

(No Model.)

J. H. LAWRENCE.
HINGE.

No. 568,316.

Patented Sept. 22, 1896.

Fig. 1.

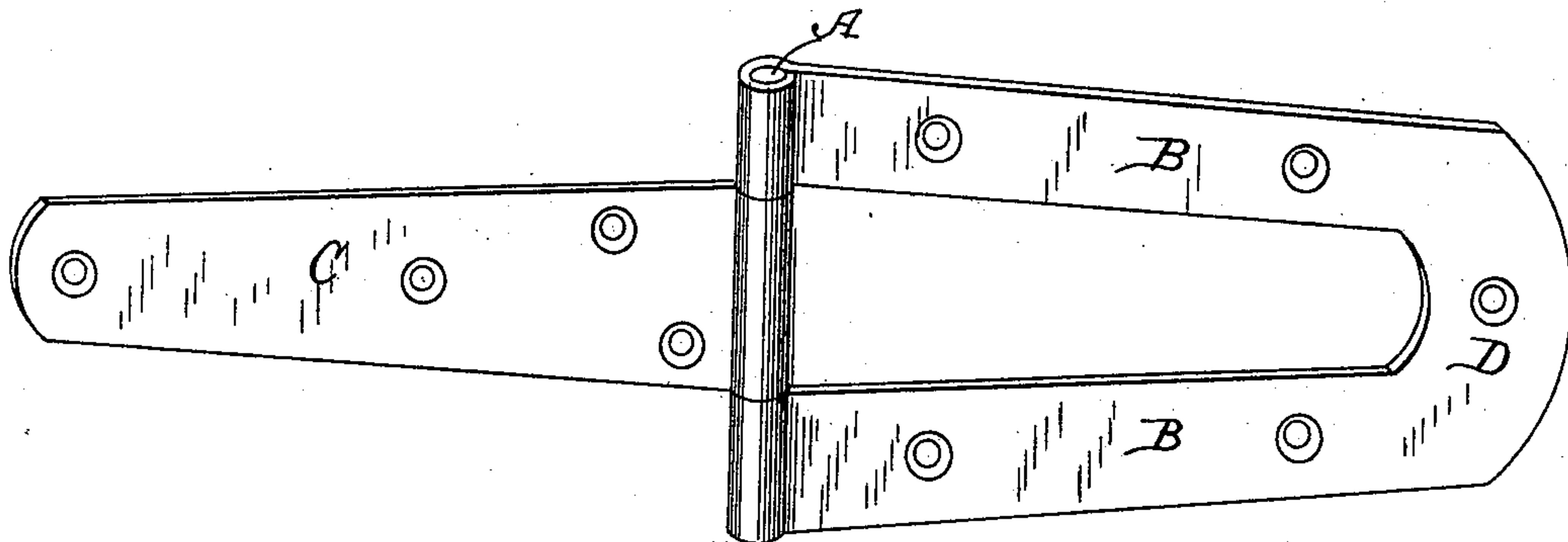
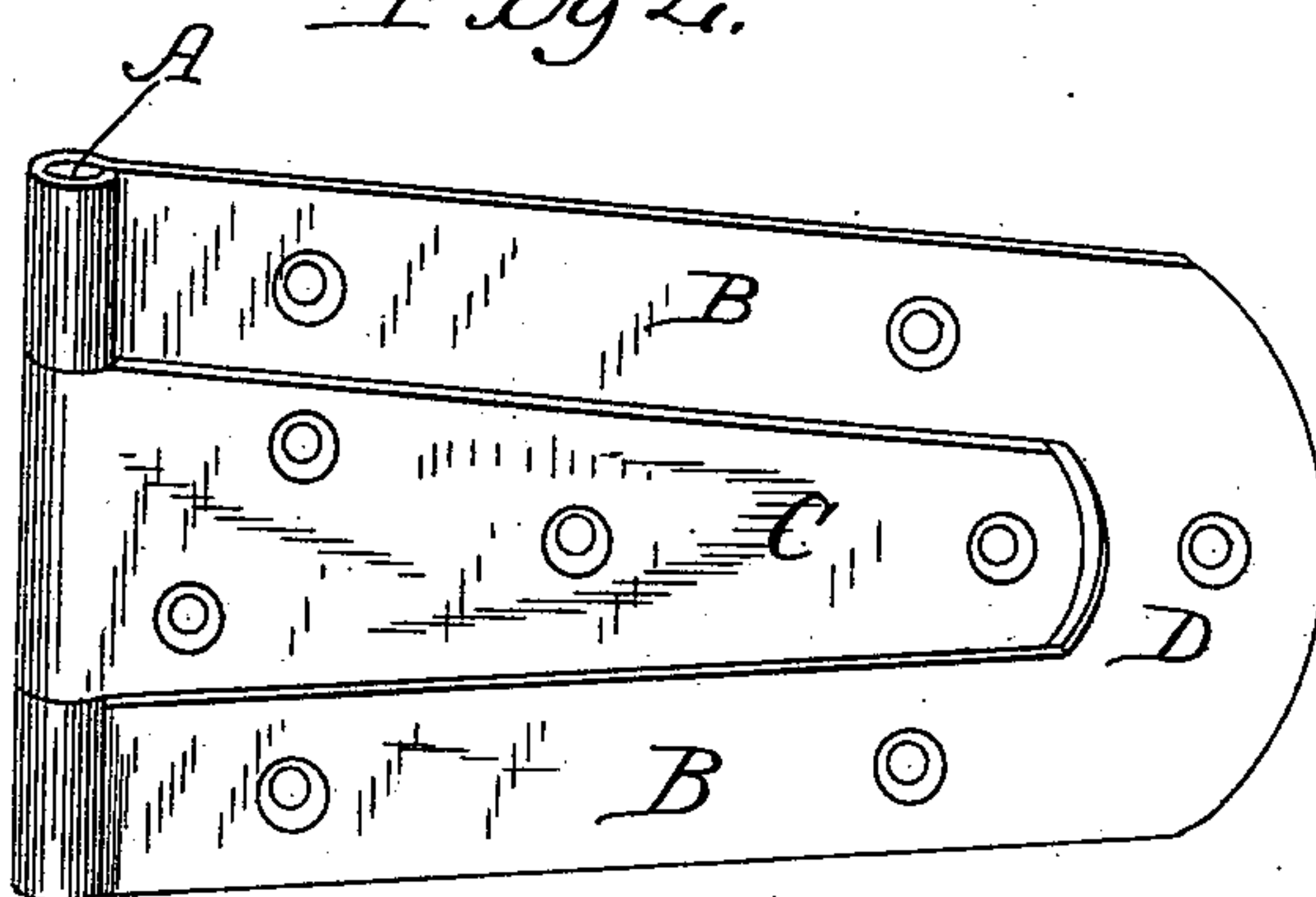


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. LAWRENCE, OF STERLING, ILLINOIS, ASSIGNOR OF ONE-HALF TO
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HINGE.

SPECIFICATION forming part of Letters Patent No. 568,316, dated September 22, 1896.

Application filed December 7, 1893. Serial No. 493,022. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. LAWRENCE, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Strap-Hinges and the Methods of Forming the Same; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has reference to strap-hinges and pertains more especially to a peculiar formation thereof and the method of making the same in which the strength of the entire material shall be utilized in the best form to give the maximum resistance to the weight and strain of the door.

Heretofore strap-hinges have been of two general types: first, a hinge composed of two straps or leaves of similar form interlocked at their inner ends around a common pintle which is the pivot of the hinge. The objection to this form is that it is necessary, in coiling the inner ends of the two leaves around their common pintle, to cut away about one-half of each leaf, so that the central portion of one leaf could be passed through a recess of the same width, formed by cutting away about one-half of the adjacent end of the other leaf. Thus as about one-half of the inner end of each leaf was cut out and had no direct attachment to the pintle, and was therefore substantially useless, the hinge had no greater strength than that of one-half of its inner width. Yet the leaves had to be made full width to afford space for the aforesaid cutting away, entailing a great waste of material.

Another common form of strap-hinge is what is known as the "T-hinge." Only one leaf of the latter was cut away and the waste thereof was proportionately less; but to prevent even greater waste of material this cut-away side was made so narrow or short as to have but a limited attachment to the build-

ing, and frequently the weight and strain of the door wrenched it loose, either by drawing the screws or tearing out the wood to which it was attached.

In my invention I avoid all of the aforesaid defects or objections and utilize all of the material employed, and am therefore able to secure the same strength and durability with the employment of much less material.

Another advantage of my form of construction is that I stamp both leaves of my hinge out of the same piece of steel, one leaf being cut out of the center of the other, and by using a plate wide enough to cut two hinges abreast, and cutting them reversely of each other, there is substantially no waste.

I attain these advantages by the form of construction shown in the accompanying drawings, in which—

Figure 1 is a perspective of my invention extended as it will appear when the door is closed. Fig. 2 is the same in a folded condition as it will appear when the door is fully opened.

A is the usual pintle, serving as the mutual pivot of both leaves of the hinge.

B is a U-shaped leaf formed by stamping from its center the opposite leaf C. The leaf B is intended for attachment to the building, and the leaf A to the door, although they may be placed reversely, if desired. The inner end of the leaf C is coiled around the central portion of the pintle A in the usual mode. It will be noticed that the entire width of the inner end of leaf C is attached to the pintle A, and thereby its entire strength utilized.

The respective extremities of leaf B are coiled in like manner around the ends or outer portions of pintle A, and here again the full width and strength of the material are utilized by being attached to said pintle.

The limbs or members of the leaf B, it will be seen, are comparatively narrow, but they are mutually strengthened and braced by being united at their outer ends by the transverse portion D. Both leaves are of sufficient length to afford space for enough screw-holes to securely fasten them. The hinge can be made of such different sizes as may be desired, and the entire hinge cannot be

surpassed for strength and durability in proportion to the amount of the material employed.

5 The leaf B may be formed from a narrow strip of steel and heated and bent at D, but this would involve more expense and some waste of material in forming leaf C. The parts can be stamped out cold, as before suggested, and thus afforded to the public at a
10 very low price. Also in the latter mode there is no waste in making either leaf.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

15 1. In a strap-hinge, the combination, with a substantially U-shaped leaf, each arm of which is perforated and has its end coiled into an eye, of a leaf of a less length than the other leaf and adapted to fit within the
20 same, the entire width of said second-mentioned leaf being coiled at one end into an eye, the length of which eye is equal to the

distance between the eyes of the other leaf, and a pintle through all of said eyes, substantially as set forth. 25

2. The herein-described method of forming strap-hinges, consisting in reversely cutting substantially V-shaped blanks from a strip of material of the desired width, then cutting the central portion out of the blank extending from the wider end nearly to the opposite end, then bending the wider end of the cut-out portion and the ends of the remaining portion, each into an eye, and then
30 securing the parts together by means of a pintle passed through the eyes, substantially as set forth. 35

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. LAWRENCE.

Witnesses:

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CHARLES T. RUSSELL.