

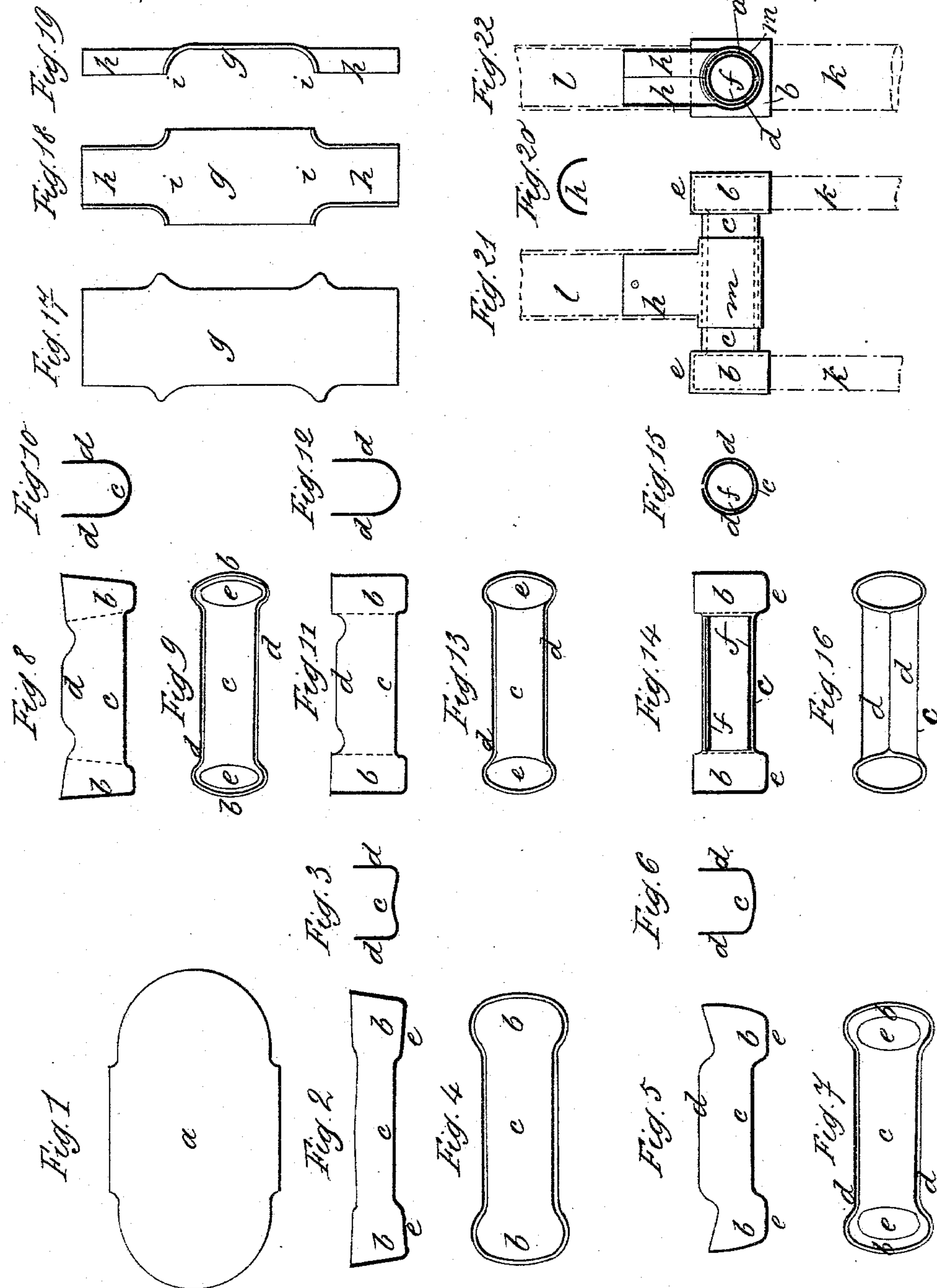
(No Model.)

A. CLÉMENT.

MANUFACTURE OF HEADS FOR FORKS OF VELOCIPEDES.

No. 556,880.

Patented Mar. 24, 1896.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF HEADS FOR FORKS OF VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 556,880, dated March 24, 1896.

Application filed May 2, 1894. Serial No. 509,786. (No model.) Patented in France January 25, 1893, No. 227,440; in England November 28, 1893, No. 22,830, and in Germany April 12, 1894, No. 78,778.

To all whom it may concern:

Be it known that I, ADOLPHE CLÉMENT, a citizen of the Republic of France, residing at Paris, France, have invented certain new and useful Improvements in the Manufacture of Heads for the Forks of Velocipedes, (for which patents have been granted in France, No. 227,440, dated January 25, 1893; in Great Britain, No. 22,830, dated November 28, 1893, and in Germany, No. 78,778, dated April 12, 1894,) of which the following is a specification.

This invention relates to the manufacture of heads for the forks of velocipedes, whereby they are made wholly of steel and hollow.

The improved manufacture has the advantage of producing articles of faultless workmanship, of very light weight, and yet extremely strong, and at a comparatively low price. The fork-head or frame is formed of two parts of sheet-steel, which have their final shape imparted to them by suitable cupping and rolling operations. One of these parts is the horizontal cross piece or tie, the ends of which have the ends of the arms or prongs of the fork fitted to them by means of a suitable cupping-tool. The other part is the collar which surrounds the central portion of the said tie and carries an eye for the reception of the end of the guiding-tube.

The various stages of the manufacture of the tie which is to connect the two arms of the fork are illustrated in Figures 1 to 16 of the accompanying drawings, while those more particularly relating to the collar connecting the fork to the guide-tube are illustrated in Figs. 17 to 20 of the said drawings.

Fig. 1 represents the blank for the tie. Fig. 2 is a longitudinal mid-section, Fig. 3 a transverse mid-section, and Fig. 4 a plan, of the tie after the blank has been primarily cupped. Fig. 5 is a longitudinal mid-section, Fig. 6 a transverse mid-section, and Fig. 7 a plan, of the tie after the second cupping operation. Fig. 8 is a longitudinal mid-section, Fig. 9 a plan, and Fig. 10 a transverse mid-section, of the tie after the third cupping operation. Fig. 11 is a longitudinal mid-section, Fig. 12 a transverse mid-section, and Fig. 13 a plan, of the tie after the fourth and final cupping operation. Fig. 14 is a longitudinal mid-section, Fig. 15 a transverse mid-section, and

Fig. 16 a plan, of the tie after it has received its final shaping. Fig. 17 represents the blank for the collar. Fig. 18 is a plan, Fig. 19 a side elevation, and Fig. 20 a transverse section, of the collar after it has been cupped. Fig. 21 is a side elevation of the finished fork-head, and Fig. 22 is a transverse mid-section of the same.

To form the tie a plate *a* is cut out of a sheet of steel, as shown in plan in Fig. 1. This plate is subjected to an initial cupping operation, which imparts to it the shape in which it is represented in Figs. 2, 3 and 4. It thus assumes the form of a cup or basin the ends *b b* of which are deeper and wider than the central part *c*.

The second cupping operation, Figs. 5, 6 and 7, more sharply defines its shape, so that the side wings *d d*, which are to form the tie or intermediate tube, increase in height, while the bottoms *e* of the cavities *b* assume a more regular oval shape.

By the third cupping operation, Figs. 8, 9 and 10, which is next proceeded with, the cavities *b* assume a more regular shape still, while retaining somewhat slanting edges, the bottom of the center portion *c* at the same time taking up the semicylindrical shape, as shown in cross-section in Fig. 10.

A fourth cupping operation, Figs. 11, 12 and 13, will give the cavities at *b b* their final shape to fit the section of the arms or prongs of the fork which they are to receive. The central portion *c* of the tie is now closed by rolling up the side wings *d d* into the shape of a tube, as illustrated in Figs. 14, 15 and 16.

If desired, a hollow or solid rod *f* may be fitted within the tie or intermediate piece before closing up the side wings *d d*.

To form the collar which is to connect the fork to the guiding-tube a blank or plate *g*, Fig. 17, is cut out of a piece of steel, which blank is then cupped, as illustrated in Figs. 18, 19 and 20, the two ends *h h* being then of semicylindrical shape, while the edges *i i* of the central portion are curved at a radius equal to that of the central part *c* of the tie.

This strip *g* is then placed around the part *c* of the tie and rolled up in the shape of a collar *m*, Figs. 21 and 22. The object of fitting in the hollow of the tie a short tube *f*, as

shown in Figs. 14 and 15, is to prevent any deformation of the central part *c* of the tie during this collar-rolling operation. The two ends *h h* of the blank *g* thus rolled up in the shape of a collar meet and form a complete tube, and by this means a fork-head is produced which has three eyes or sockets *b b* and *h*, the two former adapted to receive the two arms *k k* of the fork and the latter to have the guide-tube *l* fitted onto it. The arms of the fork and the tube *l* are represented in dotted lines in Figs. 21 and 22. The bottom parts *e* of the sockets *b b* serve the purpose of closing over and covering the ends of the fork-arms *k*. When all the parts are thus fitted together they are subjected to a brazing operation, and thus by direct means a fork-head as neat in appearance as it is effective in its operation is obtained.

Having thus described my invention, I claim—

As an improved article of manufacture a sheet-metal fork-head comprising a tie having a tubular middle portion *c* with a joint at its meeting edges, and lateral sockets in its ends *b* to receive the fork-arms, and a collar having a middle portion *m*, tightly embracing the tubular portion of the tie and its semi-tubular ends, *h*, forming a socket to receive the guide-tube, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ADOLPHE CLÉMENT.

Witnesses:

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