

(No Model.)

G. W. WILKINSON.

SOLDERING IRON.

No. 312,941.

Patented Feb. 24, 1885.

FIG. 2.

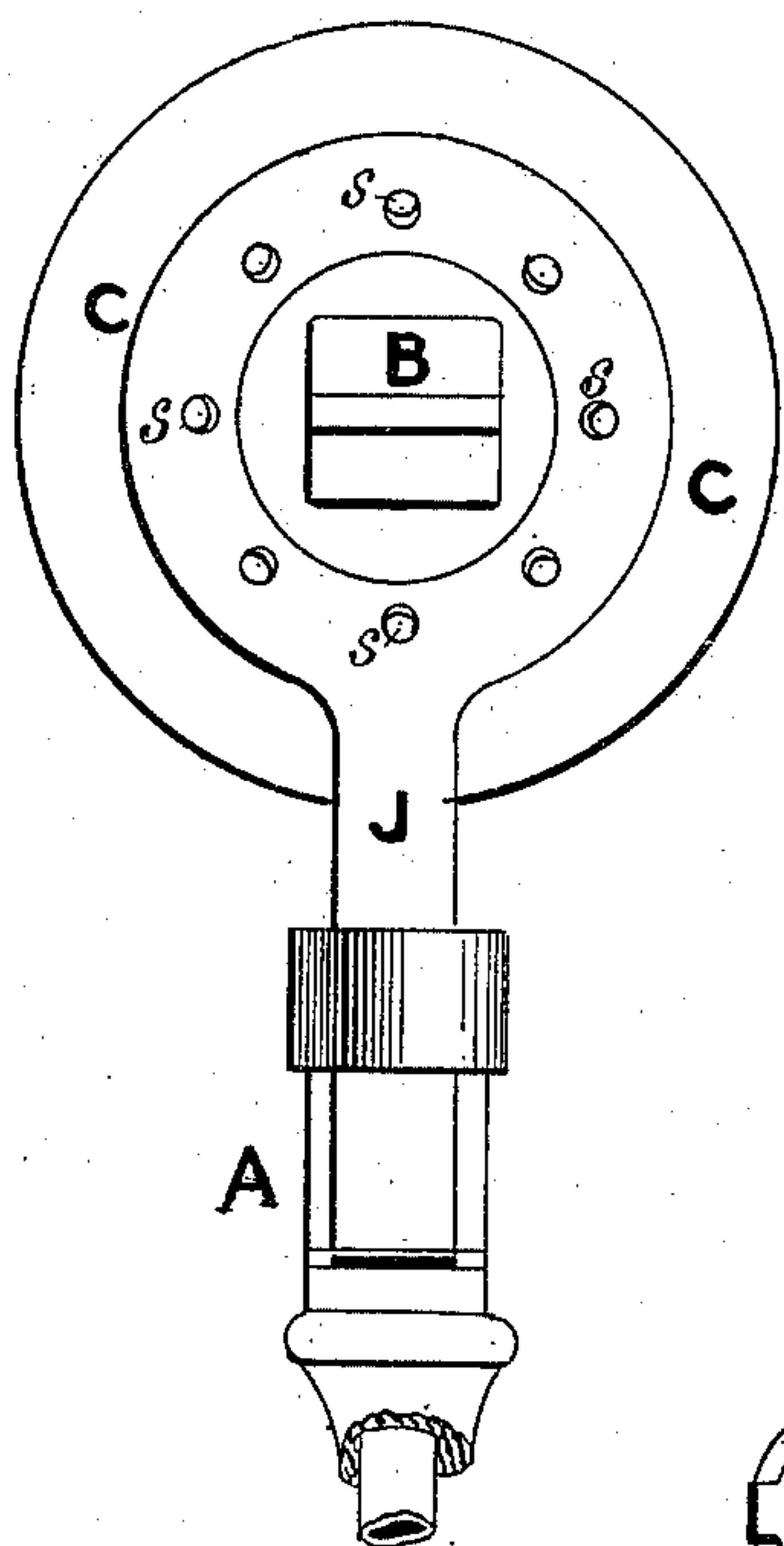


FIG. 3.

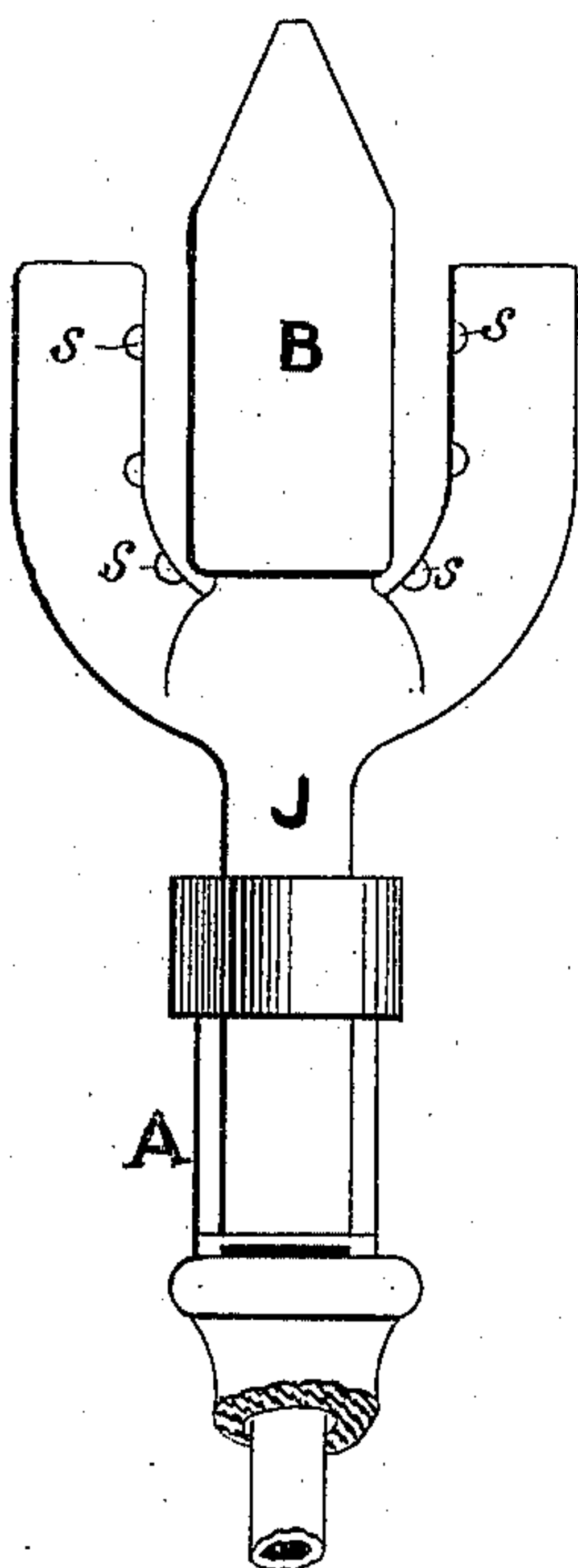


FIG. 4.

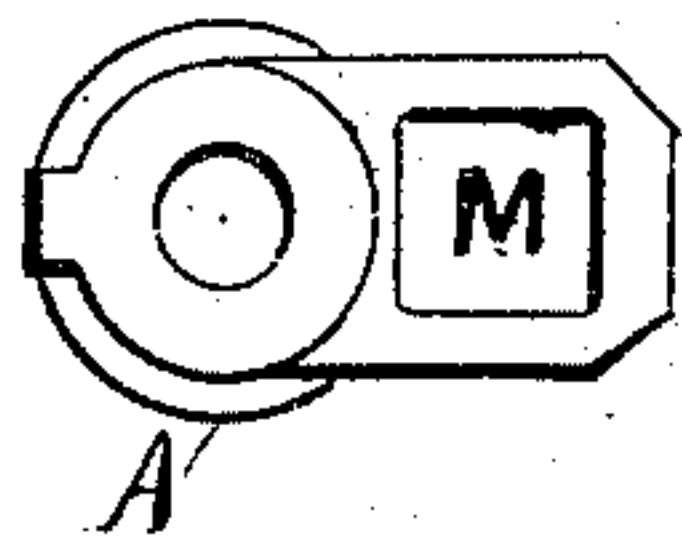
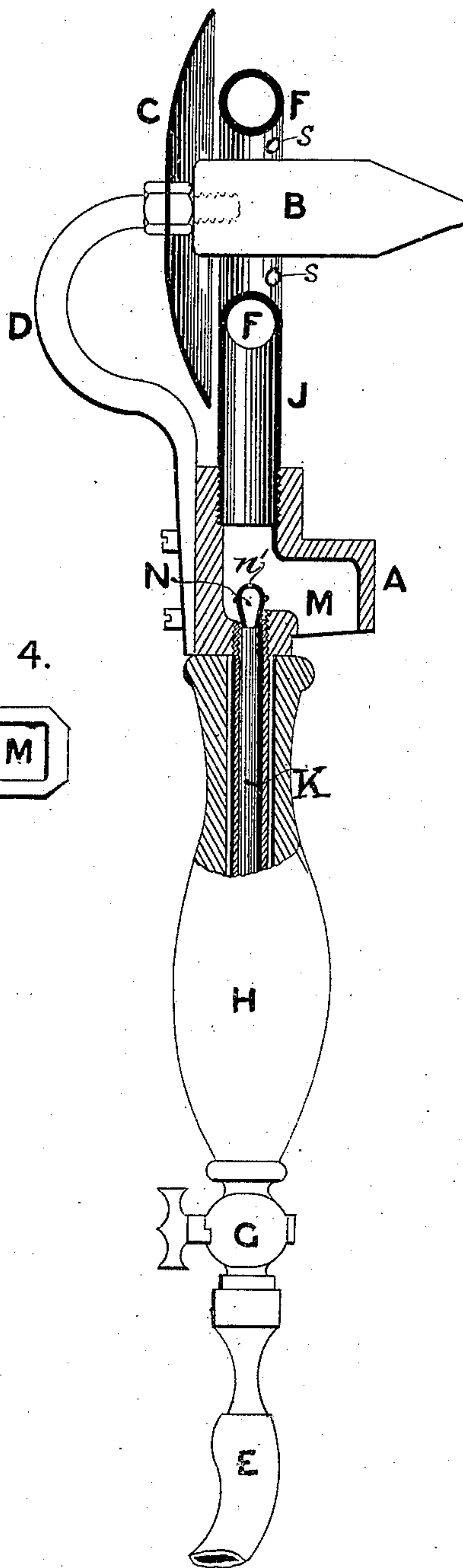


FIG. 1.



Witnesses,
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UNITED STATES PATENT OFFICE.

GEORGE WILLIAM WILKINSON, OF KENSINGTON, COUNTY OF MIDDLESEX,
ENGLAND.

SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 312,941, dated February 24, 1885.

Application filed August 5, 1884. (No model.) Patented in England April 8, 1884, No. 6,073, and in Belgium April 30, 1884,
No. 64,889.

To all whom it may concern:

Be it known that I, GEORGE WILLIAM WILKINSON, a subject of the Queen of Great Britain, residing at Kensington, in the county of Middlesex, England, have invented a new and Improved Soldering-Iron, (for which I have obtained Letters Patent in England, No. 6,073, dated the 8th day of April, 1884, also in Belgium, No. 64,889, dated the 30th day of April, 1884,) of which the following is a specification.

My invention has for its object a new and improved soldering-iron, by which I am enabled to economize the gas used by obtaining a more perfect combustion, which also prevents soot from accumulating, which is now the case with gas soldering-irons such as those used for the work of stained-glass artists, besides avoiding much of the fierce blaze and heat of such soldering-irons.

In order that my invention may be more fully understood, I have appended hereunto a sheet of drawings showing my invention practically carried out.

Figure 1 is a part sectional elevation of one of my soldering-irons for working in the most usual manner upon stained-glass work. Fig. 2 is a part plan of the same. Fig. 3 is a part plan of the soldering-iron adapted to upright work for more minute manipulation. Fig. 4 is an end view of the junction-block A.

In Figs. 1 and 2, B is the removable copper bit, which is heated and which is actually brought to bear upon the work, this bit being screwed on support D in order that it may be conveniently interchangeable for other shaped bits, as is well understood in the trade.

C is the deflector or shade, and D is a support for said deflector and copper bit.

E is the flexible pipe conveying the gas to the burner F. G is the cock for regulating the supply of the same, and H is the handle by which the soldering-iron is manipulated, and so far there is great similarity between this and the irons heretofore used.

The front pipe, J, and the back pipe, K, are connected together by the junction-piece or equivalent arrangement, A, in which the air-passage M is formed. The small reducing or inlet piece, nose, or nozzle N is also contained therein, and may be either attached to the

pipe K or to the junction-block A. The position of this inlet-piece N to the air-passage M is of importance, as is also the size of the inlet-passage *n'* through the said inlet piece, nose, or nozzle, which for the apparatus shown I have found to work well if, say, one-fourteenth of an inch in diameter.

The action is as follows: As the gas travels through the inlet-passage *n'* a certain amount of air is carried with it up the pipe J and burned in combination with the gas at the burner-holes *s s s*, and so perfect is the combustion by this apparatus in the proportions shown that the iron may be worked for hours without any inconvenience and irregular leaping or flashing of the light. Such irons are ready for use, say, one and a half minute after lighting, and the economy of gas is very great indeed.

It will be clearly understood that the positions and shapes of the bit B may be adapted to circumstances. Thus in the modification shown in Fig. 3 the bit B is arranged in vertical position and supported on a boss extending upward from tube J. This tube divides into two branches on each side of this boss, and these branch tubes extending vertically upward on each side of said bit and parallel thereto have series of burners *s* on their inner sides, through which holes jets of flames are directed upon said bit.

Having therefore now explained my invention, what I claim is—

In a soldering-iron, the combination of the deflector C, burner F, and bit B, with the front pipe, J, and the back pipe, K, the latter having a nozzle, N, which discharges through a perforation, *n'*, and an air-passage, M, into which the gas from the back pipe is discharged to mingle with the air before entering the front pipe, J, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my name in the presence of two witnesses.

GEORGE WILLIAM WILKINSON.

Witnesses:

ALAN C. COMERFORD,

FREDERIC WILLOUGHBY,

Clerks to Messrs. Comerford & Co., Public Notaries, London.