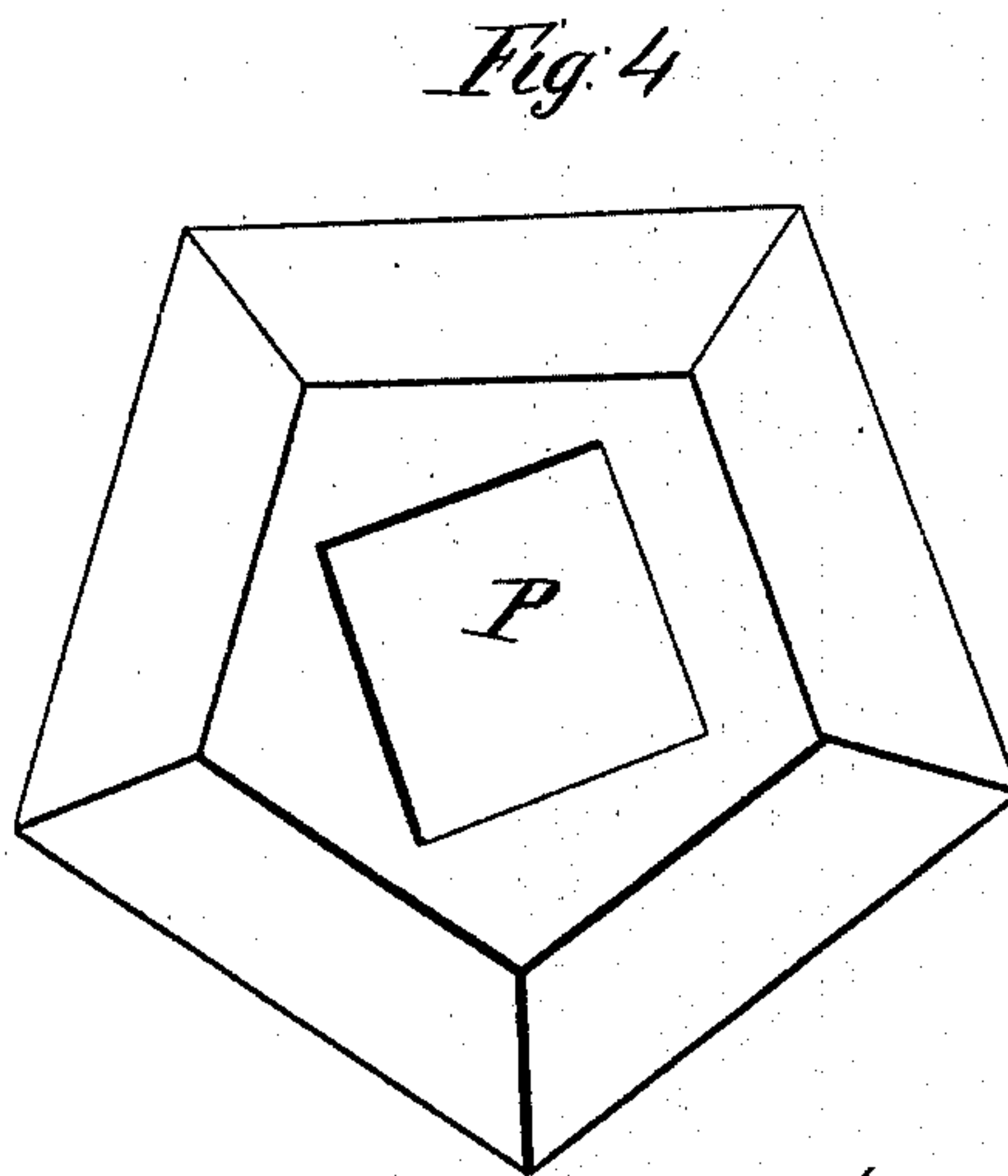
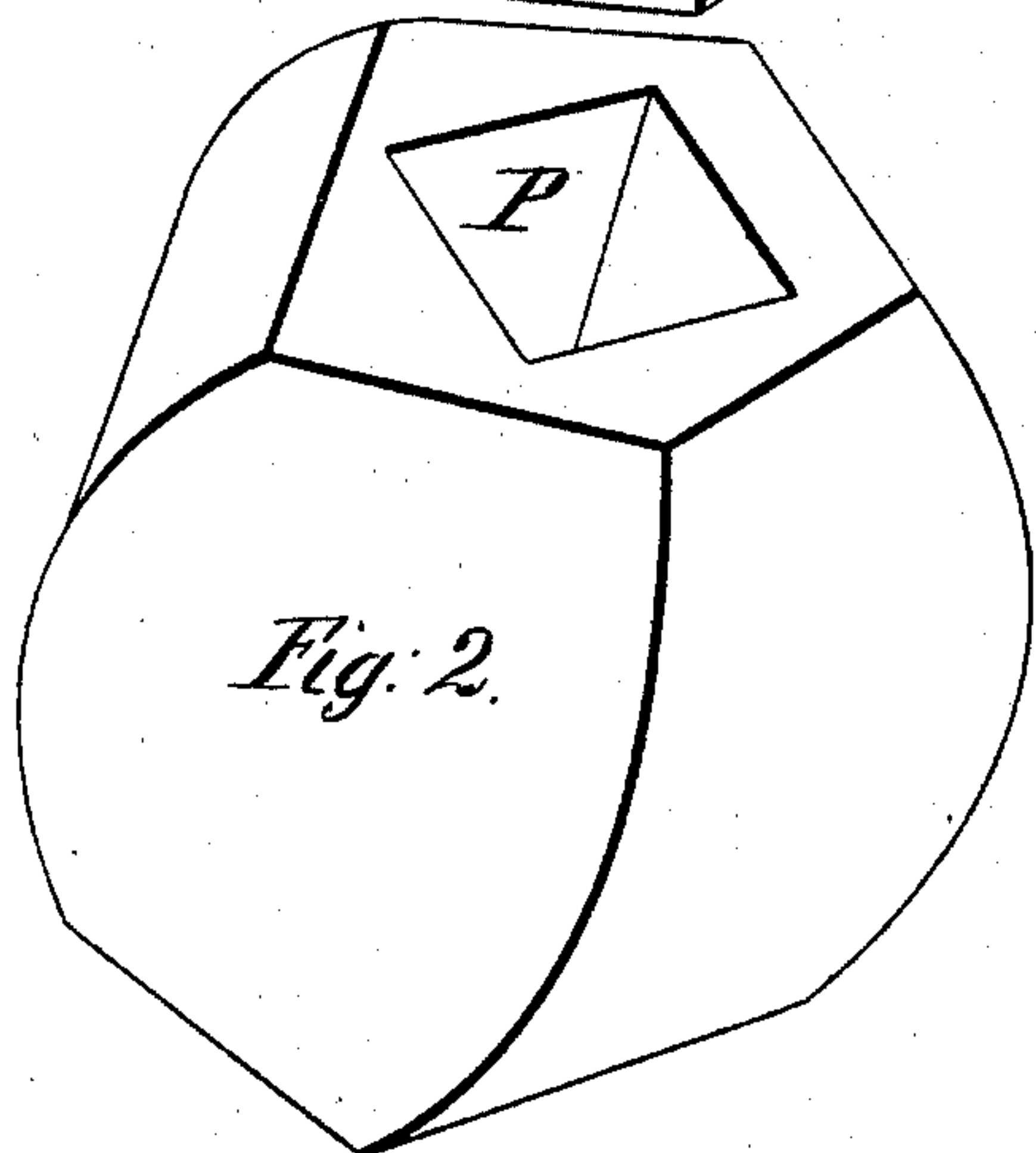
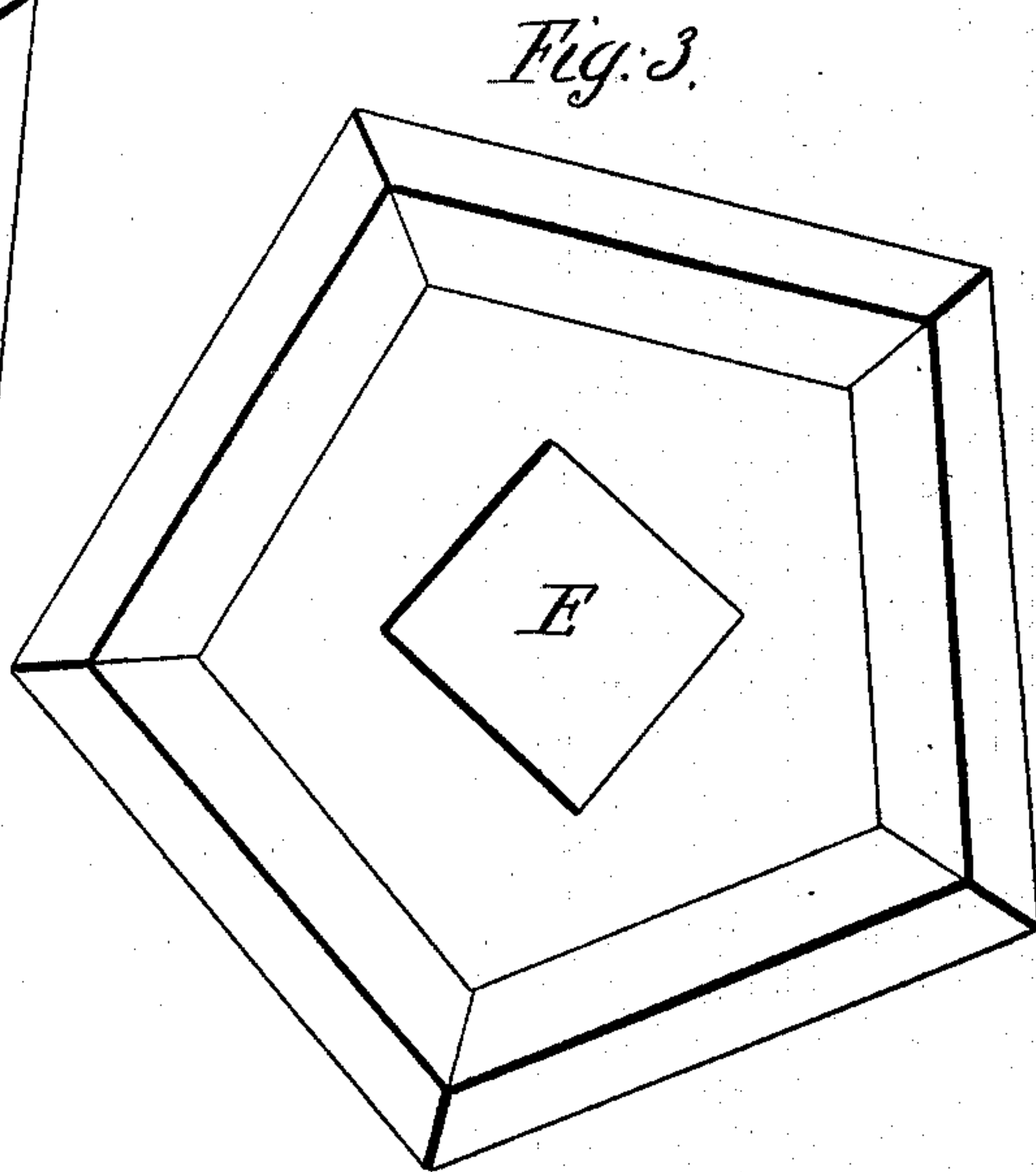
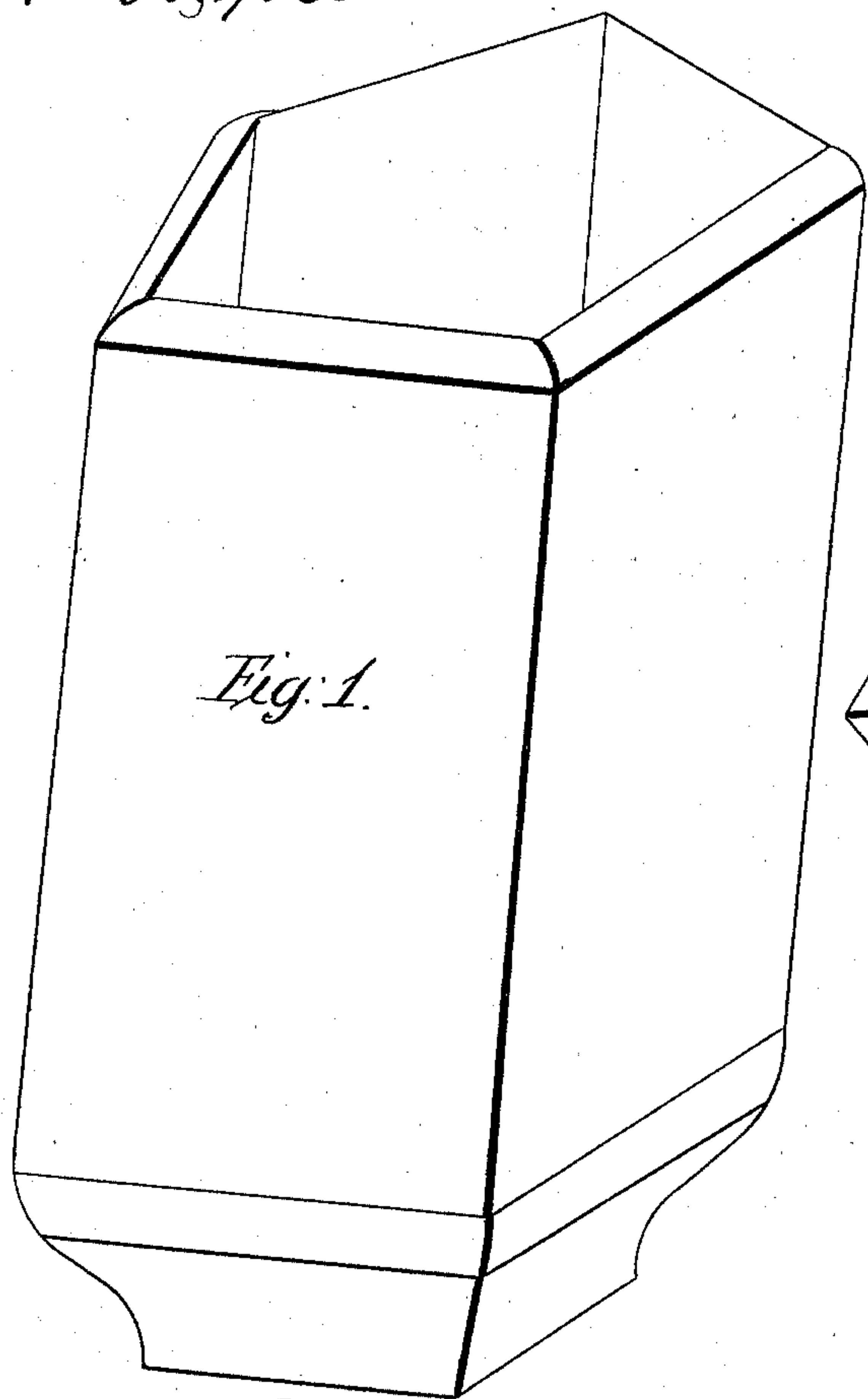


Mears & Yale,
Universal Joint.

N^o 60,403.

Patented Dec. 11, 1866.



Witnesses;
W. P. Warner
Frank A. Root

Inventors;
P. H. Mears
C. W. Yale

United States Patent Office.

IMPROVEMENT IN KNUCKLE JOINTS.

J. H. MEARS AND C. W. YALE, OF OSHKOSH, WISCONSIN.

Letters Patent No. 60,403, dated December 11, 1866.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. H. MEARS and C. W. YALE, of Oshkosh, in the county of Winnebago, and State of Wisconsin, have invented a new and improved Knuckle Joint; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figures 1 and 2 is a perspective view of our invention.

Figures 3 and 4 is a top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists of a knuckle joint made of cast iron or any other suitable metal, for connecting together the tumbling rods of thrashing machines, and the shafting of other machinery, which require to be placed in an oblique position relatively with each other; to enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

Figure 1 is a socket or barrel with its internal sides or surfaces pentagonal in form, with a hole at E, in which the tumbling rod or shaft can be keyed or fastened. Fig. 2 is a head which is also pentagonal in form, and also somewhat spheroidal, which also has a hole at P, passing through it to admit of a tumbling rod or shaft being keyed or fastened, and is made small enough to pass easily into the socket. Fig. 1, when its surfaces are placed in parallel lines to those in the socket, and when in the socket can be turned in an oblique position relative to the socket. The socket or barrel, fig. 1, is made sufficiently long to admit of the head fig. 2 slipping endways along its inner surface. From the above description it will be seen that as the head fig. 1 is turned when placed in the socket, fig. 2, by its tumbling rod or shaft, it will also turn the socket with it by their surfaces coming in contact, although they may be placed in an oblique position relative to each other. We are aware that there are knuckle joints in use having ribs extending along the inner surface of the socket, and corresponding grooves along the head which has a tendency to weaken those parts. The device as a whole is extremely simple, there being no parts liable to become deranged by use, and may be applied to any ordinary machines where knuckle joints are used.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—
The pentagonal socket, (fig. 1,) in combination with the head, (fig. 2,) substantially as set forth.

J. H. MEARS,
C. W. YALE.

Witnesses:

W. P. WARWICK,
FRANK A. ROOT.