

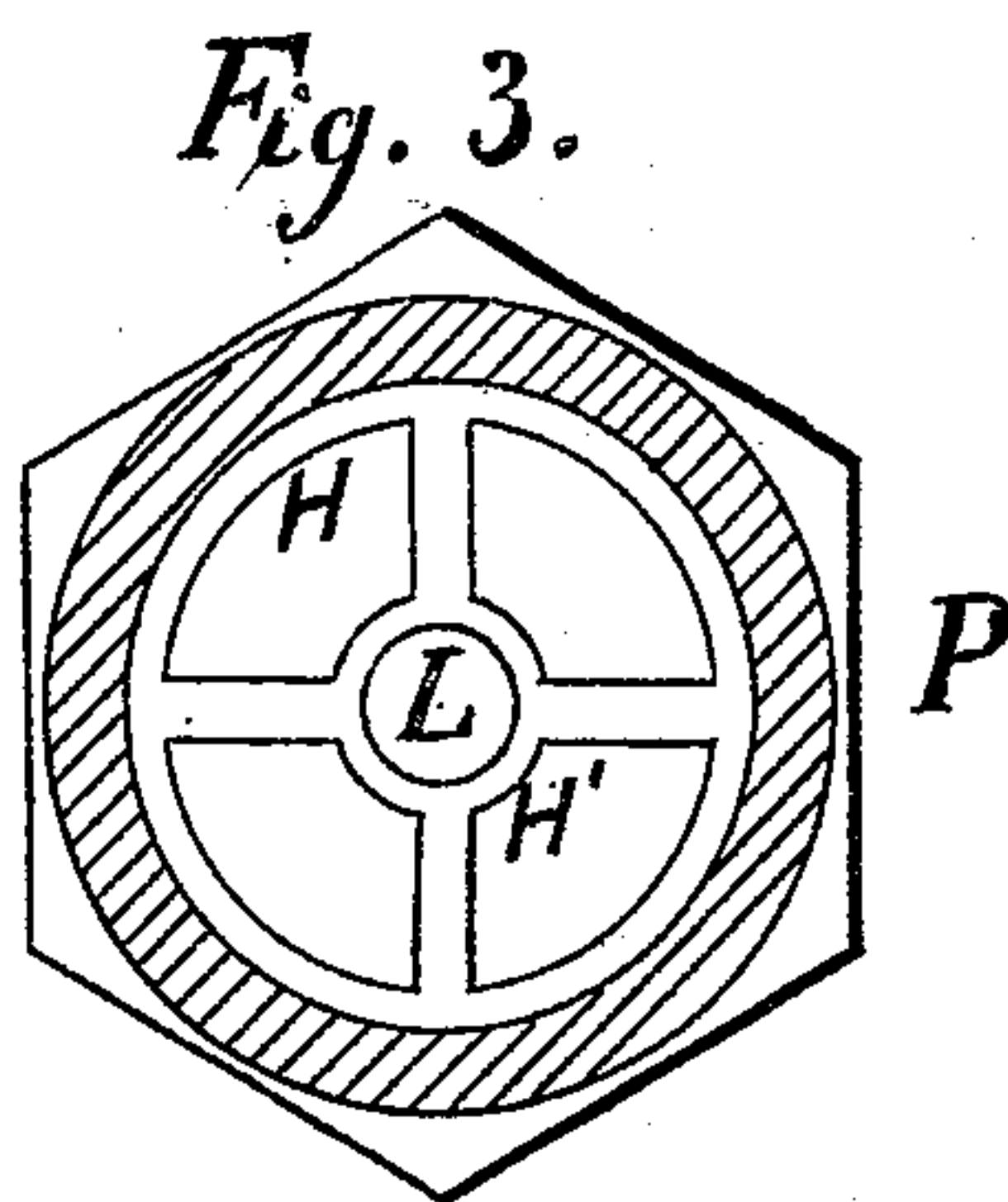
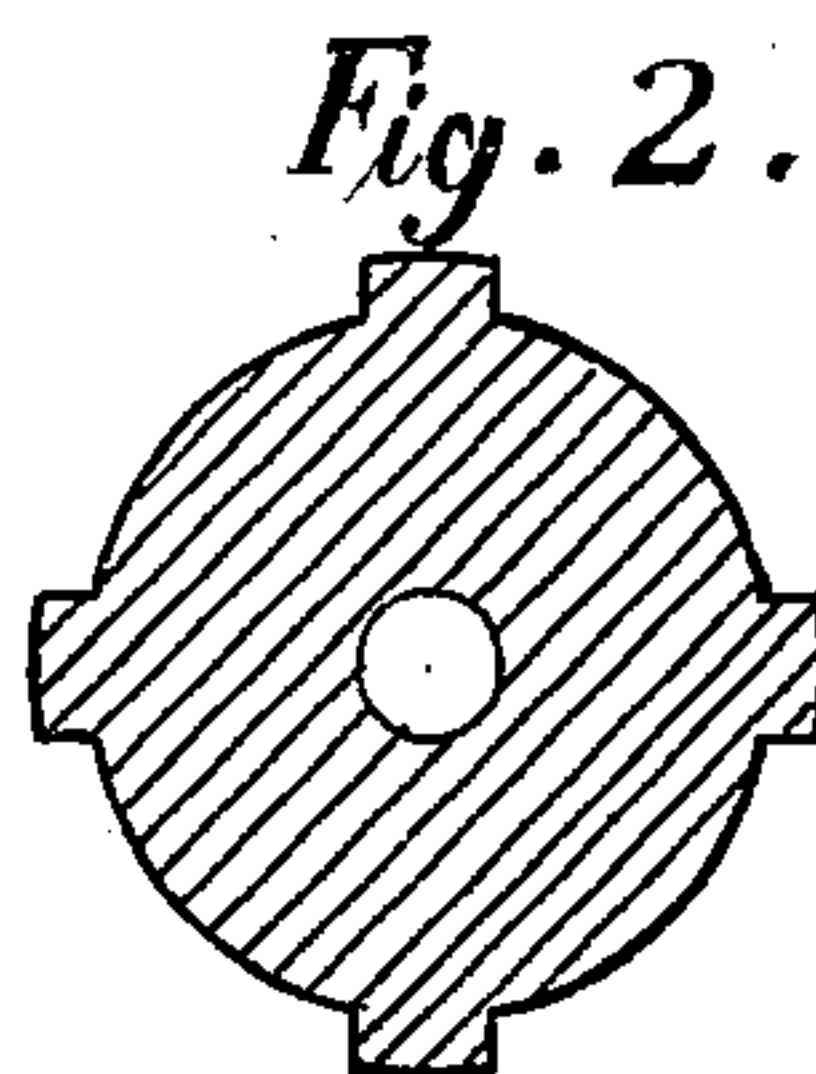
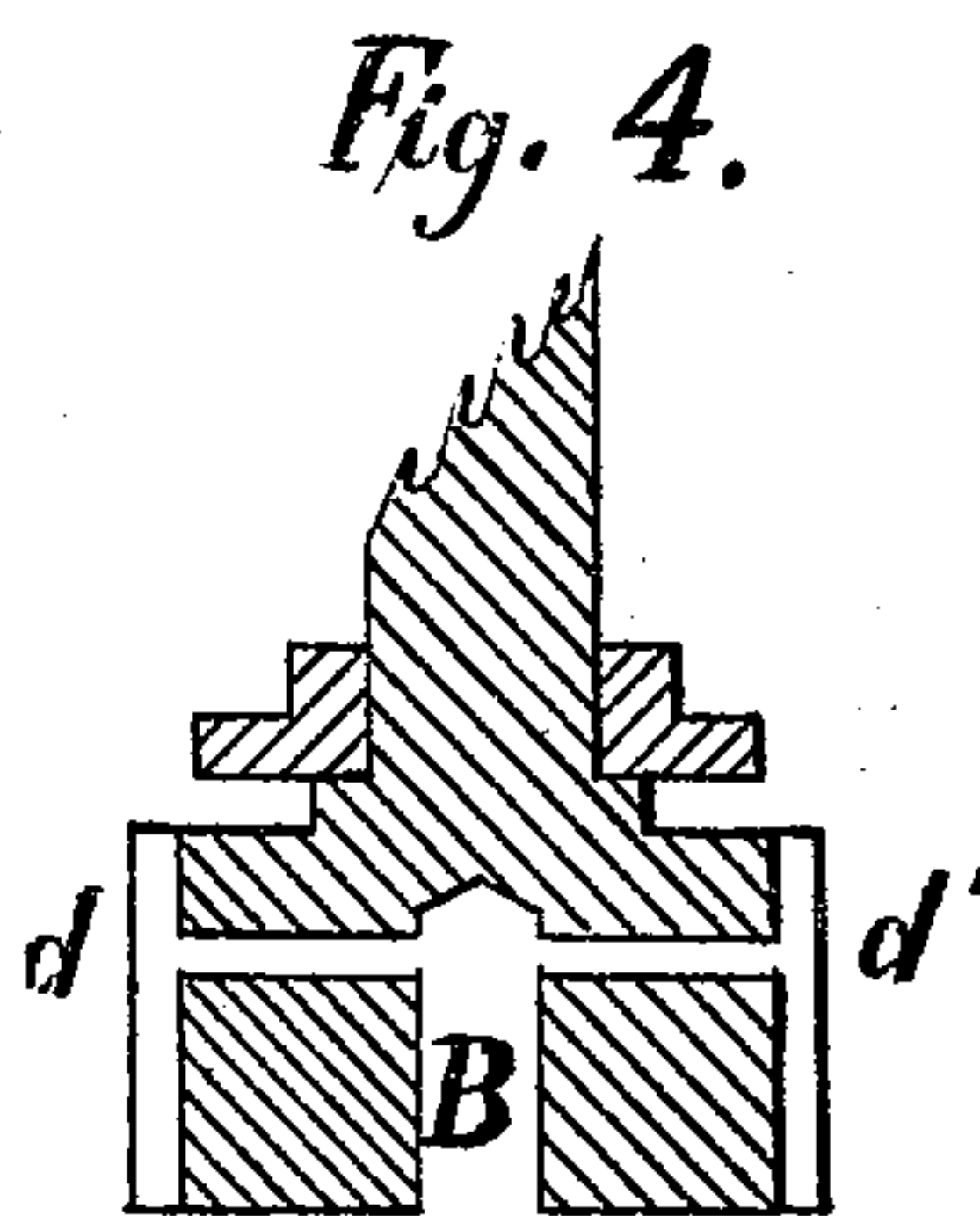
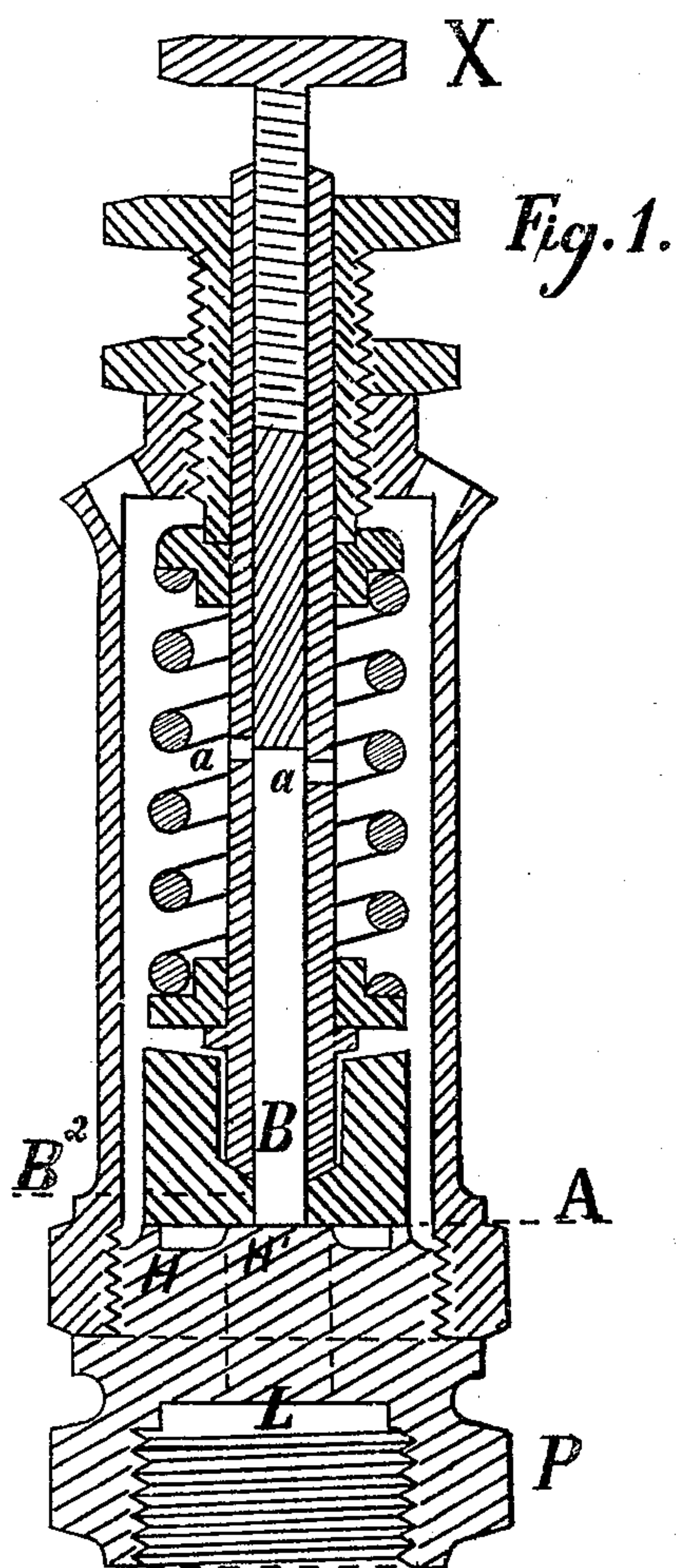
(No Model.)

J. R. MITCHELL.

SAFETY VALVE.

No. 258,588.

Patented May 30, 1882.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH R. MITCHELL, OF NEW BRIGHTON, PENNSYLVANIA.

SAFETY-VALVE.

SPECIFICATION forming part of Letters Patent No. 258,588, dated May 30, 1882.

Application filed January 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. MITCHELL, of New Brighton, county of Beaver, and State of Pennsylvania, have invented certain new and useful Improvements in Safety-Valves, of which the following is a clear and full specification.

My invention relates to improvements in what are termed "reactionary safety-valves," and has for its object the construction of a simple and effective safety-valve.

Figure 1 is a vertical section of the valve and case, showing its general construction. Fig. 2 is a section through valve B on line B², showing the form of the valve. Fig. 3 is a top view of the base of the valve-case and the central hub on line A. Fig. 4 is a vertical section of valve B, showing the radial adjusted regulating-holes.

Fig. 1 shows a vertical section of the safety-valve. It consists of a hollow valve, B, and its stem, resting upon two seats, H H'. Into the top of the stem an adjusting pin-valve, X, is screwed, extending down into it to the regulating-holes *a a'*. The stem and valve are joined together with a socket-joint. The seats H H' are made on the shell P and hub L, the hub being attached to the shell P by supporting-arms, which are shown clearly in Fig. 3.

The valve operates as follows: Assuming the regulating-holes *a a'* closed by the adjusting pin-valve X and the valve B lifted from

its seat, the steam will escape into the hollow portion of it and cause the valve to rise beyond its normal position by the greater area exposed to the steam-pressure.

By adjusting the pin-valve X the valve B can be closed at the desired pressure by allowing the steam to escape in the proper proportion through the regulating-holes *a a'*.

Under suitable conditions the adjusting pin-valve X may be dispensed with, using only the radial regulating-holes *d d'*, Fig. 4, adjusted to the proper size, the valve being only hollow to the regulating-holes, which may be put in any section of the valve or its stem where practice may dictate most convenient.

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

1. A hollow valve, B, resting upon two seats, with radial adjusted holes for the escape of the steam in the proper proportion from the central hollow part, for the purpose as shown and set forth.

2. In a safety-valve arranged as described, the hollow stem and valve with regulating-holes and resting upon two seats, in combination with the adjusting pin-valve X, substantially as and for the purpose shown.

JOSEPH RAMSDEN MITCHELL.

Witnesses:

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