

No. 879,688.

PATENTED FEB. 18, 1908.

J. A. SNODDY.
PIPE LINING.

APPLICATION FILED FEB. 21, 1907.

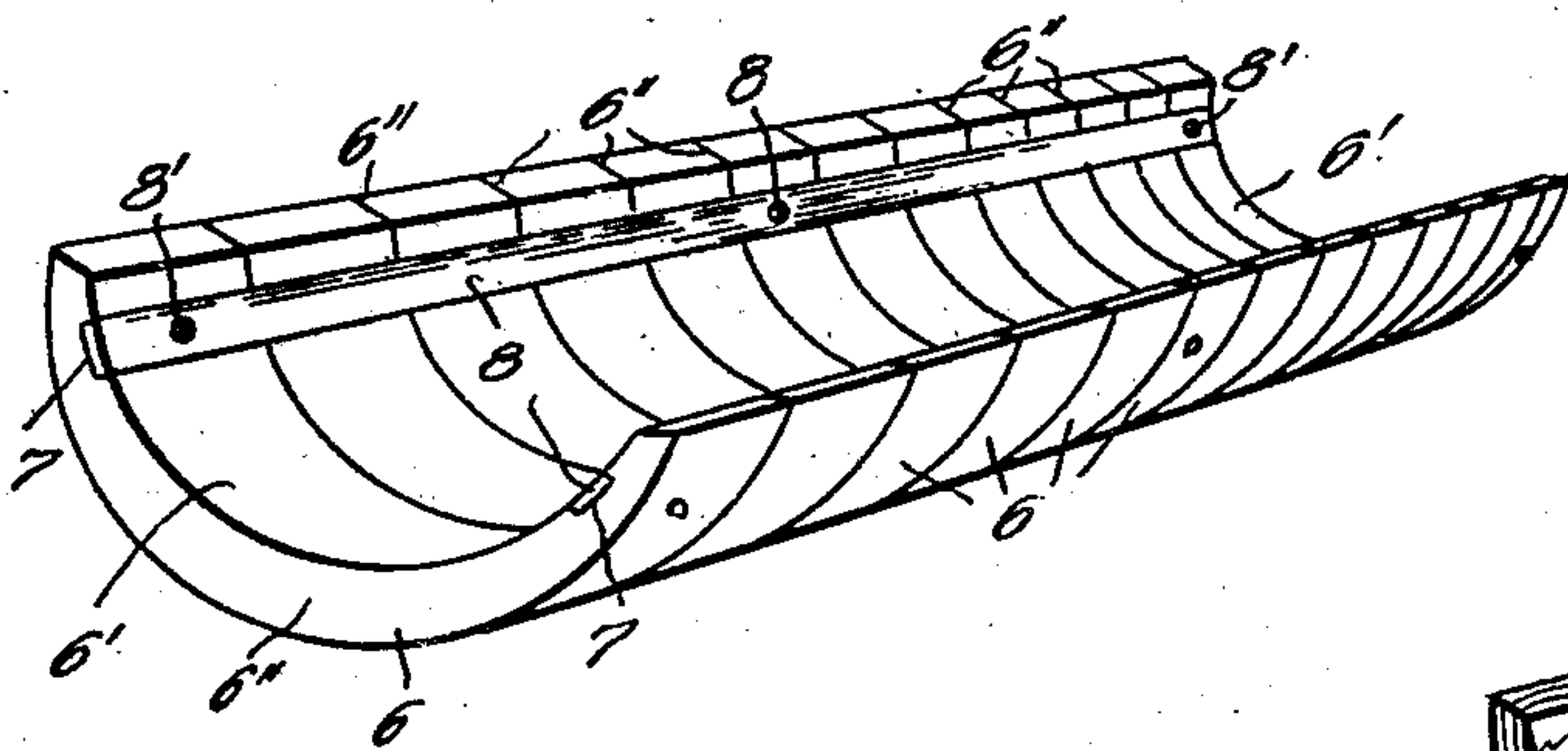


FIG. 2

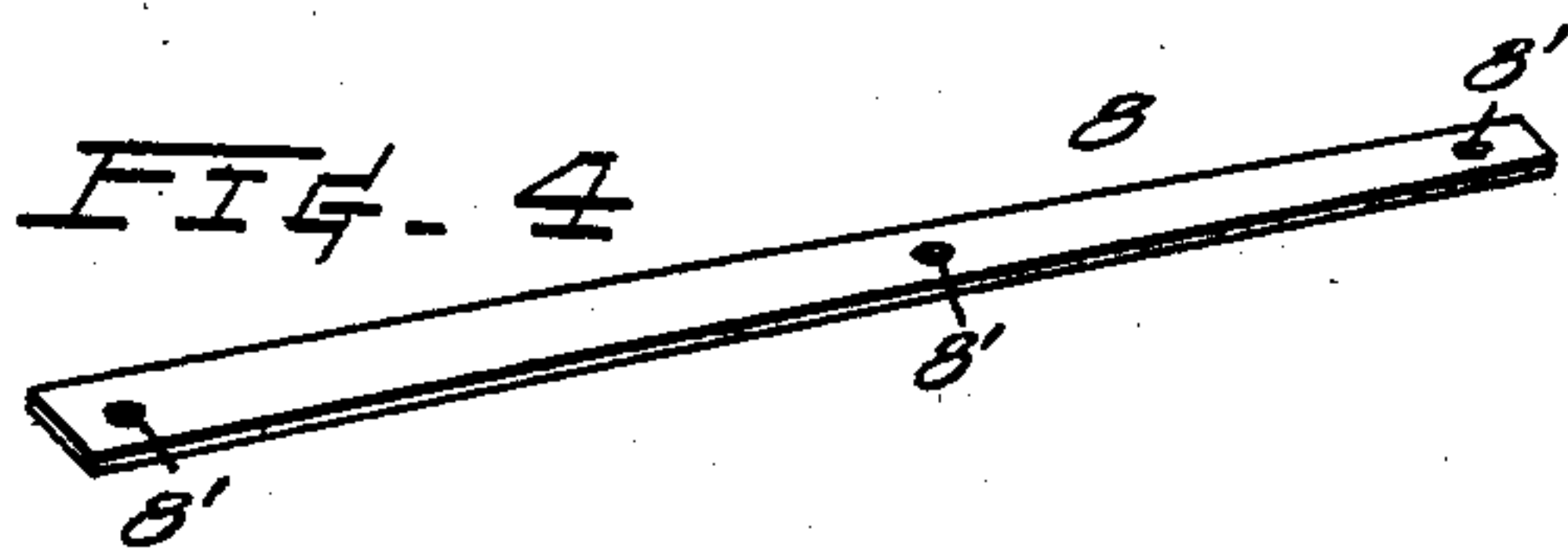


FIG. 4

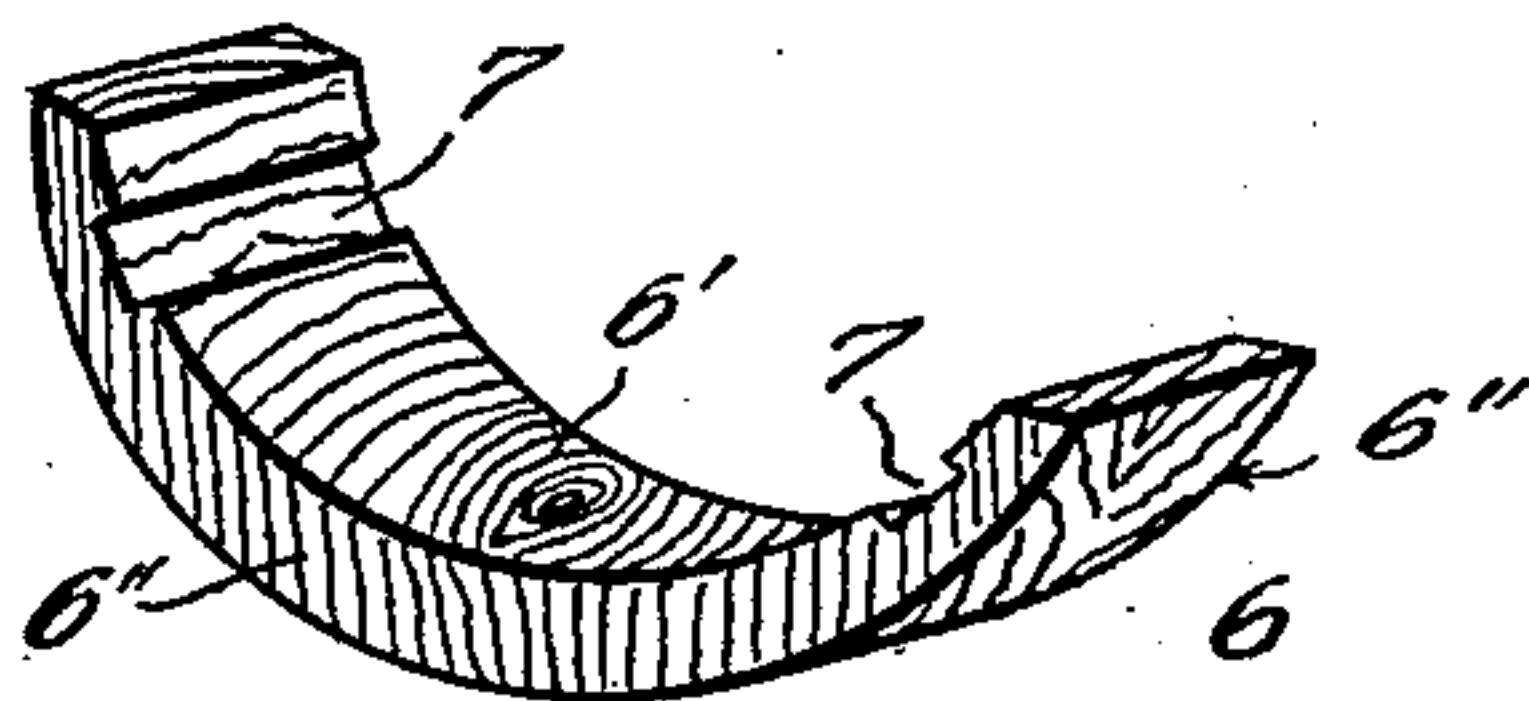


FIG. 3

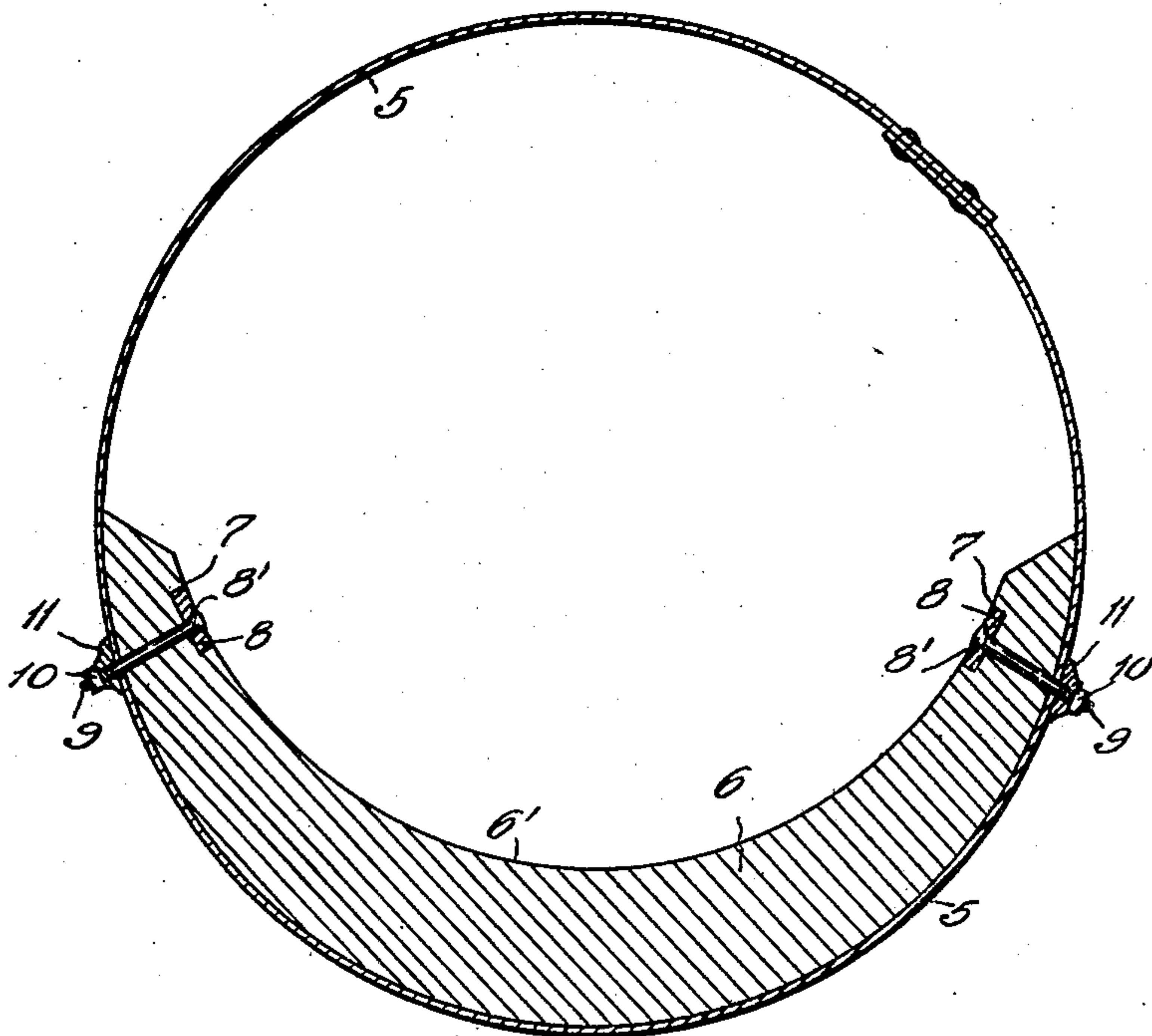


FIG. 1

WITNESSES:

Horace Barnes.
E. H. Alvord

INVENTOR

James A. Snoddy

BY

Pierre Barnes
ATTORNEY

UNITED STATES PATENT OFFICE.

JAMES A. SNODDY, OF SEATTLE, WASHINGTON.

PIPE-LINING.

No. 879,688.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed February 21, 1907. Serial No. 358,576.

To all whom it may concern:

Be it known that I, JAMES A. SNODDY, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Pipe - Lining, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to pipe conduits, more particularly of the class used in conveying excavated ground by "sluicing," or by the medium of a stream of water flowing with the material through the pipe.

Where the durability of the pipe is of importance, it has been found necessary to guard the bottoms of such pipes from the abrasive action of the gritty substances, such as sand or broken rock, contained in the conveyed dirt, by the employment of an interior lining, generally of wood blocks which are disposed to present the ends of the fibers thereof to the action of the current. Hitherto this has been accomplished through the use of peculiarly shaped pipes with interiorly protruding projections attached to or integral with the pipe structure for engaging with lining blocks of a special form and serving to prevent lateral displacement of the same or their rising vertically from their seats.

The object of the present invention is to provide an improvement in liner - blocks which are adaptable for use with pipes of ordinary or suitable type, together with means for securing the same reliably in place.

The invention consists in the novel construction and combination of parts as will be hereinafter described and claimed.

In said drawings, Figure 1 is a cross sectional view of a pipe provided with a liner embodying my invention; Fig. 2, a perspective view of an assemblage of the liner elements; Fig. 3, a perspective view of a detached element or liner-unit such as illustrated in the preceding views; and Fig. 4, a perspective view of a detached tie-member.

The reference numeral 5 designates a pipe, here shown as circular in cross section though it may be of any other configuration, and within which is placed a series of wooden blocks 6 having a concave upper surface 6' and shaped underneath to correspond with the contour of the pipe. These blocks are preferably of a width of approximately the internal diameter of the pipe in which they are intended to be used and are desirably cut

so that the grain of the wood will extend vertically or as nearly so as the character of its structure will allow, in order that the fiber-ends will be exposed at the wearing surface 6'. The ends 6'' of the blocks are preferably formed in planes perpendicular to the wearing surface and parallel with each other so as to enable the blocks to be interchangeably laid within a pipe and in juxtaposition or with their surfaces in contact with each other.

Near the lateral extremities of the several blocks and within the concave surfaces 6' are recesses 7 which are similarly positioned in all of the blocks for the reception of tie-bars 8 of such lengths as to extend longitudinally through the recesses of a number of blocks. After a group of the latter have been positioned in alinement within a pipe and the aforesaid bars, one on each side, seated in the recesses formed therefor they are secured in place by screw-bolts 9, inserted in holes provided in said pipe and the intervening blocks, and secured in place by clamp nuts 10. The holes 8' in the bars are preferably counter-sunk to allow of the bolt-heads 9' being seated therein to bring their outer extremities flush, or nearly so, with the exposed faces of the bars which, in turn, are flush with the exposed faces of the various blocks, and thus offer no obstruction to the passage of the material being handled. In practice washers 11 are advantageously used between the nuts 10 and the pipe 5 excepting where supplemental stiffening means would be desirable, when longitudinal bars may be utilized instead exteriorly of the pipe.

From the foregoing it will be seen that a lining constructed according to my invention may be installed in any pipe irrespective of its shape, size or material, and upon becoming worn may be readily replaced by others. Furthermore such a liner may be removed and one of wider or narrower size substituted to accommodate itself to varying demands, for example, in a line of pipe laid to varying grades and curves where it is oftentimes expedient to have the liner cover the inner surface of the pipe to varying or unequal amounts according to the rapidity with which the stream would flow in the respective parts.

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

The combination with a conduit, of a lin-

ing therefor composed of a plurality of blocks
having their outer surfaces conforming to the
inner surface of the conduit and having their
inner surfaces concaved, the blocks disposed
5 transversely of the conduit with their side
faces in contact and each block provided
with transverse recesses near the ends open-
ing into the concaved surfaces and adapted
to register when the blocks are disposed with-
10 in the conduit, binding strips bearing in said

recesses and extending over a plurality of
blocks, and means for fastening said strips to
the conduits.

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

JAMES A. SNODDY.

Witnesses:

PIERRE BARNES,
E. H. ALVORD.