carrying out the improved process, the wire 10 for forming the staples is first flattened, as shown in Figure 1, and cut to lengths pointed at the end, as shown in Figure 2. By a suitable tool, and while the staple length is flat, there are formed a plurality of shallow indents or grooves, which are spaced longitudinally of the staple blank and which open through one or both lateral edges of the blank. Preferably and as illustrated the indentations are in the form of parallel spaced grooves 11 on the top face of the staple blank running transversely of the staple and opening through both lateral edges of the blank and are preferably inclined at an angle to the length of the blank, as shown in Figure 3. These indentations or grooves cover not only the parts of the blank which become the legs of the staple, but also extend part way across the part of the blank which is to form the top of the staple, as shown in Figure 4.

In the operation of the groove or indent-forming tool, the staple blank is spread or burred laterally in the neighborhood of the points when the grooves or indents open through the lateral edges of the staple blank, as indicated at 12, in Figures 5 and 7, so that the blank is slightly wider at these points than its normal width between. For example, while the staple blank is approximately forty-five thousandths of an inch in width, the burrs 12 make the width of the blank at said indents or grooves some five thousandths of an inch greater. As a result, when the staples are bent to staple form, and then fed closely pressed together transversely into gang or strip formation, they will be slightly spaced apart by the burrs 12.

The blanks are then successively bent to staple form and then fed in close pressed assembled gang relation in contact with the usual wipers carrying the cellulose adhesive or cement in close contact with the legs and the marginal top of the staples. The adhesive is thus forced into the indents or grooves 11 and into the spaces between adjacent staples, leaving the main surface of the staples both on the top and on the legs substantially clean and clear of the adhesive.

As a result, the adhesive when set will be found to be formed in filaments or threads which follow the grooves and the spaces between the staples so as to connect the ends of the indents or

grooves opening through the lateral edges of one staple with the proximate ends of the indents or grooves opening through the lateral edges of the adjacent staples, as shown at 13 in Figure 6 in exaggerated form, where two staples of a gang are shown as when pulled apart. Thus when a staple is detached and driven from a gang, there are left only the ends of fine threads or filaments which are easily dissipated and destroyed in the operation of the stapling machine in driving the staples.

I claim:—

1. As an article of manufacture, a gang of

staples adhered together, each staple having indents opening laterally through an edge thereof, with filaments of cement in said indents connecting said staples to hold them together in gang assembly.

2. As an article of manufacture, a gang of staples adhered together, each staple having spaced indents opening laterally through an edge thereof, with filaments of cement in said indents and in spaces between said staples intermediate the indents of proximate staples to hold said staples in gang assembly.

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