(No Model.)

W. M. HELMS.

TIRE UPSETTER.

No. 337,265. Patented Mar. 2, 1886.

Fig. 1.

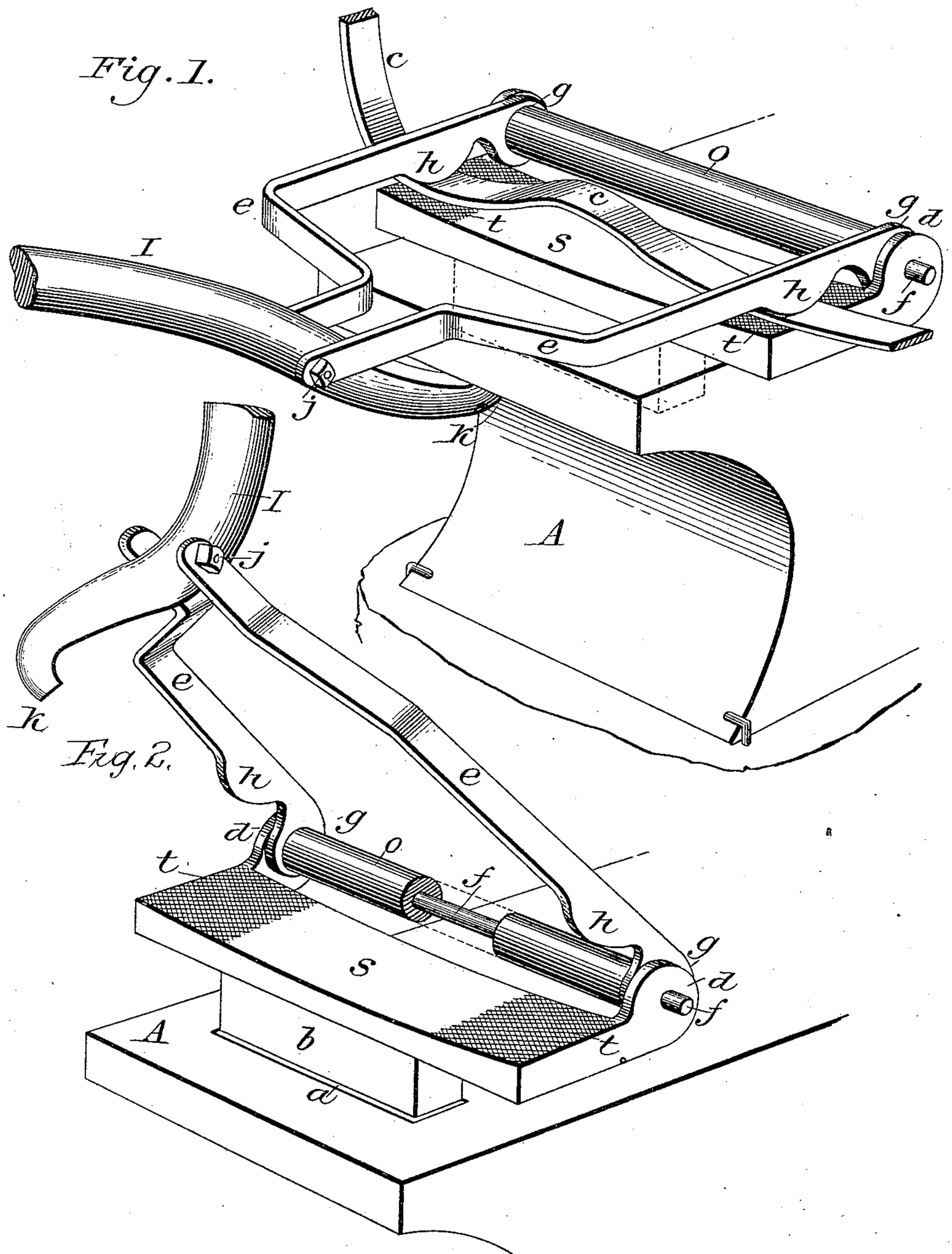

Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM M. HELMS, OF STEUBENVILLE, OHIO, ASSIGNOR OF TWO-THIRDS TO LEWIS E. HELMS AND WILLIAM S. CUNNINGHAM, BOTH OF SAME PLACE.

TIRE-UPSETTER.

SPECIFICATION forming part of Letters Patent No. 337,265, dated March 2, 1886.

Application filed December 16, 1885. Serial No. 185,859. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. HELMS, a citizen of the United States, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented a new and useful Machine for Upsetting or Shrinking Wagon-Tires and for other Purposes, of which the following is a specification.

My invention relates to improvements in wagon-tire reducers in which the heated iron is held while the shrinkage is being effected by manipulating with a hammer.

The objects of my invention are, first, to provide a machine that can be operated upon an anvil; second, that will be adapted to other uses than simply tire-shrinking; and, third, that will be simple in construction, thus making a convenient, useful, and cheap machine, all of which objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the machine upon an anvil, A, showing a section of a tire, *c*, in position ready to be manipulated with a hammer in the hand of the operator. Fig. 2 shows the machine in an upright and open position disconnected from the anvil A, and also the manner in which the connection is made therewith.

Similar letters refer to similar parts throughout both views.

The anvil A, upon its block, as shown in Fig. 1, constitutes the foundation of the machine, the "swage-hole" *a*, Fig. 2, shown also by dotted lines in Fig. 1, forming a socket for the reception of the mandrel *b* of the bed-block S, in which it is held firm and solid while the operation of reducing the tire or other manipulation of hot iron is being performed. The bed-block S is slightly dished or concaved on its face, to preserve the circular formation of the tire while it is being "upset" or reduced, and has file-teeth *t t* near to the ends, for holding the iron while it is being manipulated. On the back side of the bed-block S, at each end, are lugs *d d* for connecting the levers *e e* to the bed-block S, which is done by passing a pin, *f*, through bosses *g* on the levers *e e*. On levers *e e* are worked or formed jaws *h h*, in such position on the levers that when they are brought down the jaws are brought in exact contact with the teeth *t t* on the bed-block S, so as to grip and hold the hot iron when placed between them, as shown in Fig. 1. The levers *e e* are made in open form, and are held apart, where they connect with the lugs *d d* of the bed-block S, by a tube or sleeve, *o*, which forms shoulders for the bearing of the levers to prevent them drawing together when the pressure is brought upon them, and through which the connecting-pin *f* passes, as shown in the broken section, Fig. 2. The lever I is carved downward, just where the connection is made with the levers *e e*, with a hook, *k*, formed on the end, as shown in Fig. 2, for the purpose of catching under the heel of the anvil, as shown in Fig. 1, when brought into requisition for holding the iron. The bolt *j*, passing through and connecting the levers *e e*, one on either side of the lever I, forms a fulcrum for lever I and connects the levers *e e* and I, so as to form a continuous lever from the connecting-pin *f* to the farthest end of lever I. The connected levers *e e* and I, as described, constitute a duplex or double-acting powerful lever. The connecting-bolt *j*, passing through the outermost extreme ends of levers *e e*, constitutes the fulcrum of the lever I, while the lift of the lever I is under the heel of the anvil, as shown in Fig. 1, so that when a pressure is placed upon the outermost end or handle of lever I, with the hook *k* caught under the heel of the anvil, as shown in Fig. 1, a powerful pressure is produced upon the jaws *h h* of the levers *e e*, as shown in Fig. 1.

How to use the machine.—To use the machine for shrinking tire, the tire is first properly heated and a portion of it bent inwardly, somewhat in the shape of an inverted letter U, as shown in Fig. 1, when it is placed in the machine with the U shaped part between the levers *e e* projecting upward. The lever I is then brought down, with the hook *k* caught under the heel of the anvil A, as shown in Fig. 1, clamping the tire between the jaws *h h* and the bed-block S, and holding it firmly while the U-shaped part is being brought down

to the plane of the bed-block by the use of the hammer in the hand of the operator, thus shrinking the tire to the size desired. Iron may be thus held in this machine while it is being bent and wrought into different shapes, dispensing largely with the use of a vise, and for which in many cases it is much more convenient.

I claim—

In combination with an anvil, the seat-block S, levers *e e* and I, constructed as shown and described, and the lever I, hooking under the edge of the anvil, for the purpose set forth.

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