

(No Model.)

F. MILLER.
SHEET METAL ROD, &c.

No. 413,953.

Patented Oct. 29, 1889.

Fig 1.

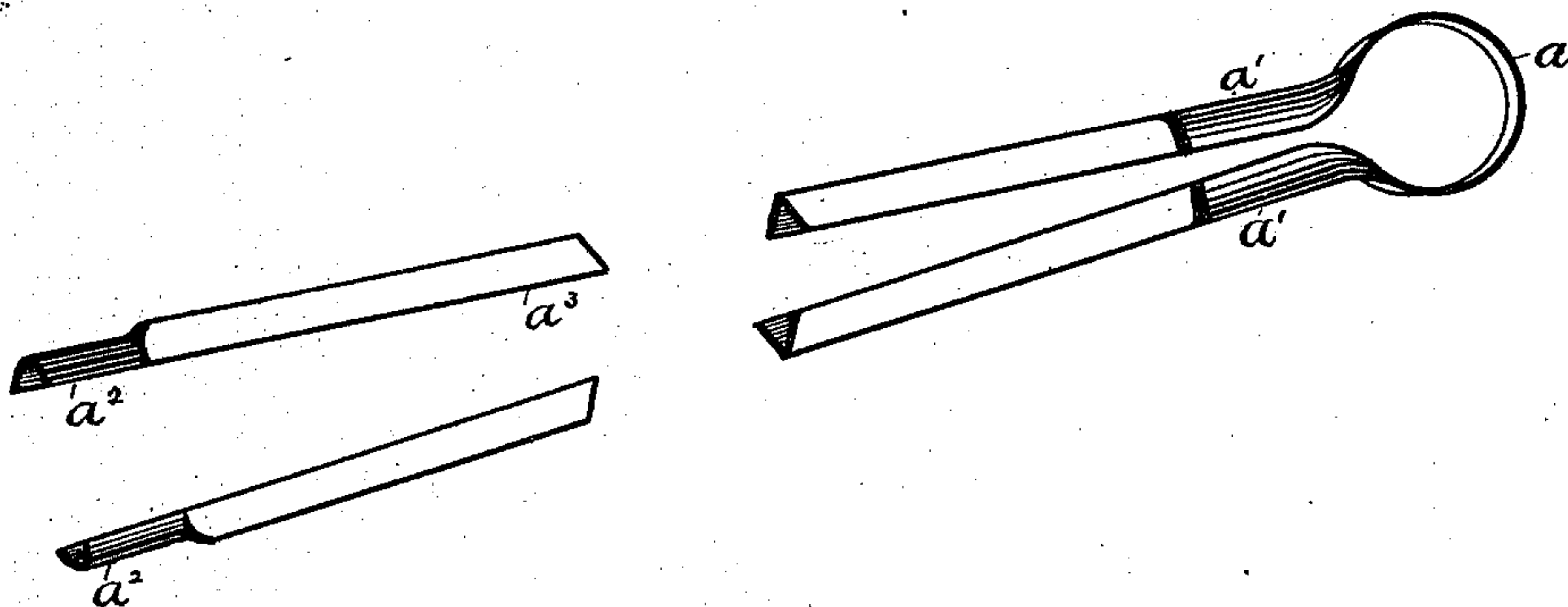


Fig 2.

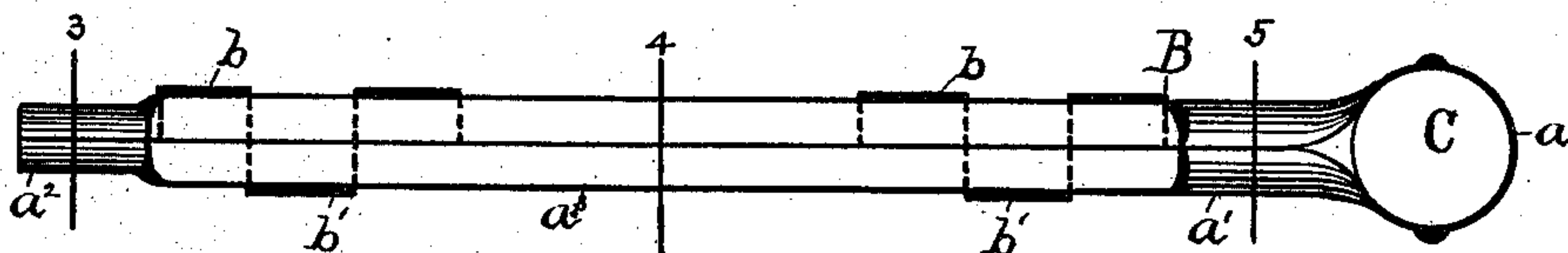


Fig 3.



Fig 4.



Fig 5.



WITNESSES.

J. D. Coe
W. J. Bainbridge

INVENTOR.

Frank Miller
by his attorneys
Watson & Thurston

UNITED STATES PATENT OFFICE.

FRANK. MILLER, OF CLEVELAND, OHIO, ASSIGNOR TO THE AVERY STAMPING COMPANY, OF SAME PLACE.

SHEET-METAL ROD, &c.

SPECIFICATION forming part of Letters Patent No. 413,953, dated October 29, 1889.

Application filed January 28, 1889. Serial No. 297,844. (No model.)

To all whom it may concern:

Be it known that I, FRANK. MILLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Sheet-Metal Rods, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention consists, first, in a rod or pin made from a strip of spring sheet metal somewhat more than twice the length of the completed rod or pin, having the two legs bent longitudinally into any desired form, and having a transverse bend near the center of the strip, whereby the two legs may be brought together and whereby the spring of the bent central part tends to spread them apart and to automatically hold them in engagement with any part which surrounds them.

It also consists in a rod having the above characteristics and having the legs bent in the particular form shown in the drawings, whereby it is adapted to be connected with a damper and to serve as the rod by which said damper is pivoted to the pipe; and it also consists in the combination of a damper-rod having the features of construction herein shown and described with a damper having oppositely-bent straps, between which the damper-rod is passed and with which it automatically engages, all of which will be hereinafter described, and pointed out definitely in the claims.

Referring to the drawings, Figure 1 represents my improved rod in the form which adapts it especially to be used as a damper-rod. Fig. 2 is a central vertical section through a damper-plate having my improved rod attached thereto; and Figs. 3, 4, and 5 are transverse sectional views through said rod on the lines 3, 4, and 5, respectively.

In the manufacture of the rod a blank is provided of suitable shape and a little more than double the length of the rod desired. This blank is left flat in its middle part a , and each leg is bent longitudinally between dies into a form suitable for the use to which it is to be put.

As shown in the drawings, the device is designed to be used as a damper-rod, and there-

fore each leg is bent into semi-cylindrical form at a' , next to said flat portion a , to form the journal at one side of the pipe. At the ends a^2 of the blank each leg is again bent into semi-cylindrical form of smaller diameter to form the journal for the other side of the pipe, and between these cylindrical parts, at a^3 , the blank is bent into such angular form as will cause the rod, when the two legs thereof are brought together, to fit between the retaining-straps formed on the damper-plate. The blank is then bent transversely at the flat central part a into a substantially cylindrical form, and the two legs thereby brought together, as shown in Fig. 1.

B represents a damper-plate made of sheet or cast metal, as preferred. b b' represent straps formed upon said plate, and adapted to grasp and hold the rod A.

In the form of the damper shown each strap is bent in the form of a right angle, and they are bent in that form alternately in opposite directions. That part of the damper-rod which engages with said straps is therefore bent so that each leg shall form a right angle in cross-section. It is immaterial, however, whether or not the straps be of this particular shape or construction. It is only material that they should be adapted to grasp the angular part a^3 of the damper-rod and prevent its turning independently of the plate B. The damper-plate B being inserted in the pipe, the two ends a^2 are brought together and pushed through the hole in the pipe and between the straps b b' until they are seated in the hole on the opposite side of the pipe. The smaller diameter of the ends a^2 makes this insertion easy, and the tendency of the two legs to spring apart by reason of the transverse bend at the center holds the rod firmly and prevents any accidental displacement thereof.

The bent central portion of the rod, besides acting as a spring, as above stated, also serves as a socket, in which a wooden handle C may be inserted and retained.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is--

1. A rod or pin made from a sheet of spring metal somewhat more than twice the desired length of the rod or pin, having the legs on

each side of the central part bent longitudinally into any desired form, and having the said central part bent transversely, whereby the two legs may be brought together and
5 whereby the spring of the bent central part tends to spread the legs apart and thereby automatically hold them in engagement with a part which surrounds them, substantially as and for the purpose specified.

10 2. A pivot-rod for dampers, &c., consisting of a strip of spring sheet metal bent transversely near its middle to bring the two legs thereof together, said legs being bent longitudinally into such shape that when they lie together
15 they form the angular part a^3 and the cylindrical parts a' a^2 , substantially as and for the purpose specified.

3. The combination, with a plate B, having the retaining-straps $b b'$, of a spring pivoting-
20 rod made of a strip of sheet metal bent trans-

versely near its middle to bring the two legs thereof together and bent longitudinally, so that when said legs are brought together they will form an angular part for engagement with the straps $b b'$ and cylindrical parts upon
25 which it turns, substantially as and for the purpose specified.

4. A pivot-rod for dampers, &c., consisting of a strip of sheet metal bent transversely near the middle to bring the two legs thereof to-
30 gether, said legs being bent longitudinally into such shape that when brought together they form the angular part a^3 , the cylindrical part a' , and the cylindrical part a^2 at the ends, of smaller diameter than a' , substan-
35 tially as and for the purpose specified.

FRANK. MILLER.

Witnesses:

S. D. COE,

E. L. THURSTON.