

C. W. BENNETT.
 APPARATUS FOR LOOSENING SHEETS.
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908,381.

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Fig. 1.

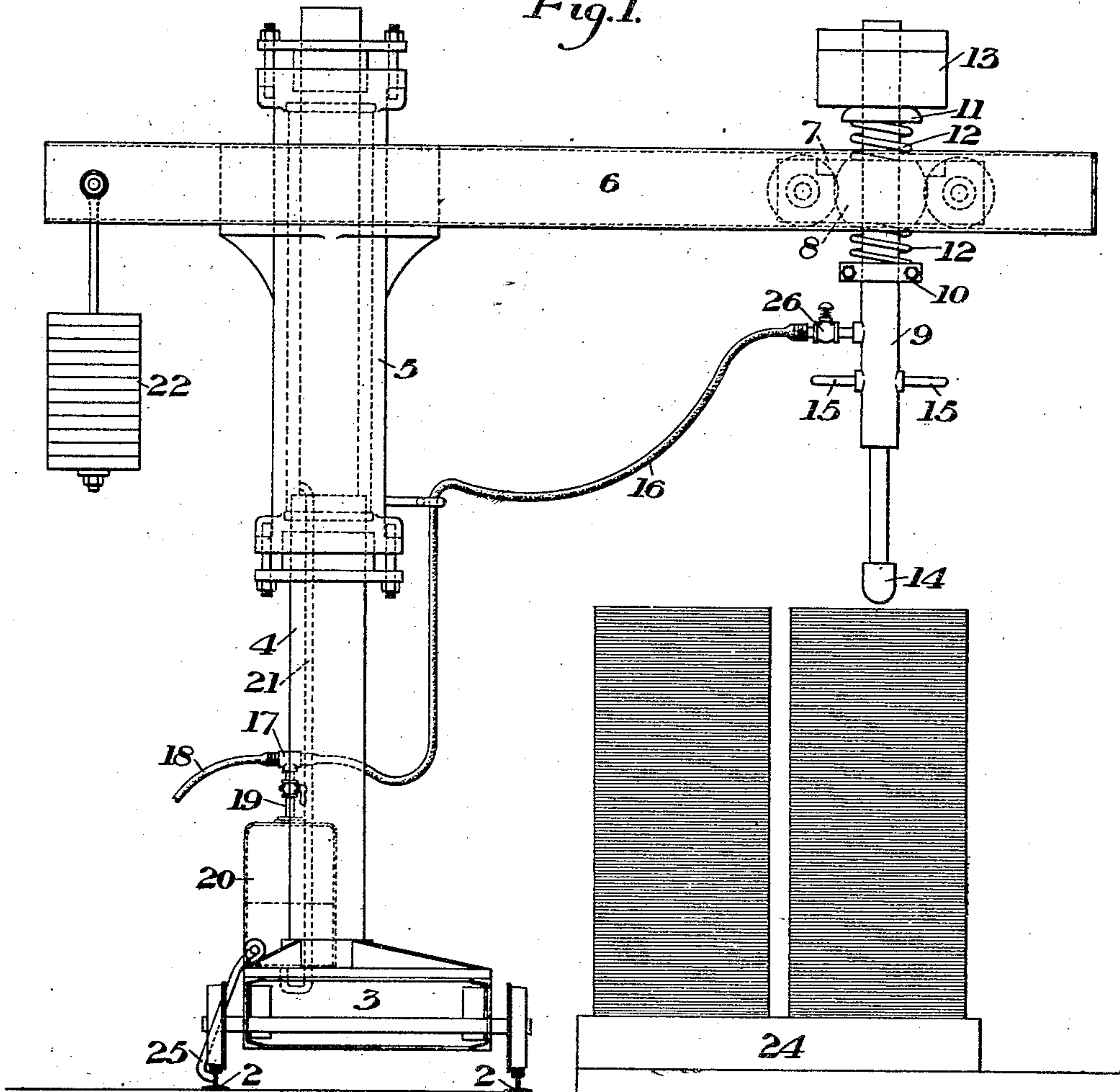
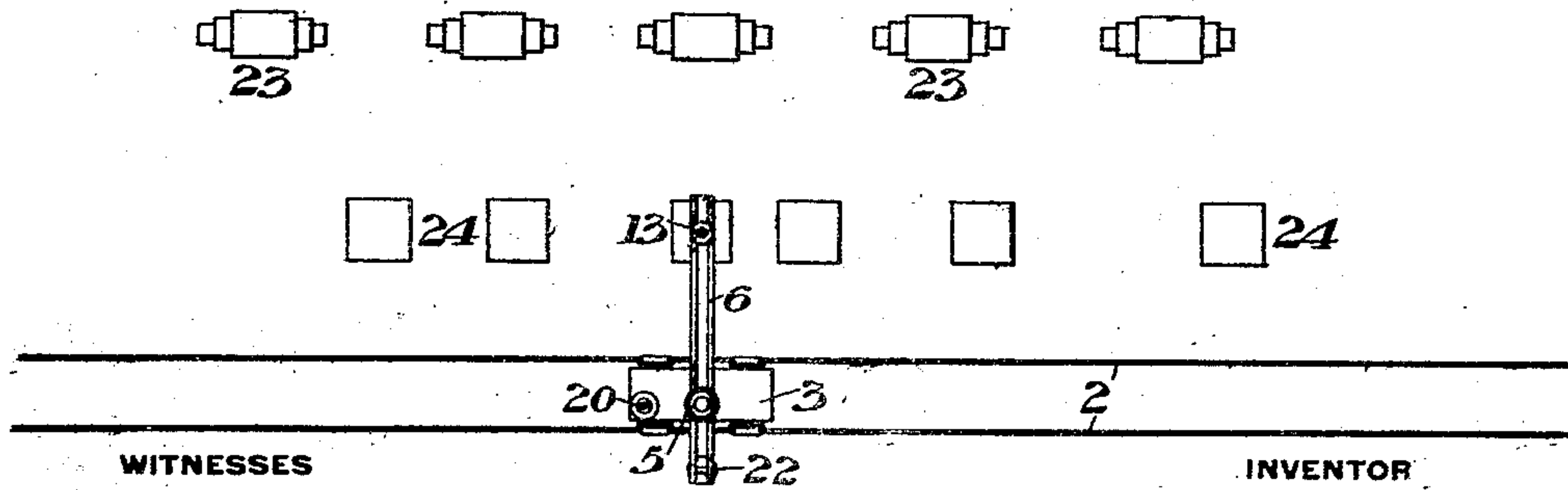


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR LOOSENING SHEETS.

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Patented Dec. 29, 1908.

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To all whom it may concern:

Be it known that I, CHARLES W. BENNETT, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Apparatus for Loosening Sheets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a side elevation of my improved apparatus in position for loosening the upper sheets of an annealed pack; and Fig. 2 is a small plan view, showing the relation of the apparatus to the rolls and the pack.

15 My invention relates to the loosening of metal sheets, and particularly to the loosening of sheets in a pack after they have been annealed.

It has been found that when metal sheets 20 are annealed, the upper sheets of the pile become overheated when the pot is sufficiently hot to properly anneal the sheets in the center and lower part of the pack. This overheating causes the upper sheets to adhere to each other, and when removed from the furnace it has been necessary to loosen them. This has been ordinarily done by hand work with a sledge hammer, this being very slow and laborious work.

30 The object of my invention is to provide a simple and effective apparatus for loosening the sheets of a pack, particularly these annealed sheets:

In the drawings, in which I show a preferred form of my apparatus, 2, 2 are the 35 rails of a track, on which travels a wheel carriage 3 forming a support for a small crane having a stationary plunger 4 and a movable cylinder 5 carrying the jib 6. The jib is formed with a suitable inner track on which travel the wheels of a small trolley 7, in which is loosely mounted a large ball 8, forming a ball and socket joint. Through a vertical hole in this ball extends the barrel 9 of a 45 pneumatic hammer, having a stationary collar 10 and a loose collar 11 with springs 12 interposed between them and the ball. The barrel 9 is capable of a vertical movement through the ball. A weight 13 of an adjustable amount rests upon the movable washer 11. A tool or head 14 of the pneumatic hammer may be of any desirable type, and the hammer may be manipulated by handles 15. I have shown the air as supplied from a flexible 55 hose 16 extending from a tee or fixture

17 having a flexible pipe 18 leading to the supply of compressed air. From the tee a valved pipe 19 leads down into a closed tank 20, containing oil, which may be forced through passage 21 into the cylinder to operate the crane and move the jib upwardly or downwardly, the compressed air acting to force out the oil or allow it to flow back. The jib may be counterweighted as shown at 22.

In Fig. 2, 23 indicates the finishing rolls, and 24 the stands with packs thereon, alongside of which the track for the pneumatic hammer extends.

In using the apparatus, the crane is moved along the track to the desired point, where it is stopped, and may then be held by hooks 25 if desired which engage the track rail. The jib is then brought to the desired heat, the air introduced to the hammer, and the upper sheets are thereby given a rapid series of 75 blows which loosen them from each other. The hammer may be moved around to different parts of the pack by reason of the ball joint, while the resistance for the blow is obtained by the weight which affords a yielding 80 resistance. The air to the hammer may be controlled by the cock or valve 26. The weight 13 serves to largely prevent the rebound of the hammer when in action and also enables a more effective action to be imparted to the hammer. The springs 12 also 85 assist in taking up the recoil.

Many changes may be made in the form and arrangement of the hammer, the method of mounting the same, the means for supplying air, &c., without departing from my invention.

I claim:—

1. In pack-loosening apparatus, a horizontally extending support, a carrier movable on said support, a pneumatic hammer attached to said carrier to move vertically with respect thereto, a weight mounted on the hammer for holding the same to its work and for preventing recoil and rebound thereof, and springs arranged to be compressed by the vertical movements of the hammer and to also take the recoil of the hammer, substantially as described.

2. In pack-loosening apparatus, a horizontally extending support, a carrier movable on the support, a pneumatic hammer depending from the carrier and extending above the support, said hammer having a ball-and-socket connection with the carrier, 110

a weight mounted on the upper portion of the hammer, and a spring supporting said weight the hammer being capable of vertical movement through the ball and socket connection, substantially as described.

3. In apparatus of the character described, a support, a carrier movable horizontally on said support, a pneumatic hammer attached to said carrier, and capable of vertical movement with respect thereto, said hammer having its barrel or casing weighted, and spring means acting upon the barrel or casing to cushion its movements; substantially as described.

4. In apparatus of the character de-

scribed, a support, a carrier movable horizontally on said support, a pneumatic hammer having a ball and socket connection with the carrier, the barrel or casing of the hammer being vertically movable through the ball and socket connection, and spring means acting upon the barrel or casing to cushion the movements thereof; substantially as described.

In testimony whereof, I have hereunto set my hand.

CHARLES W. BENNETT.

Witnesses:

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