

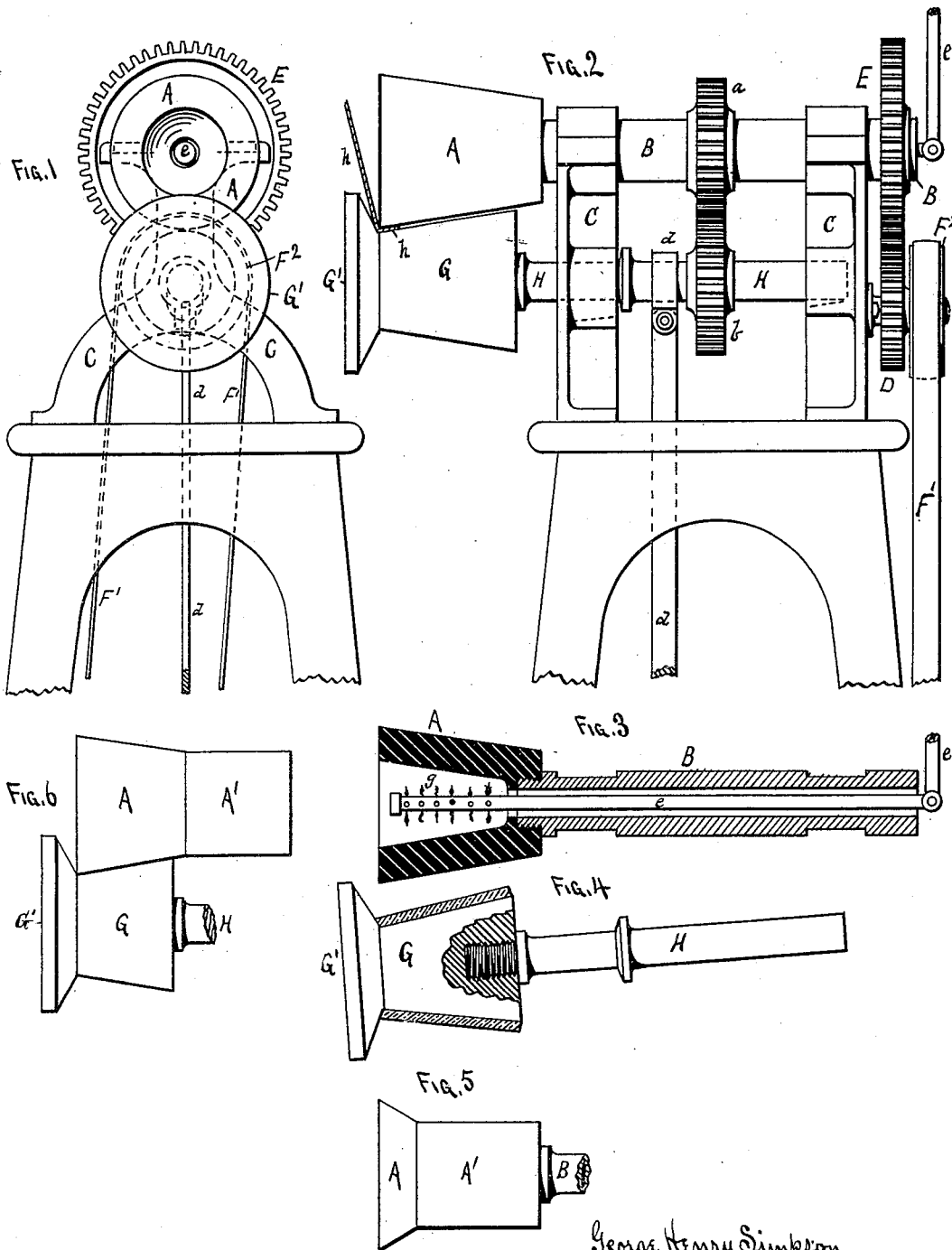
(No Model.)

G. H. SIMPSON.

COMBINED NECK BAND FORMER AND CUFF AND COLLAR IRONER.

No. 263,361.

Patented Aug. 29, 1882.



WITNESSES.
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UNITED STATES PATENT OFFICE.

GEORGE H. SIMPSON, OF MINNEAPOLIS, MINNESOTA.

COMBINED NECKBAND-FORMER AND CUFF AND COLLAR IRONER.

SPECIFICATION forming part of Letters Patent No. 263,361, dated August 29, 1882.

Application filed March 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HENRY SIMPSON, a citizen of the United States, and a resident of Minneapolis, in the county of Hennepin and State of Minnesota, have made certain new and useful Improvements in Combined Neckband-Formers and Cuff and Collar Ironers, of which the following is a specification.

This invention relates to machines for "forming" the neckbands of shirts, &c., after they are starched, and also for ironing and polishing cuffs, collars, &c.; and it consists in the construction and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front view, and Fig. 2 is a side view, of the machine. Fig. 3 is a longitudinal section of the hollow main shaft and the interior heating apparatus detached. Fig. 4 is a side view of the padded roller and its shaft detached. Figs. 5 and 6 are views of the conical heated roll, showing variations in its form.

Great difficulty has been experienced heretofore in laundering shirts by the inability, through any method heretofore known, of forming the neckbands of shirts in regular, smooth, even shape and of a uniform length every time they are laundered, and at right angles to the bosom, and also "breaking" them at the lower edge next the bosom; and to accomplish all of the above objects, as well as to produce a machine that will also iron and polish cuffs and collars, is the object of my invention, which consists in the construction and combination of parts hereinafter set forth.

Any well-known mechanical appliances may be employed to operate the rolls; but for the purpose of illustration I have shown one method which I have found to work very satisfactorily, which consists in mounting the tapered roll A upon the end of a hollow shaft, B, and journaling said shaft in suitable boxes in a frame, C. The shaft is revolved by gears E D and a belt and pulley, F' F².

H is a shaft parallel with the shaft B, and having a padded roller, G, attached to one end, beneath the roller A, said shaft H adapted to be revolved by gears *a b*, connecting it to the shaft B. The rear end of the shaft H is "stepped" in the frame C, while the front portion passes through a slot in the opposite side of the frame, so that the shaft may be moved

up and down at its front end to enable the padded roll G to be brought up against the roll A or moved away from it. This movement up and down will disengage the gears *a b*, so that when the padded roll is dropped down it will not be revolved, but when raised again will be at once set in motion, a foot-treadle lever, *d*, being used to raise and lower it.

The taper of the roll A may be made of any desired angle or size, and the size of the padded roll may be varied to any extent and revolved at any desired speed, either against the roll A or in the same direction with it.

The roll A is adapted to be heated by any suitable means, either by gas, steam, hot air, or a heated core; but generally a gas-pipe, *e*, will be employed, running in from the rear and ending in a burner, *g*.

The shirt whose neckband is to be "formed" and "broken," after being starched and dampened, is placed with one end of its neckband beneath the lower edge of the roller A and the bosom held at about right angles to the tapered and curved surface of the roll A, as shown in Fig. 1 at *h*, which represents an outline of the bosom and neckband of a shirt. It will be observed that the face of the bosom *h* next the front of the roller A is at an angle thereto, while the neckband is at right angles to the bosom. By this means the face of the bosom does not come in contact with the roller; hence it will not be soiled thereby. This result could not be obtained by a straight roller, as the face of the bosom would come in contact with the end of the roller. The padded roll G is then brought up against the revolving roll A and thrown into gear with the gears *a b*, which will run the neckband through between the rolls and form it in a smooth, even shape, and at the same time polish it by the friction. The roller G has a flange or guide, G', upon its front end to form a corner into which the corner of the roll A forces the neckband to "break" the band down next the bosom and form a smooth, even joint. It will be noticed that the base of one tapering roller is next to the apex of the other, and that the flange on one of the rollers is slightly beveled and does not fit close against the end face of the roll. If it did, the rollers would not operate to form the neckband, as described, and if the flange were straight up and down, although off from

the end of the ironing-roller, the bosom would be apt to strike against the end of the roller and the parts would not operate as well as by the construction shown in the drawings. The
 5 action is very quick and thorough, and, the pressure and motion being uniform, the bands will be formed in uniform shape. One great advantage gained by this arrangement is that the bands are never stretched beyond their
 10 proper length, as they frequently are when operated on by hand; but a band of a certain length will always be laundered just that length, and not one time a little larger and another time a little smaller, as is frequently
 15 the case with hand-work.

In Figs. 5 and 6 variations of the roller A are shown, consisting in combining with the tapered roll an ordinary straight roll, A', so that by providing an extra set of padded rolls
 20 to fit the straight portion the same operating mechanism and heating apparatus may be employed to iron and polish cuffs, collars, &c., as these articles require a straight roll.

Two or more padded rolls of different forms
 25 corresponding to the parts A A' of the roll may be arranged in a swinging frame to be alternately thrown in and out of gear as they are required, so that it will be only necessary to throw one padded roller out of gear and
 30 another into gear with the heated polishing-roll to change the machine from a neckband-former into a cuff or collar ironer.

The roll A and shaft B may be made in one piece, if desired, or separately, as shown.

Ventilating-holes will be bored through the
 35 rear of the roll A and the shaft B to allow the heated air to escape and to aid in the combustion of the gas.

I am aware that it is not new in ironing-machines to use a padded roller tapering from its
 40 inner to its outer end, in combination with a fixed iron having a concave surface to conform to the shape of the padded roller.

What I claim as new is—

1. In a neckband-former, the revolving
 45 heating-roller A, tapering from its outer to its inner end, in combination with the revolving padded roller B, tapering from its inner to its outer end, the two rolls being arranged as
 50 shown, to operate as set forth.

2. A shirt-neckband former consisting of a
 55 heating-roller, A, tapering from its outer to its inner end, in combination with padded roller G, tapering from its inner to its outer end, and provided with a flange, G', the two
 60 rollers being arranged to operate as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE HENRY SIMPSON.

Witnesses:

C. N. WOODWARD,
 LOUIS FEESER, Jr.