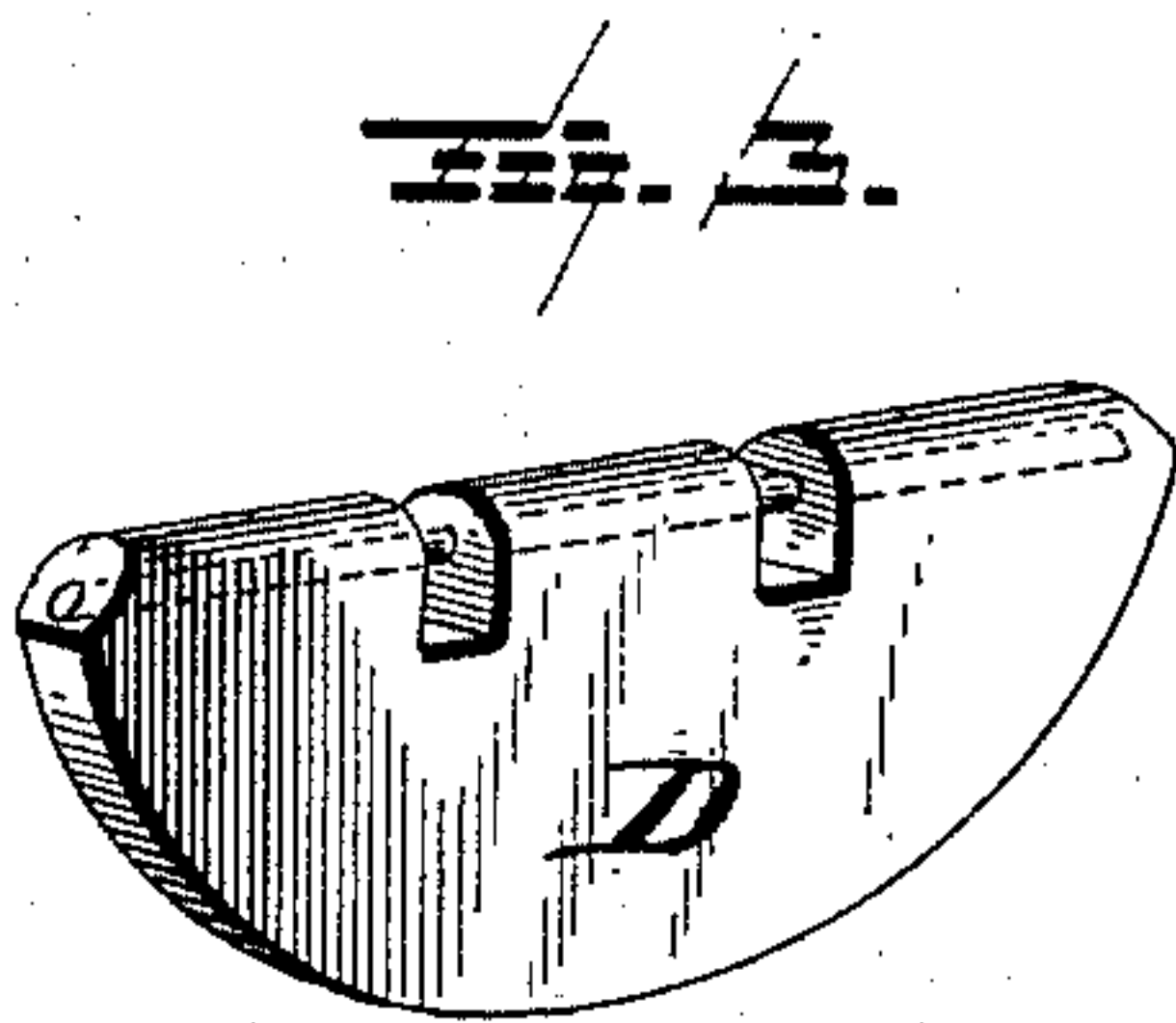
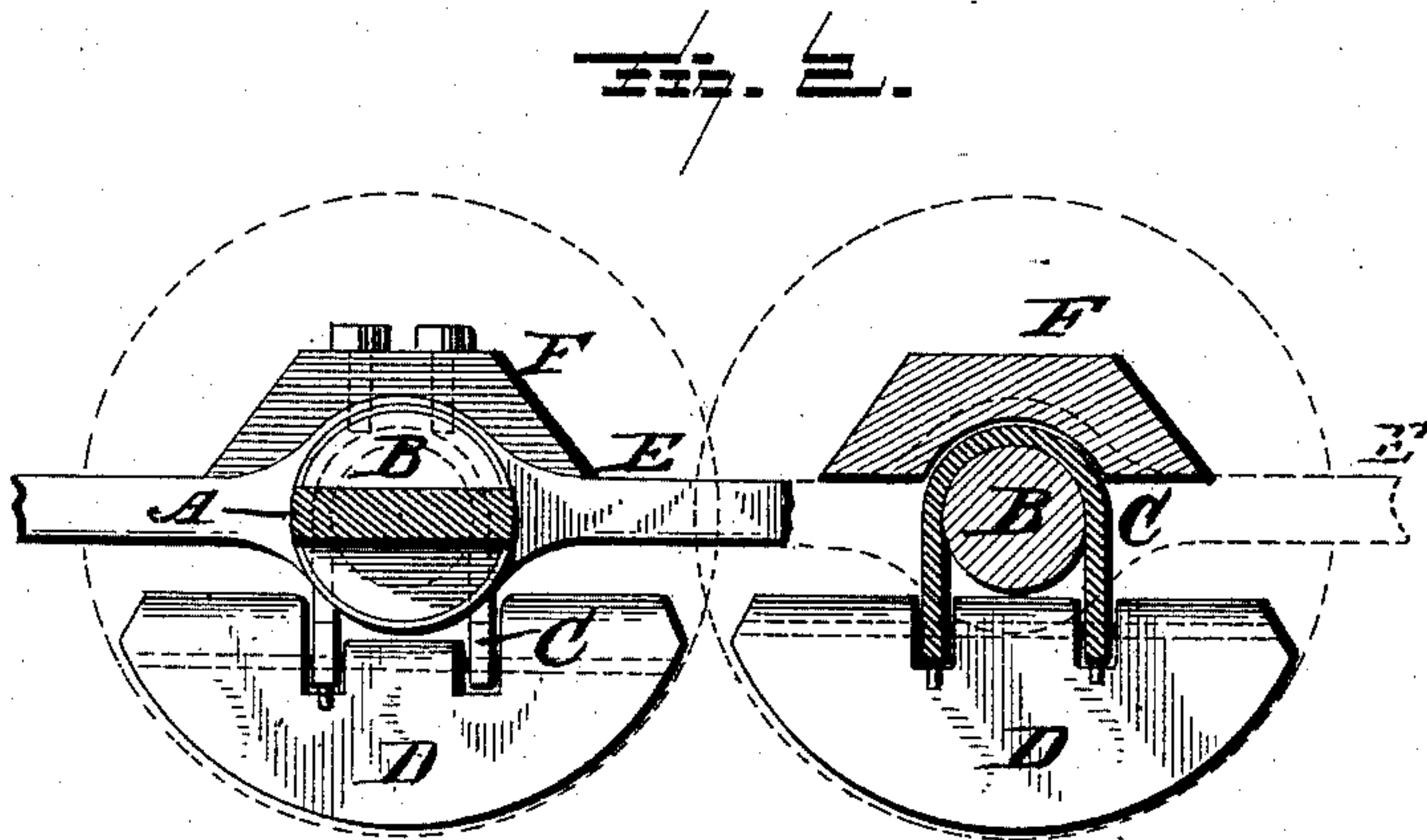
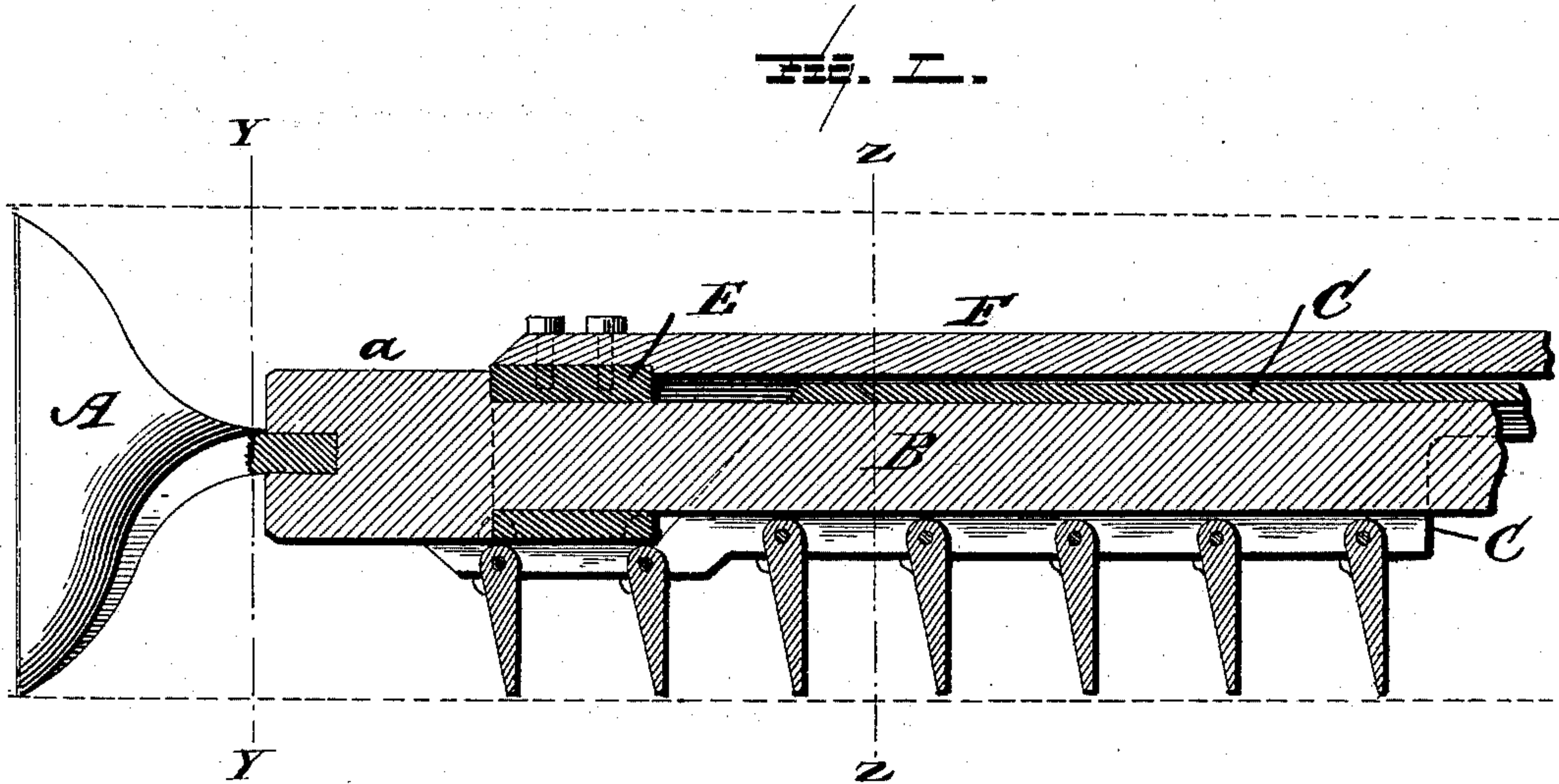


(No Model.)

H. B. WYMAN.
COAL MINING MACHINE.

No. 448,829.

Patented Mar. 24, 1891.



Witnesses
L. C. Hills.
M. J. Manning.

Inventor
Horace B. Wyman.
7th Char. H. Fowler
Attorney

UNITED STATES PATENT OFFICE.

HORACE B. WYMAN, OF DOVER, NEW HAMPSHIRE.

COAL-MINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 448,829, dated March 24, 1891.

Application filed December 26, 1890. Serial No. 375,831. (No model.)

To all whom it may concern:

Be it known that I, HORACE B. WYMAN, a citizen of the United States, residing at Dover, in the county of Strafford and State of New Hampshire, have invented certain new and useful Improvements in Coal-Mining Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

Figure 1 of the drawings represents a longitudinal section of a portion of a drilling-machine embodying my invention; Fig. 2, a transverse section taken on lines *y y* and *z z*, showing two drills and the relation the drills proper will assume with each other when two or more drills are used; Fig. 3, a detail view in perspective of one of the scrapers.

The present invention has relation to coal-mining machines and that class where a number of drills are used and operated by suitable machinery to rotate the drills and feed them forward.

It is the object of the invention, therefore, to improve the construction of this class of machines, whereby it will be rendered more effective and result in the work of drilling more satisfactorily, which objects are attained by the construction substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A represents the drill of any well-known form and construction, and B the drill-shaft, preferably enlarged at its outer end, as shown at *a*, to form a head, to which the drill is connected in any of the usual ways.

The drill-shaft above described is connected by any suitable means to the machinery usually employed to impart to the shaft and drill the required rotary motion while in the act of drilling, and this is so common in this class of mining-machines that further description of it or any illustration of it in the drawings is considered entirely unnecessary.

The drill-shaft B has a saddle-iron C, which rests upon said shaft and is of such shape as to partly inclose the shaft back of the drill

and extends down below the diameter of the shaft. This saddle-iron has suitably pivoted or hinged to it at a point below the shaft a plurality of scrapers D, of any preferred size and shape, but preferably segmental, as shown in Fig. 3, to take substantially the same curve as the hole cut by the drill, said scrapers being free to swing on their pivotal or hinged connections in the path of the drill and not to one side, as heretofore. The saddle-iron C, as before mentioned, rests upon the drill-shaft B and is reciprocated lengthwise with the shaft by the usual mechanism, and the scrapers being directly below the shaft and on the same line therewith, the cuttings will be cleaned from the path of the drill. When two or more drills are used, they are connected together by a suitable frame, the front end of the frame being shown at E, Fig. 2 of the drawings, the drill-shafts passing through holes in the end of the frame, as more clearly shown in Fig. 1. To this frame at its front end is bolted or otherwise suitably connected a shield F to prevent the coal-dust from falling on the saddle-iron and working in between it and the drill-shaft.

The entire number of drills used may be connected together in any well-known and suitable manner that will admit of their being freely rotated independently of each other.

If preferred, the bar E, which I have designated as the "front end" of the frame, may be all that would be required to connect the nest of drills together, said bar being held in position and steadied by the shield F.

When two or more drills are used, they are so placed with relation to each other that the cutting-path of one drill laps into the cutting-path of the adjoining drill, as shown in dotted lines, Fig. 2 of the drawings, thereby removing the partition between the two drills and making a continuous mortise in the coal of a length equal to the space occupied by the several drills used.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a drill and shaft thereof, of a plurality of swinging scrapers located immediately under said drill-shaft in

the path of the drill and pivoted or hinged to suitable supports, substantially as and for the purpose described.

2. The combination, with the drill and shaft thereof, of a saddle-iron extending over the shaft, and a plurality of scrapers pivoted or hinged to the saddle-iron, substantially as and for the purpose specified.

3. In a mining-machine, a plurality of drills, and the shafts thereof suitably connected together, in combination with saddle-irons extending over the drill-shafts, and scrapers pivoted or hinged thereto, and a shield located over the saddle-iron, substantially as and for the purpose set forth.

4. The combination, with a drill and shaft thereof, of a saddle-iron located over said shaft, and a plurality of segmental-shaped scrapers pivoted or hinged to the saddle-iron, substantially as and for the purpose described. 2c

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HORACE B. WYMAN.

Witnesses:

JAMES FOGERTY,
A. G. WHITTEMORE.