

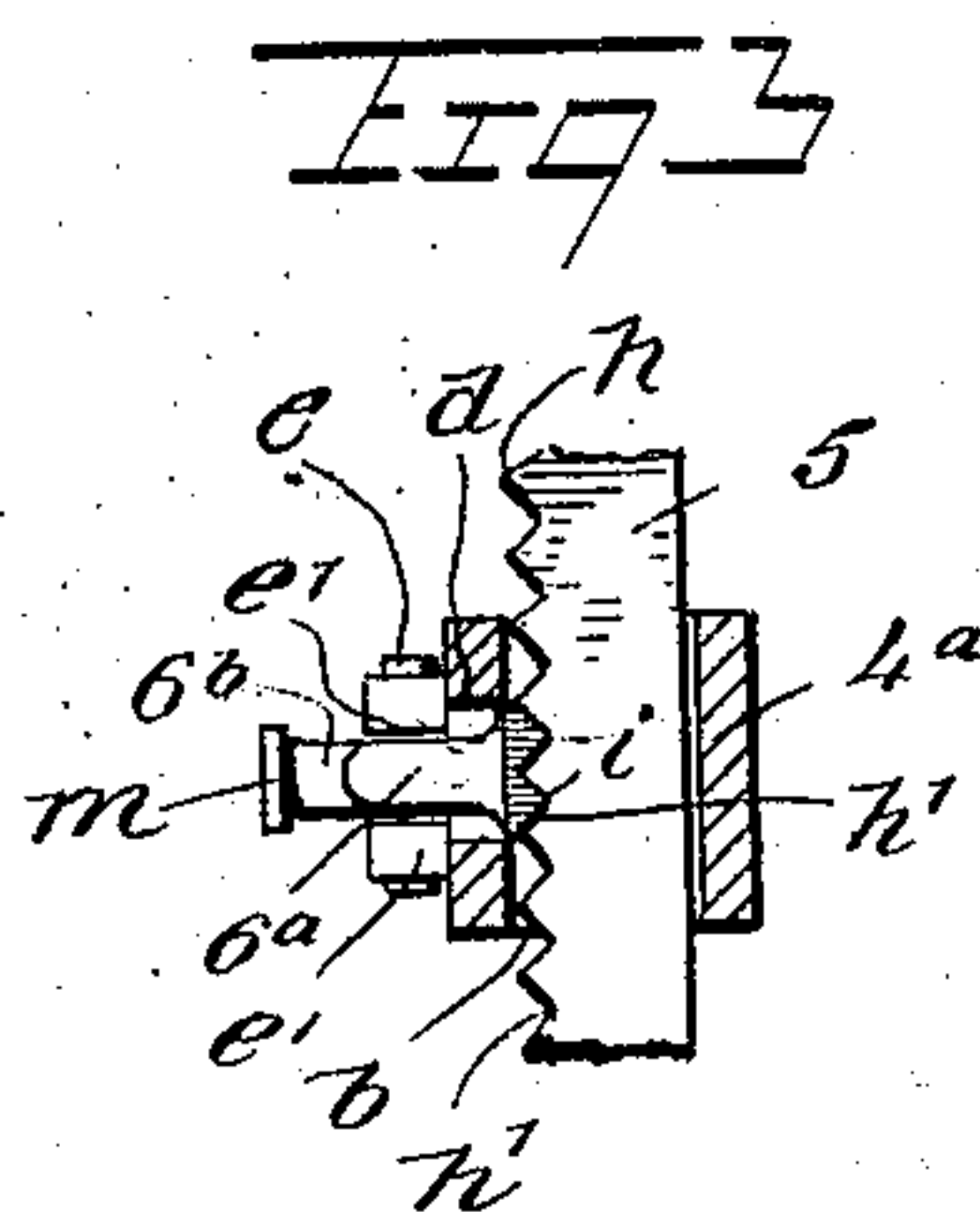
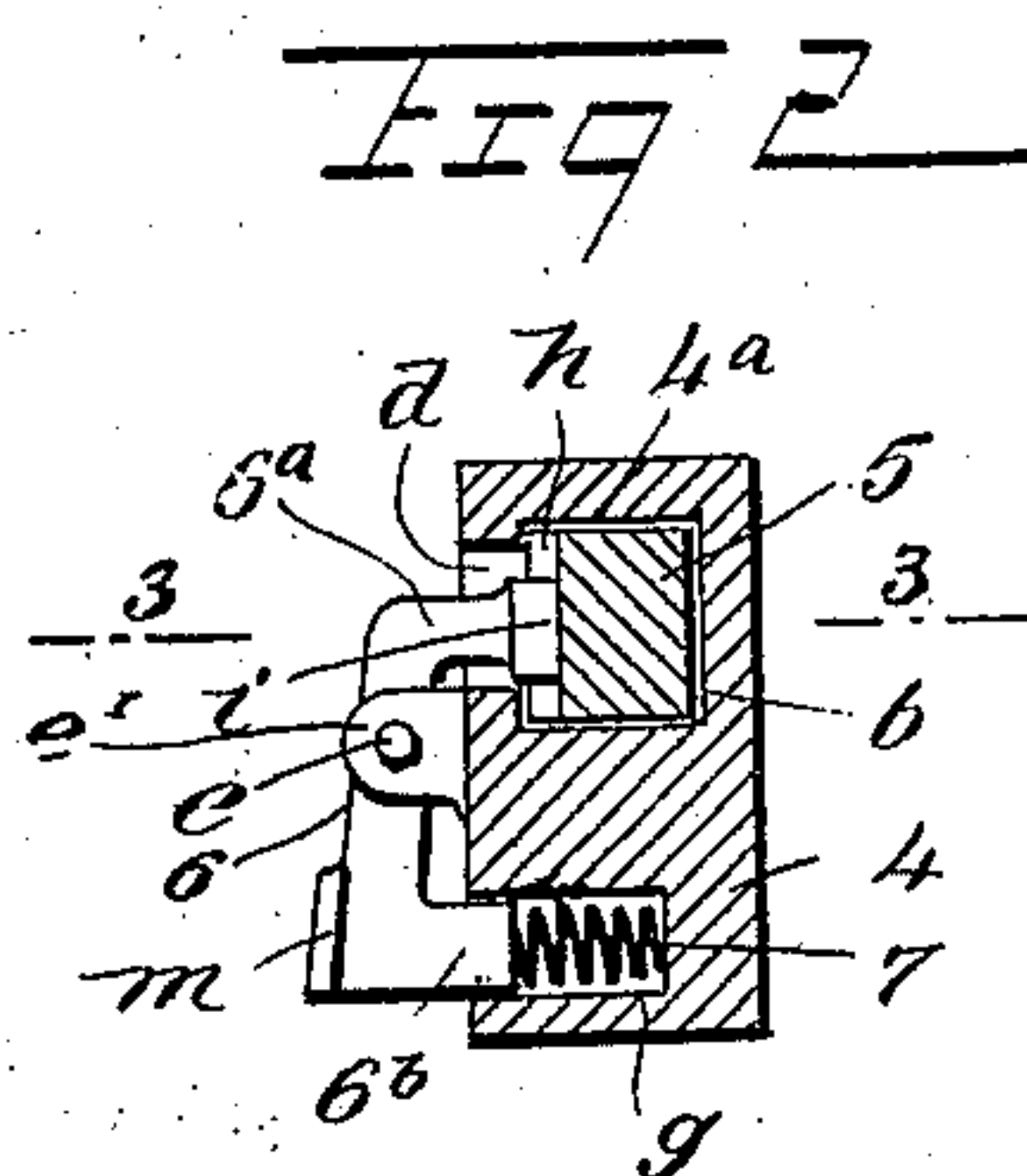
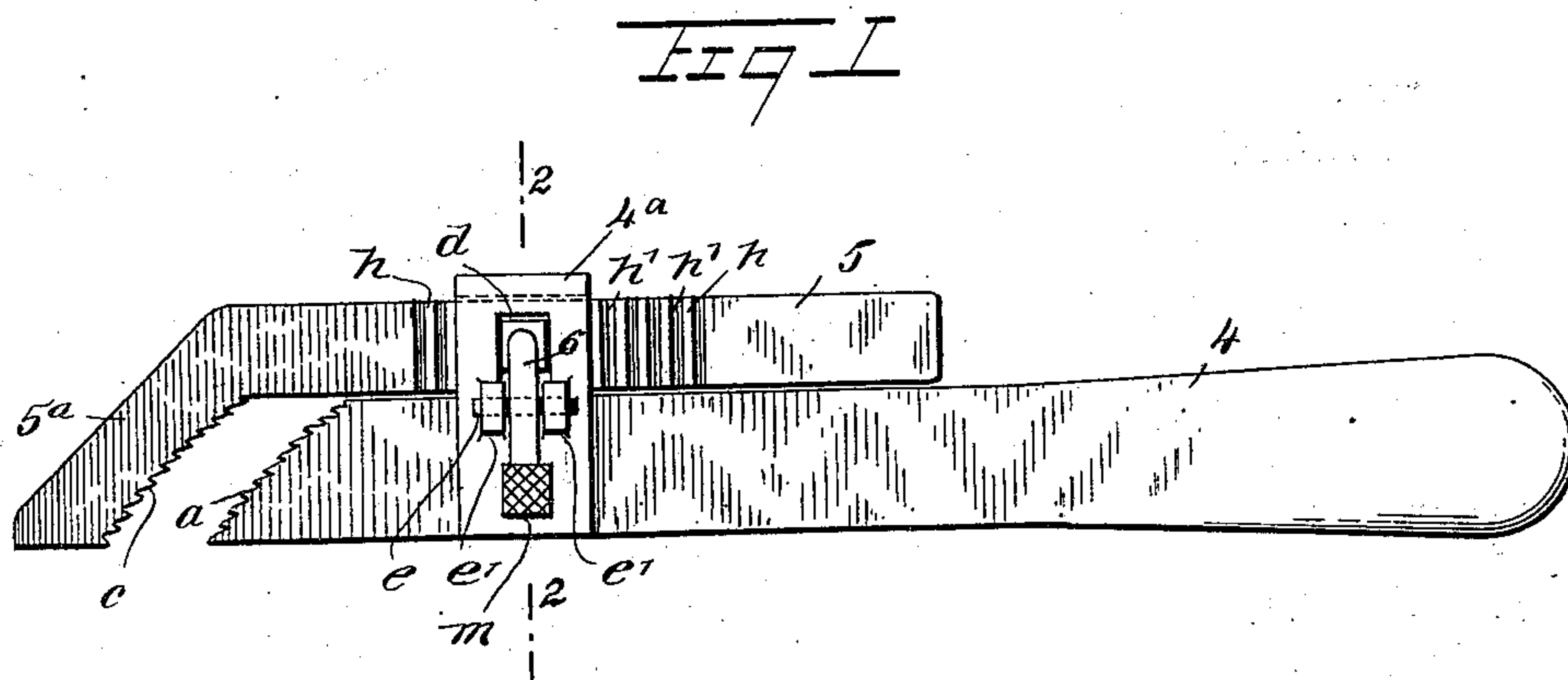
No. 692,742.

Patented Feb. 4, 1902.

P. W. WALSH.
WRENCH.

(Application filed June 13, 1901.)

(No Model.)



WITNESSES:

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PATRICK WILLIAM WALSH, OF BUTTE, MONTANA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 692,742, dated February 4, 1902.

Application filed June 13, 1901. Serial No. 64,395. (No model.)

To all whom it may concern:

Be it known that I, PATRICK WILLIAM WALSH, a citizen of the United States, and a resident of Butte, in the county of Silverbow and State of Montana, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

This invention relates to a class of wrenches having an adjustable jaw, and has for its object to provide a wrench of the character indicated which is of novel simple construction and adapted for quick adjustment to open or close it more or less, as occasion may require.

The invention consists in the novel construction and combination of parts, as hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the improved wrench. Fig. 2 is a transverse sectional view substantially on the line 2 2 in Fig. 1, and Fig. 3 is a sectional plan view of details substantially on the line 3 3 in Fig. 2.

The improved wrench is shown as constructed for use upon pipes or the bodies of bolts to turn them in either direction, and to this end the gripping-surfaces of its jaws are specially fashioned; but it is to be understood that the shape of said jaws may be somewhat modified within the scope of my invention, so as to adapt the wrench for engaging with the heads or nuts on bolts, and the features of invention render such a wrench very convenient and reliable in use.

As shown in Fig. 1, the improved wrench comprises two main portions 4 and 5, that have slidable engagement with each other. The part 4 is in the form of a bar having a suitable length to adapt it for effective use as a lever, and when the device is designed for employment as a pipe-wrench a toothed jaw *a* is formed on one end thereof, which is convex on the face that is sloped from one edge of the lever-bar to the other. As shown, the body of the lever-bar 4 is thickened somewhat at a suitable distance from the sloped face *a*, and said thickened portion extends outwardly from one edge of the lever, this

extended portion having, preferably, a rectangular opening *b* formed longitudinally there-through, providing a guide-box 4^a. The other part 5 of the wrench comprises a slide-bar of such form in cross-section as to adapt it to fit loosely in the opening *b* of the guide-box, and said bar when in place is held to slide with one side bearing upon an adjacent edge of the lever-bar 4.

At one end of the sliding member 5 a jaw 5^a is formed and is projected from said member at an obtuse angle in a direction that disposes said jaw opposite the fixed jaw *a*. The jaw 5^a is concaved on the face which is opposed to the toothed side of the fixed jaw *a* and is also toothed on said concave face, as shown at *c*, and it will be seen that the toothed faces *a c* converge a suitable degree toward the body of the slide-bar 5.

In a side wall of the guide-box 4^a an opening *d* is formed to loosely receive one limb 6^a of the detent-dog 6, pivoted between its ends, as at *e*, on the side of the lever-bar 4, the opposite limb of said dog, which is bent toward the lever-bar, being adapted to loosely pass into a socket *g*, formed in the lever-bar, as shown clearly in Fig. 2, and for effective service the detent-dog is preferably held to rock between the parallel ears *e'*, which project from the side of the lever-bar.

Upon the side of the slide-bar 5 a series of teeth *h*, providing a rack, is formed, said teeth being substantially V-shaped, leaving corresponding grooves *h'* between them, and in said grooves teeth *i*, formed on the limb 6^a, may be seated, such a contact being enforced by the spring 7, seated in the socket *g*, and which by its tension serves to rock the detent-dog so that its toothed limb will normally engage the teeth thereon with the rack-teeth *h*.

It will be seen that by pressure upon a thumb-piece *m* on the dog 6 the teeth *i* will be removed from the grooves *h'* and that the slidable bar 5 may be moved in either direction, so as to properly adjust the jaw 5^a with regard to the fixed jaw *a*.

Upon adjustment of the jaw 5^a to properly engage the teeth *a* and *c* with a pipe or bolt body the rocking movement of the lever-bar 4 will turn the object the wrench is engaged with in an obvious manner and the wrench

may be instantly disengaged from said object by simply pressing upon the detent-dog 6 above the spring 7.

It is claimed for this improvement that it is very simple, is durable, is readily adjusted to open or close it, and that it may be manufactured at a low cost in various sizes for general use.

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

1. A wrench, comprising a lever-bar having a serrated jaw at one end, a guide-box on one edge of the lever-bar having an opening in its side wall, a slide-bar movable in the guide-box and having a jaw at one end, a detent-dog held to rock on the lever-bar and having two limbs one of said limbs being provided with a plurality of teeth and extending through the opening in the side wall of the guide-box to engage a toothed rack on one side of the slide-bar, the other limb extending loosely into a socket in the lever-bar, and a spring held in said socket and engaging the end of said limb within the socket.

2. A wrench, comprising a lever-bar on one end of which is a convexed and toothed jaw, inclined from one edge of the bar toward an opposite edge thereof, a guide-box projected from one edge of the lever-bar and having an opening in one of its side walls, a movable jaw comprising a straight member loosely engaging the guide-box, an angularly-bent jaw at the end of the straight member, said jaw having a concaved toothed face, a toothed rack on the side of the movable jaw opposite the opening in the side of the guide-box, parallel ears projecting from one side of the lever-bar, a detent-dog held to rock between

said ears and having two limbs, one of said limbs passing through the opening in the guide-box and provided with a plurality of teeth adapted to engage with the toothed rack, the other limb extending loosely into a socket in the lever-bar, and a spring seated in the socket and pressing on the end of the said limb.

3. A wrench, comprising a lever-bar having a serrated jaw at one end, the body of the bar having a thickened portion adjacent to said end and extending outwardly from one edge of the lever-bar, the extended portion having a longitudinal opening forming a guide-box and having an opening in one side wall communicating with the longitudinal opening, a slidable jaw, the bar of which loosely engages the guide-box and bears upon one edge of the lever-bar, and a detent-dog having a body portion pivoted on the lever-bar at one side and two laterally-bent limbs, one of said limbs being toothed and extending into the opening in the side wall of the guide-box and normally engaging a toothed rack on the side of the slidable jaw, the other limb extending into a socket in the lever-bar and engaging a spring held in said socket, and a thumb-piece on the outer face of the body of the detent-dog at the end connected with the last-mentioned limb, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PATRICK WILLIAM WALSH.

Witnesses:

JAMES W. MURPHY,
HARRIE D. BLAIR.