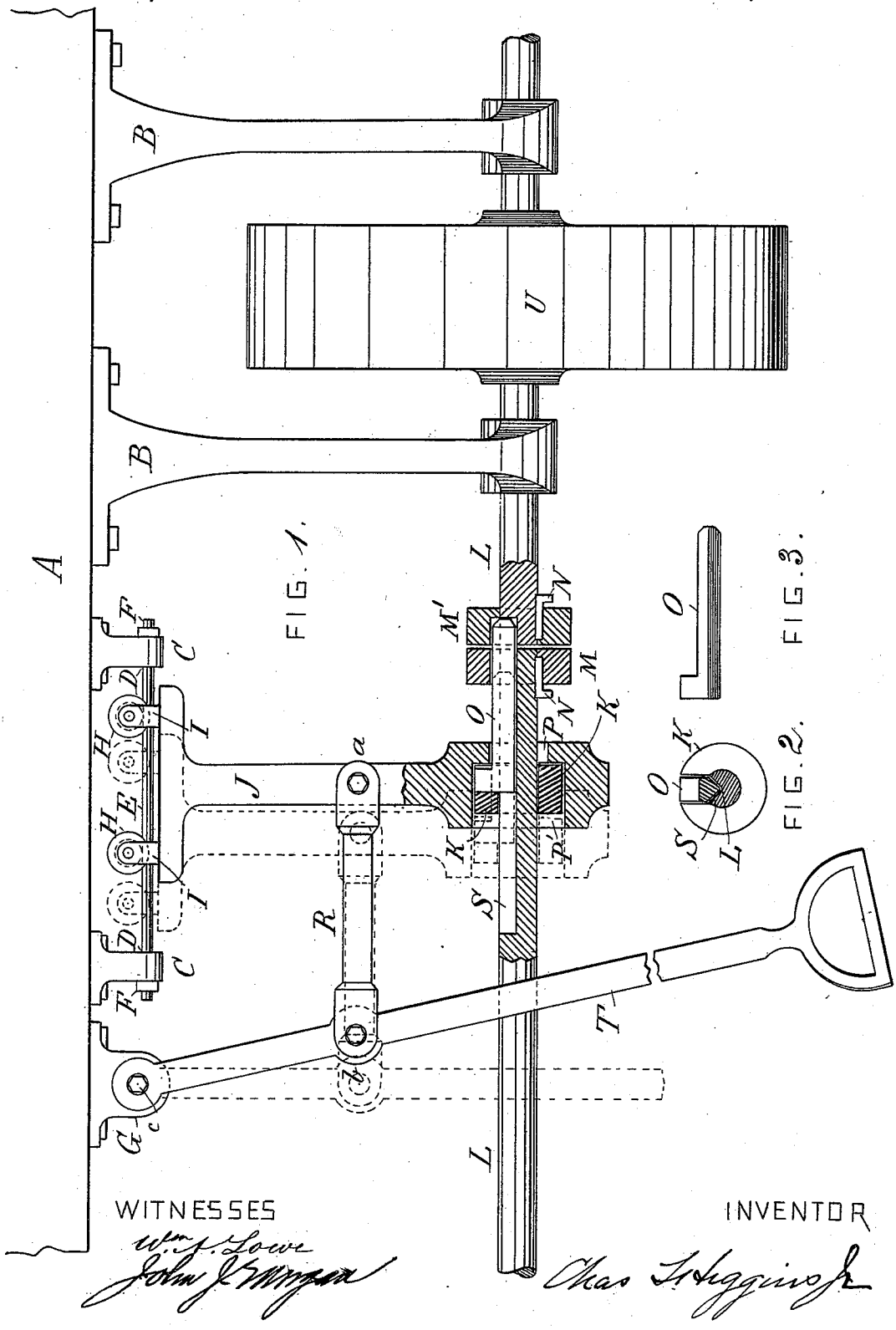
(No Model.)

# C. S. HIGGINS, Jr.

## SHAFT COUPLING.

No. 355,267. Patented Dec. 28, 1886.




WITNESSES

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## SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 355,267, dated December 28, 1886.

Application filed August 27, 1886. Serial No. 211,985. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES S. HIGGINS, Jr., a citizen of the United States, and a resident of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Couplings for Shafting; and I do hereby declare that the following specification, taken in connection with the drawings annexed to and forming part of the same, furnishes a full and clear description of the invention, sufficient to enable those skilled in the art to which it pertains to make and operate the same.

My invention relates to devices for coupling and uncoupling sections of shafting employed for the transmission of power to machinery in mills, machine-shops, manufactories, and other like establishments. Its objects are to provide means by which one or more pieces may be separated from a line of shafting without disturbing the other parts of the line, and permit of one or more of several machines being stopped at any time without any interference with the course of the engine with the working of the other machines actuated by the revolution of said shafting, with any other machines, or any other line of shafting. These objects I secure by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a line of shafting in two pieces, a portion of each of the latter and of my improved coupling device being also shown in section. Fig. 2 is a vertical section of the box or chamber of said coupling device and of the shafting, the keyway in the same, and the coupling-key. Fig. 3 is a perspective view of the coupling-key.

In said drawings, A is the ceiling of the mill, machine-shop, or manufactory. B B are elongated rigid hangers, bolted to said ceiling and supporting one section of the line of shafting. C C are short rigid hangers, bolted to said ceiling and provided with sockets D D. E is a rod running parallel with said ceiling in the hangers C C, its ends being secured in the sockets D D by the nuts F F. G is another short rigid hanger bolted to said ceiling.

H H are grooved wheels resting upon the rod E, the axles of said wheels supporting short rigid hangers I I, from which is suspended the adjustable hanger J.

K is a circular box or chamber in the lower part of the hanger J, for the reception of the other section of the line of shafting, and also the coupling-key.

L is a line of shafting in two sections, one being supported by the hangers B B and the other by the hanger J.

M M′ are sleeves which encircle the adjacent ends of the two sections of the line of shafting L, being held in place thereon by the pins N N, and being recessed to receive the coupling-key.

O is an elongated coupling-key provided with an elbow situated in the box or chamber K, fitting into the keyway in the shafting L, and adapted to be moved back and forth in said keyway, and to be revolved with said shafting in the box or chamber K.

P and P′ are openings on either side of the box or chamber K to permit of the passage of the shafting and coupling-key.

R is an arm pivoted to the hanger J at *a*, and to the lever T at *b*.

S is an angular keyway in the shafting L, extending from a point at the left of the hanger J through the sleeve M into the sleeve M′, in which keyway the coupling-key runs.

T is a hand-lever pivoted at *c* to the hanger G, having the arm R pivoted to it at *b*, and provided at its lower extremity with a suitable handle, if desired.

U is a belt wheel or pulley on the shafting L.

Similar letters refer to corresponding parts in the several views.

Having constructed my improvement as described and shown, and having placed it in position with relation to the shafting, as shown in Fig. 1, said shafting presents an entire unbroken line, and as it revolves imparts motive power to all the machines connected with it.

Whenever it is desired, for any reason, to uncouple and disconnect that portion of the line of shafting supported by the hanger J from that portion supported by the hangers B B, the lever T is pushed to the left, the arm R draws with it the hanger J, the latter as it passes to the left draws with it the coupling-

key O along the keyway S and out of the sleeve M', until said lever, hanger, arm, and coupling-key are in the position shown by the dotted lines in Fig. 1. Said section of the shafting supported by the hanger J at once ceases to revolve, and the machine connected with it comes to a standstill, while the other portion of the shafting, supported by the hangers B B, continues its revolution, and the operation of the machine or machines connected with it is not interrupted. Said lever T being pushed to the right, the arm R moves with it the hanger J. The latter in its movement to the right carries with it the coupling-key O, causing the latter to pass along the keyway S into the sleeve M', as shown in Fig. 1. The two portions of the shafting are thus reconnected and revolve together as an entire line, and the machine which has been temporarily stopped resumes its operation.

The advantages which my invention possess are that it is simple in construction, easy of operation, readily applied to any systen or line of inflexible shafting, and at the same time serves as a support to said shafting.

In case any disarrangement of parts occurs to any machine operated by the shafting to which my improved coupling is applied, whereby injury is likely to ensue to the machine or the material in course of construction or being operated upon, my invention affords a prompt, effectual, and efficient means of avoiding and preventing the same by the ease with which the shafting may be disconnected and the machine brought to a standstill. It is particularly advantageous as a means of preventing accident and injury to the attendant of the machine, as the shafting can be instantly disconnected by the simple movement of the lever, as above described, bringing the machine to rest. It requires no skill whatever to operate it, has no complicated and intricate parts liable to become disarranged and useless, and, being placed in close proximity to the machine, is at all times within the reach and under the control of the attendant of the machine.

I am aware that devices have been constructed by means of which pieces of a line of shafting have been connected by couplings, pins, and keys, and that the object of various of said devices was to enable a single piece to be taken out of a line of shafting without disturbing the other parts of the line. I do not claim as my invention any of such devices or any of them irrespective of their manner of application to the shafting; but

What I do claim, and desire to secure by Letters Patent, is—

1. The lever T, arm R, adjustable hanger J, provided with a box or chamber, K, and a coupling-key, O, in combination with a line of shafting in sections provided with the recessed sleeves M and M', and angular keyway S, substantially as described and shown, and for the purposes specified.

2. The combination of hangers C C, rod E, and adjustable hanger J, provided with arms I I, grooved wheels H H, and a circular box or chamber, K, a removable coupling key, O, fitting and moving in an angular keyway in the shafting, and said shafting provided with sleeves M M', the hanger J and key O being operated by a lever, T, substantially as described and shown.

3. The adjustable hanger J, carrying the coupling-key O and operated by the lever T, in combination with a line of shafting provided with an angular keyway, S, therein, substantially as shown and described, and for the purposes set forth.

4. The combination of the adjustable hanger J, provided with a circular box or chamber, K, removable coupling-key O, lever T, and line of shafting L L, provided with sleeves M M', substantially as described and shown, and for the purposes specified.

CHAS. S. HIGGINS, JR

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