

(No Model.)

2 Sheets—Sheet 1.

G. B. DUNHAM.
WAGON WRENCH.

No. 533,844.

Patented Feb. 5, 1895.

Fig. 1.

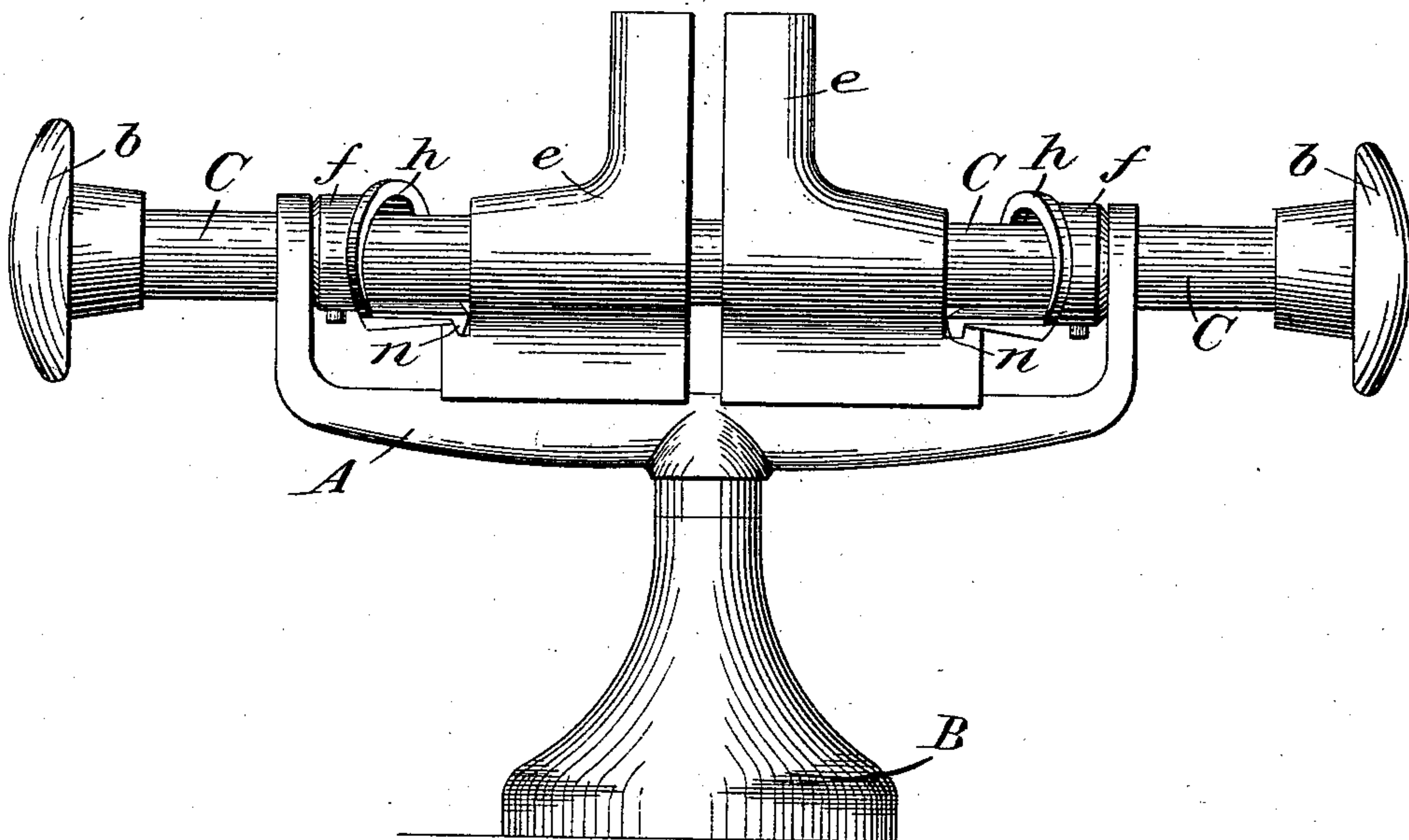
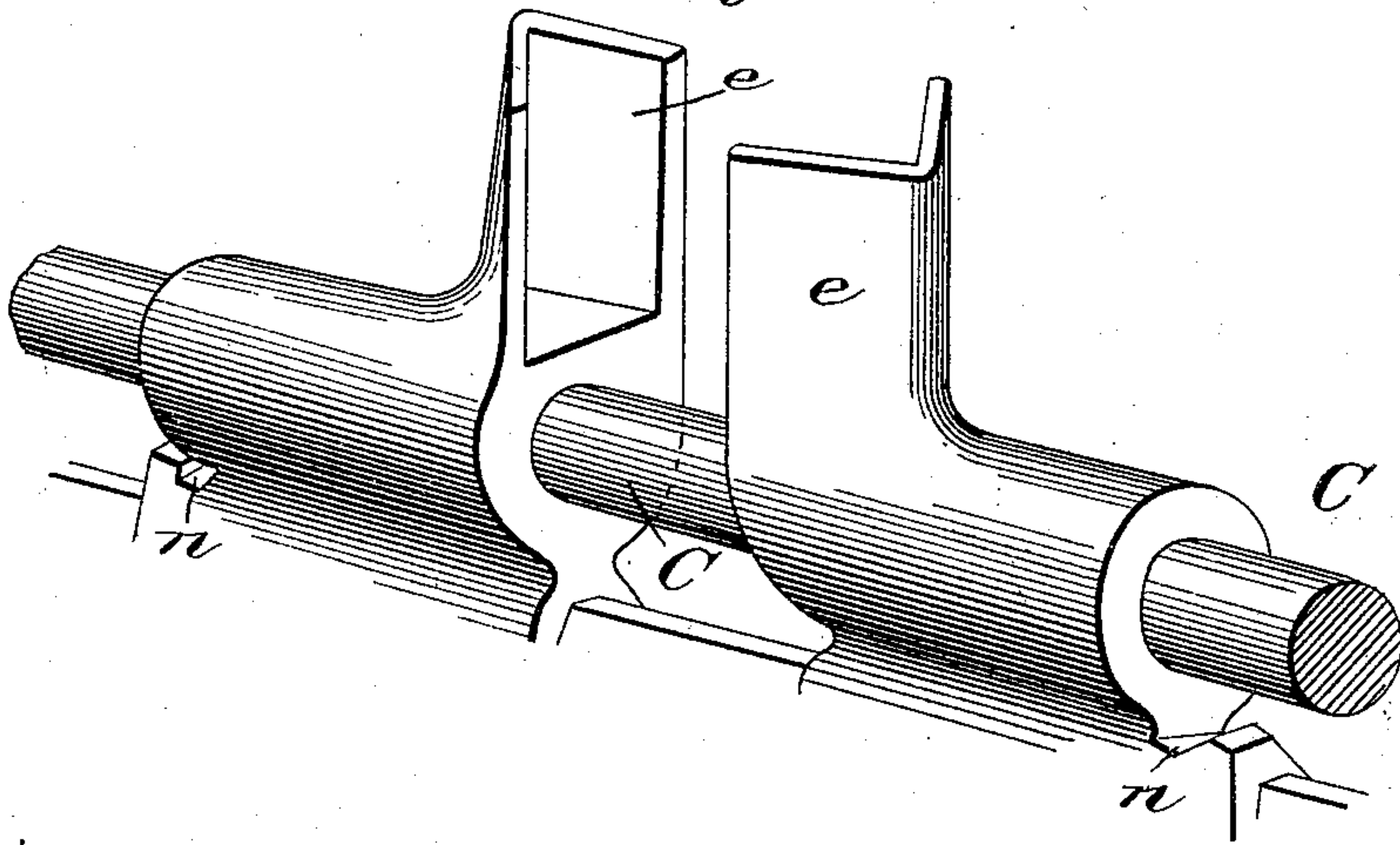


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

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WAGON WRENCH.

No. 533,844.

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Fig. 4.

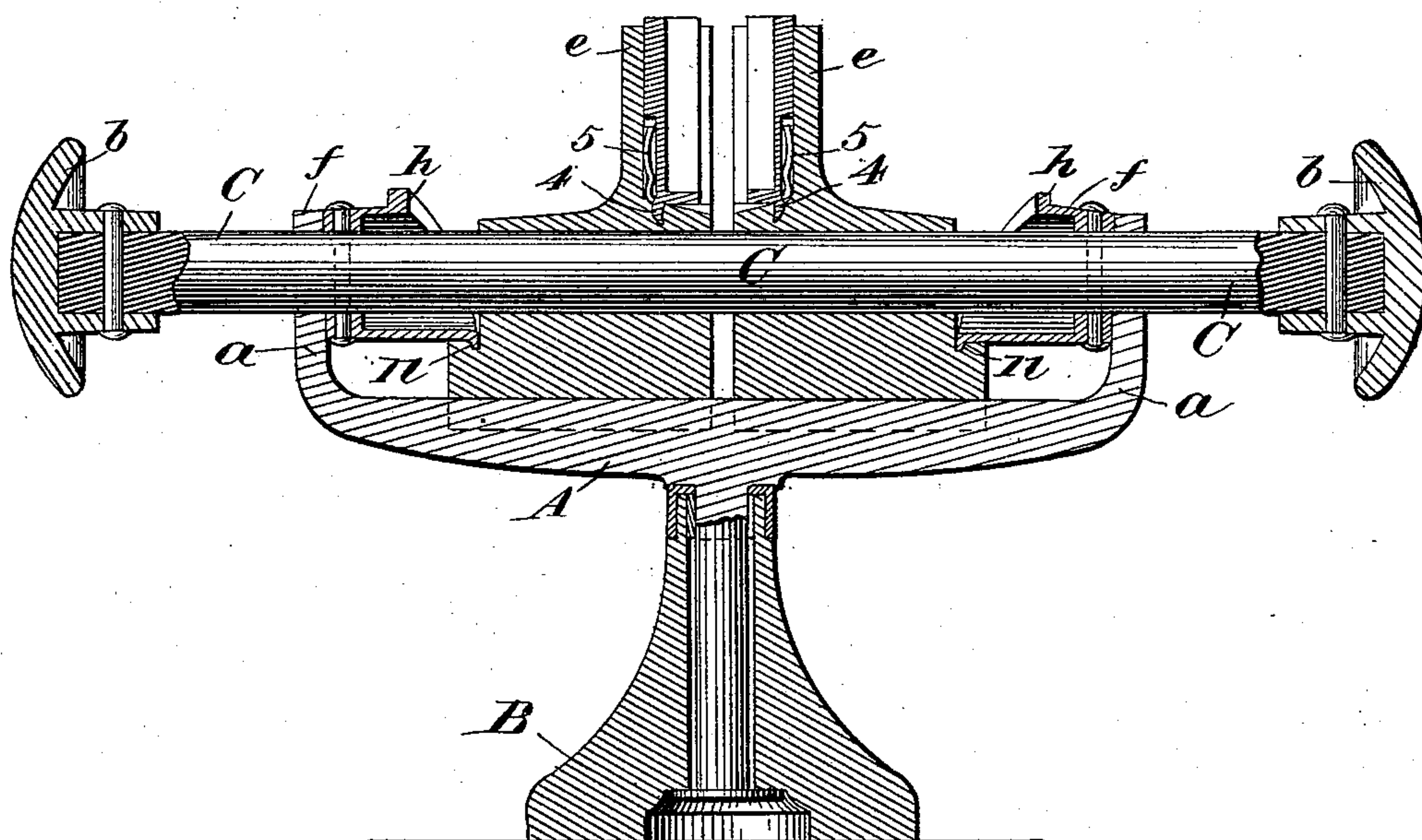
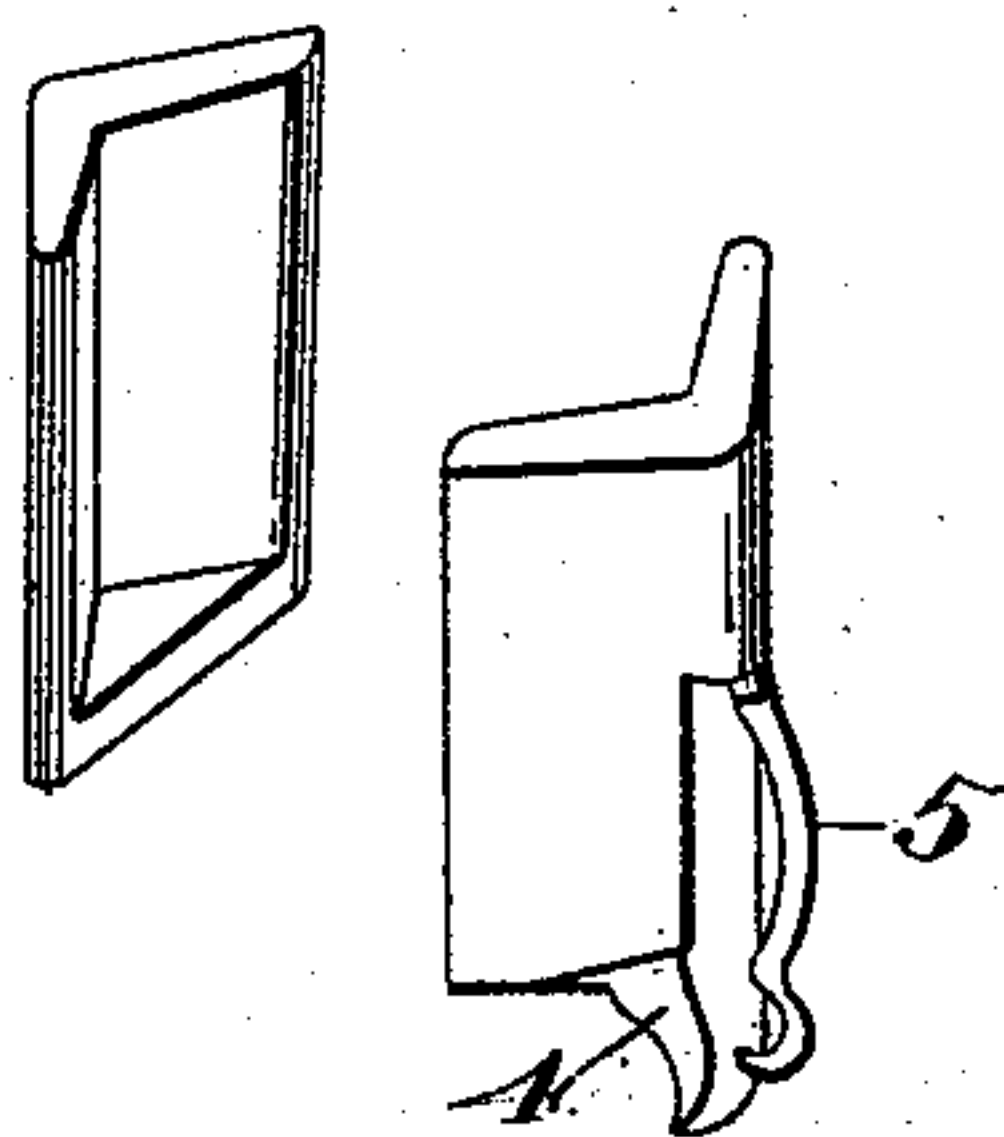


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE B. DUNHAM, OF HEBRON, MAINE, ASSIGNOR, BY MESNE ASSIGNMENTS, TO JOSEPH E. HURD, OF LYNN, MASSACHUSETTS.

WAGON-WRENCH.

SPECIFICATION forming part of Letters Patent No. 533,844, dated February 5, 1895.

Application filed September 29, 1893. Renewed January 11, 1895. Serial No. 534,592. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. DUNHAM, of Hebron, in the county of Oxford, State of Maine, have invented certain Improvements in Wagon-Wrenches, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to wagon wrenches designed specifically for use in connection with the nuts commonly employed on carriage axles for retaining the wheels in place on the axle but the invention is possessed of more or less general utility in other matters.

The nature of the invention is fully described hereinafter and specifically pointed out in the claims.

Referring to the drawings Figure 1 is a side elevation of my wagon wrench complete. Fig. 2 is a perspective view of the two clamping jaws detached. Fig. 3 is a similar view of an accessory block to be used in the clamping jaws, and Fig. 4 is a sectional view of the complete wrench with the accessory blocks in position for use.

The frame A, is provided with a tang on which is arranged the handle B. The tang is located at the center of the frame and is arranged to turn freely in the handle B. Said frame A is further provided with upwardly extended arms *a, a*, in which is arranged the rod C, the rod being arranged to permit of being revolved in its bearings and on the ends of the rod are knobs *b*, that serve as handles whereby to manipulate the rod. On the rod C are arranged the clamp-jaws *e e* with their bottom ends engaging the edge of the frame A, the ends of the clamps being grooved to receive the edge of the frame and thereby get a suitable bearing or grip thereon. The jaws are arranged to permit endwise movement along the rod C and on the rod C are fixed the cams *f, f*, each provided with a cam leaf or thread *h*, that engages in a groove *n*, formed in the shank of the clamp-jaws. The threads or cam leaves *h*, are cut one right and the other left hand so that when the rod C is turned the clamps are drawn toward or from each other according to the turn of the rod. The clamps are positioned on the rod C relatively to the point where the tang on the frame A, if extended forward would cut the rod, that

is, the clamps are arranged equidistant from this point.

In operation the workman places one hand upon the handle and the other upon the knob *b* and having placed the wrench over the nut he turns the rod C thereby causing the clamps to close up and take hold of the nut. The wrench is then turned sufficiently to start and loosen the nut. Thereupon the wrench is rapidly revolved by momentum imparted from the hand of the workman and the nut is quickly removed.

The knobs *b* are made of metal so as to weight the ends of the rod C and thereby adapt it to revolve with greater force and momentum.

The clamp jaws are formed with an angle corresponding to the angle or shape of the corner on the nut where the jaw is to be applied. The nut commonly employed on carriage axles being a square nut I prefer to make the angle in the main clamp-jaws a right angle but in many cases it is desirable to use the wrench on a nut having more or less than four sides. To this end I provide the accessory jaws represented fully in Fig. 3 of the drawings. These accessory jaws may be combined with the main clamp-jaws as fully represented in Fig. 4, the tang 4 on the accessory jaw being set into a suitable hole or socket formed in the bottom of the main jaw while the spring 5 operates to keep the top of the jaw close into the angle of the main jaw. This accessory jaw is provided with an angle to conform to the peculiar shape of the nut on which it is to be used and in this way the wrench may be prepared for use on any style of nut.

Having thus described my invention and the manner of using the same, what I claim as of my invention, and desire to secure by Letters Patent, is—

1. The combination in a wrench, of the frame supported upon a swiveled base, a pair of clamping jaws sliding horizontally on said frame, a rod supported in said frame and extending through said clamps and terminating in a handle, and intermediate connections between said rod and clamps; whereby they may be opened and closed; substantially as described.

2. In a wrench the combination of a frame, a swiveled supporting base, clamping jaws

sliding horizontally in said frame, a rod passing through said jaws, having its bearings in said frame, and terminating in a handle, and cams secured to said rod in rear of each jaw
5 adapted to operate simultaneously, to open and close the jaws as the rod is moved in one direction or the other; substantially as described.

3. In a wrench, the combination of a frame,
10 a swiveled supporting base, jaws sliding in said frame, a rod passing through said jaws, and having its bearings in said frame, cams *f*, having flanges *h*, and grooves *n*, in the rear ends of the clamping jaws adapted to receive
15 the flanges of the cams, whereby, in the operation of the rod, the jaws are opened or closed; substantially as described.

4. In a wrench having a suitable supporting

frame for the clamping jaws, the combination of independent supplemental jaws fitting in 20 the main jaws, and springs between the supplemental jaws and the main jaws whereby the former are held in position; substantially as described.

5. In combination in the described wrench, 25 of the frame, the jaws sliding therein, and the independent supplemental jaws having the projecting portions 4, fitted in recesses in the main jaws, and springs 5, in rear thereof; all substantially as described. 30

Signed at Norway this 8th day of August, A. D. 1893.

GEORGE B. DUNHAM.

Witnesses:

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