

(No Model.)

F. O. FARWELL & E. A. HOEFER.
STOVEPIPE DAMPER.

No. 541,733.

Patented June 25, 1895.

Fig. 1.

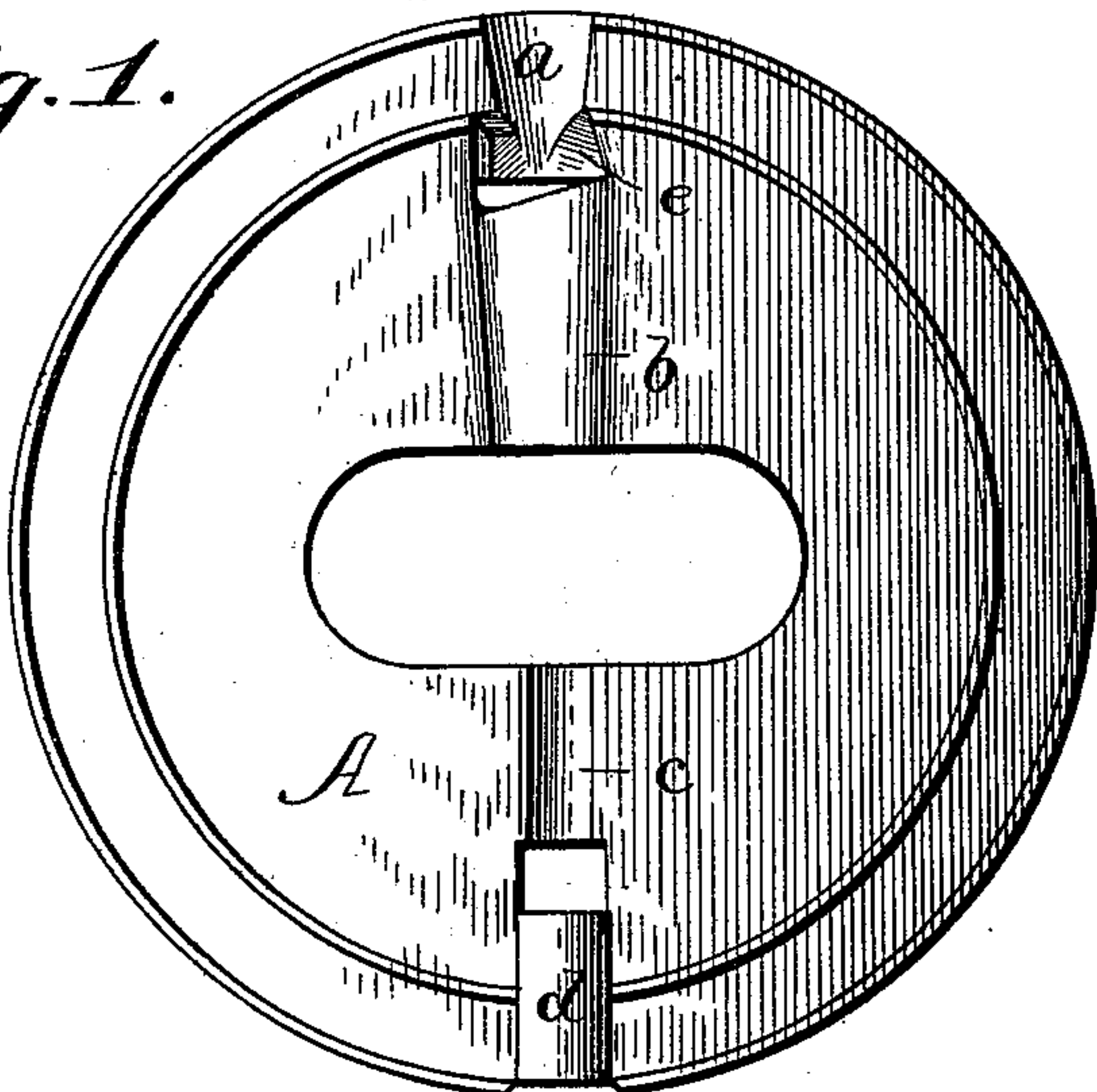


Fig. 4.

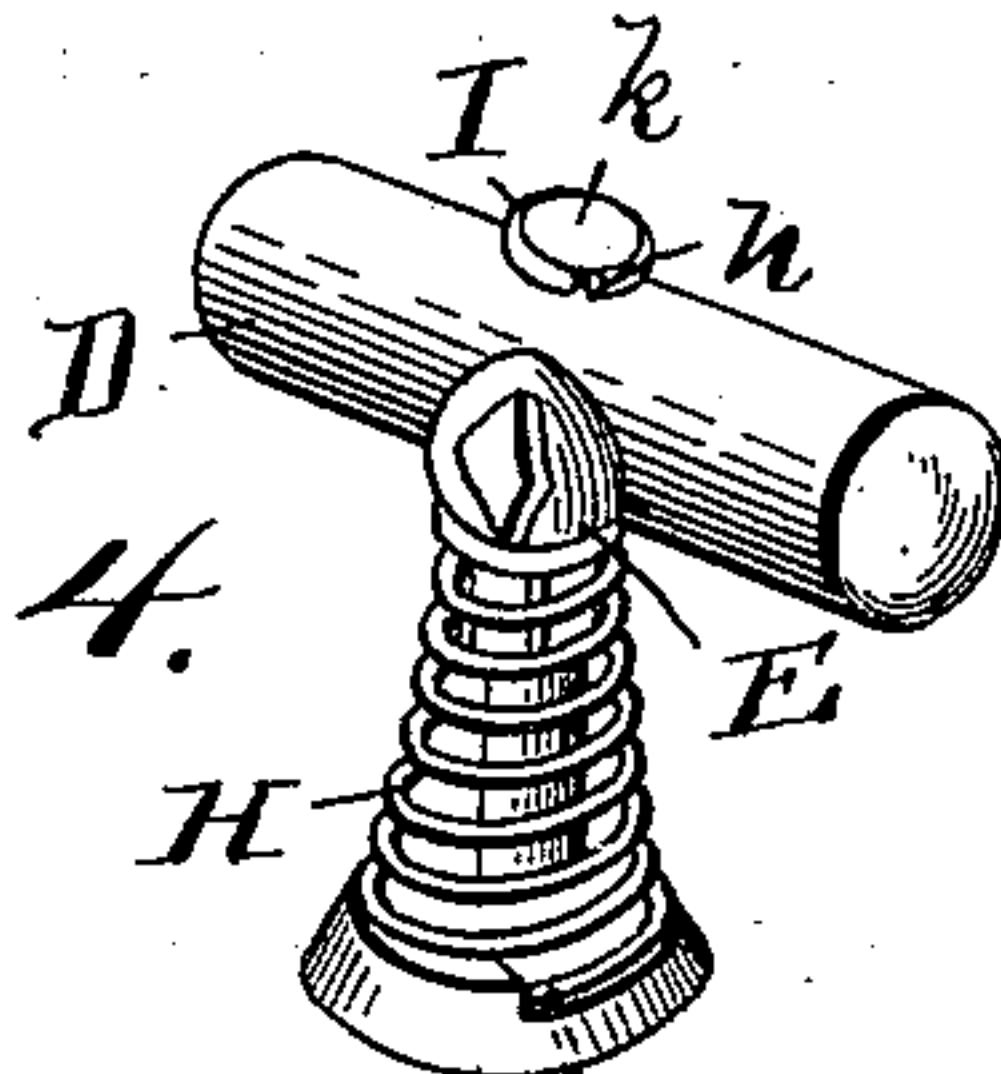


Fig. 7.

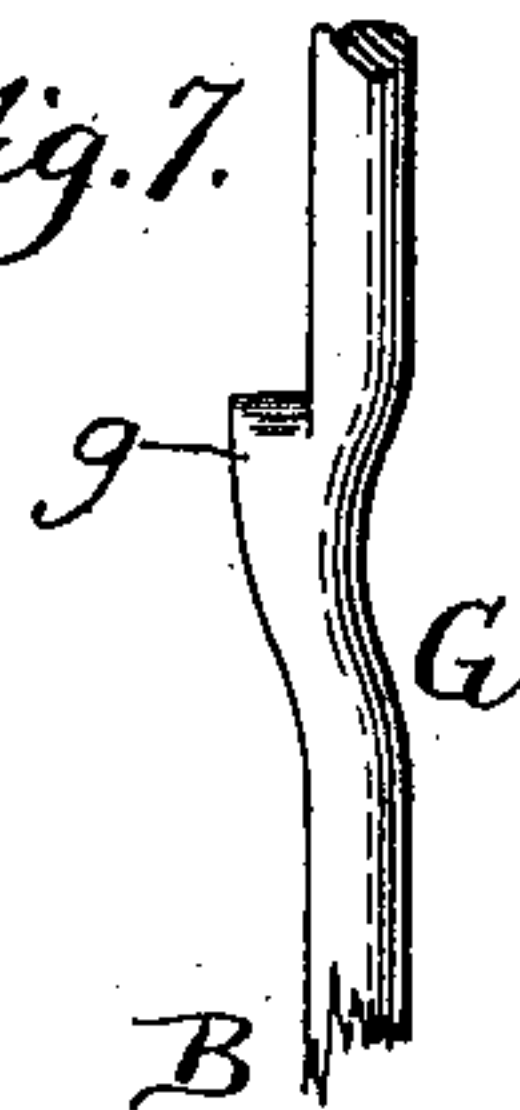


Fig. 6.

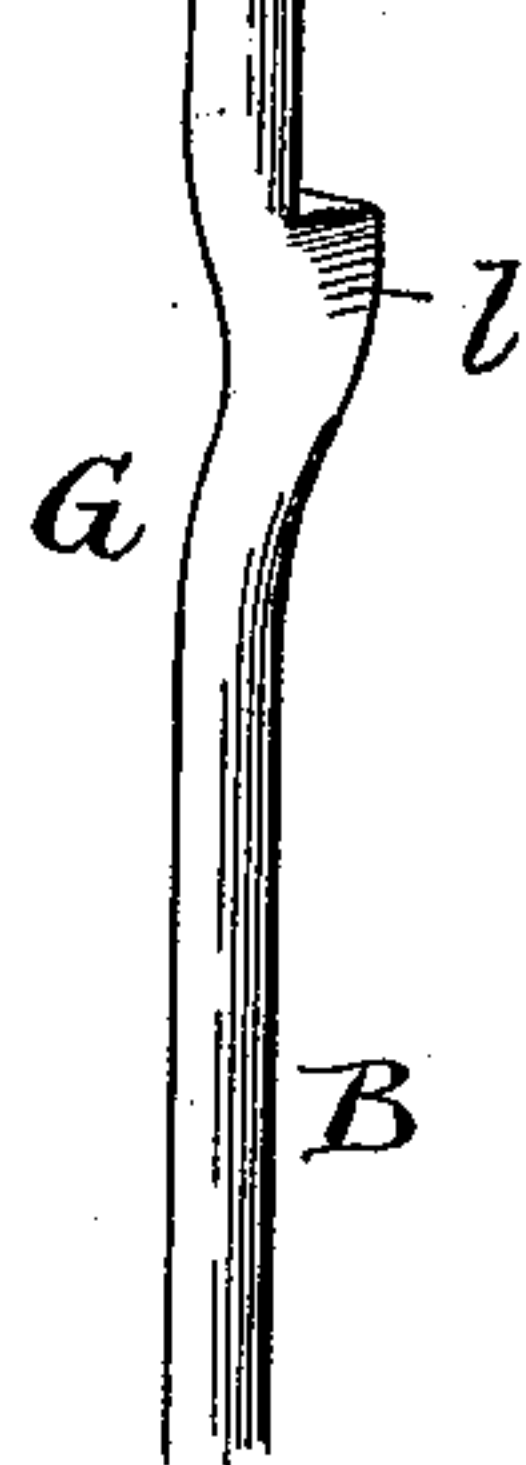


Fig. 2.

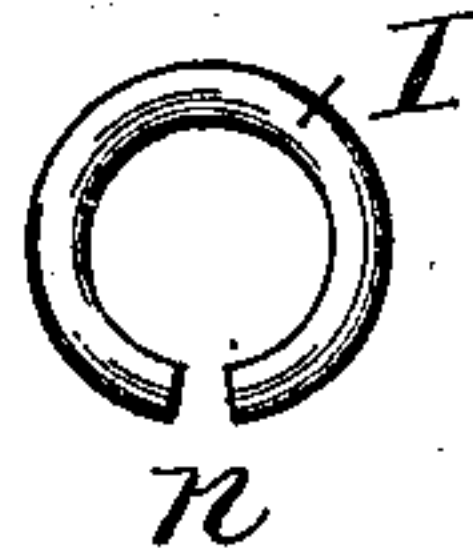
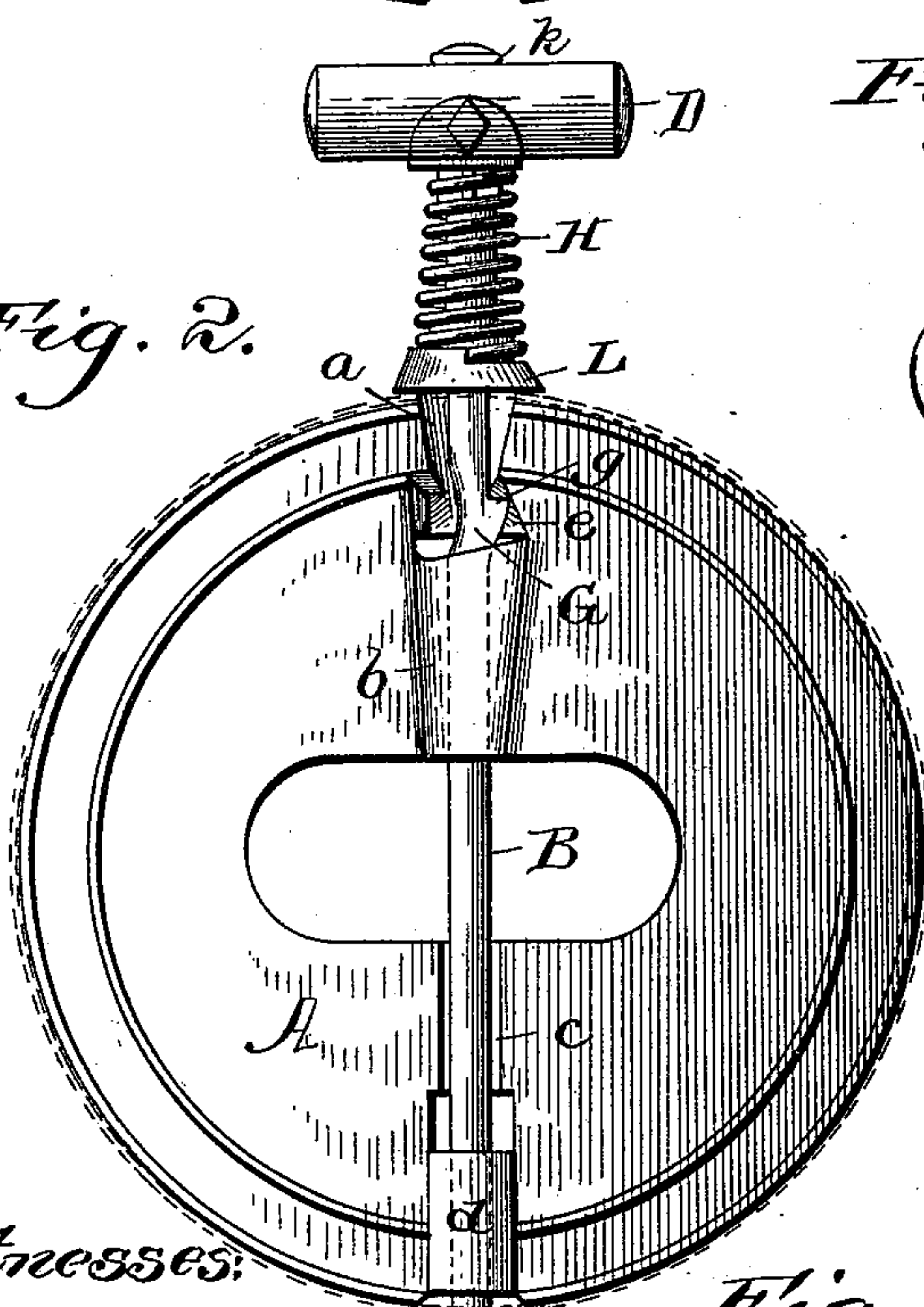
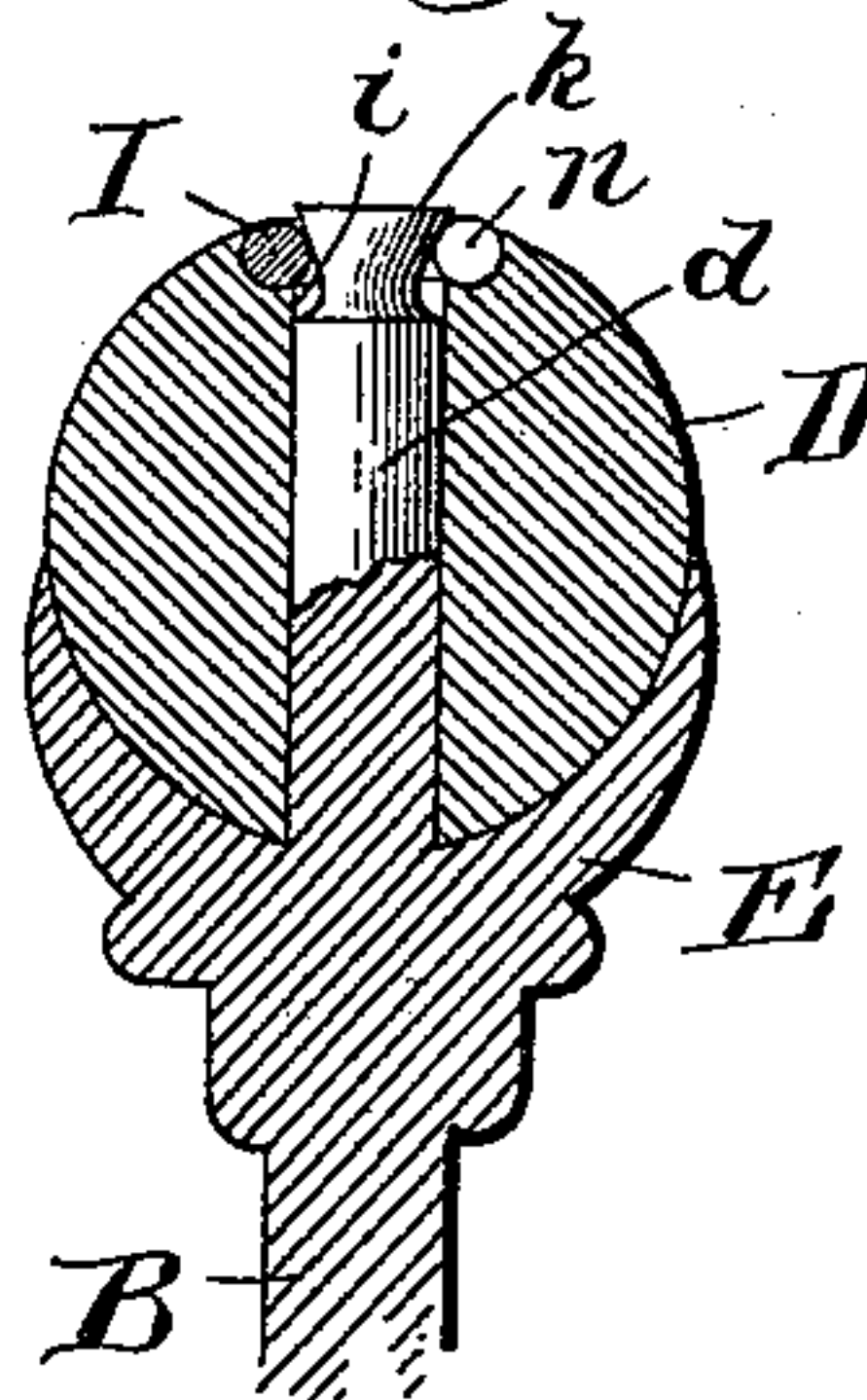


Fig. 5.

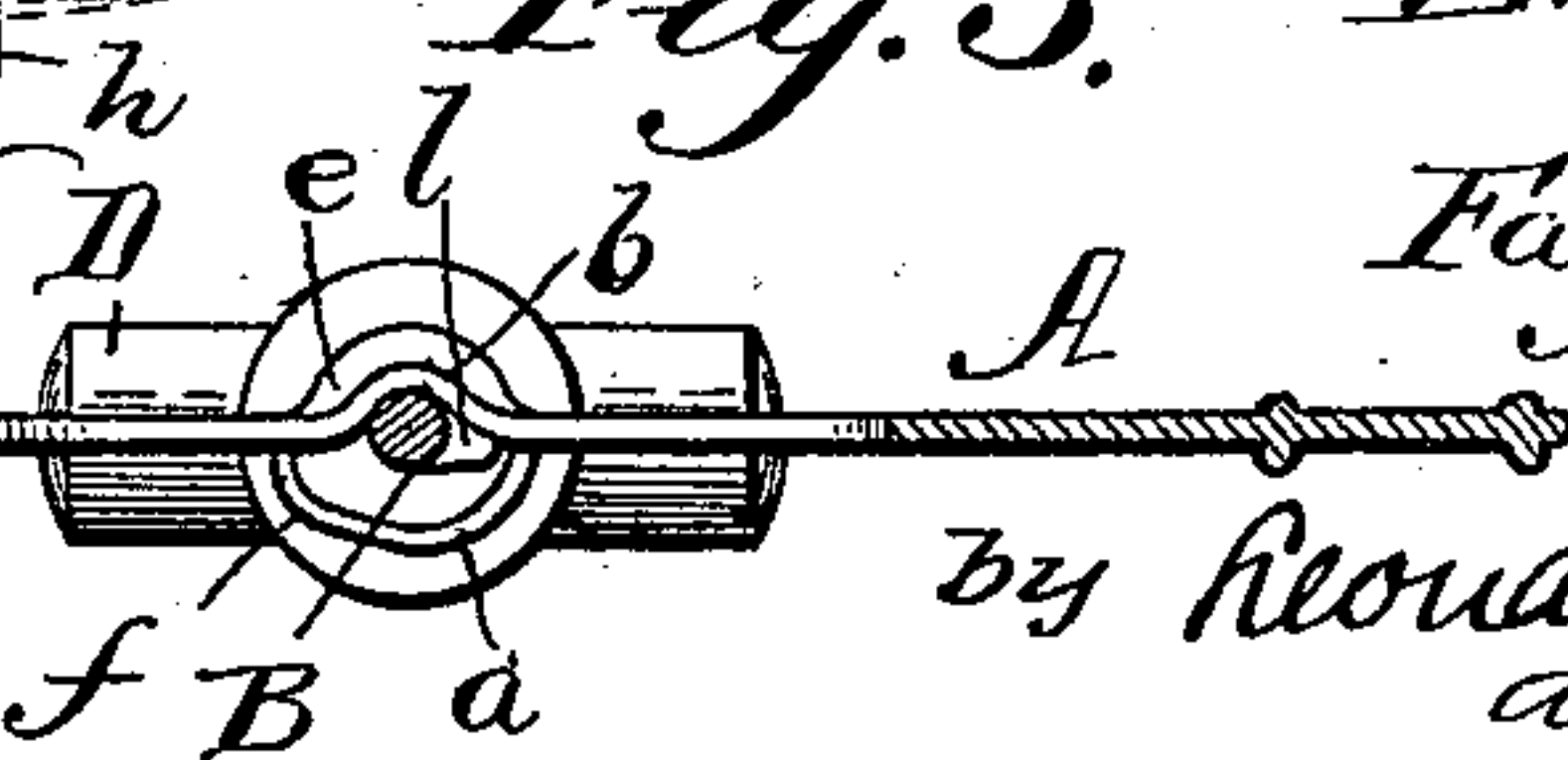


Witnesses:

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Fig. 3.



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Inventors:

UNITED STATES PATENT OFFICE.

FAY O. FARWELL, OF DUBUQUE, IOWA, AND EMIL A. HOEFER, OF FREEPORT, ILLINOIS; SAID HOEFER ASSIGNOR OF HIS RIGHT AND SAID FARWELL ASSIGNOR OF ONE-HALF OF HIS RIGHT TO THE ADAMS COMPANY, OF DUBUQUE, IOWA.

STOVEPIPE-DAMPER.

SPECIFICATION forming part of Letters Patent No. 541,733, dated June 25, 1895.

Application filed August 21, 1894. Serial No. 520,939. (No model.)

To all whom it may concern:

Be it known that we, FAY O. FARWELL, residing in the city and county of Dubuque, State of Iowa, and EMIL A. HOEFER, residing at Freeport, in Stephenson county, State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Stovepipe-Dampers; and we do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

In the manufacture of stove-pipe dampers, from iron cast in molds, it has been found difficult to cast them with such a degree of accuracy that, when the stem and blade are united the blade and operating handle would stand in the same plane and at the same time be united rigidly together. On account of this inaccuracy in casting, quite a percentage of the castings, which in other respects would be perfect, would be rendered valueless. Again, in the use of dampers, it is customary, instead of punching the holes in the stove-pipe for the reception of the damper stem, by a separate instrument for that purpose, to use the stem of the damper as such punch and to force it through the sides of the pipe by hammering upon the head of the stem. If the head be made of wood fastened to the stem, the hammering thereon will often injure the appliances for fastening the wood to the end of the stem and when the wood subsequently becomes seasoned or shrunk by the heat, will become loose or drop out. It further happens that when dampers, upon the stems of which are cast lugs integral therewith, for the purpose of holding the blade upon the stem, are forced into position, a large and unsightly hole will be made in the pipe.

To avoid these and various other difficulties and inconveniences in the manufacture and use of dampers, are the objects of our invention.

For the better explanation of our devices and the mode of their operation, attention is directed to the following specification with the accompanying drawings, illustrating the same and forming a part hereof, in which—

Figure 1 is a front view of the damper blade. Fig. 2 is a front view of the damper with all the parts assembled. Fig. 3 is a sectional view of the same looking from below. Fig. 4 is a view of the top part of the spindle and handle. Fig. 5 is a sectional view of the handle. Fig. 6 is a top view of the fastening ring, and Fig. 7 is a back view of a part of the stem.

Like letters of reference denote corresponding parts in all of the drawings.

A, is the blade of our damper, having the loops *a, b, c, d*, cast integral with the blade, the loops *a*, and *c*, upon one side of the blade and the loops *b*, and *d*, upon the opposite side of the blade and between these loops the stem B, is inserted and the blade is held thereon. The inner side of the loop *a*, is inclined at *e*, for the purposes presently to appear. The loop *b*, is widened out or open as shown at *f*, which, with the incline *e*, on the loop *a*, forms a socket into which the bent portion G, of the stem is forced, whereby the blade is locked on the stem.

The stem B, consists of a bar of cast iron, pointed at one end *h*, in the usual manner. At G, the stem is bent and the upper portion of G, is inclined at *g*. This incline *g*, is made to fit the incline *e*, on the loop *a*, which it engages when the blade is locked on the stem. The opposite side of G, is flattened at *l*, to correspond with the open portion *f*, of the loop *b*, and prevent the stem from being further rotated. The shape of the bent portion G, is illustrated in section in Fig. 3. A short distance below the head of the stem is cast a saddle or stop E, integral with the stem, in which a wooden handle D, is secured. At the upper end of the stem B, is a groove *i*, into which an open ring I, is compressed and holds the handle D, firmly in the saddle or stop E, with the head *k*, of the stem projecting above the handle D, where it can be hammered in forcing the stem through the pipe, without any injury to the handle or its fastenings. The ring I, is made of wire and is left sufficiently open at *n*, to allow it to slip over the head of the stem.

It will be noticed that when the open ring I is compressed into the groove *i*, the beveled

side of the ring coming in contact with the beveled side of the groove, will force the ring in the direction of the saddle E, crowding the handle D, firmly into the saddle and embedding the ring in the handle. Thus secured, there is no danger of the handle getting loose or falling out when it becomes shrunken by the heat.

The handle D, is preferably of wood with a hole through its center of the size of the head of the stem. Around the stem below the saddle or stop E, is coiled a spring H, its lower end resting against a suitable washer L, the object of which will hereinafter appear.

The manner of operating our device is as follows: The stem is driven through the side of the pipe by hammering upon the head *h*, as it projects above the handle D. It will be seen that by the head of the stem projecting above the handle, there will be no danger of injuring the handle or its fastenings by hammering upon the head in forcing the stem through the walls of the pipe as is often the case with other dampers. After the stem has been driven through the pipe on one side, the blade is then inserted in the pipe and the stem is passed through the loops *a*, *b*, *c*, *d*. It will here be noticed, that when the curved portion G, comes to the opening in the pipe, because of its peculiar shape, there will be no enlargement of the hole through the pipe and this hole will be filled by the stem, thus holding the damper with less liability to movement in the pipe and at a given position. The stem is then driven out through the opposite side of the pipe and pushed on, compressing the spring H, until the curve G, on the stem has passed beyond the loop *a*, when the stem is turned half around, until the flat side *l*, of G, comes in contact with the open portion of the loop *b*, when further rotation is arrested and upon being released, the spring H, draws the stem outward until the incline of the face on G, comes in contact with the inclined face of the loop, and will slide up the incline till the stem becomes tight by bearing against the sides of the loops.

It will be understood that all of the irregu-

larities of the stem by reason of imperfect casting thereof and all looseness of the loops and between the blade and the stem, will be overcome and cured by the spring forcing the inclined face of G, of the stem upon the inclined face *e*, of the loop *a*, and thus crowding the stem to the opposite side of the opening formed by the loop until the stem is wedged securely into the blade.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A rod for stove pipe dampers, consisting of the stem B provided with a saddle E thereon, an extension *d* having a groove *i* adjacent to its outer extremity, a handle D surrounding said extension *d* with its upper face extending above the face of the groove *i*, and a flexible ring I pressed within the said groove *i* and into the upper face of the handle D, clamping the latter in position, substantially as set forth.

2. In a stove-pipe damper, a stem with bent portion G, and incline *g*, opposite thereto a blade having loops one of which has an incline *e*, adapted to engage with the said incline *g* and a spring H, for forcing the two inclines into engagement, one with the other as and for the purposes shown.

3. In a stove pipe damper, the combination of the stem B having a saddle or stop E near one extremity a bent portion G near its middle; and an incline *g* opposite thereto, a blade A having loops one of which has an incline *e* adapted to engage with said incline *g*, and a spring H interposed between the saddle E and the blade A, as and for the purpose described.

In witness whereof we have hereunto affixed our signatures in presence of two witnesses.

FAY O. FARWELL.
EMIL A. HOEFER.

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