

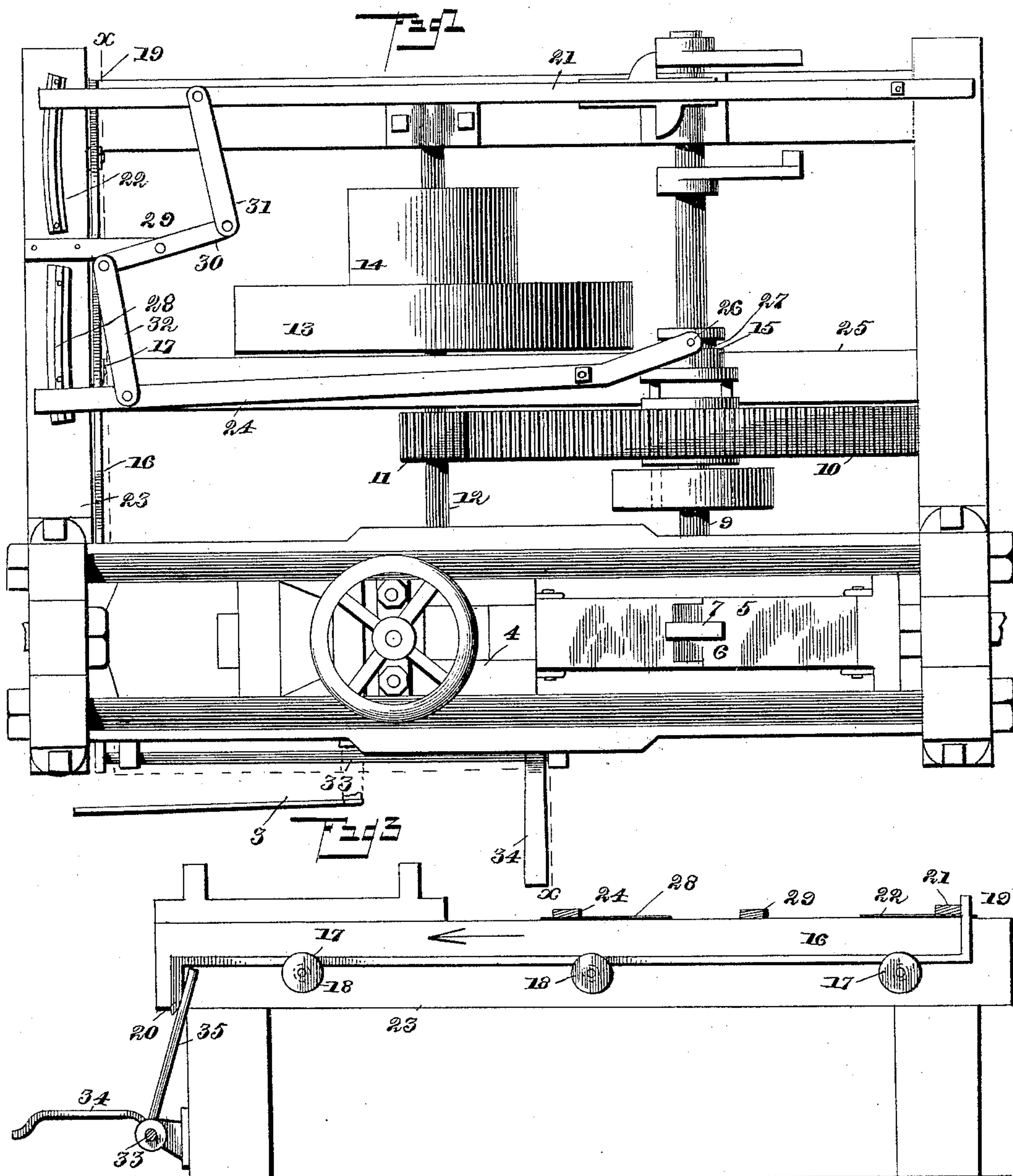
(No Model.)

2 Sheets—Sheet 1.

W. J. PARMELEE.
CLUTCH OPERATING MECHANISM.

No. 432,069.

Patented July 15, 1890.



Witnesses

John Smilie
Wm. Bagger

By his Attorneys,

C. A. Snow & Co.

Inventor

Wolcott J. Parmelee

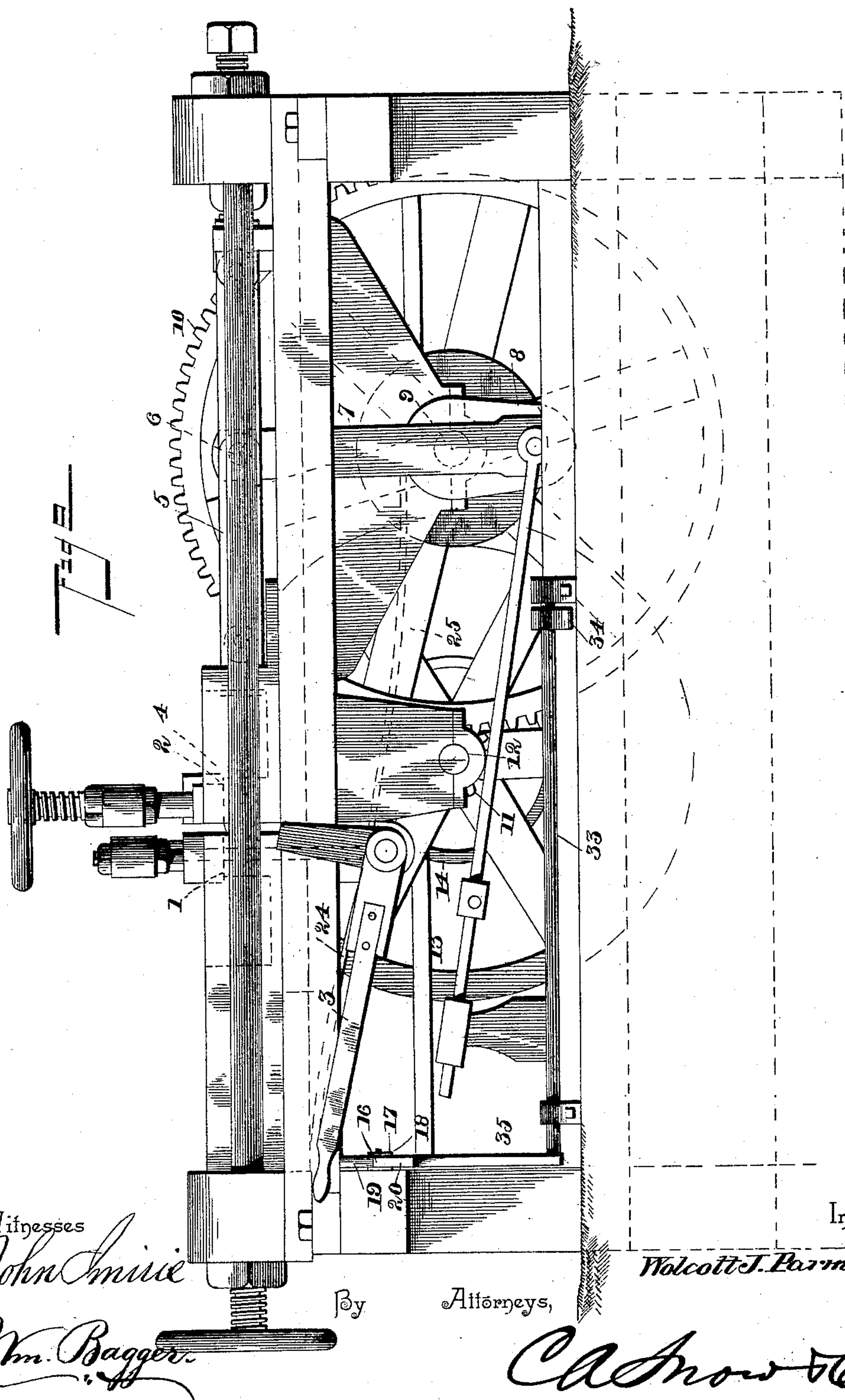
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John M. Rice
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By

Attorneys,

Inventor

Wolcott J. Parmelee

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WOLCOTT J. PARMELEE, OF WILKES-BARRÉ, PENNSYLVANIA.

CLUTCH-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 432,069, dated July 15, 1890.

Application filed January 22, 1890. Serial No. 337,750. (No model.)

To all whom it may concern:

Be it known that I, WOLCOTT J. PARMELEE, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Clutch-Operating Mechanism for Upsetting-Machines, of which the following is a specification.

This invention relates to that class of machines which are used for upsetting the collars at the inner ends of the spindles of vehicle-axles; and it has for its object to effect an improvement in said machine, whereby the services of at least one attendant may be dispensed with, thereby enabling a reduction in the cost of the product to be effected.

The machine to which my improvement relates is used, as stated, for the purpose of upsetting the collars upon vehicle-axles. The latter are usually made in two parts or sections, a spindle being formed upon the end of each and the parts being subsequently welded together. In the operation of this class of machines it has heretofore been found necessary to employ the services of three attendants, one to carry the axle from the furnace and to place it in the dies, another to operate the clamping-dies, and a third to operate the clutch mechanism at the proper time, so as to throw the upsetting-die into operation. The short lapse of time between these several operations renders it impossible for any one of the attendants to do more than his prescribed work.

In my experiments to reduce the number of helpers or workmen to a minimum, as foreman of one of the largest axle-works in the United States I have found that the only one of the three attendants whose services could be dispensed with by any improvement that might be devised in this class of machines was the one whose duty it was to shift the clutch mechanism into operation. To accomplish this result, I have added to this upsetting-machine an improvement whereby the operator whose function it is to attend to the clamping-dies is also enabled to actuate the clutch-shifting mechanism, this being accomplished by a system of levers and a treadle within convenient reach of the operator, so that he does not have to step out of his way in order to shift the clutch, he being enabled,

as soon as the clamping-dies have been operated by hand, to operate the treadle throwing the clutch mechanism and the upsetting-die into operation by his foot.

In the drawings, in which my improvement has been shown applied to a well-known type of upsetting-machines, Figure 1 is a plan view of the machine. Fig. 2 is a side elevation. Fig. 3 is a transverse sectional view taken on the line *xx* of Fig. 1.

Like numerals of reference indicate like parts in all the figures.

1 and 2 designate the holding-dies, between which the axle-blank is inserted as soon as it comes from the furnace, the die 1 being closed by means of a lever 3 as soon as the blank is inserted, and the die 2 being operated by means of a screw. The construction of the die 2 has been made the subject of an application for Letters Patent filed January 22, 1890, Serial No. 337,747, and need not be specifically described in the present application.

4 designates the upsetting-die, which is connected to one end of a toggle 5, the joint 6 of which is connected by means of a link 7 with the crank 8 of a driving-shaft 9. On this shaft is loosely mounted a master-gear 10, which meshes with a pinion 11 on a counter-shaft 12. The latter has a balance-wheel 13 and a drum or belt-pulley 14 mounted thereon, the latter being connected by means of a belt with suitable operating machinery. Mounted slidably upon the driving-shaft 9 is a clutch member 15, which is adapted to engage the master-gear 10, which may thus be locked upon the shaft and cause the latter to revolve. The operation of throwing the clutch into engagement with the master-gear is performed by the system of levers and operating devices which forms the subject of my invention, and which, with this general construction of the machine outlined, I shall now proceed to describe.

16 designates a transversely-sliding bar which is mounted upon rollers 17, having guard-flanges 18 near one end of the frame of the machine and parallel to the end bar of the latter, upon which the said rollers may be suitably mounted. The rear end of the said bar 16 is bent upward, as shown at 19, and its front end is bent downward, as shown at 20.

21 designates a lever which is mounted pivotally upon the upper side of the rear frame-bar of the machine near the end opposite to that at which the sliding bar 16 is arranged.

5 The upturned end 19 of the said sliding bar is arranged to bear against the outer or rear edge of the said lever. A short segmental rib or track 22, to support the free end of the lever 21, is mounted upon the upper side of the frame-bar 23, upon the inner side of which

10 the sliding bar 16 is mounted.

24 designates the shifting-lever, which is pivoted upon the upper side of a longitudinal frame bar or brace 25, and is provided at one

15 end with a pin 26, engaging an annular groove 27 in the clutch member 15. A rib or track 28, to support the free end of the shifting-lever, is mounted upon the upper side of the frame-bar 23. The latter is also provided with an

20 inwardly-extending bracket 29, upon the inner end of which is pivoted a short lever 30, the opposite ends of which are connected by links 31 and 32 with the levers 21 and 24, respectively.

25 Mounted in suitable bearings upon the front side of the frame of the machine is a rock-shaft 33, one end of which extends to a point within convenient reach of the operator who attends to the clamping-dies, and is provided with a treadle 34. The opposite end

30 of the rock-shaft 33 is provided with an upwardly-extending arm 35, engaging the downturned end 20 of the sliding bar 16.

It will be seen that when the rock-shaft 33

35 is operated by depressing the treadle the arm 35 of said rock-shaft will engage the downturned end of the sliding bar 16 and move the latter in a forward direction, as indicated by the arrow in Fig. 3 of the drawings. The

40 upturned rear end of the bar 16 will thus engage the lever 21, from which, through the medium of the links 31 32 and the lever 30, motion will be imparted to the lever 24, which will thus be operated to throw the clutch member 15 into engagement with the master-gear

45 10. This operation, it will be observed, may be performed almost instantaneously by the workman who attends to the holding-dies without necessity of leaving his station and

50 at a time when he is not actually engaged in manipulating the dies. Mechanism is employed for throwing the clutch mechanism automatically out of gear at the proper time; but this mechanism forms no part of my invention.

55

I would have it understood that a different

or modified arrangement of the system of levers for actuating the clutch mechanism might be employed without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. In combination with the shifting-clutch of an upsetting-machine, the treadle disposed on that side of the machine where the upsetting-dies are located within convenient reach of the workman who operates the dies, the clutch-operating lever, the bar mounted upon flanged rollers and actuated by the treadle, and connections between said roller-supported

60 bar and the clutch-shifting lever, substantially as set forth.

2. In an upsetting-machine in which the upsetting die or hammer is actuated by a driving-shaft having a continuously-revolving loose master-gear and a transversely-sliding clutch member adapted to engage the latter, the combination, with said clutch-gear, of a shifting-lever, an operating-lever, links connecting the said levers with opposite ends of

75 a short intermediate lever, a rock-shaft mounted on the side of the machine having the upsetting-dies and provided with a treadle and with an upwardly-extending arm, and a transversely-sliding bar having a downturned end

85 engaging the upwardly-extending arm of the rock-shaft and an upturned end engaging the operating-lever, substantially as and for the purpose herein set forth.

3. The combination of the sliding clutch member, the shifting-lever, the operating-lever, the intermediate lever, the connecting-links, the tracks supporting the free ends of the shifting and operating levers, and the rock-shaft having the treadle and the upwardly-extending arm with the flanged supporting-rollers mounted upon the inner side of one of the end bars of the frame of the machine, and the sliding bar mounted upon said rollers and having a downturned end engaging

90 the upwardly-extending arm of the rock-shaft and an upturned end engaging the operating-lever, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as

105 my own I have hereto affixed my signature in presence of two witnesses.

WOLCOTT J. PARMELEE.

Witnesses:

BEN C. PRICE,
S. C. STRUTHERS.