

R. HOSKIN.

SECTIONAL-JOINTED NOZZLES FOR HYDRAULIC MACHINES.

No. 185,236.

Patented Dec. 12, 1876.

Fig. 1.

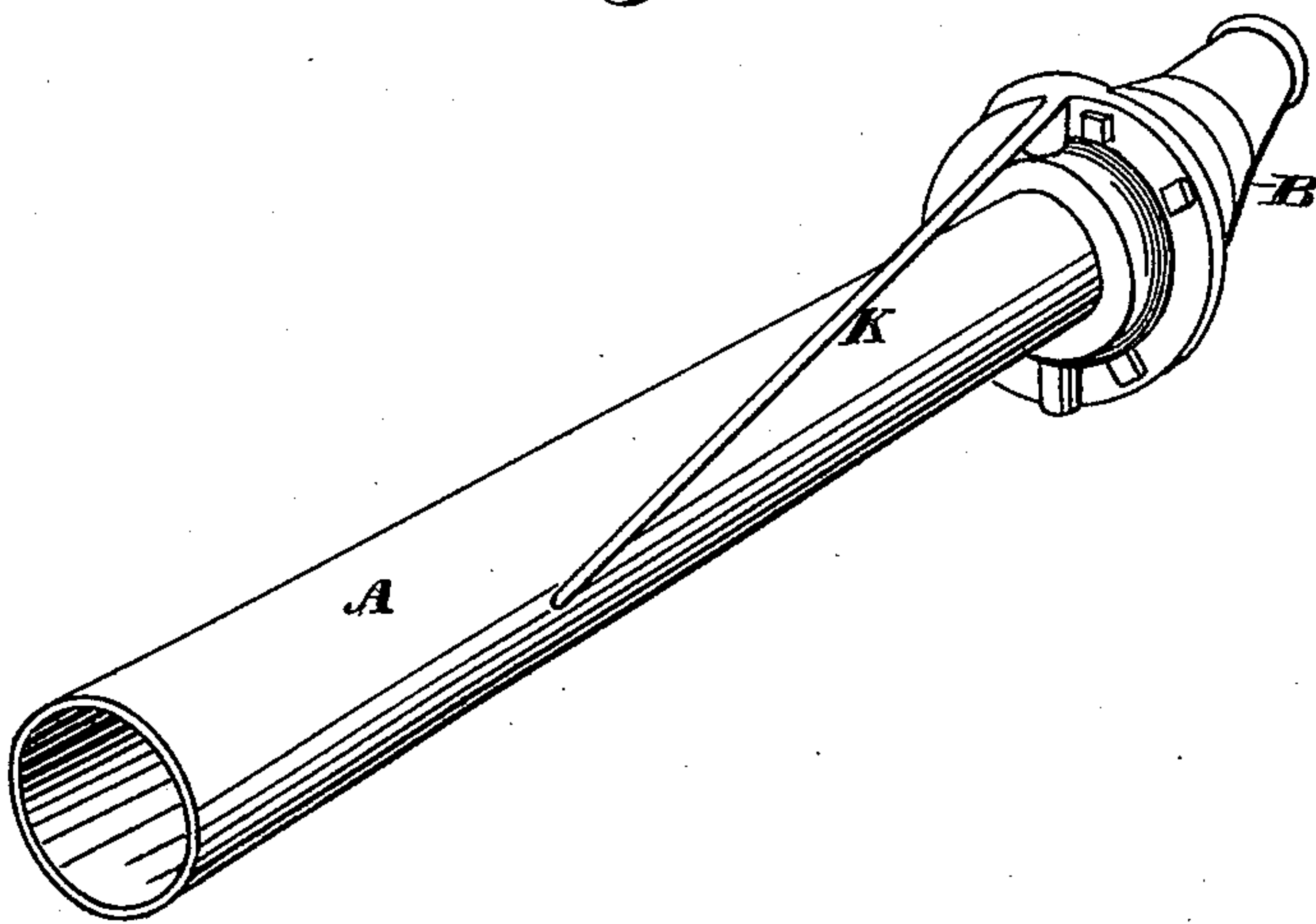
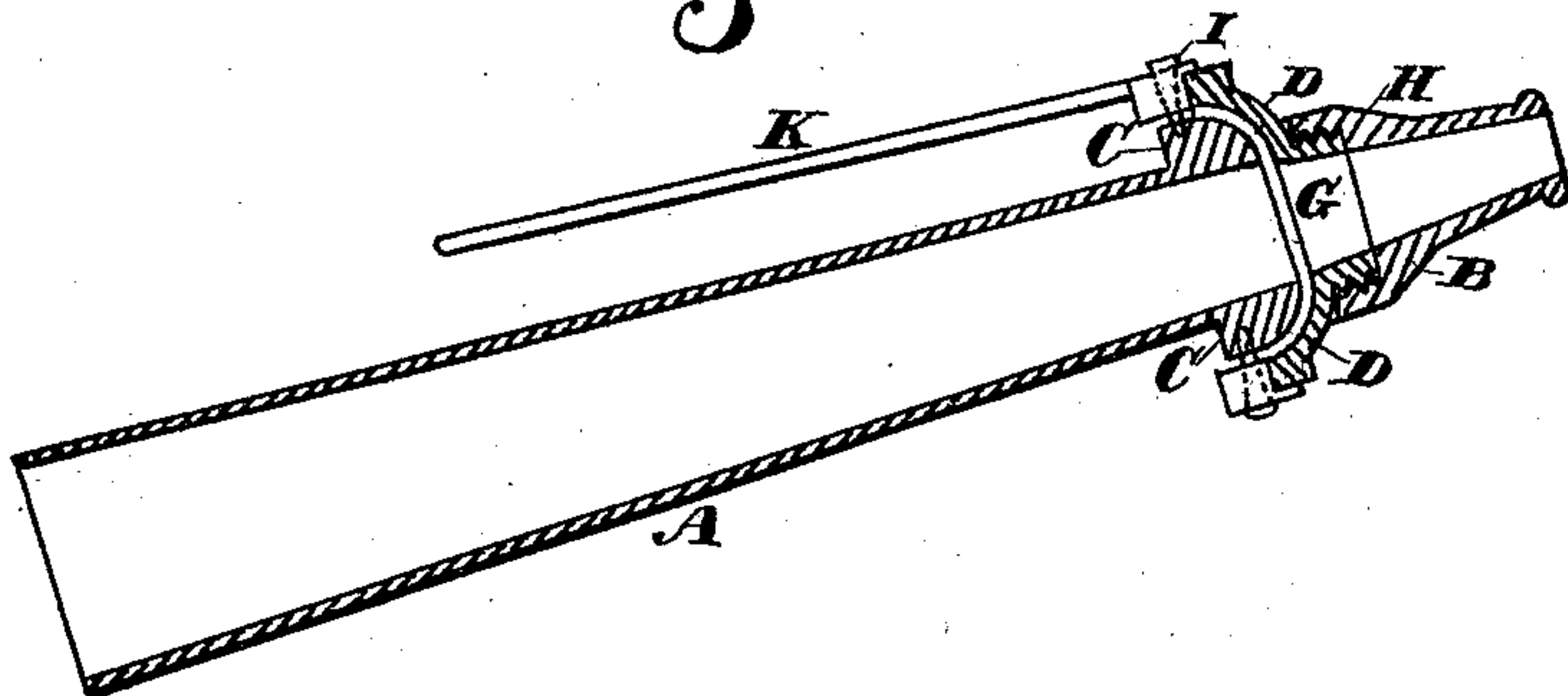


Fig. 2.



Witnesses

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IMPROVEMENT IN SECTIONAL-JOINTED NOZZLES FOR HYDRAULIC MACHINES.

Specification forming part of Letters Patent No. 185,236, dated December 12, 1876; application filed September 23, 1876.

To all whom it may concern:

Be it known that I, RICHARD HOSKIN, of Dutch Flat, county of Placer and State of California, have invented an Improved Sectional Jointed Nozzle for Hydraulic Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to an improvement in the nozzles of hydraulic machines, such as are used for concentrating the force of a stream of water, and directing it against a bank of earth, gravel, or cement in hydraulic mining.

In the Patent No. 43,468, which was issued to J. M. Allenwood on the 12th day of July, 1864, and reissued, a discharge-pipe and nozzle are represented as being made in two parts, which are connected by a canvas or other flexible joint, so that the extreme end of the nozzle can be moved in any desired direction. By moving this hinged extremity in either direction, so as to cramp it upon the stream of water which was passing through the nozzle, it acted as a rudder to carry the pipe in an opposite direction.

The Patent No. 177,419, which was issued to H. C. Perkins on the 16th day of May, 1876, shows a supplemental attachment in the shape of a short tube or deflector, as he styles it, placed at a short distance in front of the nozzle, and only attached to the nozzle by a universal joint at one place, leaving an open space between the end of the nozzle and the rear end of the short tube or deflector, thus permitting the water to fly back through this opening, and drench the operator when the stream is cramped by the deflector. This deflector is also described as being larger in diameter than the extreme end of the nozzle.

My improvement consists in making the nozzle itself a deflector by attaching it to the end of the discharge-pipe by means of a ball-and-socket or other water-tight joint, so that it will not only serve as a nozzle for the main pipe, to carry and direct the stream, but will serve as a rudder to change the direction of the discharge-pipe by cramping it upon the stream.

Referring to the accompanying drawings, in which Figure 1 is a perspective view of my invention; Fig. 2 is a longitudinal section—

A is the discharge-pipe of a hydraulic machine, and B is the nozzle. The end of the discharge-pipe I provide with an enlarged semi-globular head, C, and over this head I fit a socket, D. I attach the socket to the head C by a pivot or journal, I, both above and below, so that it can swing from side to side.

If found necessary, I employ packing between the ball and socket, to render the joint water-tight.

The front end of the socket has a short circular neck or flange, G, formed around the opening, and projecting out in front of it, through which the water issues, and this flange is tapped with screw-threads. I then screw the nozzle H upon this threaded flange or neck, thus completing the attachment of the nozzle H to the end of the discharge-pipe. K is the lever, by means of which the deflector or nozzle is operated.

It will be seen that when the lever K is moved in either direction to the right or left the nozzle will point in an opposite direction, forming an angle between the pipe and nozzle, against which the water, passing through with great force, will act, and cause the discharge-pipe to turn and point in the direction in which the lever is directed.

The discharge-pipe being always balanced with a counterpoise, there is no difficulty in elevating or depressing it. The difficulty is only in moving the pipe horizontally, or from side to side. Hence, the joint has only two pivots; but, if desired, it can be made to operate vertically by making the pivot-holes oval, so as to allow the joint to vibrate vertically when the lever is moved up or down, thus forming a sufficient angle in the pipe to allow the water to act on the nozzle and move it in this direction also.

I thus provide a discharge-pipe with a hinged nozzle, so that the nozzle itself will serve as a deflector to move the pipe by cramping it upon the stream, and, when the pipe is stationary, it will serve as an ordinary nozzle to condense and deliver the stream.

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

The deflecting nozzle B, connected with the discharge-pipe A by means of a suitable packed joint, and provided with a lever, K, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand and seal.

RICHARD HOSKIN. [L. s.]

Witnesses:

CHARLES HOSKIN,
THEODORE KELLY.