C. B. HAYES.

MACHINE FOR REMOVING CLEATS FROM FELLIES.

APPLICATION FILED DEC. 27, 1910.

1,010,424.

Patented Dec. 5, 1911.

3 SHEETS—SHEET 1.

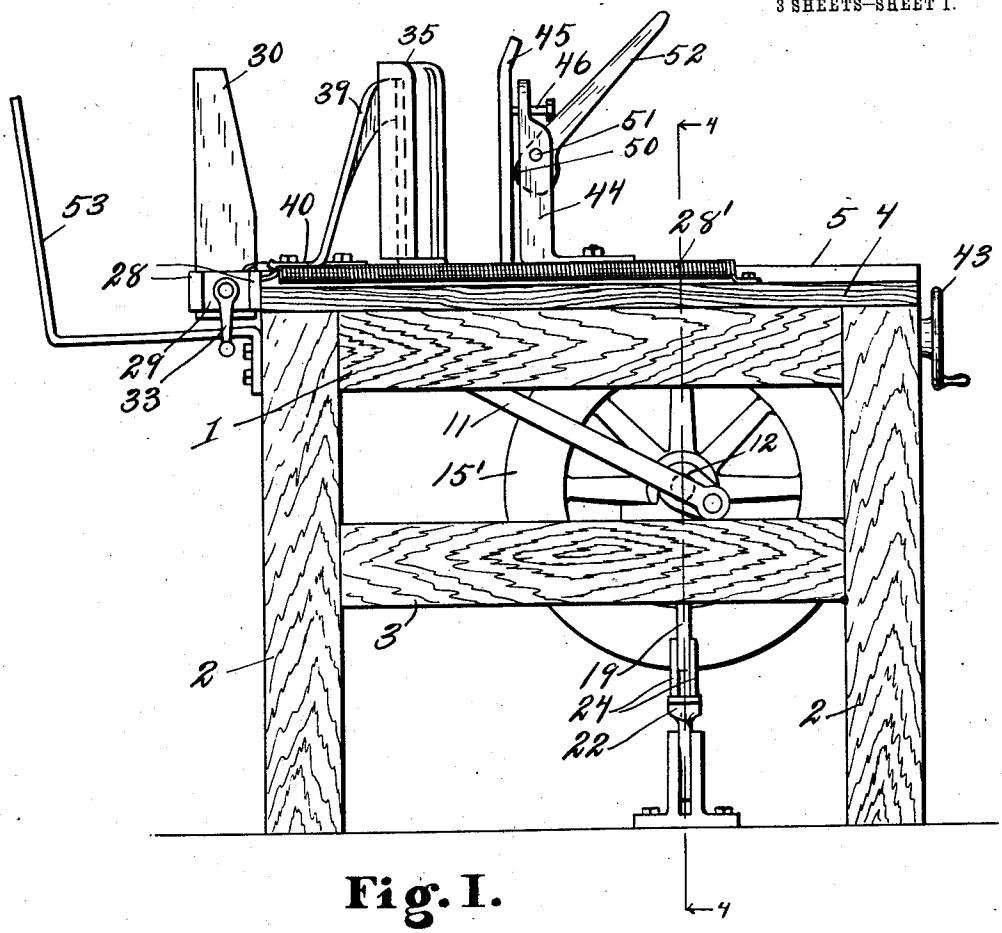

Fig. I.

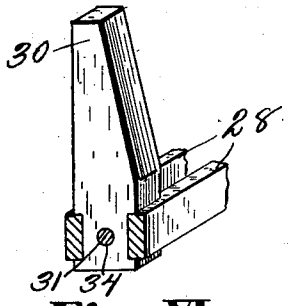

Fig. VI.

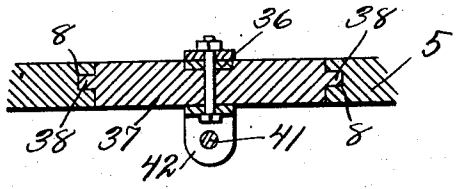

Fig. VII.

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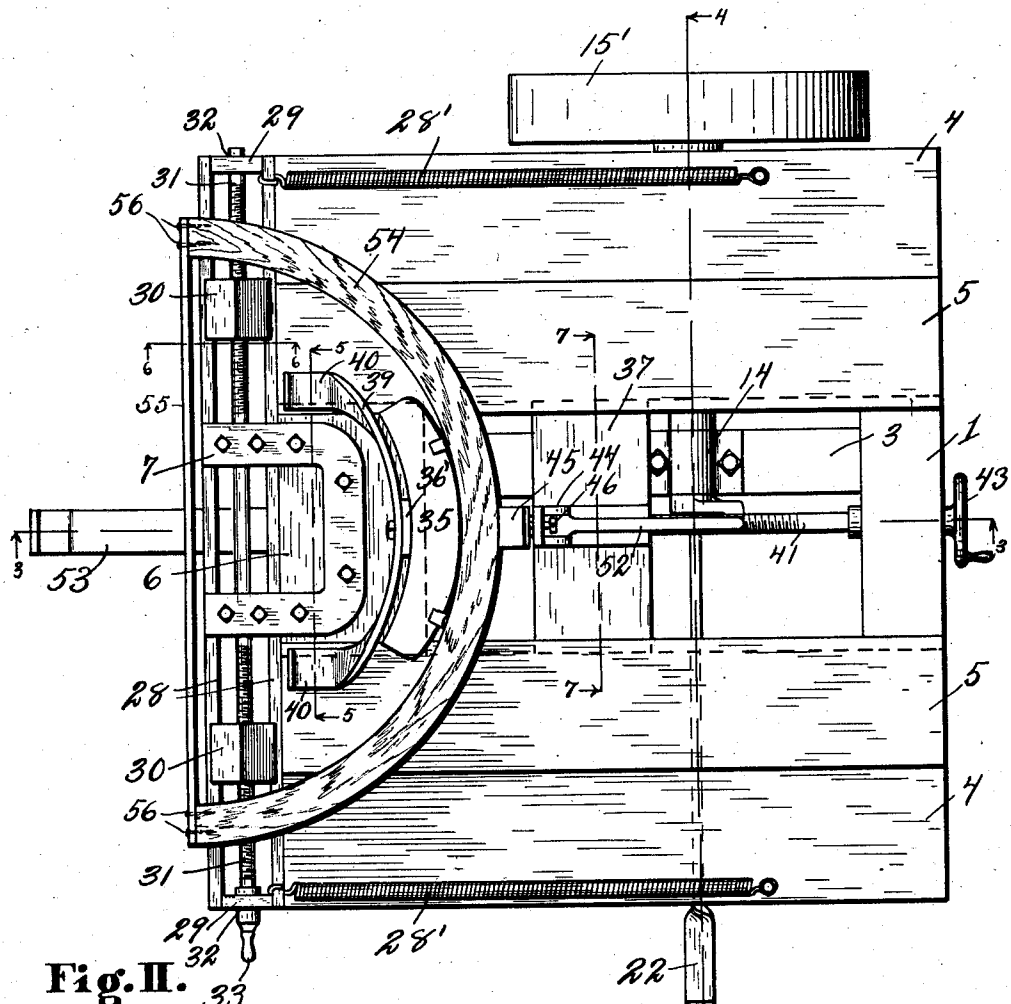

Fig. II.

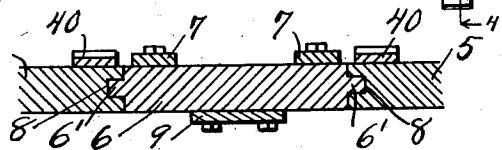

Fig. V.

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3 SHEETS—SHEET 3.

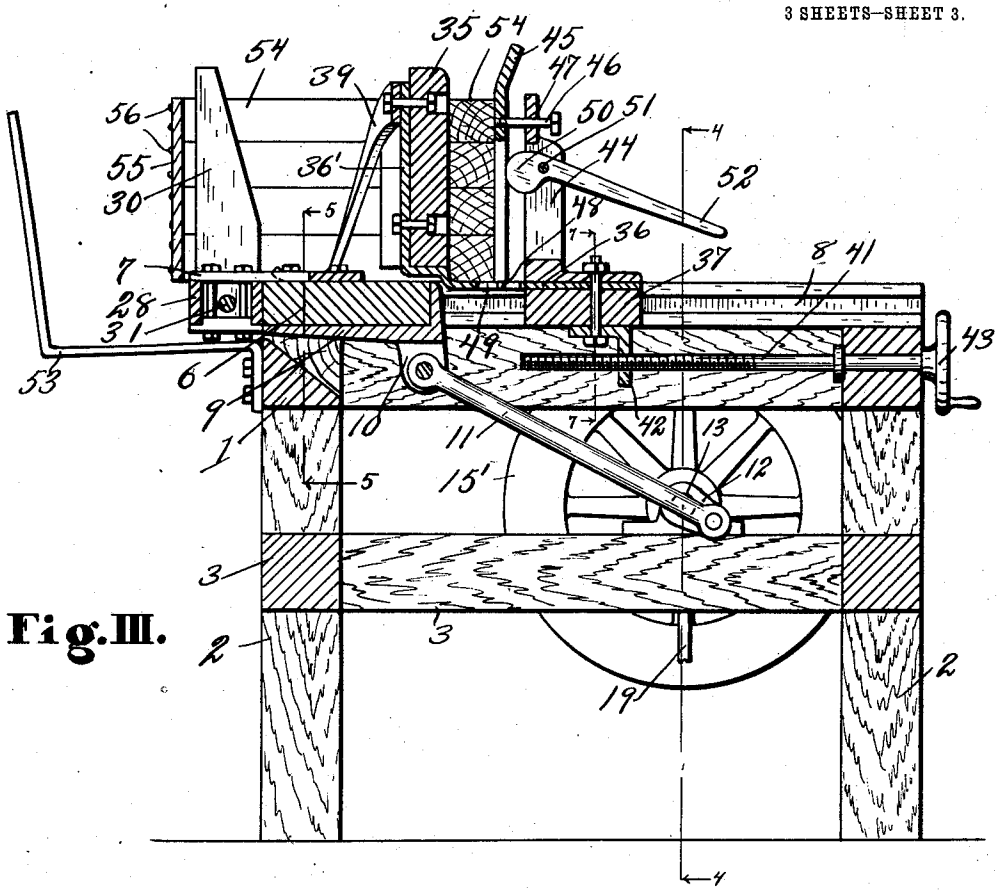

Fig. III.

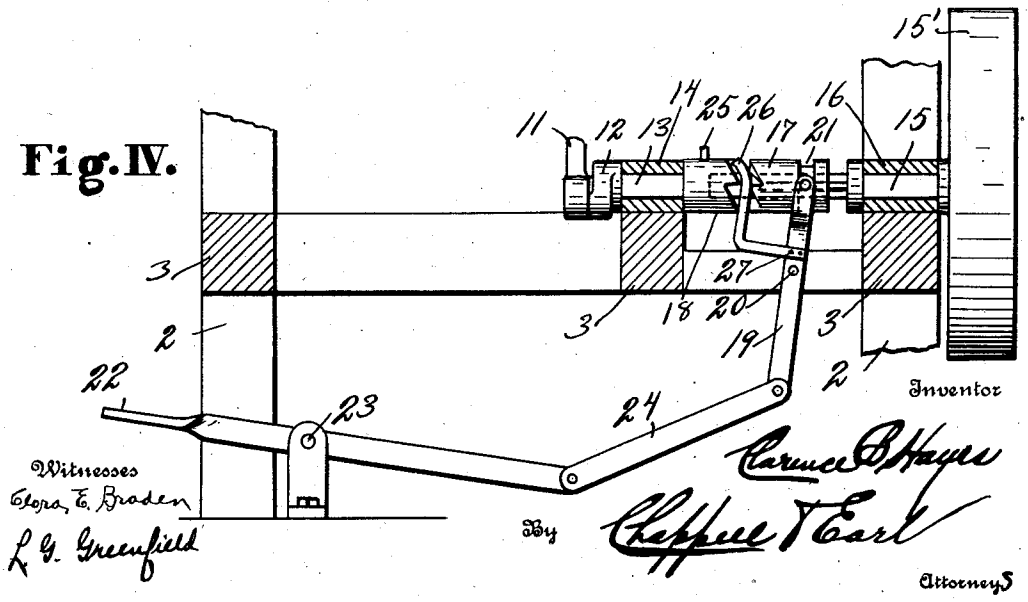

Fig. IV.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR REMOVING CLEATS FROM FELLIES.

1,010,424. Specification of Letters Patent. Patented Dec. 5, 1911.

Application filed December 27, 1910. Serial No. 599,397.

To all whom it may concern:

Be it known that I, CLARENCE B. HAYES, a citizen of the United States, residing at Jackson, Jackson county, Michigan, have invented certain new and useful Improvements in Machines for Removing Cleats from Fellies, of which the following is a specification.

This invention relates to improvements in machines for removing cleats from wheel fellies.

The objects of the invention are: to provide an effective machine, which will quickly remove the retaining cleats from the halves of fellies in such a manner that the cleats can be used over and over again.

Objects pertaining to details of construction of the machine will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

An illustration of a structure showing a preferred embodiment of my invention is fully illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is an end elevation view of a machine embodying my invention. Fig. II is a plan view of the machine. Fig. III is a sectional elevation, taken on line 3—3 of Fig. 2, certain portions being shown in full lines. Fig. IV is a partial sectional elevation, taken on a line corresponding to line 4—4 of Figs. I, II and III, showing details of the clutch mechanism and the automatic clutch release. Fig. V is a detail transverse sectional view of the slide 6 and adjacent parts, taken on a line corresponding to line 5—5 of Figs. II and III. Fig. VI is a detail perspective view of a detached hammer head, showing details of construction, the same being in section on a line corresponding to line 6—6 of Fig. II. Fig VII is a detail transverse sectional view, taken on a line corresponding to line 7—7 of Figs. II and III, showing the slide 37 and its adjacent parts.

In the drawing, the sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar numerals of reference refer to similar parts throughout the several views.

Considering the numerals of reference, the frame 1 of my improved machine is supported on posts or legs 2—2, provided with cross beams 3 beneath the same. A deck, made up of planks 4—4 and 5—5 having central guide-planks, is on the frame 1, and carries the main parts of the machine. A slide 6 has projecting fins 6′ 6′, which play in ways or grooves 8—8 in the central planks 5—5,—see Fig. V. A metal frame piece 7—7 is secured to the upper side of this slide 6, and extends forwardly therefrom and serves as the attaching and supporting means for the hammer carrying head. A metal cleat 9 is on the under side of this sliding plate 6, and is provided with downwardly-projecting ears 10, to which are pivoted the pitman 11. The pitman 11 is connected to the crank 12. The crank 12 is on the end of the driven shaft 13, which is supported on a suitable journal box 14 on one of the cross beams 3. A driving shaft 15 is in line with the shaft 13 and is supported in a suitable journal box 16, the same being driven from the balance-wheel pulley 15′ by any suitable power. A shiftable clutch member 17 is disposed on the end of the driving shaft 15 and coacts with a clutch member 18 on the driven shaft 13, the said members being provided with beveled teeth to engage and drive in one direction only.

The movable clutch member 17 is controlled by the lever 19, which is fulcrumed at 20, and is bifurcated to engage the annular groove 21 on the clutch member 17. The lever 19 is controlled by the foot-lever 22, which is supported on the fulcrum 23, and is connected by link 24 to the lower end of the lever 19, securing a toggle action to throw the clutch in.

It will thus be seen that the operative, stepping on the lever 22, exerts a powerful throw upon the clutch 17. A pin 25 is on the clutch member 18, and a trip-arm 26 is beveled and disposed to be acted upon by the pin 25 during the rotation of this part. The trip 26 is rigidly secured by rivets 27 to the clutch lever 19, so that, as soon as the foot of the operative is released from the lever 22, the clutch member 17 will be immediately thrown out, so that, whenever the lever 22 is operated, the clutch will operate for one rotation only, giving the slide 6 a single impulse, and, consequently, a single impulse to the hammer carrying frame and the hammers, 30, 30. The hammer carry-

ing frame is made up of the bars 28—28, joined together at their ends by the blocks 29—29. This hammer carrying frame is drawn normally back to initial position by a pair of springs 28′—28′, connected thereto and to the platform planks 4—4, which are of less thickness than the planks 5—5,—see Figs. I and II. Between the bars 28 and supported in suitable journals 32—32 in the cross pieces 29—29 is a right and lefthand screw 31. Hammer heads 30—30 are threaded upon this screw and are moved to and from the center by the rotation of the screw at 34. A crank 33 is provided for this screw 31 to adjust the hammer heads 30, 30 to and from each other. From this description, it will be clear that, whenever the foot lever 22 is depressed, the shaft 13 will receive a single rotation, which will reciprocate the hammer carrying head and give the same a single impulse.

A clamp holder for the felly sections consisting of a clamping head 35 is supported by the bent metal bars 36 36′ upon the adjustable holder slide 37. The slide 37 has a projecting tongue 38—38 at each side, which engages in the ways 8—8 in the planks 5—5 in the same way that the tongues on the reciprocating slide engage. Braces 39 are on this clamping head or member 35 and are turned outwardly into feet 40—40, which rest against the upper surface of the planks 5—5 and thereby brace the clamping head 35 and hold it rigidly in position. A bracket-nut 42 is on the under side of the slide 37 and is engaged by the adjusting screw 41, which is controlled by the hand-wheel 43 at the rear side of the frame 1, so that the position of this clamping head is adjustable or can be adjusted by merely manipulating the hand-wheel 43.

On the slide 37 is an upwardly-projecting double arm 44, which carries a clamp member 45, which is the opposite jaw to the clamp head 35 and is supported on the bolt 46, which plays freely through the cross bar 47 at the top of the arm 44, and the lower shouldered end 48 fits into a slot 49 in the bar 36. A cam 50 is pivoted at 51 and is controlled by the hand lever 52. This forces the clamp member 45 to its work, the object being to clamp in their center the fellies 54. The ends of these fellies are joined by cleats 55—see Figs. II and III,—by suitable nails 56. In use, the clamp is adjusted by adjusting the slide 37 until the cleats 55 are disposed in proper position by screw 31 to a position within and adjacent the ends of the fellies. When the slide 6 is reciprocated from its connections already described, it drives the two hammer heads 30—30 very forcibly against these cleats and strips them squarely and cleanly off from the fellies 54, withdrawing the nails 56—56 cleanly from the ends thereof, because the pull on the same is perfectly square and true and of sufficient force to draw off the cleats 55 at a single motion. The cleats drop down upon the arm 53 and are dumped off to one side thereby. The arm 53 is merely a stop to prevent the cleats being thrown too far.

From this description it will be seen that my improved machine is a very effective machine for the purpose, and operates very quickly and saves greatly in the labor in removing these cleats, and, at the same time, does the work so effectively that the cleats, because they are not battered to pieces, can be used over and over again.

I have shown my machine in the form preferred by me, although I am aware that it can be greatly modified in its details without departing from my invention. I desire to claim the same specifically, as well as broadly, in accordance with the claims hereto appended.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with adjustable hammers thereon; a right and left hand screw for adjusting said hammers to and from each other; a driven shaft with a crank and pitman connected to said reciprocating slide; a driving shaft with a suitable balance-wheel pulley thereon; a clutch with a shiftable member to connect said shafts; a lever connection to throw said clutch; a trip pin on the fixed member of the clutch; a trip connected to the clutch lever, disposed to be acted upon by the trip pin to throw the clutch out of engagement; an adjustable holder slide; a clamp holder on said adjustable slide for clamping the middles of felly sections, consisting of a braced head fixed on said slide and a movable member; and a cam lever for said clamp, coacting substantially as described and for the purpose specified.

2. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; a driven shaft with a crank and pitman connected to said reciprocating slide; a driving shaft with a suitable balance-wheel pulley thereon; a clutch with a shiftable member to connect said shafts; a lever connection to throw said clutch; a trip pin on the fixed member of the clutch; a trip connected to the clutch lever, disposed to be acted upon by the trip pin to throw the clutch out of engagement; an adjustable holder slide; a clamp holder on said adjustable slide for clamping the middles of felly

sections, consisting of a braced head fixed on said slide and a movable member; and a cam lever for said clamp, coacting substantially as described and for the purpose specified.

3. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; a driven shaft with a crank and pitman connected to said reciprocating slide; a driving shaft with a suitable balance-wheel pulley thereon; a clutch with a shiftable member to connect said shafts; a lever connection to throw said clutch; a trip pin on the fixed member of the clutch; a trip connected to the clutch lever, disposed to be acted upon by the trip pin to throw the clutch out of engagement; an adjustable holder slide; and a clamp holder on said adjustable slide for clamping the middles of felly sections, consisting of a braced head fixed on said slide and a movable member, coacting substantially as described and for the purpose specified.

4. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; a driven shaft with a crank and pitman connected to said reciprocating slide; a driving shaft with a suitable balance-wheel pulley thereon; a clutch with a shiftable member to connect said shafts; a lever connection to throw said clutch; a trip pin on the fixed member of the clutch; and a trip connected to the clutch lever, disposed to be acted upon by the trip pin to throw the clutch out of engagement; and a holder for said felly sections, coacting substantially as described and for the purpose specified.

5. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried on said slide, with hammers thereon; a driven shaft with a crank and pitman connected to said reciprocating slide; a driving shaft with a suitable balance-wheel pulley thereon; a clutch to connect said shafts; means to throw said clutch in and out; a trip means operated from a moving part to automatically throw out the clutch; and a holder for said felly sections, coacting substantially as described and for the purpose specified.

6. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; a driven shaft with a crank and pitman connected to said reciprocating slide; a driving shaft with a suitable balance-wheel pulley thereon; a clutch to connect said shafts; and a holder for said felly sections, coacting substantially as described and for the purpose specified.

7. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; power means for actuating said slide; means of readily connecting and disconnecting said power means; and a holder for said felly sections, coacting substantially as described and for the purpose specified.

8. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; power means for actuating said slide; means of readily connecting and disconnecting said power means; an adjustable holder slide; a clamp holder on said adjustable slide for clamping the middles of felly sections, consisting of a braced head fixed on said slide and a movable member; and a cam lever for said clamp, coacting substantially as described and for the purpose specified.

9. In a machine for removing cleats from fellies, the combination of a suitable supporting frame; a reciprocating slide in suitable ways on said frame; a hammer carrying head, carried by said slide, with hammers thereon; power means for actuating said slide; means for readily connecting and disconnecting said power means; an adjustable holder slide; and a clamp holder on said adjustable slide for clamping the middles of felly sections, consisting of a braced head fixed on said slide and a movable member, coacting substantially as described and for the purpose specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

CLARENCE B. HAYES. [L. S.]

Witnesses:
R. H. MELANO,
W. C. MORREY.