(No Model.)

# W. K. CROFFORD.

## PAPER CLIP.

No. 433,979. Patented Aug. 12, 1890.

Fig. 1.

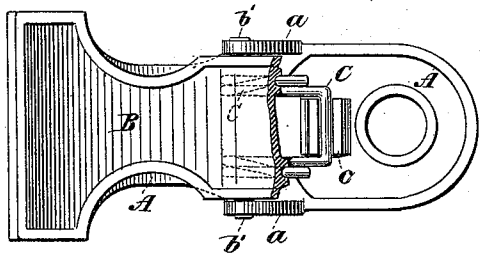



Fig. 2.

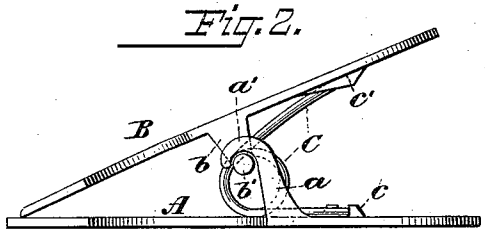
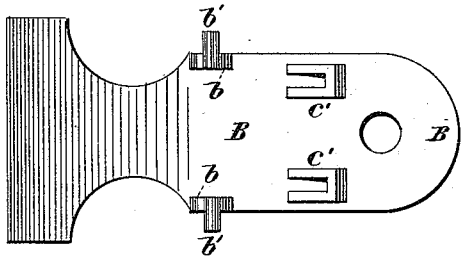



Fig. 3.




Warren K. Crofford

INVENTOR

WITNESSES:

Gustave Dieterich.

William Goebel.

# UNITED STATES PATENT OFFICE.

WARREN K. CROFFORD, OF NEW YORK, N. Y.

## PAPER-CLIP.

SPECIFICATION forming part of Letters Patent No. 433,979, dated August 12, 1890.

Application filed October 23, 1889. Serial No. 327,879. (No model.)

*To all whom it may concern:*

Be it known that I, WARREN K. CROFFORD, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Paper-Clips, of which the following is a specification.

The invention relates to paper-clips; and it consists of three pieces only—one part, which, for convenience of description, is called the "upper part;" another part, which, for convenience of description, is called the "lower part," both made preferably of cast metal. The two parts are connected together by two pivotal points, which are cast on the one part engaging with two hook-shaped lugs cast on the other part, the two parts kept in position and made to hold and clamp papers by a spring, the third piece, above mentioned, placed between them.

The invention will be more fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view partly broken away. Fig. 2 is a side view. Fig. 3 is an inverted plan view, which, for convenience of description, is called the "upper part" of the clip.

A is one part of the clip, having open or hook-shaped lugs *a* projecting out and at right-angles to the plane, with a part cut away just forward of the lugs to admit of the sand or "draft" passing through in molding to form the hook, and all cast in one piece.

B is the other part of the clip, with lugs *b* terminating in pivotal points *b'*, all cast in one piece.

C is a spring, with two free ends and a loop-shaped end, C' C' recesses cast in one part of clip for holding the free ends of spring, and C a recess cast in the other part of clip for holding loop-shaped end of spring.

Other form and other position of spring placed between the two parts of a paper-clip herein described might accomplish nearly the same purpose, and I therefore do not limit myself absolutely to the herein particularly described form of spring, but may later on adopt some other form. Nor do I purpose limiting myself to the herein-described hook-shaped lugs and pivotal points to the use of paper-clips alone, but may use the same method of connecting parts of device for other devices. All such rights may be the subject of future applications for patent or patents.

In the manufacture of cast-metal paper-clips heretofore to one part was cast one lug, to the other part of clip was cast two lugs, through all of which holes were drilled, pins put through, the ends of pins hammered, and a spring interposed between the parts, all of which required much time, labor, and material.

By the method herein proposed of making the article the process is very much cheapened, as the parts are ready to put together so soon as cast, no rivets, drilling, or hammering of ends of rivets being necessary.

What I claim as new, and wish to secure by Letters Patent, is—

1. In a paper-clip, the part A, having the upwardly-extending hook-shaped or open lugs *a*, combined with the part B, having the downwardly-extending lugs *b* and pivotal bearing-points *b'* to engage said hook-shaped lugs, and the spring between the said parts A B and bearing at one end against the upper surface of part A and at the other end against the lower surface of part B, substantially as and for the purposes set forth.

2. In a paper-clip, the part A, having the upwardly-extending hook-shaped or open lugs *a*, combined with the part B, having the downwardly-extending lugs *b* and pivotal bearing-points *b'* to engage said hook-shaped lugs, and the spring C, between and bearing against said parts A B, said parts having recesses to receive the terminals of said spring, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 22d day of October, 1889.

WARREN K. CROFFORD.

Witnesses:

ALEX. R. SMITH,

WILLIAM BARDSLEY.