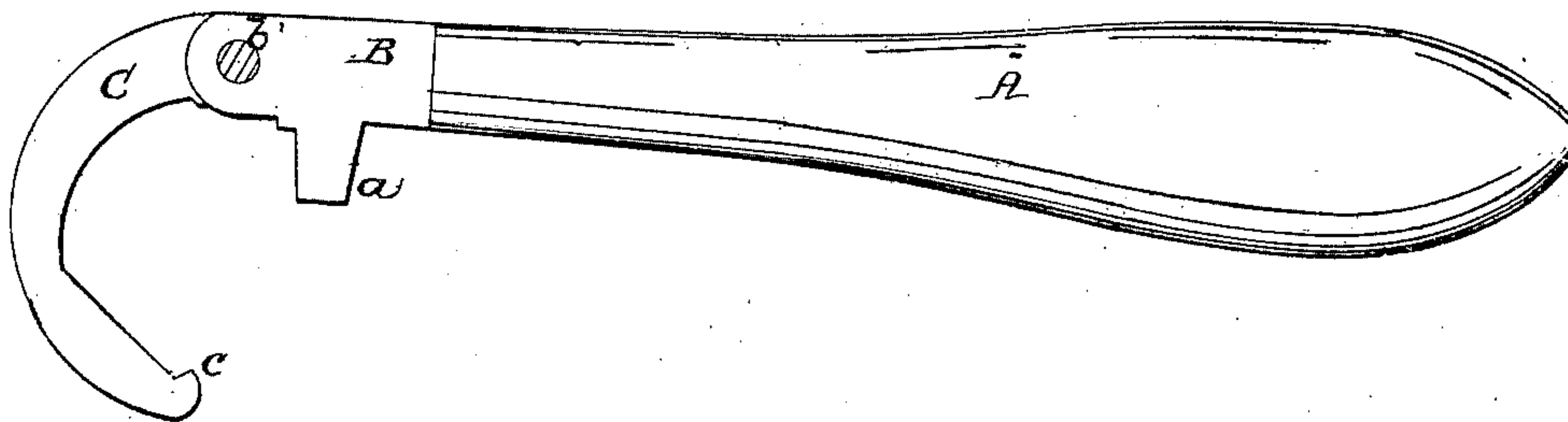


*A. Hay,*  
*Nut Wrench.*

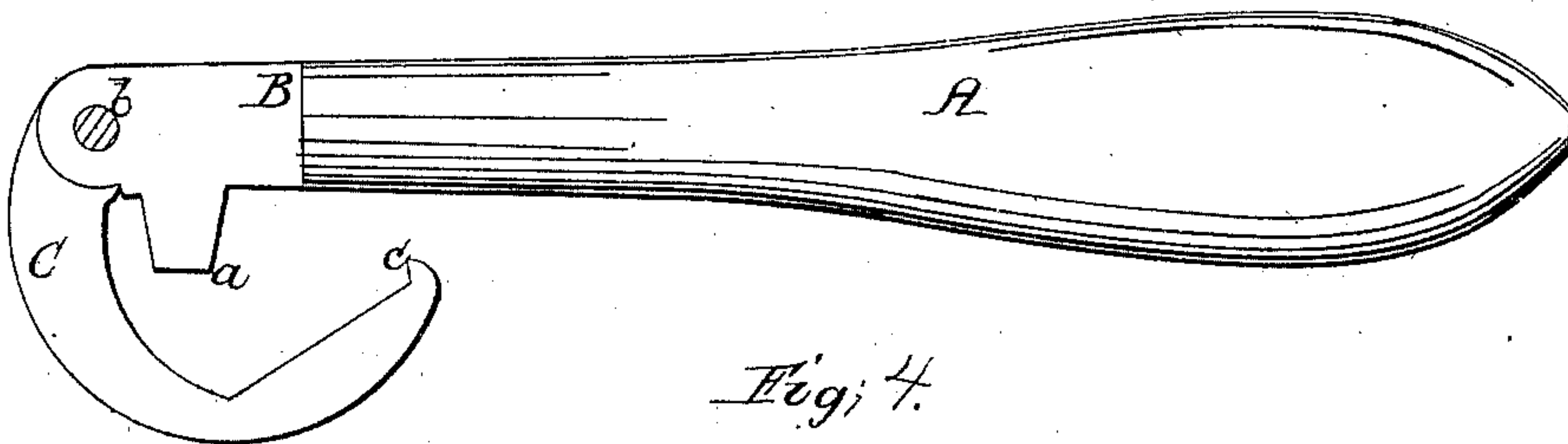
*N<sup>o</sup> 6,077.*

*Patented Jan. 30, 1849.*

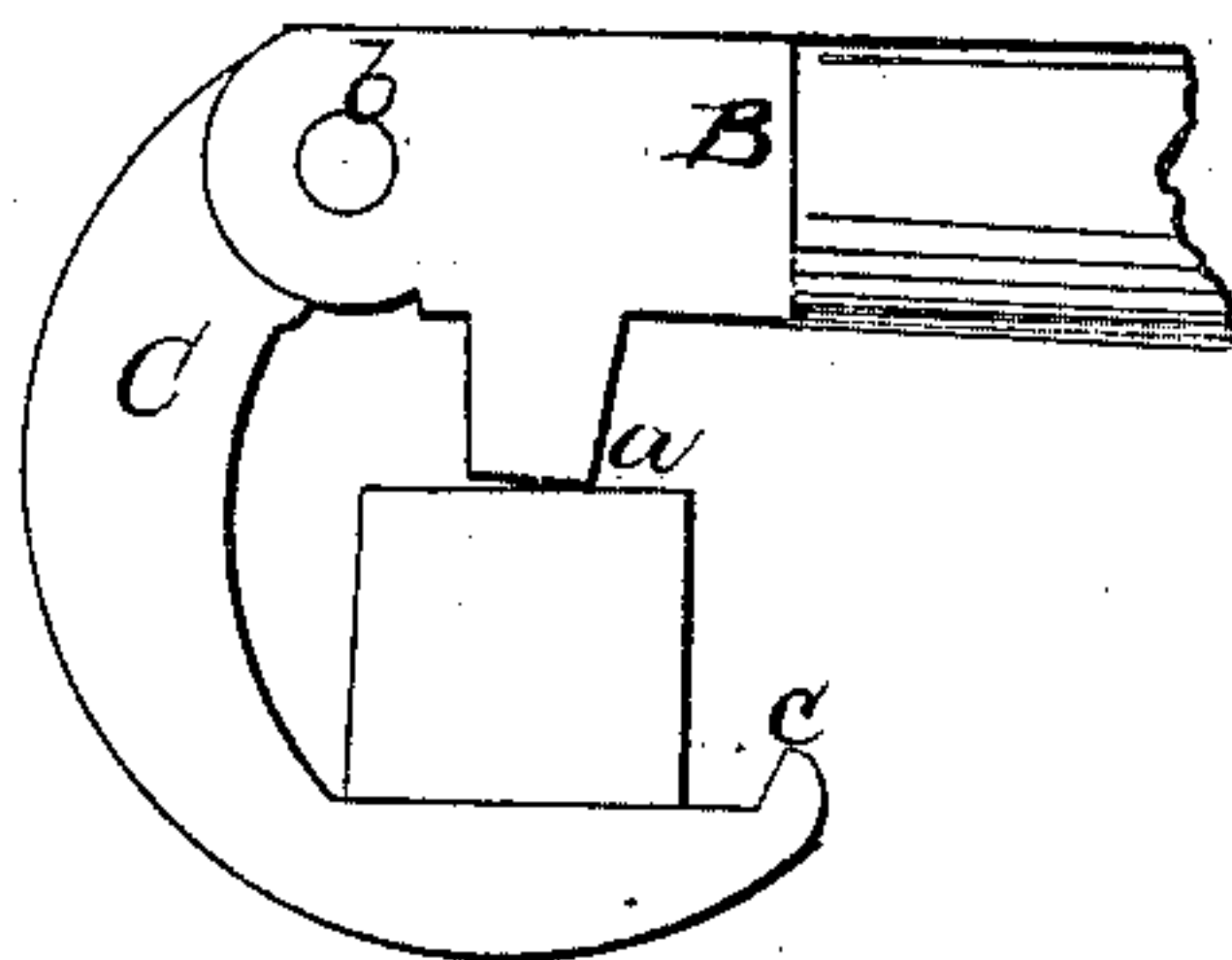
*Fig; 1.*



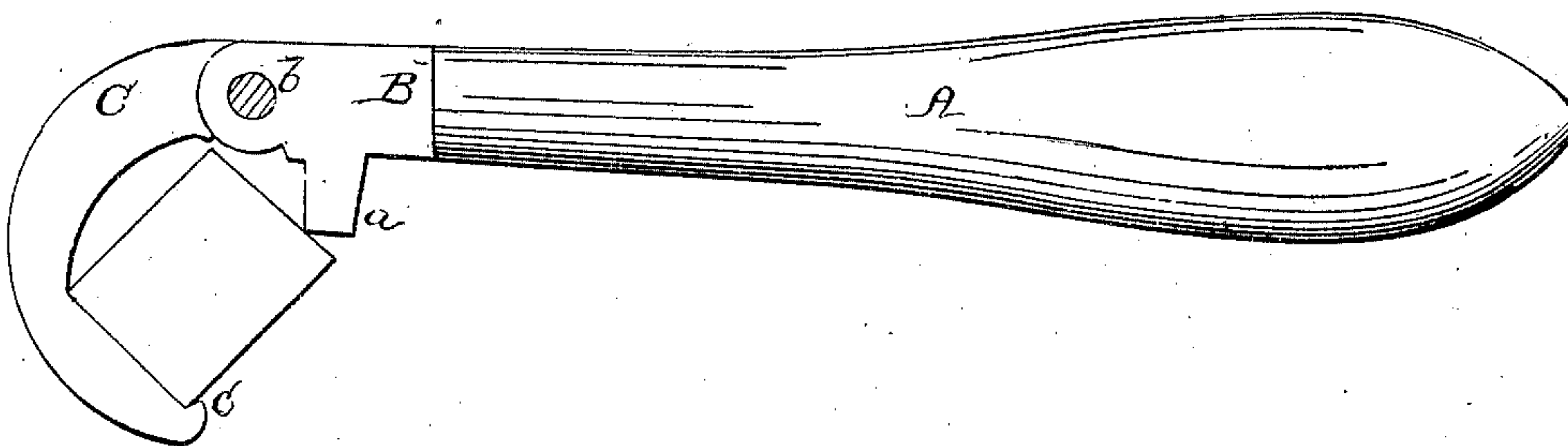
*Fig; 2.*



*Fig; 4.*



*Fig; 3.*



# UNITED STATES PATENT OFFICE.

ADAM HAY, OF NEWARK, NEW JERSEY.

## IMPROVED HINGED CLAW-WRENCH.

Specification forming part of Letters Patent No. 6,077, dated January 30, 1849.

*To all whom it may concern:*

Be it known that I, ADAM HAY, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in the Construction of Wrenches for Turning Screw-Bolts and Nuts of Different Sizes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a view of the wrench with the curved hinged claw laid open. Fig. 2 is a view of the same with the claw closed. Fig. 3 is a view of the same applied to a large-sized nut. Fig. 4 is a section of the same applied to a small-sized nut.

Similar letters in the figures refer to corresponding parts.

The nature of this invention and improvement consists in securing to the end of a suitable handle a metallic casting having a cog formed on one of its sides, and attaching to said casting by means of a pin a curved metallic claw, so formed on its inner surface and moving in such relation to the cog on the side of the casting as to enable a person to confine different-sized nuts or screw-bolts between its inner surface and the cog with sufficient security to turn the same by the application of force to the handle, thus forming a cheap, simple, and effective wrench adapted to different-sized nuts and bolts, and but little liable to get out of order.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the handle, made of suitable size, strength, and material to correspond with the object for which it is designed.

B is a casting of iron, steel, or other suitable material, made square or oblong in its cross-section, and having a protuberance or cog *a* formed on its side of sufficient strength to sustain the force required to turn the screw-bolts and nuts.

C is the hinged claw, attached to suitable

ears formed on the end of the casting B by a pin or bolt *b*, and curved on its outer surface to form a semi-cycloid of a circle or semicircle, and made straight about one-half the extent of its inner surface, having a notch or shoulder *c* formed on its end projecting from its straight surface.

When it is desired to turn a screw-bolt or nut with the wrench constructed as above described, the straight surface of the hinged claw and the corners of the protuberance or cog on the side of the casting B are brought in such relation to the corners and sides of the head of the screw-bolt or nut as to bite or grasp the same sufficiently tight to enable the operator to turn the same by the application of power to the handle of the wrench. The relative positions of the protuberance or cog and hinged claw with the head of the screw-bolt or nut grasped by the same will of course depend upon the size of such head or nut. If the head or nut operated on is of the size represented in Fig. 4, the straight surface of the claw and the edge of the cog *a* will bear against the sides of the same in the manner represented in said figure, and if the wrench is applied to a head or nut of the size represented in Fig. 3 it will take the hold represented in said figure.

What I claim as my invention, and desire to secure by Letters Patent, is—

Constructing a wrench with a protuberance or cog on its side and a hinged claw at its end of the form before described, and represented in the annexed drawings, in such a manner as to enable a person to grasp and turn screw-bolts and nuts of different sizes with the same, as herein set forth, or in any other mode substantially the same.

New York, October 16, 1848.

ADAM HAY.

Witnesses:

A. E. BEACH,  
O. D. MUNN.