

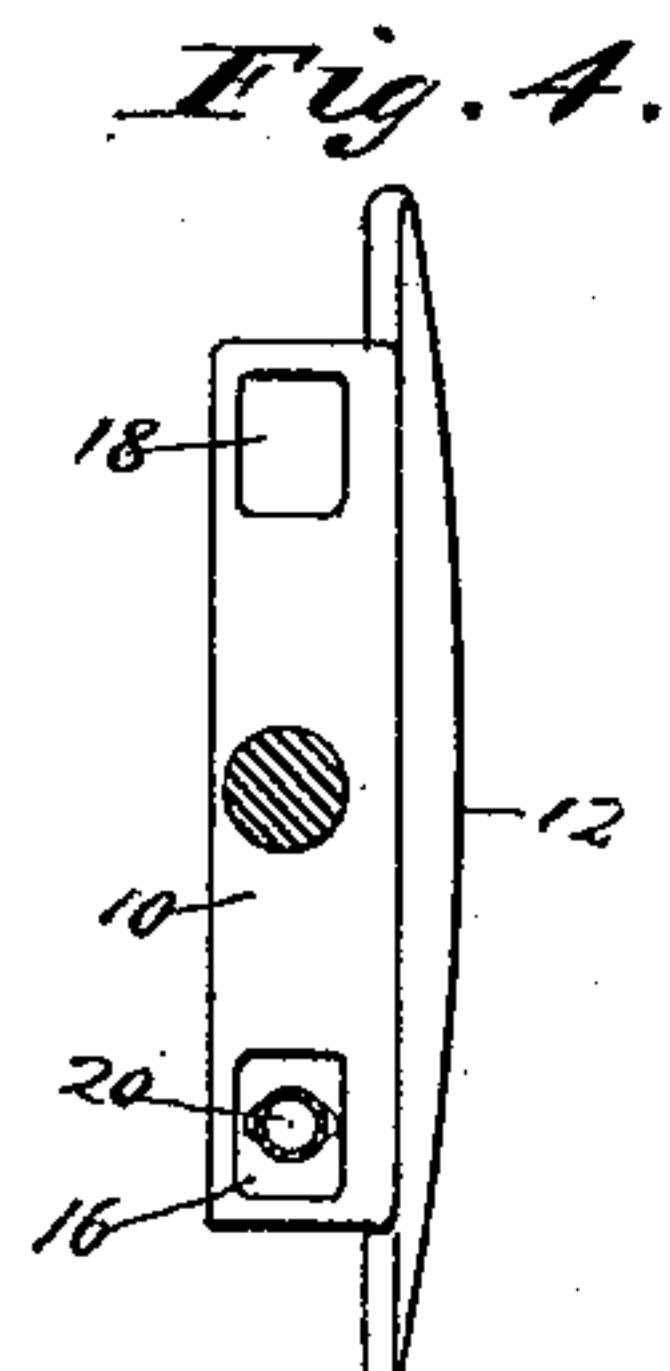
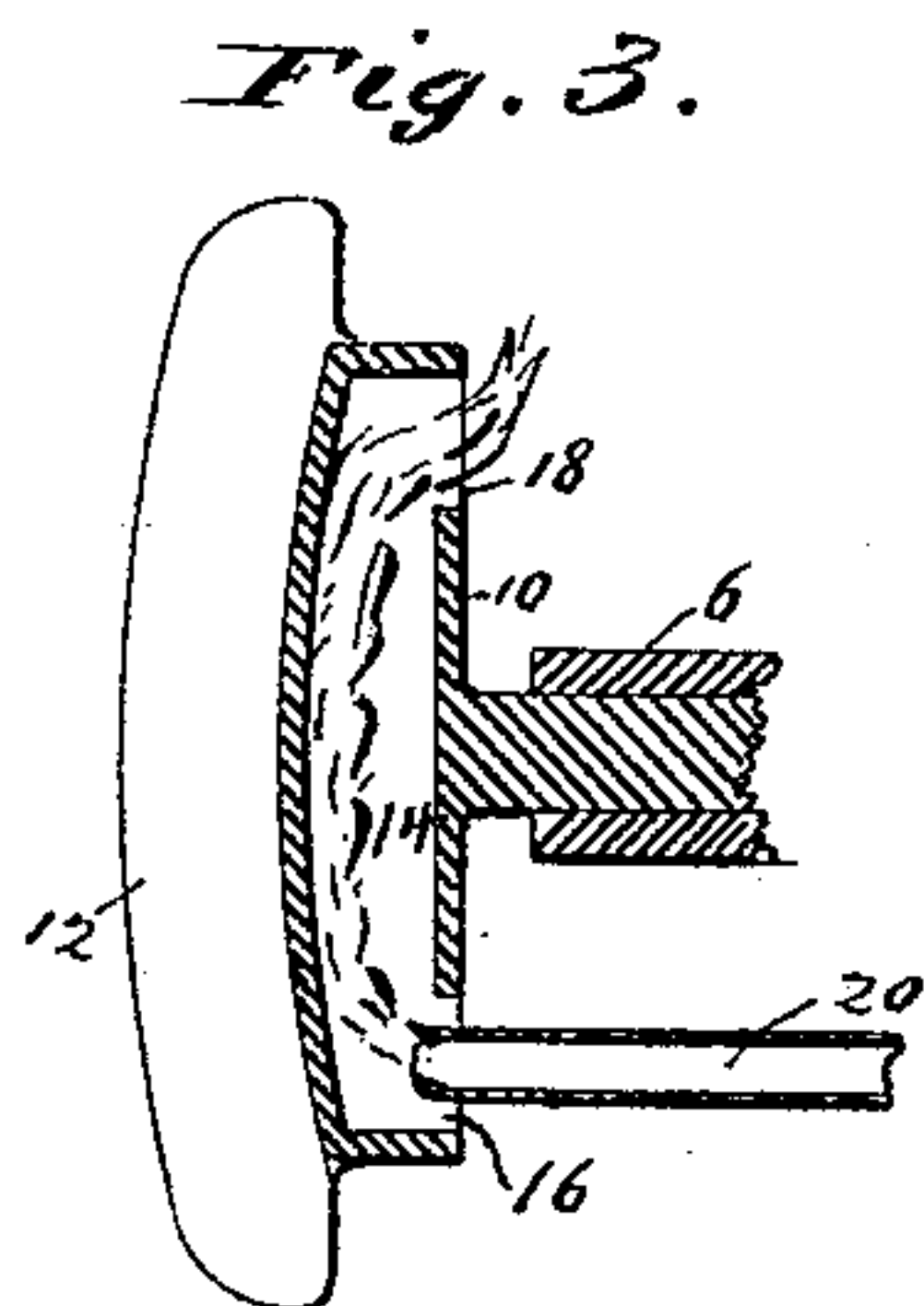
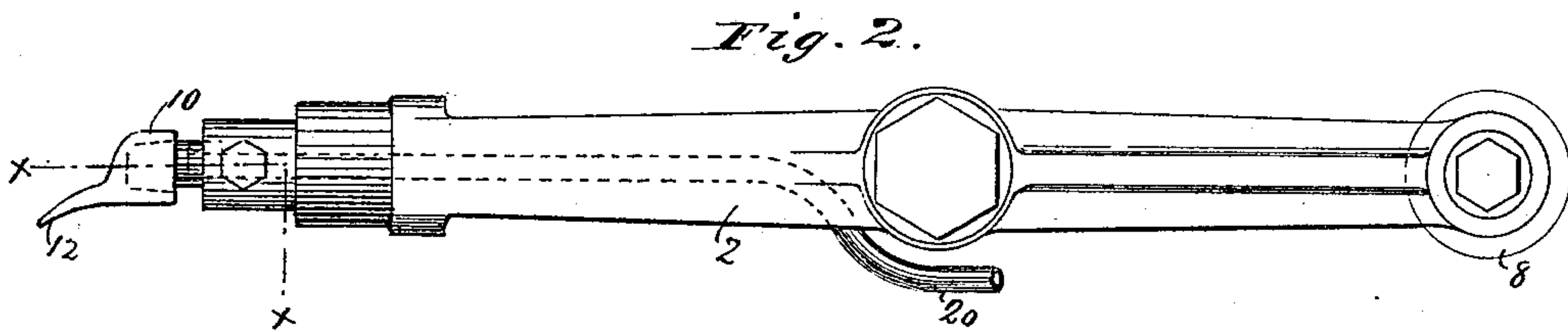
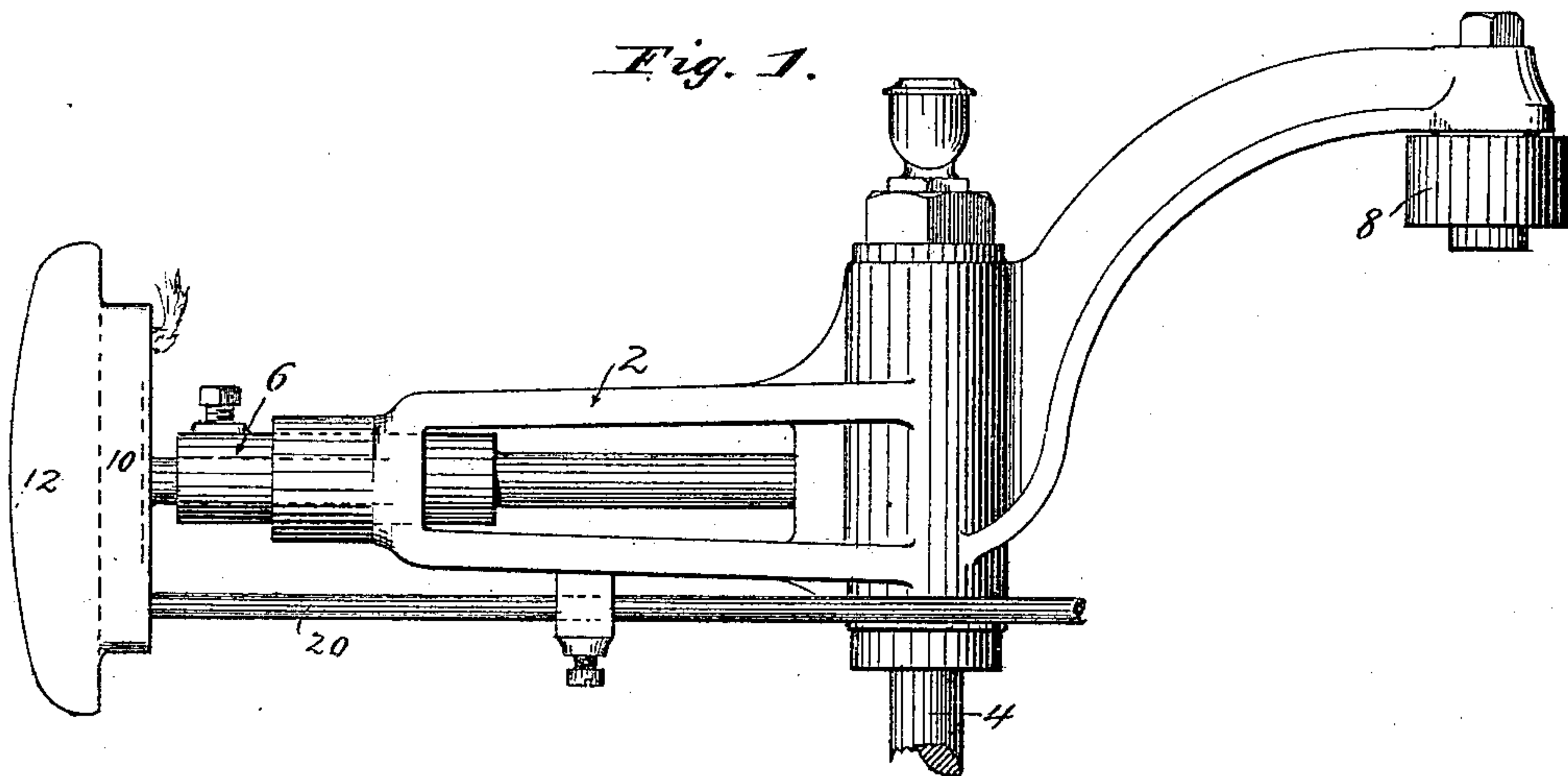
(No Model.)

J. J. FITZGIBBON.

SHANK BURNISHER FOR BOOTS OR SHOES.

No. 370,053.

Patented Sept. 20, 1887.



Witnesses  
A. M. Gaskell  
R. H. Sanford

Inventor  
James J. Fitzgibbon,  
By A. P. Lane,  
Atty.

# UNITED STATES PATENT OFFICE.

JAMES J. FITZGIBBON, OF MINNEAPOLIS, MINNESOTA.

## SHANK-BURNISHER FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 370,053, dated September 20, 1887.

Application filed April 28, 1887. Serial No. 236,390. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES J. FITZGIBBON, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Shank-Burnishers for Boots or Shoes, of which the following is a specification.

My invention relates to certain improvements in machines for burnishing the shanks of the outsoles of boots or shoes; and it consists, generally, in constructing a machine of the class described, in which the flame for heating the burnisher shall be so incased as to protect the material of which the shoe is made from being scorched or injured by the blaze, to protect the operator's face, to give a steady and even flow of gas, and utilize all the gas for heating purposes, thereby causing a great saving in the quantity of gas used, and also to so protect the flame that it will not be liable to be accidentally extinguished.

My invention further consists in the combination and arrangement hereinafter described, and particularly pointed out in the claims.

In the ordinary machine the flame is unprotected and strikes the edge of the thin burnisher. To properly heat the burnisher, and to prevent the flame from being extinguished by the rapid vibrations of the burnisher-arm, the flame is necessarily large, and in holding the sole against the burnisher it is almost impossible to prevent the blaze from coming in contact with the body of the boot or shoe, and this (especially in the case of the finer qualities) is extremely dangerous to the shoe.

As it is necessary to watch closely the operation as it progresses, the face is brought immediately above and in close proximity to the burnisher, and the light and heat from the open flame become extremely inconvenient to the operator.

As the flame issues from the jet-pipe, only a portion of it will be brought in contact with the burnisher. The heat from the balance is wasted and a much larger flame is used than is absolutely required for heating purposes, for the reason that if a flame of the proper size is used the violent vibrations of the arm will extinguish it. All these objections are overcome in my improvement.

In the drawings, which form a part of this specification, Figure 1 is a side elevation of the burnisher-arm with my improvement attached thereto. Fig. 2 is a plan view of the same. Fig. 3 is a section of the burnisher, taken on line X X of Fig. 2. Fig. 4 is a rear view of the burnisher.

2 represents the arm of the burnishing-machine, hung upon a pivot-bolt, 4, and provided at one end with the socket 6, which receives and holds the spindle of the burnisher, and at the other with the roll 8, by which it is connected with a cam or other device upon the machine to give it the proper vibrating motion. All these parts are constructed in the ordinary manner.

10 is a burnisher held in the socket 6, and provided with the blade 12, by which the polishing is done. This blade is preferably made of steel and secured to the hollow body of the burnisher 10, or it may be formed in one piece with the said body. The body 10 of the burnisher is formed hollow, with an internal recess, 14, extending from top to bottom, and is provided with openings 16 and 18 at the back.

A gas-tube, 20, is supported upon the arm 2, and projects into the recess 14 in the burnisher, through the opening 16. The gas is ignited at the end of the tube 20, inside the recess 14, sufficient oxygen entering through the opening 16 to allow perfect combustion within the recess. The flame impinges upon the walls of the recess 14, and the heat is transmitted through them to the blade 12. These walls are preferably made of brass, as this is a better conductor of heat; but I do not confine myself to the use of particular metal. The flame passes upward through the recess 14, and out at the top opening, 18, at which point the heat is much reduced and the direction of it is away from the point where the operator stands.

It will be seen that by inclosing the flame in the recess 14, I am enabled to reduce its quantity to the minimum amount necessary to keep the blade at the required temperature, as the walls of the recess are all in contact with the flame and all act as a conductor to transmit the heat to the blade.

As the combustion takes place within the recess, there is no possibility of the flame be-



ing affected by the current of air caused by the rapid vibrations of the arm 2, so that, no matter how small a flame is carried, it will not be liable to be extinguished accidentally. By 5 thus inclosing the flame the proper amount of heat may be transmitted to the blade without the possibility of the flame coming in contact with any part of the shoe, as the flame is practically all retained within the recess, and fine 10 work can be finished without any danger of injuring it; and by taking the flame from the tube into the recess in this manner a blue flame may be obtained, which means more perfect combustion, greater economy in the use 15 of gas, and no liability to strain or dazzle the eyes of the operator.

I claim as my invention—

1. The burnishing-tool 10, herein described, comprising the blade 12, and the body provided with a shank adapted to be secured in a 20 suitable socket, and with an internal recess, 14, extending through the body and provided at its ends with openings 16 and 18, extending

through the back of the burnisher, said body being closed on both the front and back sides, 25 except where the openings occur on the back side, whereby the flame is formed, distributed, and permitted to escape, substantially as described.

2. In a shank-burnishing machine, the combination, with the socket 6, of the hollow burnisher-blade 10, provided with the recess and openings 16 and 18, and the pipe or tube 20, 30 extending into the recess, said part 10 being closed on both the front and back sides, except 35 where openings occur on the back side for the inlet of the gas and escape of the flame after combustion, and supplying the gas which is burned within said recess, substantially as 40 described.

In testimony whereof I have hereunto set my hand this 21st day of April, 1887.

JAMES J. FITZGIBBON.

In presence of—

A. C. PAUL,  
A. M. GASKELL.