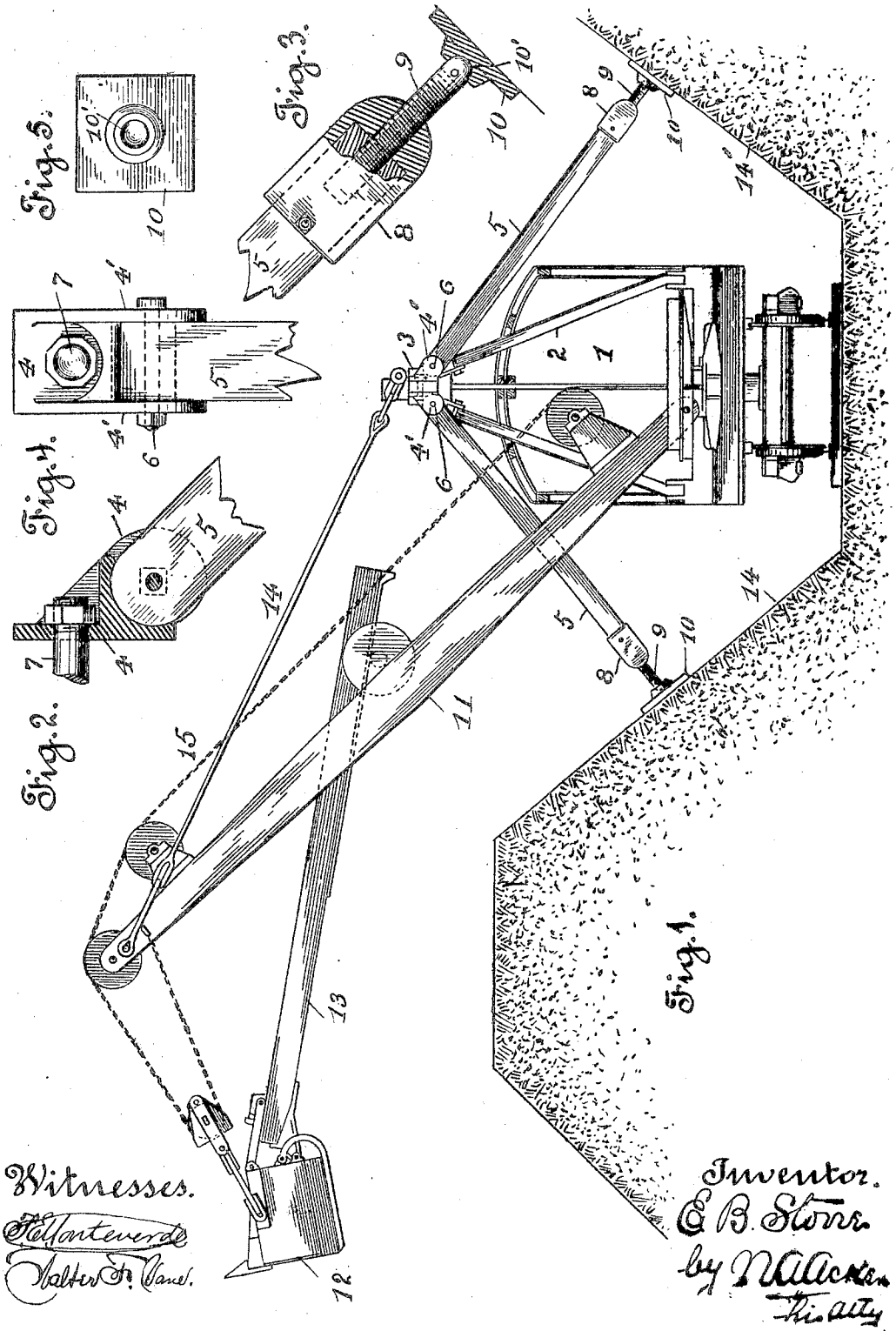
No. 797,627. PATENTED AUG. 22, 1905.

E. B. STONE.

JACK ARM FOR EXCAVATING MACHINES.

APPLICATION FILED JULY 6, 1904.



Witnesses.

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UNITED STATES PATENT OFFICE.

EGBERT B. STONE, OF OAKLAND, CALIFORNIA, ASSIGNOR TO E. B. & A. L. STONE COMPANY, OF OAKLAND, CALIFORNIA, A CORPORATION OF CALIFORNIA.

JACK-ARM FOR EXCAVATING-MACHINES.

No. 797,627. Specification of Letters Patent. Patented Aug. 22, 1905.

Application filed July 6, 1904. Serial No. 215,467.

To all whom it may concern:

Be it known that I, EGBERT B. STONE, a citizen of the United States, residing at Oakland, county of Alameda, State of California, have invented certain new and useful Improvements in Jack-Arms for Excavating-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present invention relates to certain new and useful means for preventing the upsetting, lateral tilting, or derailing of an excavating apparatus by reason of the lateral strain placed thereon during the operation of the excavating bucket or scoop at a distance from the apparatus, thereby permitting the use of a boom of materially greater length than those at present in use, and the consequent utilization in the excavating of a much wider cut, trench, canal, or cut than possible with the scoop or bucket excavating apparatus in general use for the removal of earth in connection with contract work generally.

To comprehend the invention, reference should be had to the accompanying sheet of drawings, wherein—

Figure 1 is an end view disclosing an ordinary dirt-excavating machine within the line of cut, the jack-arms being illustrated in adjusted position. Fig. 2 is a detail sectional end view of one of the ear-plates to which the upper end of the jack-arm is held, the jack-arm being broken away. Fig. 3 is a broken detail view of the lower end of one of the jack-arms, the socket-plate, and the shoe or foot-plate of the jack being sectioned Fig. 4 is a front view of the devices disclosed by Fig. 2 of the drawings, and Fig. 5 is a top plan view of one of the shoe or foot-plates.

The numeral 1 is used to designate the body or carriage of an ordinary excavating apparatus or car, which is mounted upon suitable wheels designed to work on tracks arranged within the line of cut or excavation. On this car is mounted a supporting **A**-standard 2, to the upper end of which is secured any suitable head 3. In the present case there are connected to the head 3 by a transverse bolt 7 the ear-plates 4, from which plates project the ears 4′. Between these ears is hinged the upper end of the jack-arms 5, which arms in the present case are held between the ears 4′ by means of the bolts 6.

To the lower end of each jack-arm is secured a socket-plate 8, into which screws the jack 9. This jack is adjustable within the socket-plate and has connected thereto the shoe or foot-plate 10, the free end of the jack 9 fitting within the socket-opening 10′ of the shoe or plate 10. By this manner of connecting the jack and the shoe or foot-plate 10 the said shoe or foot-plate 10 is permitted such movement as will permit of the same being swung at an angle to the jack-arm 5. As is usual with this class of machinery the boom 11 is connected at one end to the carriage or car 1, from said boom being suspended the scoop or excavating-bucket 12. The dipper-handle 13 of the scoop or excavating-bucket works over a supporting-roll secured to the boom 11, said boom being held at an inclination by means of the tie-rod 14, which forms connection between the boom and the head 3 of the **A**-standard 2. The scoop or excavating-bucket 12 is raised and lowered by means of the cable or chain 15.

By the employment of the described jack-arm which swings from the head of the **A**-standard the use of a much longer boom is permitted than is capable of use under the present constructed bucket excavating apparatus. Hence the machine may be utilized for the forming of a much wider cut or the delivery of the dirt or material at a greater distance from the machine.

Inasmuch as the angle or inclination of the jack-arms may be readily varied or changed and the length increased or decreased by screwing the jack 9 inward or outward, the same are capable of adjustment in accordance with the width of the cut to be excavated. Owing to the extended area covered, by the jack-arms 5, it is an impossibility to upset the machine proper by reason of lateral pressure placed or brought to bear thereon by the weight due to the strain of the scoop or bucket 12 while being filled. It is obvious that a greater resistance is offered to the lateral strain brought onto the apparatus where the jack-arms are hinged to the upper structure of the machine 1 than where the jack means lead from the base thereof and that as a consequence a longer boom

may be utilized, which results in the apparatus being capable of successful use in the excavating of a much wider cut. The shoe or foot-plate 10 when the jack-arms are properly adjusted bear firmly against the surface of the walls 14′ of the cut.

The described arrangement of jack-arms may be applied to the machine at present in use, the result being that by increasing the length of the boom the said machine may be employed for the excavation of a cut considerably wider than that for which the machine was originally designed.

Having thus described the invention, what is claimed as new, and desired to be protected by Letters Patent, is—

In a machine of the character described, the combination with an **A**-shaped supporting-standard of a pair of jack-arms hinged to the apex portion of said standard so as to swing in a vertical plane.

In witness whereof I have hereunto set my hand.

EGBERT B. STONE.

Witnesses:
N. A. ACKER,
D. B. RICHARDS.